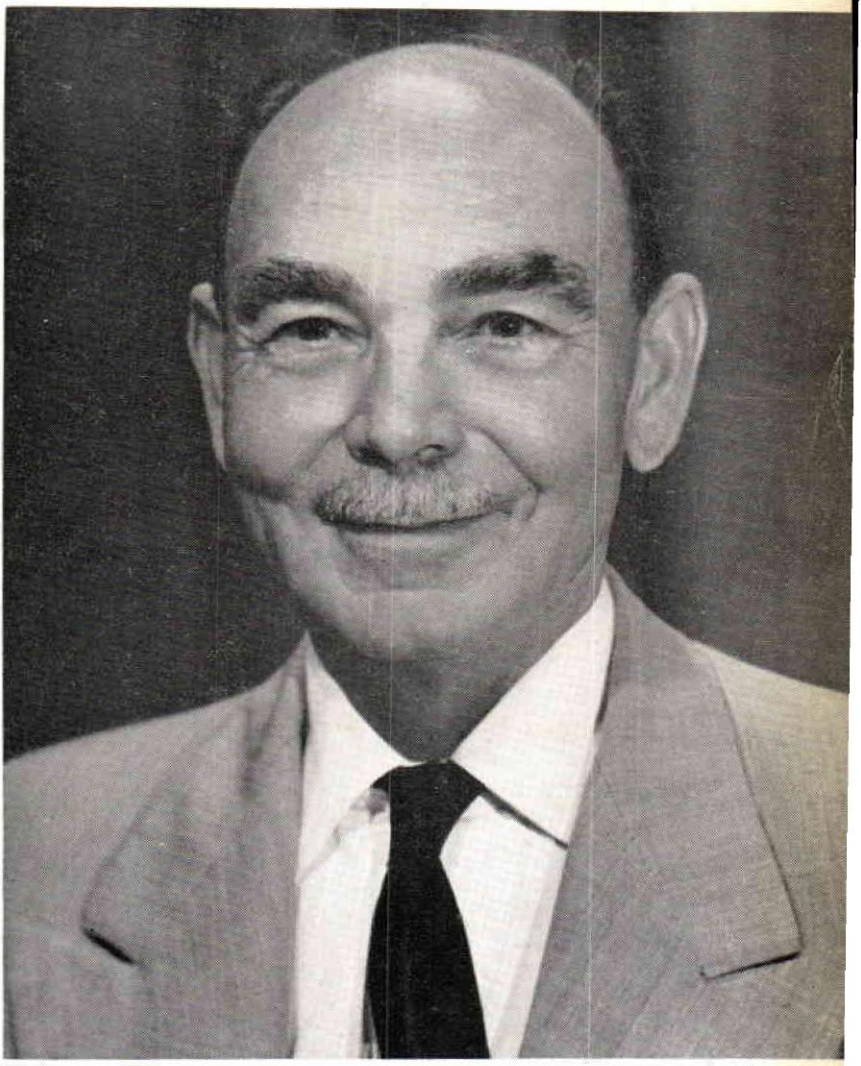
ECEMBER, 1958

RTHOPEDIC & PROSTHETIC APPLIANCE JOURNAL

ie Journal of the Limb and Brace Profession



Karl W. Buschenfeldt, C.O., President, 1958-59, of the Orthopedic Appliance and Limb Manufacturers Association

publishers: Orthopedic Appliance & Limb Mfrs. Assn. and American Board for Certification

DATES TO REMEMBER

1959 *What • When • Where*

JANUARY

21-29	Academy of Orthopaedic Surgeons—Meeting	*Palmer House* *Chicago, Illinois*

MARCH

14-15	Southwestern Meeting—OALMA Region VIII	*Hilton Hotel* *San Antonio, Texas*

APRIL

3- 4	Southwestern Meeting—OALMA Region IV	*Patten Hotel* *Chattanooga, Tenn.*

MAY

8- 9	Technical Seminar—MOALMA and OALMA Region II	*Biltmore Hotel* *New York City*

AUGUST

29-30	National Amputee Golf Tournament	*Savannah, Georgia*
	Congress of Physical Medicine and Rehabilitation—Annual Session (Adjourns September 4).	*Leamington Hotel* *Minneapolis, Minn.*

OCTOBER

16-17	Certification Examinations—Conducted by the American Board for Certification	*Adolphus Hotel* *Dallas, Texas*
18-21	OALMA National Assembly	*Dallas, Texas*
22-25	Second OALMA Pan-American Session	*Mexico City, Mex.*

Orthopedic and Prosthetic Appliance Journal

(Title registered U. S. Patent Office)

VOLUME 12 • DECEMBER, 1958 • NO. 4

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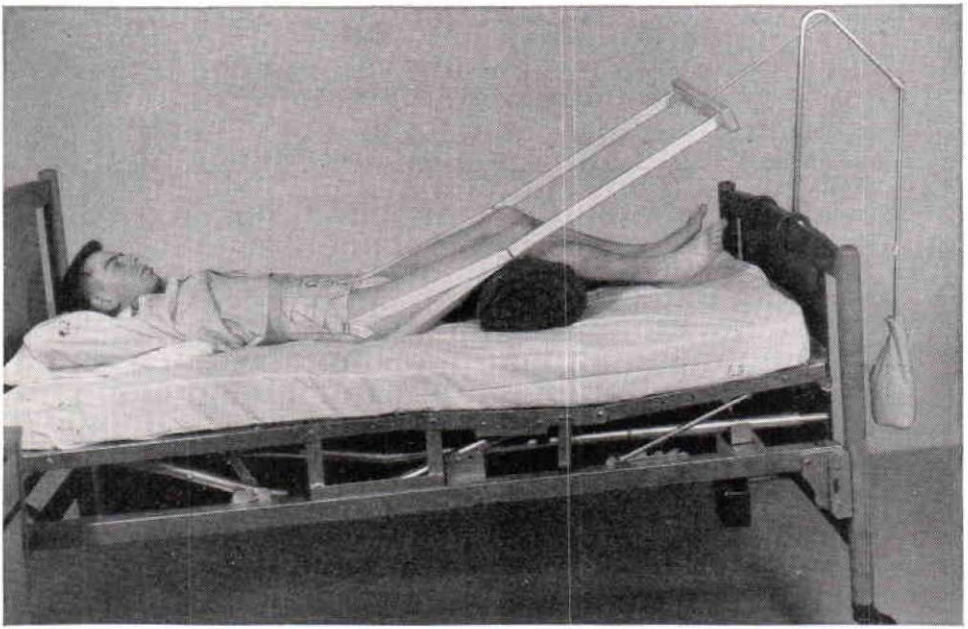
Subscription rate — $4.00 a year (subscription payment is included in Certification fees and Association dues.)

CONTENTS

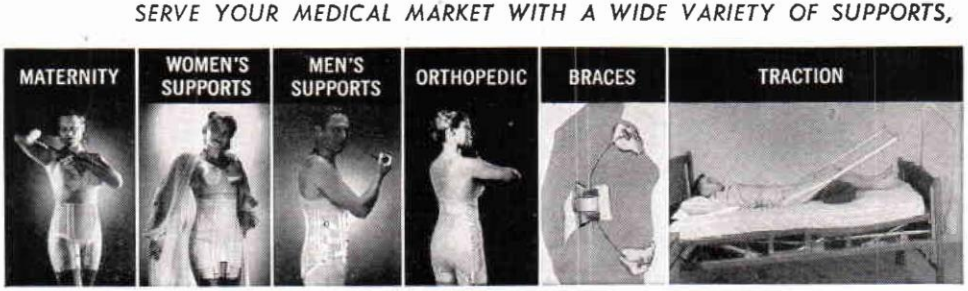
SELL THE LEADER . . . SELL CAMP TRACTION APPARATUS



CAMP-VARCO TRACTION BELT

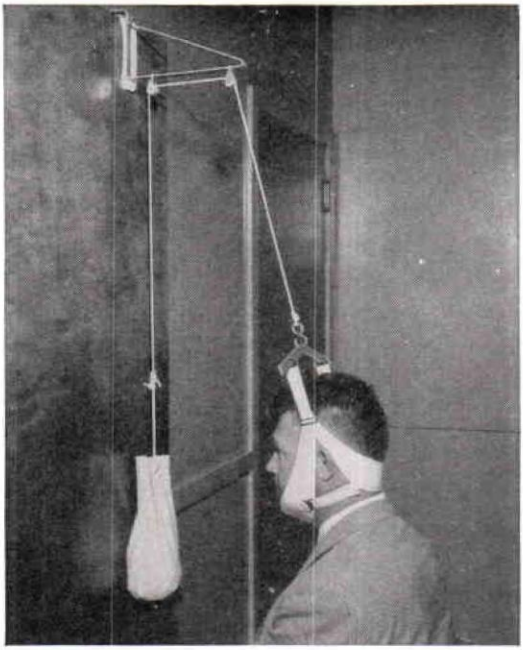
This tested, proven, patented apparatus with its many functional features and advantages is accepted as superior equipment by many doctors, institutions and hospitals. An effective and practical method in treating low back syndrome, the Camp-Varco Traction Belt assures the patient effective traction, proper nursing care, no contraindications, easy application, hospital or home use, and cheerful patient acceptance. There is no restriction in the use of any other modalities and its use avoids adhesure dermatitis, thrombophlebitis, patient irritation, prolonged disability and quadriceps atrophy. Be sure to be in stock on this profitable, needed item . . . be prepared to give your medical market immediate service.

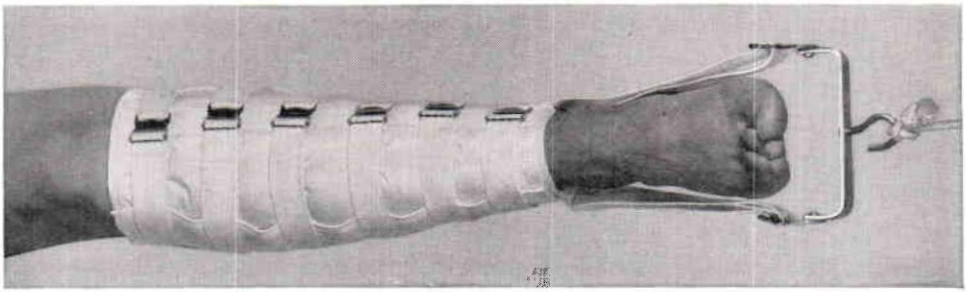
SERVE YOUR MEDICAL MARKET WITH A WIDE VARIETY OF SUPPORTS,



CAMP HEAD HALTER KIT

Earn greater profits faster with this rapid turnover Camp head halter kit. More popular with many doctors and patients than the conventional type because the new side opening can be pre-set for ease . . . for facility in donning and removing. It can be put on without raising the head . . . an action which in extreme cases may prove dangerous. The spreader bar is notched to permit use of varying width up to 12" and the foam rubber padded halter is snug fitting with easily worked side adjustment straps. Available in individual units or sets in adult or children's sizes.

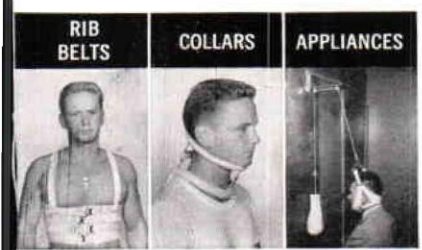




ANDERSON TRACTION LEGGING

Easy and simple to use . . . the skin adhering foam rubber and elastic corset material with attached straps and buckles can be applied by patients or other untrained persons with a minimum of instruction and no complications. It has an aerated elastic back inset for shaping to the leg as additional prevention against slipping. May be washed or autoclaved. In adult or child's sizes.

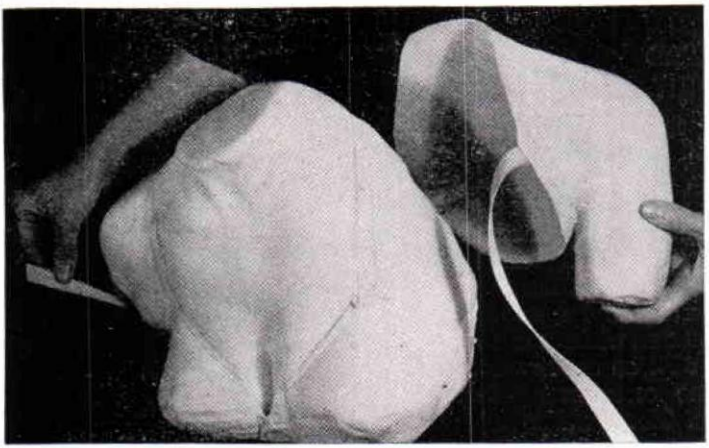
APPLIANCES AND APPARATUS FROM **CAMP**



CAMP

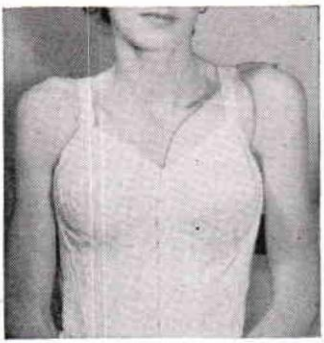
1908 50TH YEAR 1958

S. H. CAMP and COMPANY
Jackson, Michigan

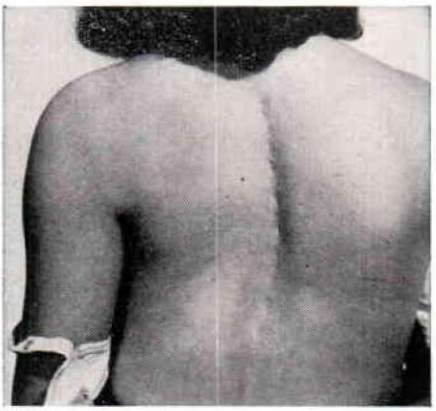


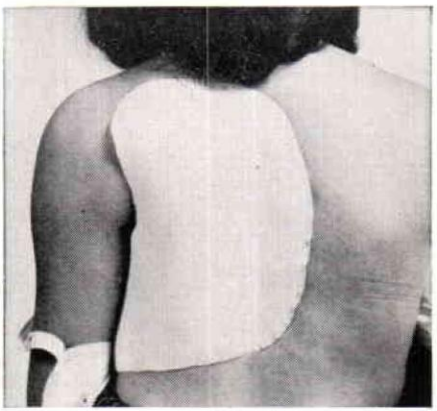
The accurate fitting lightweight copolymer foam gives a cosmetic correction permitting normal wear in clothing. All cases are sculptored and cast to individual order.

The above young lady needed help in building her up to fit into a number eight dress size! The manner in which this was accomplished and the balance it brought to her torso is told in these two pictures. The foamed pad protects vital organs from accidental bumping. In this case, it also makes for easier breathing and greater stamina.

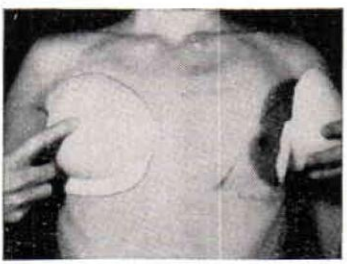


Realastic®
for
Body Corrections

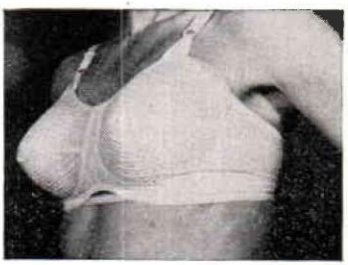




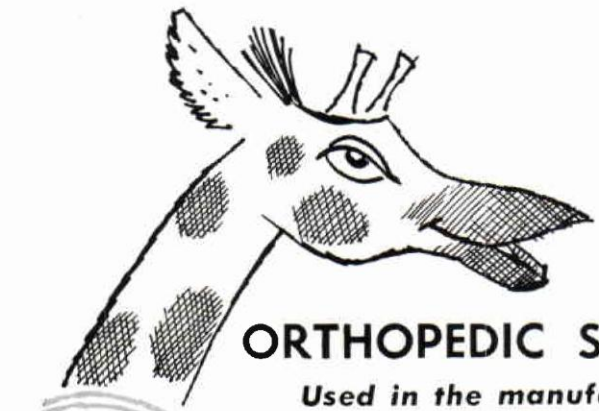
A thorocoplasty two-plane restoration necessitated by an operation with extensive rib resection. All body correction prostheses are sculptored in clay to restore normal contour. Permanent molds are fabricated permitting easy replacement of the prosthesis, when necessary. The material is washable and permits the skin underneath to breathe. In addition to its cosmetic value, the restoration gives badly needed protection and support.



A custom-made breast restoration has many advantages over those sold as a stock item. Better fit gives firmer seating. The prosthesis will "fill" the bra exactly as the normal breast.



An unusual breast shape or radical surgical result offers no problem in this type of restoration. The part-plastic, part-rubber latex foam makes for the best possible material.



to stretc

ORTHOPEDIC STOCKINETTE

Used in the manufacture of artificial limbs and orthopedic appliances . . . and for numerous other applications!

CONSTRUCTION OF THE BEST QUALITY, FINE SPUN, SLOW CARDED, LONG STAPLE

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This excellent grade of BESSCO Orthopedic Stockinette of double thickness has a close-knit elastic rib stitch. It is used in the manufacture of prosthesis'...under plaster casts, producing a firmer, smoother cast and compensating for plaster shrinkage...for dressings...for skin protection during operations. It is also invaluable as wristlets on Surgeons' Gowns...

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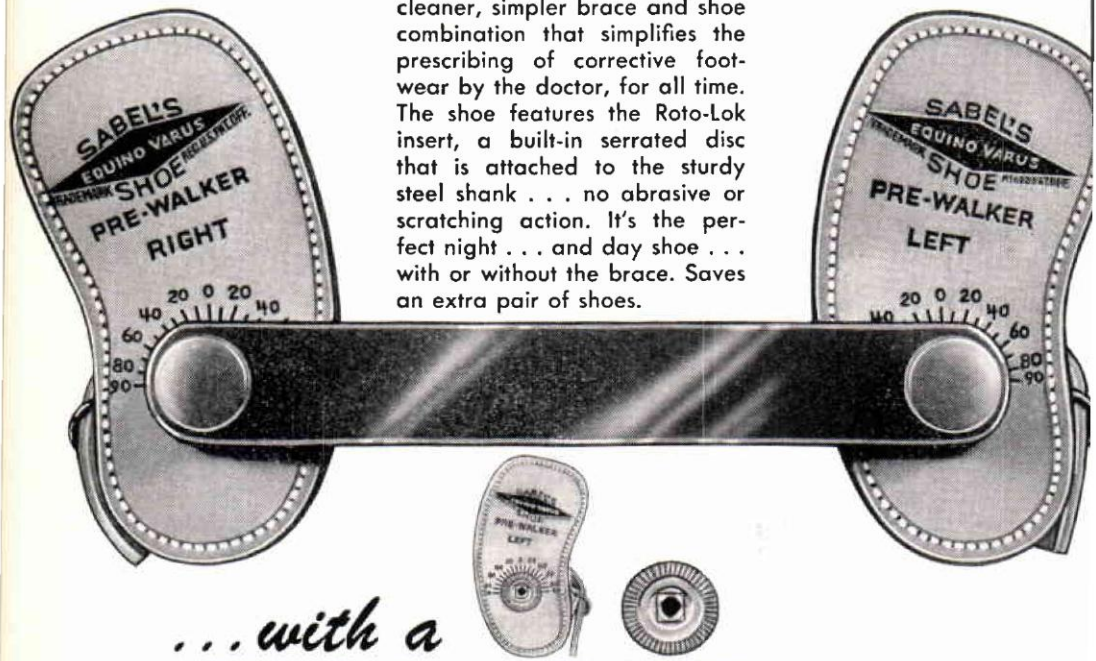
"BESSCO"

New SABEL'S EQUINO-VARUS TRADE MARK REG. U.S.PAT OFF.

CONVERTIBLE
BRACE SHOE

Sabel introduces a newer, cleaner, simpler brace and shoe combination that simplifies the prescribing of corrective footwear by the doctor, for all time. The shoe features the Roto-Lok insert, a built-in serrated disc that is attached to the sturdy steel shank . . . no abrasive or scratching action. It's the perfect night . . . and day shoe . . . with or without the brace. Saves an extra pair of shoes.



. . . with a

BUILT-IN ROTO-LOK INSERT

The setting of the splint on the shoe is made easy by a protractor that is stamped on the sole of each shoe.

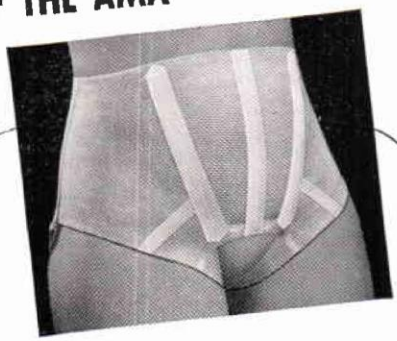
EMBOSSED PROTRACTOR STAMPED ON SOLES

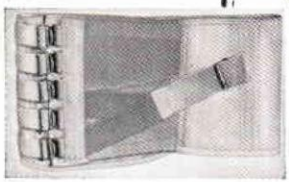
The brace has a matching serrated disc and smooth knurled nut that screws into the disc in the sole of the shoe, holding it firmly in the position the doctor desires.

This smoother brace has no protruding arms or edges to cut or tear bed clothing.

R. J. POTVIN SHOE CO., BROCKTON, MASS.

Every month—over 175,000 physicians are reading Kendrick advertisements in the JOURNAL OF THE AMA





To help your patients return to a normal, active life . . .

Over 70 Different Models of Surgical Supports in the complete Kendrick Line . . .

In the complete Kendrick line of Surgical Supports, you can prescribe from 20 different abdominal supporters, 3 styles of post-operative hernia supporters, 4 styles of ptosis supporters, 8 styles of sacro-lumbar and dorso-lumbar supports, 6 styles of sacro-iliac supporters, and many models of belts and supports for special conditions.

Kendrick, since 1853, has stood for quality materials and scientifically designed garments, for the symptomatic relief and support of every part of the anatomy. In our custom order department, we can provide garments to your exact specification.

Kendrick dealers are skilled in measuring and fitting in-stock designs or

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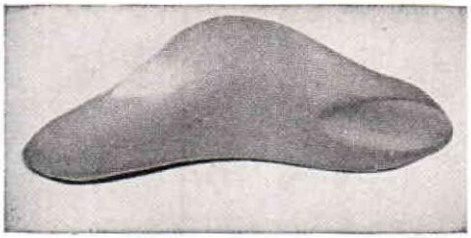
Philadelphia 44, Pa. • New York 16, N.Y.

Kendrick

1853 — OVER 100 YEARS OF SERVICE — 1958



Style 600S

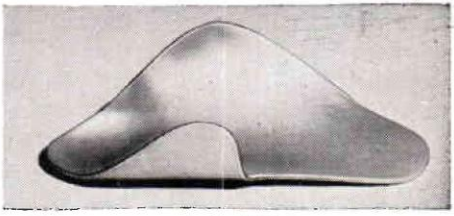
Flexible Type Support, Combination Longitudinal and Metatarsal with Concealed Metal Spring, Made in Women's, Men's and Children's Sizes.

Style 800

Stainless Steel Support with High Inner Flange, Women's, Men's and Children's Sizes. The Above Style also Available in Specially Treated Dural.

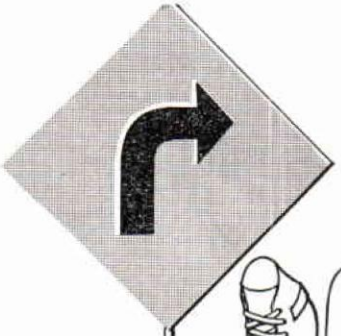
Style 903 (Leather Whitman)

A Combination Support with Both Inner and Outer Flange, Made with One or More Springs, Women's, Men's and Children's Sizes.



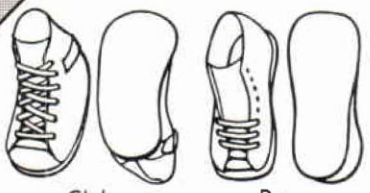
Style 900

Most Popular Metal Whitman, Made of High Grade Stainless Steel. Women's, Men's and Children's Sizes.

Turn to  *Medic*

You never have to hesitate about where to turn to supply the doctor's shoe prescription needs for children. You'll always turn in the right direction when you turn to Medic. For in Junior Arch Preservers, Medic makes a shoe to fill every doctor's shoe prescription needs.

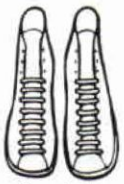
Built on lasts designed with the greatest possible care to meet the special needs of children, made of only the very finest leathers obtainable, constructed by master craftsmen to the most exacting standards, Junior Arch Preservers by Medic are unquestionably the finest shoes made for children.



Club Last

Pre-Walker

Straight Last



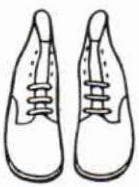
Surgical Boot

For Mild Supination

For Extreme Supination

Wedge Construction

Thomas Heel



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VARI GAIT
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The Quality knee providing
Knee Stability at low cost

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Friction knee with swing phase

***VARI-GAIT V300**

Economy Friction Knee

COMPLETE LINE OF PROSTHETIC SUPPLIES

Knee Shank Assemblies
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Plastic Materials and Resins

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DETACHABLE — DENIS BROWNE

*Fits any shoe

*Different settings

*All sizes — 6" to 30"

*Attractively finished in color

Fillauer SURGICAL SUPPLIES, INC.
Manufacturers of Orthopedic Supplies ESTABLISHED 1914
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Introducing the *New* Tarso Medius *with added support* . . . for weak feet . . . especially those that toe in.

The Tarso Medius **with added support** is a true straight last with long inside counters, Thomas heels, and rigid shanks . . . a recognized prescription for the weak foot that toes in, and an excellent shoe for all youngsters needing medial support.

The Tarso Medius **with added support** has been an instant success because of its fine appearance and its unmistakeble look of quality. Write for a trial pair today.

IN STOCK NOW — FULL PAIRS ONLY

TM 2666	**White elk blucher boot, Thomas heel long counter,**	**5½- 9**	**B-E**
TM 836	**Brown moc oxford, Thomas heel, long counter,**	**8½-12**	**B-EE**
TM 842	**Black on black grain saddle, Thomas heel, long counter**	**8½-12**	**B-E**
TM 936	**Brown moc oxford, Thomas heel, long counter**	**12½-3**	**B-EE**
TM 942	**Black on black grain saddle, Thomas heel, long counter**	**12½-3**	**B-EE**

We stock a complete line of children's prescription footwear, including Tarso Pronator outflare and club foot shoes, Tarso Supinator shoes for weak or flat feet, and Tarso Medius straight lasts. The Tarso Medium is also available with straight heels and regulation counters, detailed to match the Tarso Pronator.

Franchises are open in some areas. Write for catalog and dealer price list.

M. J. MARKELL SHOE CO., INC.

332 So. Broadway, Yonkers, N. Y.

KARL BUSCHENFELDT AND DR. HOOVER PICKED AS LEADERS

Limb and Brace Profession Convenes At Miami Beach and Havana

The Limb and Brace Profession of the United States met in National Assembly at Miami Beach, Florida, October 26 to 30, and held its first Pan-American session at Havana, Cuba, October 31 and November 1st. Members and guests of the Orthopedic Appliance and Limb Manufacturers Association spent long hours, discussing technical details, improved appliances and better procedures—all "dedicated to serving the handicapped."

In the Miami Beach national session held in the Eden Roc Hotel, the Association elected this group of experienced officers: President, Karl Buschenfeldt of Stoughton, Massachusetts; Vice Presidents, Paul Leimkuehler of Cleveland and Ralph Storrs of Kankakee, Illinois, and Secretary-Treasurer, M. P. Cestaro of Washington, D. C.

The American Board for Certification, which met at the same time, re-elected Dr. Roy M. Hoover as President and chose W. Frank Harmon of Atlanta, as Vice President.

In Karl Buschenfeldt, the Association has chosen as its leader one of the distinguished orthotists of the United States. For many years he was head of the brace establishment at Massachusetts General Hospital. With his son, Herman E. Buschenfeldt, he now operates certified facilities at Boston and Stoughton, Massachusetts.

Mr. Buschenfeldt has long been interested in the training of orthotists and many of the men who studied this field under his supervision and in his establishment now operate their own facilities. Mr. Buschenfeldt is a former member of the American Board for Certification and was Vice President in 1956-1957. (Leadership comes easily to this family—Mrs. Karl Buschenfeldt is the new Vice President of the Ladies' Auxiliary.)

OALMA Board of Directors met with national officers during the Assembly and approved plans for an expansion of member services. A new full-time assistant will be added to the Washington staff to work out training programs for orthotists and prosthetists (and to carry out the examination schedule of the American Board for Certification). The OALMA Committee on Advances in Prosthetics is to expand its activities in cooperation with the National Research Council's Prosthetics Research Program.

Resource Persons

Both formal and informal discussions at the Assembly benefited from the attendance of these experts who had been invited as "resource persons":

Dr. Robert E. Stewart, Director of the Prosthetics and Sensory Aids Service, U. S. Veterans' Administration.

Harry Katz, Supervisor, Amputee and Homebound Unit, New York City District Office, New York State Division of Vocational Rehabilitation.

W. Kenneth Lane, M.D., Consultant, Respiratory and Rehabilitation Center Services, The National Foundation.

Harold W. Glattly, M.D., Secretary, Committee on Prosthetics Education and Information, Prosthetics Research Program.

Maurice J. Fletcher, Colonel, U.S.A., Director of the Army Prosthetics Research Laboratory.

Charles O. Bechtol, M.D., Professor of Orthopaedic Surgery, University of California, Los Angeles.

OALMA HOLDS NATIONAL ASSEMBLY

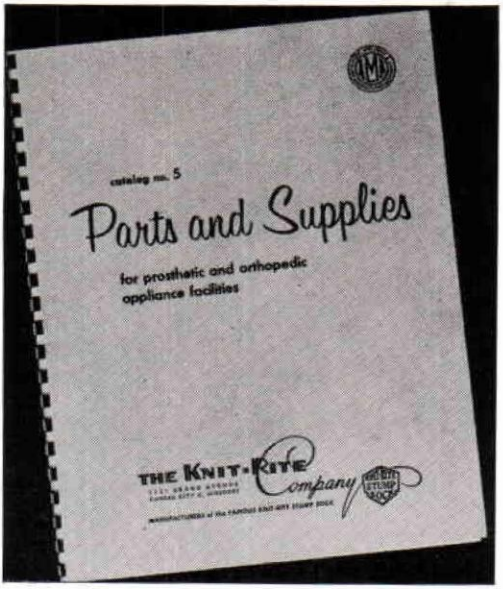
HAVANA RECEPTION FOR OALMA—Members of OALMA were guests of a reception at the Havana Riviera at Havana, Cuba during the OALMA Pan-American session there October 30 to November 1st. Shown above left to right are: Dr. Robert E. Stewart, head of the VA's Prosthetic and Sensory Aids Service; OALMA Vice President Paul Leimkueler; the new national President Karl Buschenfeldt; Second Vice President Ralph Storrs; Les Smith, Assistant Director.

During the Assembly period members and guests heard many technical papers, and took part in informal conferences with the speakers.

Before adjourning, the Orthopedic Appliance and Limb Manufacturers Association took formal note of the contribution to the success of the Assembly which these participants had made. By resolution the Association expressed its gratitude and warm thanks to these speakers and resource persons:

Daniel DeMeo, M.D.
Jerome I. Cook, M.D.
Alfons R. Glaubitz, C. O. & P.
Joseph C. Flynn, M.D.
Charles A. Hennessy, C. O. & P.
John Bray, C. P.
Martin Sosin, C.P.A., LL.B.
Charles O. Bechtol, M.D.
George Robinson, C. P.
Roy Snelson, C. O.
Dr. Miles H. Anderson
Professor Charles W. Radcliffe
Allen S. Russek, M.D.
William Tosberg, C. O. & P.
Fred Eschen, C. O. & O.
Russell E. Johnson
Mrs. Alice Crowell
Ray Crowell
Mrs. Betty Hanicke
Eugene Record, M.D.
Thomas Maples, C. P.
Dr. Sidney Fishman
Charles Fryer
W. Frank Harmon, C. O.
Karl W. Buschenfeldt, C. O.
Anthony Staros
Thomas Pirrello, C. P.
Carlton Fillauer, C. P. & O.
M. P. Cestaro
Howard Thranhardt, C. P.
Kenneth Kingsley
John Stewart
Roy M. Hoover, M.D.
Harry Katz
Harriet Gillette, M.D.
Erich Hanicke, C. P. & O.
Dr. Robert E. Stewart
W. Kenneth Lane, M.D.
Harold W. Glattly, M.D.
Colonel Maurice J. Fletcher
Adrian Towne

HAVE YOU SEEN.....



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for ORTHOTISTS
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HALLMARK Cervical Braces
FILLAUER Denis Browne Splints
BAUER & BLACK Elastic Hose

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3. Higher cash discount

Order supplies and stump socks now, KNIT-RITE will ship quickly!

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KNIT-RITE STUMP SOCKS

MEMBER O.A.L.M.A.

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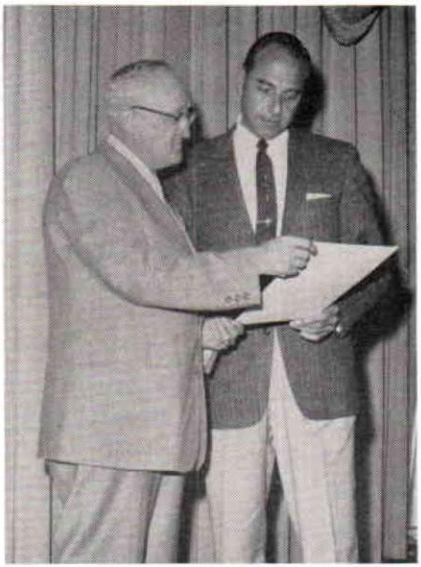
KANSAS CITY 6, MISSOURI
BAltimore 1-0206



NEW MEMBER OF THE PAST PRESIDENT'S CLUB—Charles Hennessy holds the Past President's Citation which has just been presented to him by retiring President, John A. McCann.

In a series of other resolutions, the Assembly delegates voted:

The thanks of the Association to the Eden Roc Hotel management and staff and in particular to Mr. Bob Whalen, Hotel Sales Manager, for fine work and effective cooperation.

Their thanks to Mr. Asa Godbey, a member of the Program Committee, who left his bed in the hospital after recent surgery, to make adequate provisions for the comfort and enjoyment of members on a visit to the Everglades fishing areas.

A note of regret and greetings to members who could not be present because of illness or other necessary cause.

A resolution of praise of Miami Beach as an Assembly Center with the hope that the Assembly might return to Florida in the not-too-distant future.

A resolution of thanks to Mr. Ralph Storrs and his fellow members of the Program Committee and to Mr. Ted Smith and his fellow members of the Exhibits Committee.

OALMA VISIT TO THE HAVANA REHABILITATION INSTITUTE

OALMA members who took part in the Pan-American session at Havana, October 30 to November 2, spent considerable time at the rehabilitation center which has the official name, "Centro De Rehabilitacion De Lisiados Franklin D. Roosevelt." This is located at Calzada Real No. 609, Marianao, Havana.

Dr. Jose I. Tarafa, member of the Academy of Orthopaedic Surgeons, serves as Director of the Center. Dr. Tarafa showed the OALMA members through the Center and discussed with them the development of the brace establishments there.

Among the interested visitors was Gerard Zielke, OALMA member from Florin, Pennsylvania. Mr. Zielke was so impressed with the work being done at the Center and the need for expansion that he presented the Center with a gift of $80.00 as a contribution towards its future development.

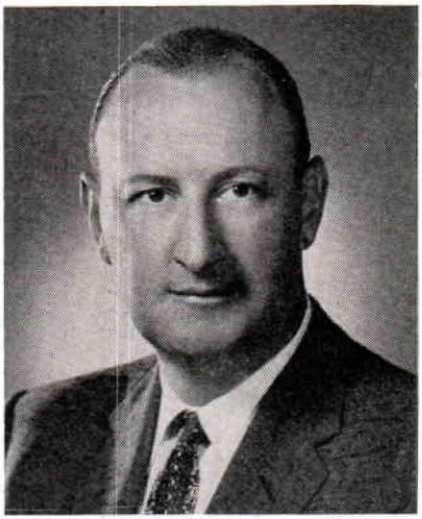
(See Pages 76 to 81 for additional Assembly News)

RECORD CLASS TAKES CERTIFICATION EXAMINATION—DR. HOOVER RE-ELECTED AS HEAD

A record class of 90 candidates completed the series of written and oral examinations conducted by the American Board for Certification in October 1959. The examinations were given in Los Angeles, St. Louis, Missouri, and Miami Beach, Florida.

The annual meeting of the American Board for Certification was again held as part of the National Assembly of the Limb and Brace Profession. Officers and Directors of the Board met October 23 and October 27. A report of their decisions and plans for the advancement of the Certification Movement in the year 1959 is printed as a supplement to this article.

The annual Business Session of Certification was held on Tuesday, October 28. After an inspiring address by Dr. Eugene Record of Boston, Certificates of Appreciation were presented to retiring Board members McCarthy Hanger, Jr., of St. Louis and Edward Snygg of San Francisco.

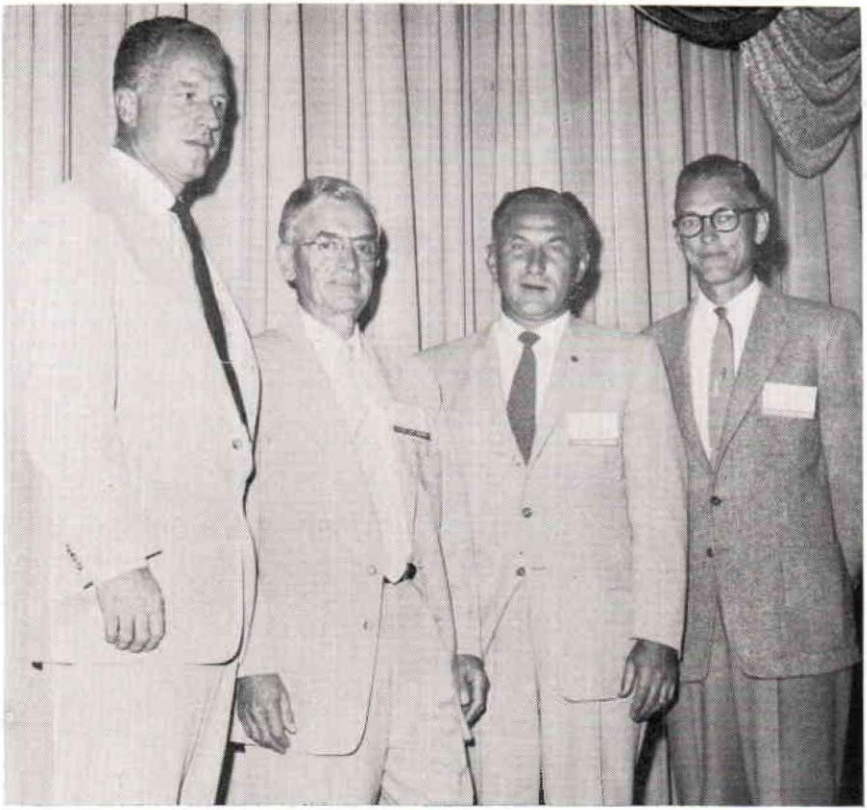


New Board Members Howard Thranhardt and Herbert Hart.

Nominations were then presented to fill the vacancies on the Board. The following elections were unanimous:

Herbert Hart, C.O. & P. Manager of Hittenberger's of Oakland, California, was elected to serve a three-year term. Mr. Hart is currently serving as Director of OALMA Region X, covering the States of Nevada, Northern California and the territory of Hawaii. Mr. Hart was Program Chairman of the 1956 Assembly of the Limb and Brace Profession held in his native San Francisco. He has presented programs on various aspects of bracing at other National Assemblies, including the 1953 session in Chicago and 1957 session in Washington. Mr. Hart's name was presented by the Advisory Council of Certifees.

Howard Thranhardt, C.P., of Atlanta, Georgia, was elected by nomination of OALMA to serve a three-year term. Mr. Thranhardt is an executive of the Southern Prosthetic Supply Company and J. E. Hanger, Inc., of Georgia.



AT THE CERTIFICATION LUNCHEON—Left to right: Dr. Eugene Record of Boston, new member of the Board, Dr. Roy M. Hoover, re-elected President of the Board and retiring members Edward W. Snygg of San Francisco and McCarthy Hanger, Jr. of St. Louis. Messrs. Snygg and Hanger received Certificates of Appreciation for their service.

He has long been active in Prosthetic Research and serves on one of the subcommittees of the Prosthetics Research Board program. Mr. Thranhardt served also as Chairman of the 1953 Assembly of the Limb and Brace Profession.

Dr. Eugene Record, orthopedic surgeon of Boston was nominated to fill the vacancy caused by the expiration of the three-year term held by Dr. Roy M. Hoover. Dr. Hoover, however, will continue on the Board to fill the vacancy caused by the illness of Col. August W. Spittler.

Dr. Record was born in Arlington, Massachusetts, in 1910, graduated from Harvard College in 1932 and in medicine from McGill University Montreal, in 1937. He then spent a year in General Surgery at the Long Island College Hospital in New York City, four years in Orthopedics at the Children's Hospital in Boston and at the Massachusetts General Hospital. He was Resident in Orthopedic Surgery for a year at the Children's Hospital.

Dr. Record served in World War II, as an orthopedist, leaving the Military Service with the rank of Lieutenant Colonel. He is a member of the American Medical Association, was elected to the Academy of Orthopaedic Surgeons in 1950 and is a Diplomate of the American Board of Orthopedic Surgery.

EXAMINATION SCENE: Shown above are some of the candidates who took the Certification Examination at Miami Beach under the watchful eye of Lee Nattress (standing). In the front row left to right we recognize Arthur Finnieston of Miami Beach, Jack Faatz of Johnson City Tennessee and Armond Roy of Burlington, Vermont.

1959 Officers

The Board re-elected Dr. Roy M. Hoover to be President for the year 1959, and chose W. Frank Harmon, orthotist of Atlanta, as Vice President. M. P. Cestaro was re-elected Secretary-Treasurer of the Certification Board.

The 1959 Examinations

The Board approved the following arrangements for the 1959 examinations

1. June 1st, 1959 is the deadline date for applications for the examinations to be given that year. It was decided that the deadline for the presentation of all necessary documents, recommendations, and high school equivalency papers should be July 1st, 1959.

2. The 1959 examination will be held in Dallas, Texas, immediately preceding the National Assembly. The oral examination will be given on Friday, October 17, and the written examination on Saturday, October 18.

NORTHWESTERN UNIVERSITY TO GIVE PROSTHETICS COURSE

OALMA Director Glenn Jackson speaks at Northwestern University's Prosthetic session.

The Medical School of Northwestern University is the third American University to offer courses in Prosthetics on the university level (the others are New York University and the University of California at Los Angeles).

The Orthopedic Appliance and Limb Manufacturers Association is actively interested in plans for the courses in Chicago and has named this Regional Cooperation Committee to work with officials of Northwestern: Ralph Storrs, of Kankakee, Illinois, who will serve as Chairman; Richard G. Bidwell of Milwaukee and William Scheck of Chicago. Mr. Ralph Storrs is Vice President of the Association, and Manager of the Pope Brace Division with headquarters at Kankakee, Illinois. Mr. Richard G. Bidwell, President of the House of Bidwell, is currently serving as OALMA Regional Director for Illinois, Wisconsin, Indiana and Eastern Missouri. Mr. William Scheck is head of the firm Scheck and Siress, Certified Facility, and OALMA member at Oak Park, Illinois.

Plans for the training courses were revealed at a dinner meeting held in Abbott Hall in Northwestern University on November 25. Glenn E. Jackson, Executive Director of OALMA, came from Washington to speak at the session. Others present included Dr. Clinton C. Compere, Professor of Orthopedic Surgery at Northwestern University, C. A. McLaurin, Project Director of Northwestern's Prosthetics Research Center and Dr. J. Warren Perry who is to be Director of Prosthetic Education at Northwestern. Orthotists and prosthetists in the Midwestern area were guests at dinner of the Pope Brace Division preceding the evening session.

Details of the new courses will be published in the "Orthopedic and Prosthetic Appliance Journal" and in the various issues of the "OALMA Almanac" in the year ahead.

INTERNATIONAL MEETING IN 1960

For the benefit of members who like to make long range plans, this is advance word that the International Society for the Welfare of Cripples will hold its Eighth World Congress in New York City August 28 to September 2, 1960. The National Society for Crippled Children and Adults will also hold its meeting at that time. A considerable number of prosthetists and orthotists from overseas are expected for this and other sessions.

CLINICAL APPRAISAL OF THE OTTO BOCK KNEE MECHANISM

By ROBERT G. THOMPSON, M.D. and
CLINTON L. COMPERE, M.D.

Beginning approximately six years ago, a growing number of amputee veterans have requested the replacement of their standard knee mechanism with an Otto Bock knee. (Fig. 1) Their interest in the Bock knee mechanism had been aroused either by salesmanship in the prosthetic facility, or from the few amputees who were using the knee mechanism. The Veterans Administration Prosthetic Clinic Team was at first resistant against this external influence for several reasons. For a considerable time, the Bock knee was available only through one local distributor, the majority of our prosthetic shops not having the component on contract with the Veterans Administration. The charge for the exchange of this mechanism in a prosthesis for the standard knee was approximately $125.00. Furthermore, many of the amputees making the request for the change presented no indication or need for the special functions of the Bock knee.

During the past several years, we have had increasing experience with this knee mechanism. At the present time, the increase in cost of a new prosthesis with the Bock knee is approximately $50.00. For certain indications, it is superior at the present to any other commercially available standard knee. The principle of operation is simple, and we have often wondered why an improved version has not been developed and licensed for manufacture in the United States. Many thousands of these Bock knees have been imported from Germany, and in some facilities the use of this knee is becoming almost standard practice.

We felt an attempt should be made to clinically evaluate the effectiveness of the knee stabilizing mechanism (Fig. 1), by a survey of above-knee amputees from the Veterans Administration Chicago Regional Office Amputee Clinic, and a similar group of amputees from the Rehabilitation Institute of

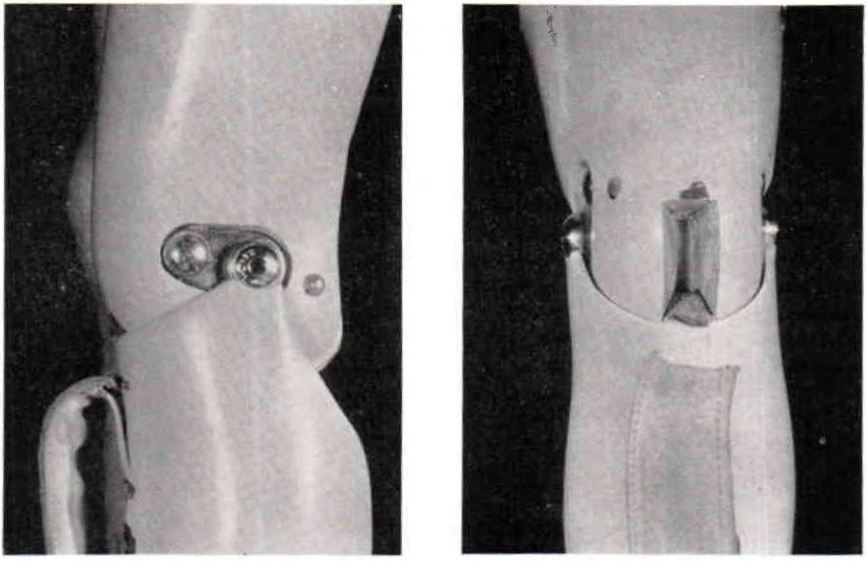


Figure 1

Chicago. The amputee patients were evaluated by questionnaire and/or direct observation. All of the Veterans Administration patients are males who have been fitted with the Bock knee within a period of the past two and one-half years, and have either mid-thigh or higher thigh amputations. All except one of the Rehabilitation Institute patients are males, and several are bilateral amputee patients. Early in the application of the Bock knee to the prescription for above-knee prostheses, our indications were limited to the following:

1. A short above-knee stump in the unilateral amputee;
2. Bilateral above-knee amputees;
3. Medium length stump in the older individual of the unilateral group;
4. Occupations where short ramps or rough ground was encountered;
5. Unilateral amputees with resistant flexion contractures of the hip.

It is our opinion that amputees with mid-thigh or longer stumps have adequate knee extension power and stability, secondary to a long stump lever arm, and normal hip extensor muscles.

Thirty-seven Veteran Administration patients and eighteen patients from the Rehabilitation Institute answered the questionnaires.

Table I — Age Groups

	VA Patients	*Rehabilitation Institute*
20 to 30 years of age	5	2
31 to 40 years of age	24	3
41 to 50 years of age	6	4
51 to 60 years of age	2	3
61 to 70 years of age	0	6
	37	18

In the Veterans Administration group, all of the patients are employed with the exception of one: the occupations ranging from executives, mechanics, elevator operators, watchmen, prison guards, auto mechanics, salesmen, to students. The Rehabilitation Institute group of patients were primarily in the older age group and fourteen of this group were employed, whereas four were not employed. A predominant number of the Veterans Administration group have been using their Bock knee mechanism for at least a year, with individual experience ranging to thirty-six months. In the Rehabilitation Institute group, eleven of the eighteen patients have used a Bock knee for a year or more, whereas seven have used the mechanism less than twelve months.

In questioning the amputees as to the number of times the knee required repair or prosthetic shop adjustment, eighteen of the thirty-seven VA amputees reported that no repairs had been necessary. Three patients reported one necessary repair; eight patients noted two occasions on which repairs were needed; three patients reported necessary adjustments on three occasions; and five patients reported more than four adjustments or repairs. As to the type of repairs, seven patients reported that the knee mchanism required tightening on several occasions. Four patients reported a replacement of the leather facing material of the braking sleeves; one patient related that the front bumper had been replaced; and one patient indicated that the entire Bock knee mechanism required replacement because of defective wood in the proximal knee block. Most of the necessary repairs were minor, except for the one complete knee replacement.

Since the Rehabilitation Institute group were mainly the older, less active group, it was noted there were no significant repairs required in this group.

It is therefore evident that the Otto Bock knee stands up under considerable punishment, as our Veterans Administration group are primarily young, vigorous males in good health, who carry on a full day's activity.

The patients were requested to compare the number of falls incurred before and with the use of the Bock knee. Twenty-seven patients reported fewer falls with the Bock knee than before its application. Nine patients reported the amount of falling remained about the same with or before use of the Bock knee, and one patient reported that he had fallen on more occasions with his Bock knee, than before. The majority of the Rehabilitation Institute group are using the Bock knee as the first knee mechanism and thus have no basis for comparison.

Table II

	VA Patients	*Rehab. Inst.*	*VA Patients*	*Rehab. Inst.*
	YES		NO	
1. Do you feel that the Bock knee has slowed you down in your speed of walking?	6	5	31	4
2. Do you feel that you can walk faster with the Bock knee?	18	3	19	6
3. Does it take more effort to use this type of knee than the regular knee?	6	4	31	5
4. Does the Bock knee have more friction than the regular knee?	17	5	20	4
5. Are you satisfied with the appearance of the Bock knee as compared with the remainder of the leg?	32	8	5	1
6. Does the width of the knee take away from the over-all appearance of the leg?	5	2	32	7
7. Does it help you to go upstairs?	11	8	26	1
8. Does it help you to go downstairs?	23	9	14	0
9. Does it help you in climbing ramps?	24	8	18	1
10. Does it help you in going down ramps?	29	9	8	0
11. Does the knee appear to be wearing out?	3	0	34	9
12. Does the Bock knee make any objectionable noise?	10	4	27	5
13. Would you go back to using the standard type of knee mechanism?	4	0	33	9

In evaluating the answers to the specific questions as noted in Table II, only nine of the Rehabilitation Institute patients have had sufficient experience with the prosthesis from which to draw valid conclusions. The total number answering the questions reported in Table II is forty-six. It is noted that thirty-five patients of the total group indicate that the Bock knee has not slowed down their speed of walking; however, when extra speed was required, twenty-one of the entire group state that they can walk faster with the Bock knee than with the standard type of constant friction knee.

Because of the greater possibility of friction within this knee mechanism, it was thought that more effort would be required to use this type of knee than the standard knee mechanism. However, thirty-six patients indicated that no more effort was required, while only ten indicated that more effort was required to use the Bock knee. Twenty-two patients indicated the presence of more friction in the Bock knee than in the standard knee, whereas twenty-four believe that there is no increase in the amount of friction.

The general appearance of the knee as compared with the rest of the leg was stated to be satisfactory by forty of the patients of the group, whereas six patients considered the appearance unsatisfactory. The one woman patient indicated that she did not consider the knee mechanism as attractive as the standard type knee. This is primarily because the Bock knee mechanism comes in only one width size, and for those patients who require large sockets, the narrow width of the knee detracts from the overall appearance.

The patients are agreed that the Bock knee is a definite improvement over the standard knee mechanism. With regard to going up and down stairs, a majority feel that it is a definite aid going down stairs but that it is less advantageous in going up stairs. Performance on short ramps and inclined planes, however, is reversed, with thirty-two patients stating that the knee is a definite help in climbing ramps, whereas nineteen expressed a contrary opinion. In going down inclined planes, thirty-eight patients favor this mechanism, while eight do not.

Forty-three patients feel that the knee is satisfactorily durable. Objectionable noises were complained of by fourteen patients, versus thirty-two patients who have no complaint regarding noise.

The final question was answered overwhelmingly in favor of the Bock knee, with forty-two patients indicating no desire to change back to the constant friction knee; four patients make no choice between the Bock knee and the other.

Summary

The Bock knee is a simple braking mechanism that will slow or prevent involuntary flexion of a prosthetic knee joint when the body weight is placed on a partially flexed above-knee prosthesis. This is providing, however, that the amount of initial knee flexion is between 180 and 160 degrees. If the weight is suddenly borne on a prosthetic leg in which the amount of knee flexion is beyond 160 degrees, then the braking mechanism ceases to be effective, and the knee will continue into further involuntary flexion and the patient may fall. Patients who have mid-thigh or shorter amputation stumps usually do not have sufficient strength in remaining musculature, or sufficient prosthetic stability available to hyper-extend their prosthesis and thus prevent falling. In this survey, the patients clearly expressed their opinion that the Otto Bock knee mechanism provided sufficient braking power to lessen the number of accidental falls. This survey also indicates that the mechanism wears well, as patients who have used it regularly for more than a year do not feel that it wears out any faster than the regular knee mechanism. It is further pointed out that walking down stairs, down short ramps, or inclined planes was definitely aided by the use of the Bock knee, but that it does not have much to offer in climbing stairs, ramps, or inclined planes.

The Bock knee mechanism has a very high amputee acceptance, as revealed by the answers to our questionnaire. It is an acceptable knee-braking mechanism when judiciously prescribed.

MODIFICATION FORRESTER-TYPE COMBINATION CERVICAL AND STURDY BODY BRACE DEVELOPED

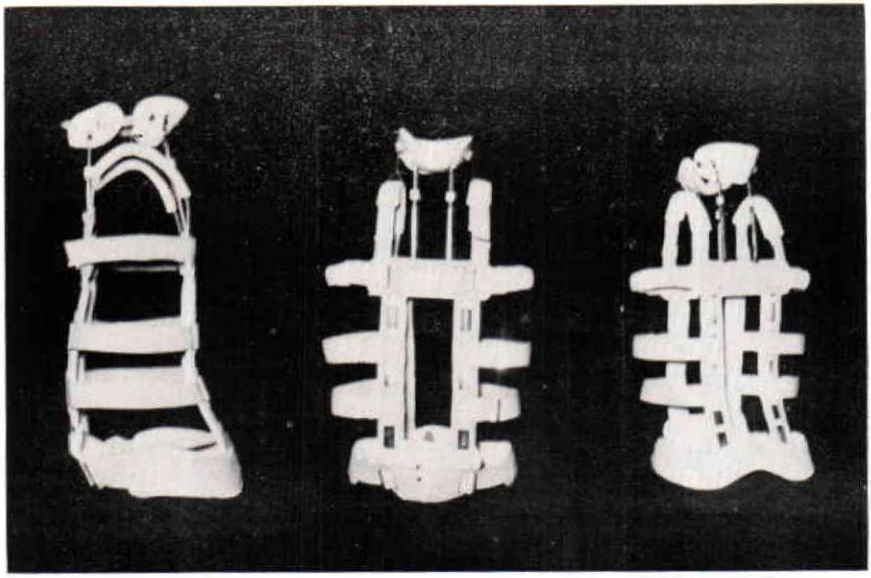
By HUGH L. WILLIAMS, M.D. and
T. M. DAVIDSON, C.O.

Dr. Williams: Long dissatisfied with the "Minerva jacket" cast both because of its discomfort and my own personal inability to get a fit that I liked, I was interested in a paper presented in Banff, Alberta, Canada at the American Orthopaedic Association three years ago. This presented, as a sidelight, a brace new to me, combining the Forrester-type occipito-mental neck brace with a sturdy body brace, and being used post reduction in neck fractures, dislocations and arthrodesis.

When I wrote to the author of the paper, Dr. Hira Branch of Grand Rapids, Michigan, he kindly sent me a diagram of this brace. Since then, I have been using it, or our present modification, for all of my own neck fractures, dislocations and arthrodesis.

The original brace, as diagrammed, had eight-inch horizontal bars on chest and pelvis on the anterior half and the same eight-inch bars superiorly and inferiorly on the posterior half. After three clinical trials, it was found that this allowed a great deal of "play" which alarmed me both from the stability and from the discomfort of the straps passing over or around the anterior superior spines of the pelvis. I took my problem to my Orthotist, Mr. Theron M. Davidson, of the Indiana Brace Shop at Indianapolis, who immediately came up with what we have felt is a good solution. As shown in Figure 1, it is a pelvic band in place of the inferior eight-inch bar on the posterior half of the brace.

Of course, we cannot claim complete comfort of the brace, but since this addition, the brace has given much less discomfort. Compared to my own "Minerva jacket" both the relative support and the comfort of the patient has been much enhanced. I also note that a great number of our other local Orthopaedic Surgeons have adopted it. And, since a recent



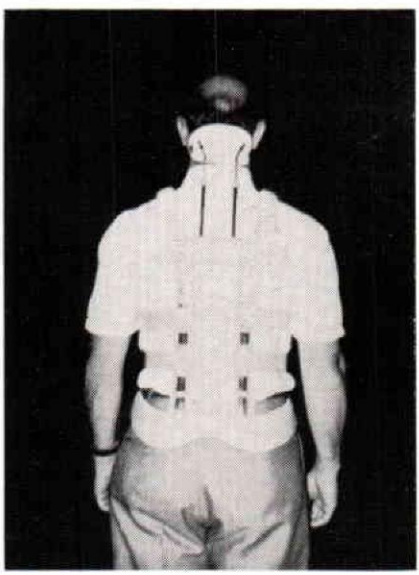
clinical demonstration at the Indiana State Orthopaedic Society Meeting, Mr. Davidson and I have been receiving many requests for diagrams from other Orthopaedic Surgeons and Orthopaedic Appliance Manufacturers.

I personally have used it on seven cervical spine arthrodesis, five acute fractures or dislocations of the cervical spine and one osteomyelitis of the cervical spine. Six of the arthrodesis have now completed their period of fixation and are completely successful with position maintained perfectly; the other case is less than six weeks since surgery.

Four of the five acute traumatic cases showed perfect maintenance of position. The other case showed some evidence of anterior subluxation before the brace was applied and developed another 20° after being placed in the brace. I do not believe this was the fault of the brace, since we were able to control the neck's position excellently in the brace.

The osteomyelitis was in an aged person in which further surgery was almost an impossibility because of surgical risk. The brace maintained the position excellently for over a month with evidence of bone healing and no further destruction of bone when the patient expired of a concurrent subdural abscess which had been a complication before the brace was applied.

Personally, I have been most satisfied with the stability and comfort afforded by this brace. Although the Minerva jacket still has its place in dealing with some children, recalcitrants and mental cases that cannot be trusted with buckles and straps, I do not plan to use it again unless forced to. My heartfelt thanks go to Dr. Branch and Mr. Davidson for the modified brace, truly a useful addition to my armamentarium of Orthopædic Appliances.



T. M. Davidson, C.O. The metal work involved in the brace discussed by Dr. Williams consists of the following parts: Starting from top to bottom, the occiput and chin rest is of the four-poster Forrester type. We make our four tubular adjustment tubes of steel, ¼″ I.D. x ⅜″ O.D. Tubes average about six inches in length, according to the size of the patient. The tubular adjustment tubes are riveted to the thoracic and sternum plates, made of .072 1½″ x 8″ 2024-T3 aluminum. Bilateral anterior and posterior upright

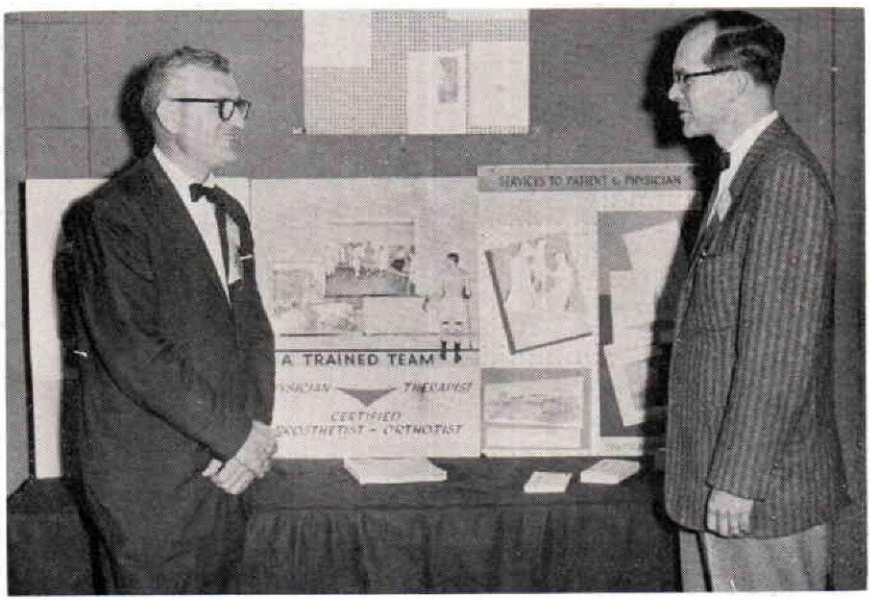
bars are riveted to thoracic and sternum plates with a spread of five inches, bar stock ¾″ x 3/16″ oval 24 S.T. aluminum. The pubic plate is riveted to the anterior uprights 1½″ x 6½″ x .072 2024-T3 aluminum. Butterfly pelvic band 1¼″ x .072 2024-T3 aluminum is riveted to posterior uprights. All of these parts are interchangeable.

The leather work consists of: sponge rubber padding lined with pearl horsehide, and covered with smoked elk. Adjustments are made of 1½″ non-elastic webbing. The leather work covers the pubic plate, extending leather well below metal plate, approximately 3½″ at center of plate, tapering to 2¼″ at groin, allowing freedom of leg movement. The pelvic band, sternum plate, and thoracic plates are covered with leather, well padded with sponge rubber, and lined with pearl horsehide. The uprights are slotted for adjustment purposes and to attach 1½″ non-elastic webbing. Shoulder straps are one-inch non-elastic webbing covered with one-inch plastic tubing. Axilla webbing strap attaching thoracic plate to sternum plate is also covered with plastic tubing. All buckles, both one-inch and one-and-one-half inch, are the safety-type buckle with metal tuck loop.

This modified brace can be applied to patient while on a Stryker frame.

Hugh L. Williams, M.D., 4829 E. 38th St., Indianapolis, Ind. Theron M. Davidson, C. O., Indiana Brace Shop, 72 West New York St., Indianapolis, Indiana.

CEREBRAL PALSY MEETING HAS CERTIFICATION DISPLAY

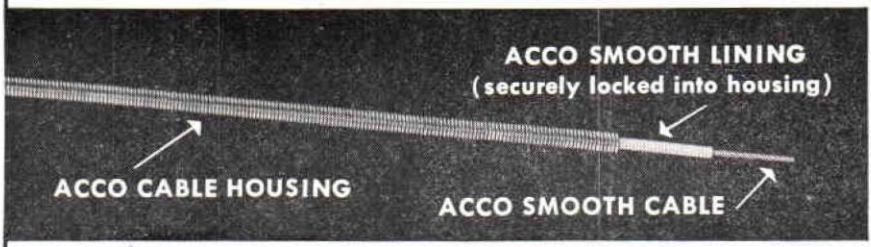


The 1958 Meeting of the Academy of Cerebral Palsy was held at Providence, Rhode Island. Shown above are—Dr. Stanley D. Simon and John Buckley, C.O. & P., at the Certification Display.

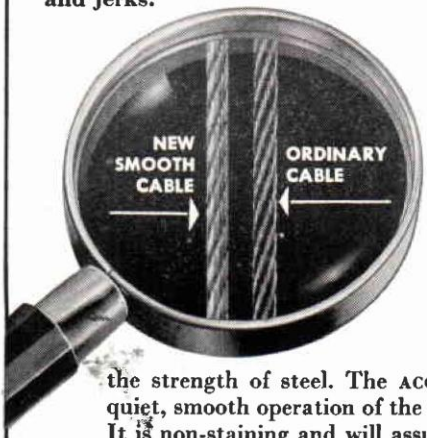
ACCO Lined Conduit and Smooth Cable

provide Quiet, Easy Operation

A complete line of ACCO Tru-Loc cables and fittings is available to help improve prosthetics and limb shop practices. Recommended by the Committee on Prosthetics Research and Development, the various ACCO assemblies feature reclaimable and re-usable major fittings as well as the unique new ACCO smooth lining and smooth cable.



This exclusive ACCO combination of tough conduit, nylon-lined for minimum friction, and smooth cable assures quiet, smooth operation and exceptional service life. The nylon lining prevents squeals, grunts, and jerks.



You can SEE the Difference WITH New ACCO Smooth Cables

ACCO cables are completely processed to a smooth finish. They operate as smoothly as a silk thread, but retain the strength of steel. The ACCO lubricating stick complements the quiet, smooth operation of the nylon-lined conduit and smooth cable. It is non-staining and will assure easier operation with all cable and conduit systems.

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MARY E. SWITZER

First Lady of Rehabilitation

An Appreciation

by Chester C. Haddan

Miss Mary E. Switzer has been Director of the Office of Vocational Rehabilitation since December 1950. In that time she has stimulated action that has resulted in hundreds of thousands of disabled American men and women being returned to useful and happy lives.

Miss Switzer's long career of service to her fellow Americans and, indeed to citizens of all the world, have made her name a by-word in Health and Welfare Circles throughout the world.

For her war work in Medical Manpower Procurement and the development of Scientific Research Programs, Miss Switzer was awarded the President's Certificate of Merit, the highest award given to a regular civil service employee. The Institute for the Crippled and Disabled presented her with the "Friend of the Disabled Award." She has received the "President's Award" of the National Rehabilitation Association; the U. S. Department of Health, Education and Welfare, Distinguished Service Award; the Distinguished Service Award of the United Cerebral Palsy Association, the Achievement Award of the Philadelphia Educational Week for the Blind, the AmVets Silver Helmet Award, and many others.

Miss Switzer began her public service career in 1922 in the Treasury Department, where she later became the assistant to the Assistant Secretary of the Treasury in charge of Public Health Service, then a part of the Treasury Department. In this position she developed an interest in National Health and Welfare matters; as a result when the Federal Security Agency was established in 1939 to concentrate on health and welfare programs, Miss Switzer joined the new agency.

Miss Switzer's interest in the health and welfare problems of all the peoples of the world resulted in her representing the United States at the First International Health Conference, which developed the Constitution of the World Health Organization. She was also a member of the American Preparatory Commission for the first World Congress on Mental Health and a member of the U.S. Delegation to the Congress in London in 1948.

Born and reared in the Boston area, Miss Switzer is a graduate of Radcliffe College, an honorary member of the Phi Beta Kappa, and a member of the Board of Trustees of the College. She holds the honorary degree of Doctor of Humane Letters from Tufts University in Massachusetts and Gallaudet College in the District of Columbia and Doctor of Laws at Adelphi College.

Miss Switzer is a Trustee of the Menninger Foundation, a Vice-President of the American Hearing Society, a member of the Board of Directors of the Alexandria Hospital in Virginia, Board of Directors of the Association for Aid to Crippled Children, Board of Directors of the International Society for the Welfare of the Crippled, and the steering committee of the First World Mental Health Year.

With the many honors that have been bestowed upon Miss Switzer, she remains a gracious lady, whose life is dedicated to the ultimate restoration of all disabled persons to their maximum capacity — physical, emotional, social and vocational.

HEALTH, EDUCATION, AND WELFARE

Soon after being sworn in as Secretary of our Federal Department of Health, Education, and Welfare, Secretary Flemming called a conference of the leading agencies in this country to discuss rehabilitation policies. The American Board for Certification was represented by Executive Director Glenn Jackson. This was further evidence of the important part certification plays in this country.

All of the prominent agencies in the United States dealing with the physical, mental, and economic needs of the people were there. While the conference was open for general discussion, certain agencies and persons present were requested to make statements. Our Executive Director, Glenn E. Jackson, was one of these. He pointed out the prime significance of the advances in professional competence and ethics in this industry over the past ten years. Incidentally, Mr. Jackson's statement was followed by one from Mr. Basil O'Connor, head of the National Foundation, who referred very nicely to our work.

To All Certifees:

DO WE HAVE YOUR CORRECT ADDRESS?

Be sure to let Headquarters have your correct address and telephone number. And remember that the *Official Registry* goes to press January 31, 1959. Will your listing be correct? *It's up to you!*

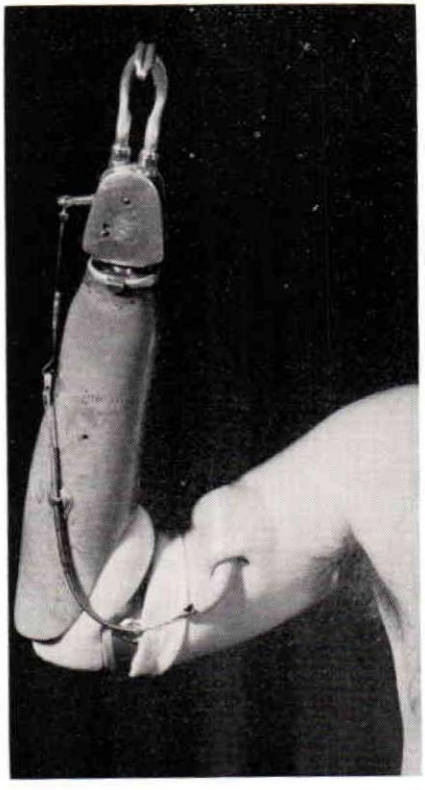
Do it today — write American Board for Certification, 411 Associations Building, Washington 6, D. C.

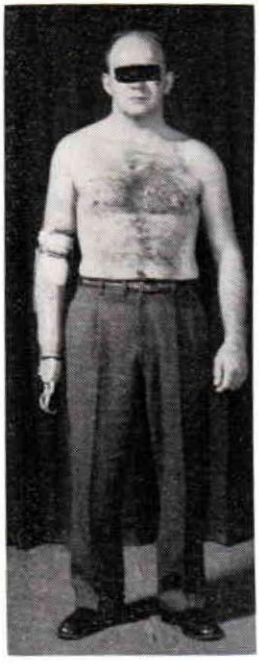
IMPROVEMENT IN FUNCTION WITH CINEPLASTIC OVER CONVENTIONAL HARNESS

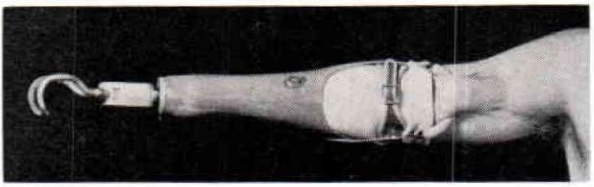
By CLAUDE N. LAMBERT, M.D. and
WILLIAM SCHECK, C.P.

E. W. had a wrist disarticulation in January of 1956 following an industrial accident. He was fitted with a conventional plastic forearm prosthesis, double wall socket figure eight harness, APRL hand and APRL hook. Functional response was excellent and he returned to his regular occupation. He observed another amputee who was using a cineplastic activated arm, and desired to have such function himself. He was reviewed at the amputee clinic of the University of Illinois, Department of Orthopedic Surgery, and with his good musculature, his excellent function with the conventional arm, and his co-operative response, it was felt that he would be an excellent candidate for a biceps cineplastic tunnel.

On October 17, 1957 a cineplastic tunnel was made in the right biceps. The patient states that he had very little pain after operation. He began his training in the use of the cineplastic tunnel twenty days after operation. Figure eight harness and control were removed from original prosthesis and cineplastic controls installed, and as a result he now experiences better sense of touch, much less effort to activate terminal device, and better range







of motion all around. He can now take things out of his back pockets, an activity he could never do before. He has much more comfort with elimination of the harness. He states that his posture has improved. He uses APRL hook in free wheeling position. He has broken several cables, torn the wrist unit out of socket, but has never injured his biceps tunnel. Biceps tunnel is cleaned once a day with plain soap and water and he uses cocoa butter in the tunnel about every three days. His only regret is that he did not have a cineplastic tunnel made immediately after amputation, as Mr. E. W. is completely satisfied with the final results.

Claude N. Lambert, M.D., 104 S. Michigan Ave., Chicago, Ill.
William Scheck, C.P., 505 Madison St., Oak Park, Ill.

Monthly Progress Report for November 1958

PROSTHETICS EDUCATION POST-GRADUATE MEDICAL SCHOOL NEW YORK UNIVERSITY

Dr. Sidney Fishman sends the Journal these notes on Prosthetics Education at New York University.

A. *Enrollment*—The first series of Upper Extremity courses in the current year was completed on November 7th, with the following students in attendance: Course No. 744A—Physicians, 20; Course No. 745A—Therapists, 17.

On November 21st, the first two week course in Prosthetics and Orthetics for Rehabilitation Counselors was completed with an enrollment of 17 students.

B. *Curricula and Teaching Materials*

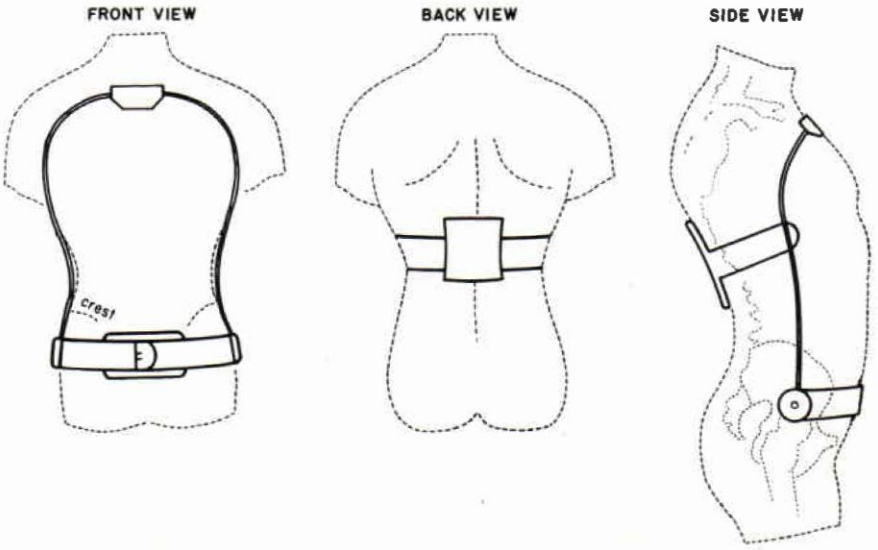
The manual entitled, *Notes on the Management of the Above-Knee Amputee,* is in very short supply and is being re-edited for reprinting during the month of December.

A half-day visit to the Fort Hamilton V.A. Hospital amputee clinic headed by. Drs. Chessid and Lawrence has been included for the first time in the Vocational Counselors curriculum. Attendance at the clinic was enthusiastically endorsed by the students and this procedure will be followed for the remaining courses.

R.K.G. HYPEREXTENSION SPINE BRACE

By J. H. BENNETT

Waco Orthopedic Brace and Limb Company, Waco, Texas.



The accompanying illustration shows an interesting, simple but quite effective hyperextension brace. This brace was designed and made by the author and by Lester Stovall, shop foreman of the Waco Orthopedic Brace & Limb Co. Use of this appliance is under the medical supervision of Dr. R. K. Gassler, orthopedic surgeon of Waco, Texas, who has used the appliance on several of his patients.

It consists of 5/16" cold rolled steel rod, which is covered with plastic tubing. It has two lateral uprights, extending up each side of the trunk, conforming to the torso and one anterior cross bar across the upper chest, just below the sternal notch, which has a rolled felt pad to eliminate the pressure. Pressure is exerted through pads over the symphysis and the sternum, and counter pressure through a wide webbing strap and leather plate across the mid back, set at whatever position may be required. The nice feature of this appliance is that it can be constructed very quickly, and at a very moderate cost to the patient. The two uprights are padded at the distal end where they come in contact with the crest of the illium.

Editor's Note: We are indebted to R. K. Gassler, M.D., of 1710 Colcord Ave., Waco Texas, for the following note about the use of this Hyperextension Spine Brace.

This brace is not an original device, but is the outgrowth of using several other recognized hyperextension braces. The pad in the lumbar region can be adjusted, lengthened, or shortened, and may be reinforced with metal as one desires. The restriction or the amount of hyperextension is regulated by

the strap at the pelvis. The lateral bars are brought to the mid axillary line and thus restricts lateral motion.

This device is not to be used on a person one cannot trust, nor on one who requires more rigid fixation. It is a brace which is quite easily worn and will give as adequate support as the old Taylor type brace would give to the elderly patient who has dorsal lumbar or dorsal pain. It may also be used following more rigid supports such as a body jacket in the treatment of fractures of the upper lumbar or lower dorsal regions.

For a person with a considerable amount of abdominal weakness or abdominal protrusion, a fuller front may be attached to the support.

1959 ACADEMY MEETING

The Certification Board is to be one of the Scientific Exhibitors at the 1959 meeting of the American Academy of Orthopaedic Surgeons. This meeting will be held at the Palmer House in Chicago, Illinois, January 24-29, 1959. The Certification Exhibit will describe new training materials for the certified orthotist and prosthetist and call attention to the necessity for dealing with a certified facility to obtain the best in service. Les Smith of the Washington Office is arranging the exhibit. John DeBender and Alfred Denison of Chicago, Fred Eschen of New York, and George Lambert, of Baton Rouge, Louisiana, will supervise the manning of the booth so that inquiries of surgeons about certified facilities may be answered.

Other exhibits of special interest to OALMA members include: "SACH Foot for Lower Extremity Prosthesis," presented by Dr. Everett J. Gordon of Washington, D. C.

"New Plastic Artificial Legs," presented by Captain Thomas J. Canty and associates of Oakland, California.

"Industrial Amputee Rehabilitation," presented by Dr. Charles O. Bechtol.

"Simple Night Splint for Tibial Rotation," presented by Dr. Rex J. Howard of Fort Worth.

"Orthetic Devices for Upper Extremity Bracing," presented by Dr. Kenneth S. Landauer, and Dr. Kenneth W. Lane.

"Aspects of Cerebral Palsy" by Dr. Winthrop Phelps.

A fifty-dollar registration fee will be charged for non-members of the Academy. Many research papers will be presented in various scientific programs.

A comprehensive series of instructional courses will again be offered. The distinguished faculty for these courses include these surgeons who have appeared on OALMA programs: Dr. Charles O. Bechtol, Dr. Walter P. Blount, Dr. Charles H. Frantz, Dr. Claude N. Lambert, Dr. Charles L. Lowman, Dr. J. Vernon Luck, Dr. Paul E. McMaster, Dr. Vernon L. Nickel, Dr. Winthrop M. Phelps, Dr. Daniel C. Riordan, Dr. Albert C. Schmidt (Remember the Schmidt-Bidwell presentation on the Milwaukee Brace?). Dr. Edwin R. Schottstaedt, Dr. Jack K. Wickstrom.

ADDITIONAL NOTES ON REHABILITATION OF THE BILATERAL LOWER EXTREMITY AMPUTEE

By ARTHUR L. WATKINS, M.D.
Boston, Massachusetts

In a previous issue of this *Journal**, the end-results of rehabilitation of bilateral amputees was published as a reprint of an article appearing in the J.A.M.A.** At this time additional charts are available and the findings in 23 cases seen from January 1, 1957 to November 1, 1958.

In these recent cases, the age at time of referral for rehabilitation ranged between 29 and 76, the greatest number being in the seventh decade of life.

Four cases, ages 29 to 54, had a traumatic etiology. Two had bilateral below-knee stumps; the other two had bilateral mid or low thigh amputations.

The remaining 19 cases all had peripheral vascular disease with or without cardiac involvement. The diagnosis of Buerger's Disease was made in three instances, and diabetes was present in five. Pathologically, arteriosclerosis was present in all except the traumatic cases.

There were 12 bilateral above-knee amputees seen. Non-articulated short legs (pylons) were prescribed for eleven amputees. No prostheses were prescribed for the twelfth case because of cardiac complications, and he died before medical evaluation was completed. Two other patients died after receiving pylons. One (age 57 at time of prescription) became an independent wearer with two canes and returned to office work. He died of a heart attack five months after finishing prosthetic training and three years after his last amputation. Another, age 67, died while receiving prosthetic training, just seven weeks post amputation and in his fourth week of training. He had not progressed beyond the stage of parallel bars and a wheelchair. This death was also cardiac in etiology.

The nine living bilateral above-knee (AK) amputees all became successful wearers of pylons and were independent in home life. One reverted to partial use only; he started rehabilitation seven years after his last amputation.

Six patients had AK-BK amputation, the youngest 54, the oldest 68. All became independent in use of limbs in the home with one or two canes with one exception: an obese lady who because of the distance from the center received only three treatment visits and continued to use a wheelchair. Two men were rated employable and referred to the rehabilitation commission for placement.

The bilateral BK amputees (5) all became satisfactory wearers of conventional prostheses usually with only one cane for additional aid. One man used crutches, but returned to work as a gas station manager. Two ladies in this group became independent homemakers; of the three men, one awaits placement eventually and two are employed.

Of the nine surviving cases with double thigh amputations, three also were given conventional long legs. One (age 29) used these successfully and continuously being employed in office work. One (age 69) failed to learn to use them and reverted to a wheelchair. The third (age 50) could walk

*Watkins, Arthur L., and Liao, Sung J. Rehabilitation of Persons With Bilateral Amputation of Lower Extremities. *Orthopedic and Prosthetic Appliance Journal.* Vol. 12, No. 2, pp. 69-72, June 1958.

**Watkins, Arthur L., and Liao, Sung J. Rehabilitation of Persons With Bilateral Amputation of Lower Extremities. *The Journal of the American Medical Association.* Vol. 166, No. 13, pp. 1584-1586, March, 1958.

well with both pylons and long legs, but preferred pylons and refused employment offered him. We have prescribed long legs for two others at their own insistence being successful users of pylons, and paying their own way.

Discussion

Further evaluation of these cases reveals that in one case the patient's heart condition did not warrant the use of pylons and he died during training. One man learned to use pylons, but died after working for five months. One cannot say that use of artificial limbs was responsible. Another (age 69) learned to use both short and long legs but resided in a nursing home and when on his own reverted to a wheelchair. Another failure was a 68 year old man for whom pylons were prescribed seven years after his last amputation. All the AK-BK and BK-BK cases became successful users of artificial limbs except for one lady who lived out of state and for whom we could not arrange training.

Of the entire group, only four were employed outside of the house, but three women were rehabilitated to independence as homemakers. Four men were considered to be employable, but at the time of writing were not placed.

Summary

In this group of 23 patients there were four cardiac deaths; two failures in learning to use artificial limbs (one because of inability to arrange for treatment and one who received limbs seven years after amputations), and one reversion to wheelchair after becoming a satisfactory wearer (AK-AK). All others, regardless of level of the amputation, learned to use artificial limbs.

It would appear from these end-results that only the young bilateral (AK-AK) amputee can be expected to wear long legs successfully. Regardless of age the AK-AK amputee can be rehabilitated with pylons provided his heart condition is satisfactory.

CHARTS

REHABILITATION END RESULTS

Results		Rehab. Grade	Number	Percentage
Gainfully Employed	ECONOMICALLY INDEPENDENT 15	A	10	20%
Homemaking and Spouse Employed		B	5	10%
Employable, but Not Placed		C	6	12%
ADL Independent, but Unemployable		D	14	28%
Rehabilitation		A-D	35	70%
Partial ADL and Unemployable		E	5	10%
Wheelchair-existence		F	7	14%
Died During Rehabilitation		G	3	6%
Failures		E-G	15	30%

ETIOLOGY—AMPUTATION SITES

ETIOLOGY	SITE			
	AK-AK	AK-BK	BK-BK	Total
Trauma and Miscellaneous	3	7	6	16
Peripheral Vascular Disease	28	4	2	34
Total (Site)	31	11	8	50

SITE OF AMPUTATION

	AK-AK	AK-BK	BK-BK
Number	31	11	8
Average Age	59	52	48

INTERVAL BETWEEN FINAL SURGERY AND START OF REHABILITATION

	Interval in Years		
Rehabilitation Grades	0-1	2-5	5-36
A-D (Success)	24	9	2
E-G (Failure)	8	4	3

REHABILITATION RESULTS AND ETIOLOGY

	Rehabilitation Grade	
	A-D (Success)	E-G (Failure)
Peripheral Vascular Disease	23	11
Trauma and Miscellaneous	12	4
Total Patients	35	15

PROSTHETIC TRAINING
Average Treatment Visits

	Bilateral Pylons	Bilateral A-K	A-K B-K	Bilateral B-K
Number of Patients	21	10	10	8
Average Number of Treatments	16	31	27	21

BILATERAL AMPUTEES
(Lower Extremities)

	Male	Female	Total
Number	41	9	50
Average Age	56	52	55

REHABILITATION RESULTS
According To Site Of Amputation

	Success Grades				Failure Grades			Total	Total	Total
	A	B	C	D	E	F	G	A-G	Success	Failure
AK-AK	5	3	4	10	2	4	3	31	22	9
AK-BK	2	1	1	2	2	3		11	6	5
BK-BK	3	1	1	2	1			8	7	1
Total	10	5	6	14	5	7	3	50	35	15

REHABILITATION RESULTS ACCORDING TO AGE

Age Group	REHABILITATION GRADES SUCCESS A	B	C	D	E	FAILURE F	G	Total Patients	Total Success	Total Failure	Age Group
60	1	2	2	4	2	1	1	13	9	4	60
20	1							1	1		20
30	2							2	2		30
40	2	1				2		5	3	2	40
50	2			1			1	4	3	1	50
70	2	1	3	8	2	3	1	20	14	6	70
80		1	1	1	2	1		5	3	2	80

ETIOLOGY

	Peripheral Vascular Disease			Trauma and Miscellaneous		
	Male	Female	Total	Male	Female	Total
Number	29.	5.	34.	12.	4.	16.
Average Age	60.	65.	61.5	46.5	38.	43.

THE USE OF PREFABRICATED, PARTIALLY DIE-STAMPED LEATHER COMPONENTS FOR ARTIFICIAL LIMB CONSTRUCTION

By MR. WILLIAM McILMURRAY, Acting Chief
Testing & Development Laboratory, VA Prosthetics Center

Since early 1958 the VA Prosthetics Center has been using prefabricated, partially die-stamped leather components for lower extremity prostheses. These components are procured in a sufficient number of sizes and shapes so that the manufacture of leather components for artificial legs within the Limb and Brace Section is decreased by 90 to 95%. (The L&B Section continues to manufacture components that are of a non-standard or special nature.) The use of prefabricated leather parts was suggested by Mr. H. Cavanaugh, C. O., Orthopedic Technician, Limb and Brace Section, VA Prosthetics Center.

Time and cost studies on the shop fabrication of these leather parts revealed that the retail contract costs of prefabricated die-stamped components would be slightly less than the prime costs (labor and material) of the conventional shop-produced parts. It was also determined that considerably less floor space would be required for storage and that raw material waste would be appreciably minimized if prefabricated parts were used.

Based on these reasons, the Limb and Brace Section proceeded to procure prefabricated die-stamped leather components for lower extremity prostheses from a commercial supplier* rather than fabricate them within VA Prosthetics Center. It was recommended to this supplier that the parts be made to the size, shape and contour of *samples* prepared by the VA Prosthetics Center and, of course, such parts were to be of the best quality material and to reflect first-class workmanship. The specifications listed below describe the sizes and materials used for each item. (B/K items Nos. 1 thru 6 are shown in Plate A. A/K items Nos. 7 thru 10 are shown in Plate B.)

B/K Components

Item No. 1 *B/K Belt* (Sizes 30″ thru 42″, Left and Right, in 2″ Increments)
- a. 2″ Gray Dacron and Rayon Webbing
- b. 7 oz. Strap Leather
- c. Medium Horsehide
- d. ¾″ Bag Buckle. 1 ea.
- e. 3 Rapid Rivets

Item No. 2 *B/K Fork Strap*
- a. 7 oz. Strap Leather
- b. Medium Horsehide
- c. 1″ Elastic Webbing, Cotton
- d. ¾″ Bag Buckle. 1 ea.

Item No. 3 *B/K Corset* (6 sizes Left, 6 sizes Right)
- a. 8 oz. Strap Leather
- b. Medium Horsehide

Item No. 3A *B/K Corset, Eyelet Strip*
- a. 8 oz. Strap Leather
- b. Medium Horsehide
- c. 7 Brass Eyelets (No. A-1190, Stimpson)

Item No. 4 *Check Lug*
- a. 8 oz. Strap Leather
- b. Medium Horsehide
- c. 3 Brass Eyelets (No. A-1190, Stimpson)

Item No. 5 *B/K Joint Cover* (Left and Right)
- a. Medium Horsehide

Item No. 6 *B/K Tongue*
- a. 3 oz. Strap Leather

**From: R & G Orthopedic Appliance Co., 2037 K St., N.W., Washington 6, D. C., low bidder on a VA Supply Contract.*

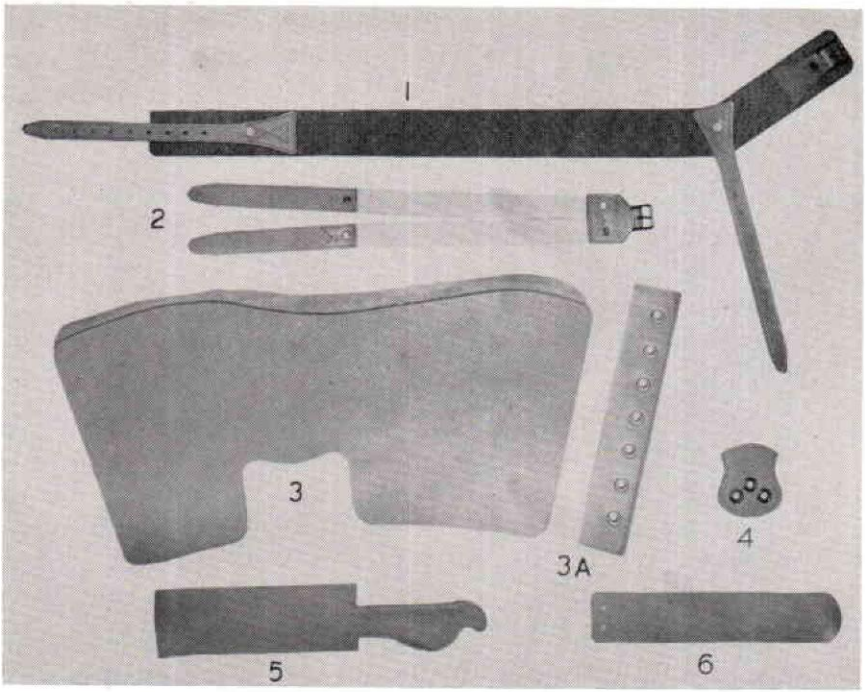


Plate A. B/K Items

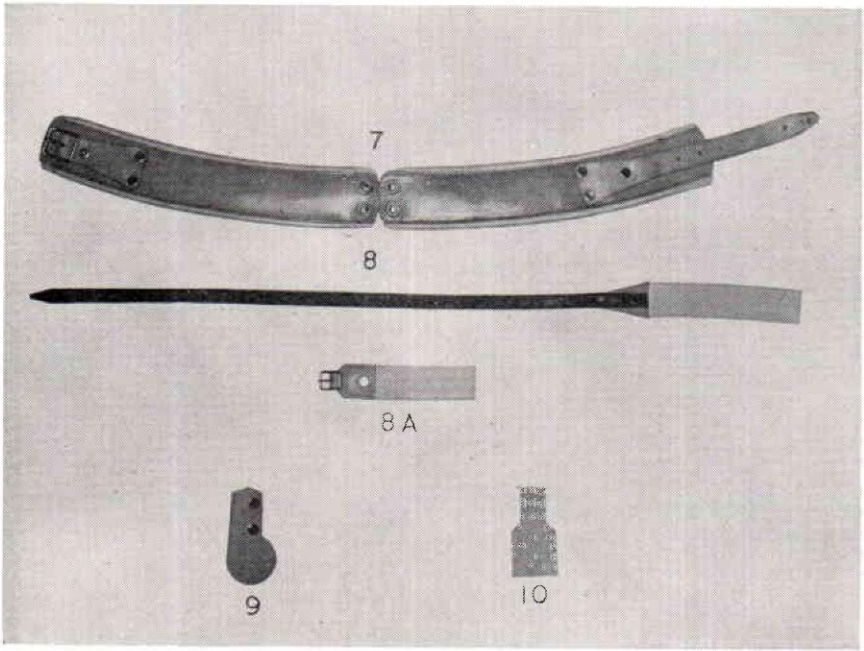


Plate B. A/K Items.

A/K Components

Item No. 7 *A/K Belt* (Sizes 30″ thru 42″, Left and Right, in 2″ Increments)

a. 5 oz. Strap Leather
b. 7 oz. Strap Leather
c. 8 oz. Strap Leather
d. Medium Horsehide
e. Litho-Cloth, all Wool, Long Nap, 27 oz. per yd.
f. 1″ Bag Buckle, 1 ea.
g. 6 Rapid Rivets
h. 1/8 x 1/4 Chrome Lace
i. 4 Brass Eyelets (No. A-1190, Stimpson)

Item No. 8 *A/K Rear Control Strap*

a. Latigo Strap
b. 1½″ Elastic Webbing, Cotton
c. 1 Rapid Rivet

Item No. 8A *A/K Front Control Strap*

a. 7 oz. Strap Leather
b. 1½″ Elastic Webbing, Cotton
c. ¾″ Bag Buckle, 1 ea.
d. 1 Rapid Rivet

Item No. 9 *A/K Joint Cover*

a. 3 oz. Strap Leather
b. 2 Snap Buttons

Item No. 10

a. Medium Horsehide

When the first shipment of the parts was received, they were given a 100% inspection. With the exception of a few minor revisions, the parts were satisfactory. The materials, sewing, and workmanship were according to specifications, reflecting excellent workmanship. The *die-stamped* portions of these leather artificial leg components were particularly clean and uniform throughout. All components except items 3 and 3A (these two items require slight modification) can be used as they are received from the manufacturer.

Limb and Brace Section experience with the prefabricated artificial leg leather components has been so favorable that prefabrication of some leather Brace parts and of some Upper Extremity prosthetic leather components is being considered. The long-term possibilities of flexible plastics as substitutes for many leathers that are in use today are also under study.

NEW ADDRESSES

Carl A. Thomsen, C.P. and Hal R. Kettle announce the removal of Physicians Orthopedic Service on Monday, October 6, 1958 to 2529 Fourth Avenue, San Diego 3, California. The telephone number is BElmont 9-2021.

The Ace Orthopedic Company of Los Angeles has moved to new and more convenient quarters at 5430 Santa Monica Boulevard, Los Angeles 29, California. The telephone number is HOllywood 4-4400. A branch is maintained also at 425 South Pacific Coast Highway, Redondo Beach, California. The telephone number at this branch is FRontier 6-3397. Hy Christensen is owner and manager of Ace Orthopedic Company.

Laboratory and Shop Notes

A Column of Practical Ideas

Contributing Editors, Alvin L. Muilenburg, *Chairman;*
G. E. Snell, C. O. Anderson, Erich Hanicke, Joseph Martino.

Joseph H. Martino, the United Limb & Brace Co., Inc., of Boston, writes: "Protek-sorb, which is the silica gel crystals, works well in absorbing normal moisture in suction sockets. However, when there is excessive perspiration involved, the paper container dissolves and the package is no longer usable.

"In the shop, we are experimenting with ¾" wide band saw blades in the hopes that we can obtain straighter cuts, longer blade life and more efficient operation. Also, we have a bayonette type of jig saw which, when working with plastic laminate parts, works better than the Dremel coping saw we mentioned a few months ago. There is a small electric carving tool with molding heads that is excellent for cleaning the grooves and slots of the Otto Bock knees.

"We have been having a little difficulty finding the proper buckles for the plastic laminate sockets on the Canadian hip disarticulation type of prostheses. We are wondering what the other limb shops throughout the country are using and from where are they obtaining them."

SOMETHING NEW IN THE WELDING OF ALUMINUM

By J. H. BENNETT

Les Stovall, shop foreman at Waco Orthopedic Brace & Limb Co., added something new and put it to use while I was away attending the National Assembly session at Miami Beach. As a result we feel that in using aluminum welding in this shop we have eliminated the one big problem and major headache in aluminum bracing.

As every orthotist knows, often in the shaping of an aluminum leg brace, one of the upright bars will break. This means replacing it. Often a patient will break an aluminum upright side bar on a leg brace, and this will require the replacement of the complete upright assembly. This means disassembling the bands and leather work, reshaping the upright and realigning the brace. All this adds to the cost in time and materials. The patient has to foot the bill and sometimes when the bill is presented to him there are hard feelings and arguments about the price. But with this new aluminum welding, most of these problems and headaches are avoided. After the welding of the aluminum it is as strong as before being broken.

It used to be an hour's job to replace an upright on an aluminum thigh length brace before we began welding aluminum. Now it takes only fifteen to twenty minutes to do the job. And after it has been welded, sanded and polished, it is hard to tell where it has been repaired. This saves time, and money.

The cost of aluminum and aluminum flux is reasonable. We use Oxy and Acy mixture, and find it to be the best. We also have a set up of natural gas and oxygen, but this natural gas mixture doesn't have the pressure to do the job and make it effective. We are using pure aluminum rod (1/16") and aluminum flux. If anyone would like to have more information on this, we'd be glad to hear from them and help in any way.

BIG NEWS

Model #3800

SIERRA D

Designed to accom such as Sierra's AP and Dorrance. Eas steering wheels of plane controls. Only for secure installati metal bracket finish ate delivery from st

Write for prices and specifications

Your assurance of quality is the Sierra label— be sure it's on every part you buy

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123

FROM SIERRA

IVING RING

date most standard hooks
Northrop-Sierra two load
and quickly attached to
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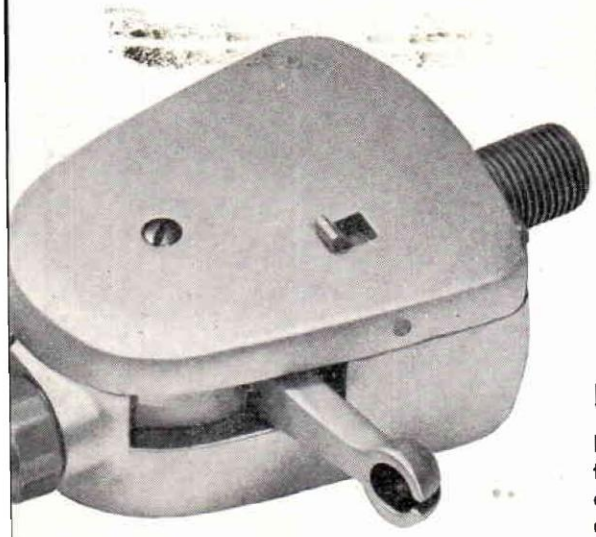
o screws need be tightened
Ring of molded Nylon—
in bright chrome. Immedi-

Model
1800



SIERRA WRIST FLEXION UNIT

Improved model unit machined from double strength aluminum alloy necessary for day to day amputee use. Three adjustable positions for greater maneuverability when used with standard hooks. Attractively polished in bright chrome. Immediate delivery to prosthetists.

RRA ENGINEERING COMPANY

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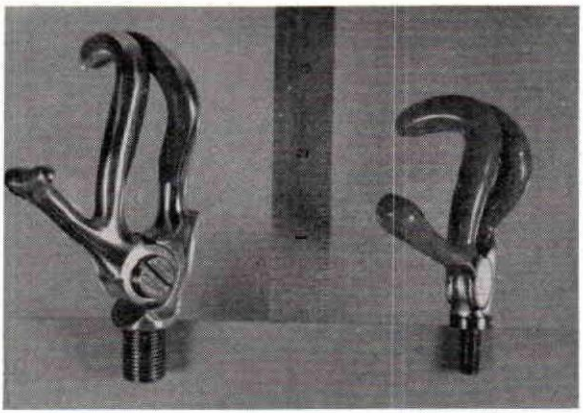
SIERRA MADRE, CALIFORNIA

NOW!!

You Can Successfully Fit Your Youngest Amputee, One Year and Up, Using the New DORRANCE 12P Hook and New HOSMER WE-100 Infant Wrist Unit.



10X 12P

The NEW DORRANCE 12P is even smaller than the baby 10X. Heat treated stainless steel, plastisol covered. Weight —2¼ ozs., length—2¾".

The NEW HOSMER WE-100 is designed to use with above infant hook. Complete with adjustable positioning ¼"-28 threaded insert to match hook threads. By removing insert, wrist will accept ½"-20 thread stud on Child Mitt. Weight—1 oz., O.D.—1¼".

D. W. Dorrance Co., Inc.
748 COLEMAN AVENUE
SAN JOSE, CALIF.

A. J. Hosmer Corp.
P. O. BOX 152
SANTA CLARA, CALIF.

PROSTHESIS FOR THE CHILD—RESEARCH NOTES

By HARRY E. CAMPBELL, C.P.

Editor's Note: This report on current research is reprinted by permission from the Third Annual Report, 1957, of the Child Amputee Prosthetics Project (Department of Pediatrics, School of Medicine, University of California at Los Angeles.)

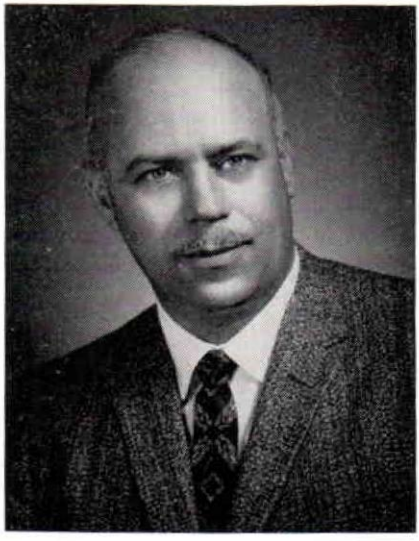
A systematic approach to the fabricating, fitting, and maintaining of prostheses for child amputees is beginning to evolve from the experience at the CAPP. Questions frequently asked of the prosthetist include: How frequently does a new prosthesis have to be made for a growing child? What components of a prosthesis have to be replaced because of malfunction or damage? How can a prosthesis be made to last longer? How do you fit the malformed child? What special devices can be provided the child amputee so he can enjoy more fully the activities engaged in by other children? These and many other questions have formed the basis for the present methods of data collection and of experimental studies.

Methods of Recording Data

In order to secure information relating to the need for prosthesis and component repair or replacement, two methods of tabulation are in use:

1. Prosthesis History Card—In addition to the identifying information of each child, the following data are recorded on each card: prescription, date of prescription, date of wrap, date of final fitting, date of check-out, date of photos, and the type of terminal device, wrist unit, elbow unit, etc., where applicable. This card is set up to record this information on five prostheses with space available for other pertinent data, including modifications.

2. Adjustment Frequency Tabulation Card—A system that provides information concerning prosthetic experience by age groups, amputee types, frequency and nature of adjustments. It is from this system that predictive information can be utilized in determining the need for replacement and repair of prostheses and components by age groups and amputee types.



HARRY E. CAMPBELL is staff prosthetist at the Child Amputee Prosthetics Project at the University of California at Los Angeles. A native of Battle Creek, Michigan, he served in the U. S. Army in North Africa in World War II. His interest in the limb and brace field dates from hospitalization at the Percy Jones Hospital for Surgery. After recovery he was placed in charge of the Arm Dept. there and stayed on until 1946. Returning to civilian life he was connected first with Hawthorne Northrop Aircraft in Hawthorne, California, where much of development in upper extremity prosthetics was accomplished. He was later Supervisor of Plastics for the Hosmer Corporation in Santa Monica. He came to the University of California in 1950, and since 1952-56 was an instructor in the U. C.

Special Problems

For more than a year and a half prostheses, described as standard, have been fabricated for the CAPP patients by private limb makers. This procedure has meant that the prosthetist's time and effort has been devoted to the refinement and development of methods for fitting the more complex types of amputations and malformations. The following examples in no way represent the extent of the work with these special problems, but are only illustrative of some of the approaches in meeting the needs of these children.

1. Elbow-lock Mechanisms for Phocomelias—In several of our phocomelias it has been found advantageous to use finger flexion for elbow lock control. The nature of the malformation of the musculature or the absence of some of the muscles has resulted in limited sources of power and limited ranges of motion for the operation of prosthetic devices.

A 16 year old girl with bilateral upper extremity phocomelias was initially fitted two years ago. She was fitted with modified short above elbow type prostheses because of poor shoulder function. Elbow lock control was achieved by a cable loop through which she could insert her fingers. Active finger flexion through this loop connected to standard cable control, tripped the mechanism to lock and unlock the joint, (Figure 1).

L. A. Upper Extremity Prosthetics School.
Figure 1. Showing lanyard control operated by flexion of wrist and fingers.

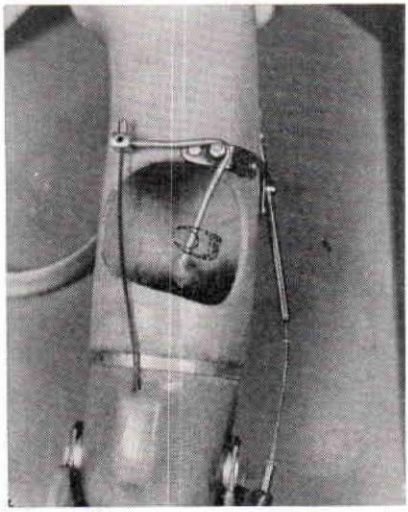


Figure 2. Showing lever operated cable control activated by finger flexion.

Modification of such finger control is possible to meet the demands of individual cases, (Figures 2 and 3). In Figure 2 a rod and lever mechanism activated by finger flexion was used to activate the elbow lock. With another patient wearing a child's external elbow joint, activation of the elbow is obtained by finger flexion against a single push rod mechanism instead of through cable pull, (Figure 3).

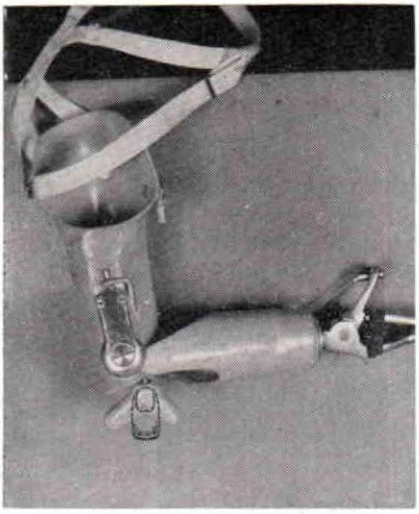


Figure 3. Showing piston type control activated by finger flexion.

2. Harness Application—The need to stabilize the prosthesis in order to provide function for an above-elbow amputee who was quite obese produced modifications of the standard type of harnessing, (Figures 4 and 5).

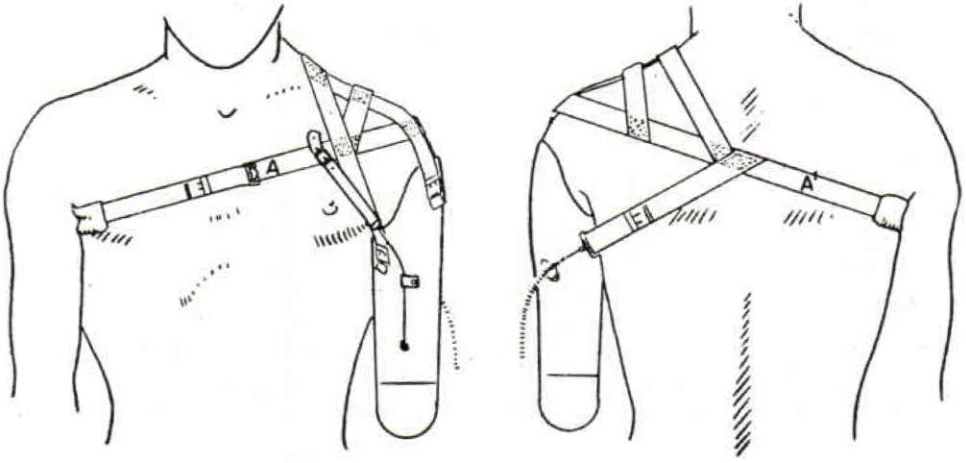


Figure 4. The socket is suspended from a webbing shoulder saddle. The chest strap A-A holds the saddle in contact with body.

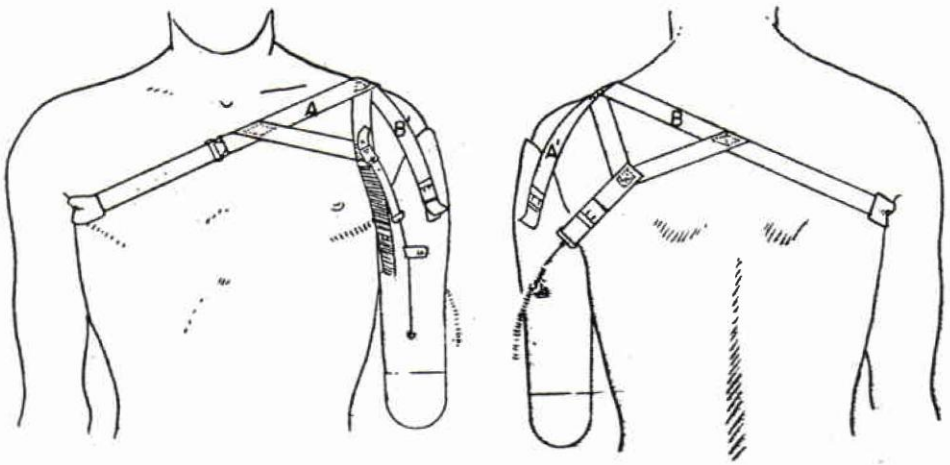


Figure 5. The socket is suspended from the chest strap A-A and B-B. There is less tendency for saddle to shift anteriorly, hence greater stability than with the standard chest strap harness.

3. Walking Mechanism for a Bilateral Lower Extremity Amelia—A six-year-old girl who is a congenital bilateral above elbow amputee and bilateral lower extremity amelia had been furnished with standard above elbow prostheses. For her lower extremities she was initially provided with a bucket type pelvic platform set on two stubby legs. By alternate pelvic rotation and without crutches, she could ambulate in the house quite well. A pair of Canadian hip disarticulation prostheses were later substituted. With the free knee she lacked stability and could not ambulate independently. The research group from the University of California at Berkeley devised a prosthesis that would provide the beginning steps in ambulation. A modification of the Canadian hip disarticulation prosthesis was used, (Figure 6).

The advantage of this type of device is that prosthetic function is initiated by spine flexion and moving the center of gravity forward, rather than rotating the pelvis. For details of biomechanics, fabrication, and fitting of this type of prosthesis, see articles by Radcliffe, C. W. (Page 29) and Foort, J. (Page 39) in Volume 4 of Artificial Limbs, Autumn 1957.

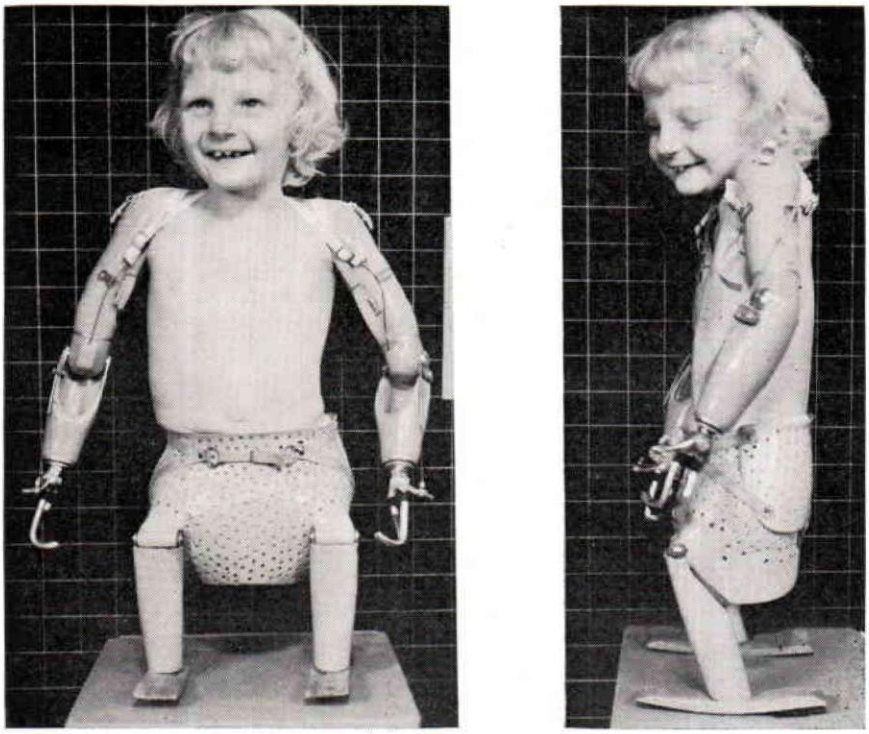


Figure 6. A molded laminated plastic bucket, perforated to permit evaporation of perspiration, was fabricated with a flattened extension distally, which functions as a seat. Pylon type legs with rocker feet were affixed to the bucket as shown.

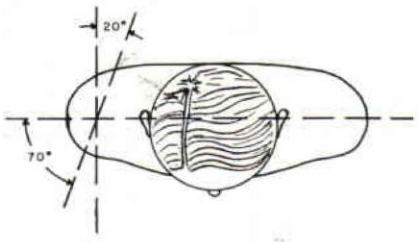


Figure 7.

4. Canted Shoulder plates — The conventional canted shoulder plates for a shoulder disarticulation prosthesis permit flexion at the shoulder in a sagittal plane. It has been demonstrated that abduction combined with flexion to bring the elbow forward and out places the elbow and hand in a more favorable functional position. One forequarter and several shoulder disarticulation amputees have been fitted with this type of shoulder plate, externally rotated 20 degrees from the sagittal plane (Figure 7).

Special Devices

The more active prosthesis users are motivated to make use of their prosthetic skill beyond the usual self-care, education, and vocational activities. They request help with the development of special devices and contribute ideas as to the ways in which they believe these devices can be developed.

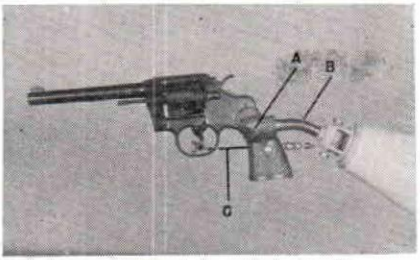
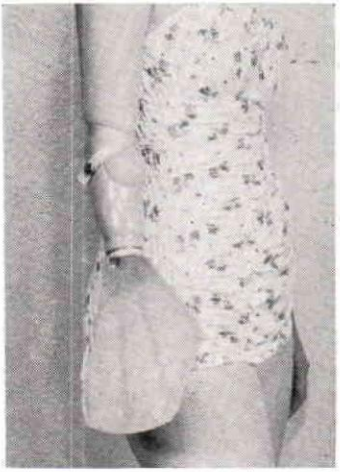


Figure 8. Pistol Attachment Device.

Swim fins, violin bow holders, baseball mitts are included among these special devices. Illustrated and described below are some of these special devices developed during this past year.

1. Pistol Attachment Device

An 18 year old boy with bilateral long below elbow amputations, who had been an adept prosthesis user for 3 years, requested an instrument which would enable him to shoot a target pistol. A standard 22 Colt pistol on a 38 frame was modified in our laboratory for this patient. The grips were removed and replaced with specially constructed grips of laminated plastic with glass reinforcement, (A in Figure 8). A housing containing a threaded stainless steel insert was incorporated into the left side grip. The pistol was firmly affixed to the prosthesis by means of a ½" threaded stainless steel rod, (B in Figure 8). By a special trigger attachment an adapter was led from the cable end to trigger, (C in Figure 8). Tension on the cable fires the weapon.

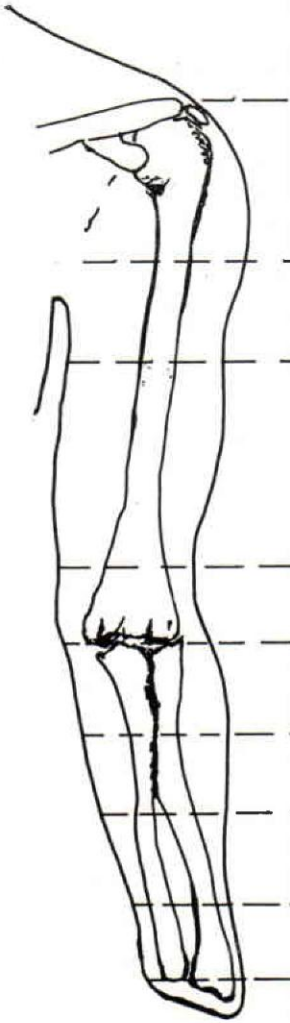


Figures 8 and 9. Showing swim fin fitted to a fifteen-year-old girl with a very short below-elbow amputation.

2. Swim Fin

A fifteen year old girl with a very short below elbow amputation, who had been an excellent prosthetic user for three years, requested a swim fin to improve her swimming ability. This was supplied in May 1957. The device consists of a laminated plastic fin reinforced with glass cloth and nylon stockinette, (Figures 9 and 10). This was fitted to a standard VA 600 wrist unit, which was incorporated in a short below elbow socket. The socket is secured to the arm by a figure 8 strap around the lower arm.

Available Components for Upper Extremity



PROSTHETIC TYPE	TERMINAL DEVICE	WRIST DEVICE*
Shoulder Disarticulation	Infant Passive Hand or Voluntary Opening Hook - Select according to age.	Manual friction
Short Above Elbow	Infant Passive Hand or Voluntary Opening Hook - Select according to age.	Manual friction
Standard Above Elbow	Infant Passive Hand or Voluntary Opening Hook - Select according to age.	Manual friction
Elbow Disarticulation	Infant Passive Hand or Voluntary Opening Hook - Select according to age.	Manual friction
Very Short Below Elbow (split socket)	Infant Passive Hand or Voluntary Opening Hook - Select according to age.	Manual friction
Short Below Elbow	Infant Passive Hand or Voluntary Opening Hook - Select according to age.	Manual friction
Medium and Long B.E.	Infant Passive Hand or Voluntary Opening Hook - Select according to age.	Manual friction
Wrist Disarticulation	Infant Passive Hand or Voluntary Opening Hook - Select according to age.	Manual friction device or laminate T.D. into socket.

*Wrist disconnect indicated when both hand and hook are prescribed.

PROSTHESES FOR CHILDREN

FOREARM COMPONENT	ELBOW COMPONENT	UPPER ARM COMPONENT	HARNESS TYPE*	CONTROL TYPE	NOTES
Standard forearm shell	Manual locking elbow 1 Loop 2 Nudge Older children 10→ at times shoulder elevation	Shoulder cap with humeral section. Passive flexion shoulder plates canted	Basic shoulder chest strap	Shoulder dual control with opposite shoulder shrug, shoulder elevation or manual control of elbow lock	Sockets may be perforated for ventilation
Standard forearm shell	Active locking elbow*	Double wall semi-cap socket	A.E. figure of 8, chest strap, or Campbell	A.E. Dual	Adolescent girls with shoulder disarticulation may not tolerate chest straps
Standard forearm shell	Active locking elbow*	Double or single wall socket	A.E. figure of 8. A.E. chest strap	A.E. Dual	Short AEs may require high, closely fitted proximal end-care in order not to limit abduction Bilateral SDs because of limited sources of power should initially be fitted unilaterally with opposite shoulder cap for SD
Standard forearm shell	Outside locking elbow hinge	Single wall socket	A.E. figure of 8	A.E. Dual	
Split socket	Step up hinge with assistive lift where necessary	Half cuff with billet*	B.E. figure of 8	Single. Dual when used for lift assist	After good purposeful operation of all components of prosthesis and enough power for 2nd arm has been acquired consideration should be given to fitting the second extremity
Double wall socket	Metal hinge single or double	Half cuff with billet*	B.E. figure of 8	Single	
Single or double wall socket	Flexible hinge where possible, or single pivot, or metal double	Half cuff or triceps pad	B.E. figure of 8	Single	B.E. sockets should be carefully molded and fit deeply
Single wall socket	Flexible hinge	Triceps pad	B.E. figure of 8	Single	Two harnesses should be provided; worn over a "T" shirt
	*Child's size. Provision for manual operation may be necessary in very young children (under 4 years)	*Billet optional according to size of arm and fit	*One inch or half-inch webbing according to size of child		The elbow lock may be passively operated by parents until the child has developed neuromuscular control and source of power

PLANNING ORTHOPEDIC SHOPS; LAYOUT SUGGESTIONS FROM THE PUBLIC HEALTH SERVICE

By THOMAS P. GALBRAITH and PETER N. JENSEN

This article is printed with permission from HOSPITALS, *Journal of the American Hospital Association, 32: 56—, March 16, 1958, and by kind permission of the U. S. Public Health Service.*

In the preparation of the original material, the J. E. Hanger Company and R & G Orthopedic Appliance Company of Washington cooperated with the authors.

Both authors are hospital architects in the Architectural and Engineering Branch, Division of Hospital and Medical Facilities of the U. S. Public Health Service.

Every year approximately 75,000 amputations are performed in the United States. Amputees require prosthetic appliances and instruction in their use to help them perform the activities essential for daily living.

And 75,000 patients are only a small part of the problem. In addition, many other patients medically classified as orthopedic, traumatic, arthritic, vascular and neurologic must be fitted with a countless number of devices to adapt normally used objects for use by the physically handicapped.

This paper deals with the aspects of selection, fitting, adjustments and repairs of prosthetic and orthetic appliances which affect the design of facilities for this service. First, however, there are a few terms to get straight.

Prosthesis is defined as the replacement of a missing part by a medically prescribed artificial substitute. *Orthesis* is the application of a medically prescribed device to or around a weakened body segment to give support and increase or control function. In other words, prosthesis is a replacement and orthesis is an addition. Individuals constructing such devices are *prosthetists* and *orthotists*—a person may be certified as both.

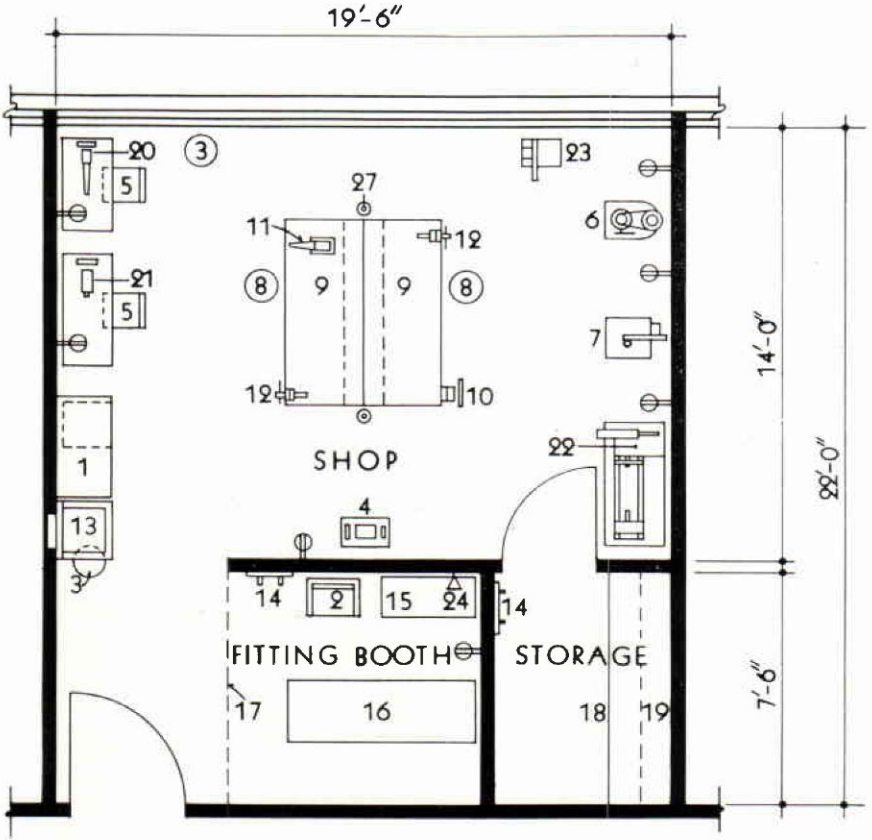
The basic prosthetic clinic team is composed of a physician, a prosthetist, a physical therapist and an occupational therapist. A psychologist and social worker also frequently contribute to the rehabilitation plan for the patient. When the amputee is ready for fitting a prescription for a custom-made appliance is prepared by the physician based on the cooperative effort of the team.

Then the prosthetist usually prepares plaster casts of the area affected and takes the necessary measurement for the fabrication of the prosthesis. When the prosthesis is completed, the device is fitted and the amputee is instructed in its use by the clinic team. Quite often, use of prosthesis or changes of the stump during training make modifications necessary. After completion of training, the amputee is again brought before the team for final evaluation.

The basic orthetic team is composed of a physician, an orthotist, a physical therapist and, in some cases, an occupational therapist. The rehabilitation procedure is generally similar to that of the prosthetic team.

The extent of the facilities for prosthetic and orthetic services will vary depending on the proposed program and sometimes on the availability of commercial prosthetic and orthetic services. Many rehabilitation facilities do not have a sufficient work load to justify the employment of a full-time prosthetist and orthotist. Usually in these cases an arrangement is made with a certified commercial firm to have a representative visit the facility as needed. In most instances this arrangement has proved satisfactory in regard to service and workmanship as well as financially.

LAYOUT SUGGESTIONS FROM THE DRAWING BOARDS OF THE PUBLIC HEALTH SERVICE

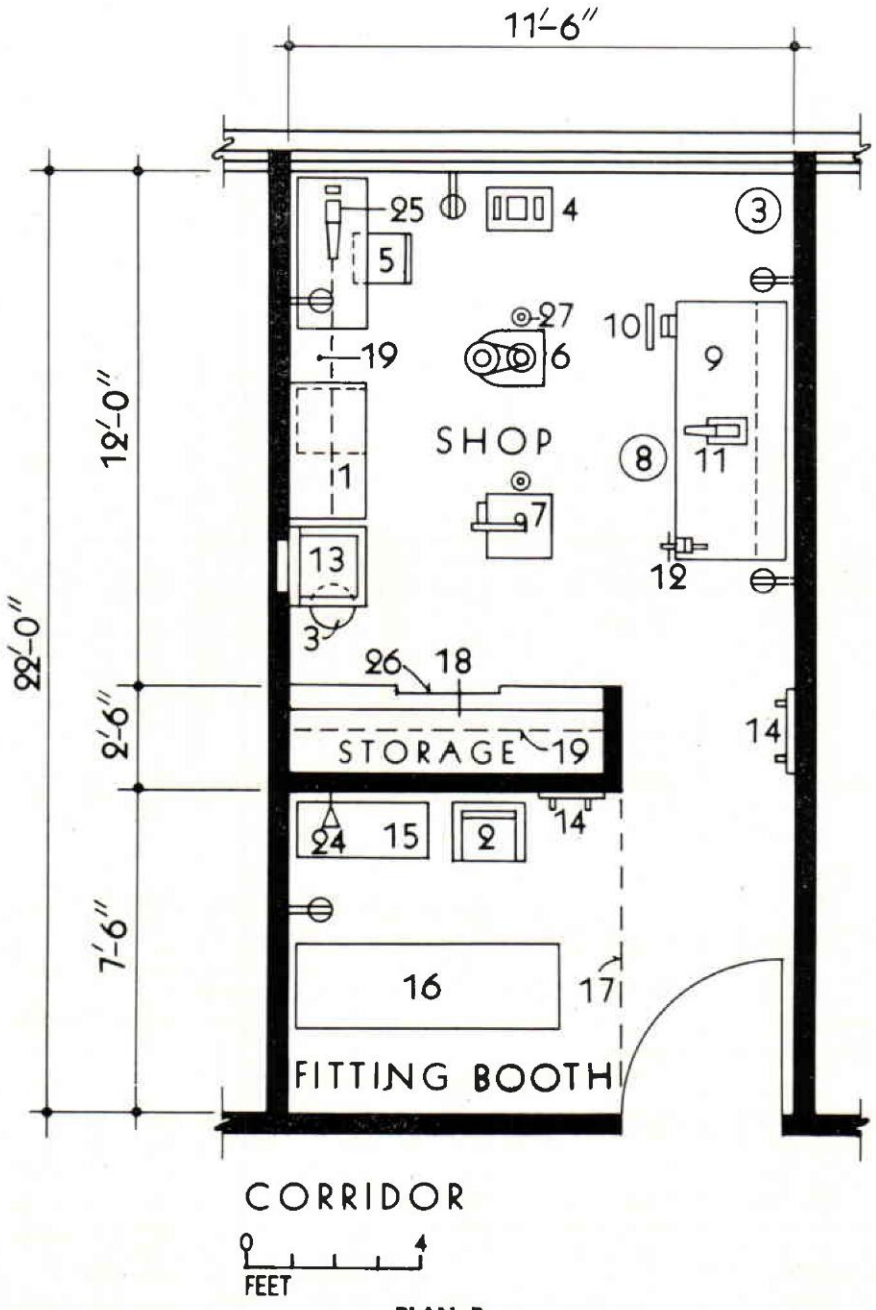


PLAN A

ARTIFICIAL APPLIANCE FACILITIES

1. Counter with plaster bins and drawers below.
2. Chair with arms.
3. Waste paper receptacle.
4. ¾-h.p. pedestal-type buffer and grinder.
5. Straight chair.
6. 14-inch floor-type drill press.
7. 14-inch wood and metal cutting band saw.
8. Stool.
9. Work bench, 30 inches by 72 inches, wood top, 2½ inches thick, open tool racks above, drawers and enclosed shelves below.
10. Limb vise.
11. 50-lb. blacksmith's anvil.
12. 4½-inch heavy-duty swivel-type vise.
13. Lavatory with plaster trap below and medicine cabinet above.
14. Hook strip.
15. Desk with drawers, 20 inches by 36 inches, 30 inches high.
16. Treatment table, 24 inches by 72 inches, 31 inches high.
17. Curtain rod and curtain.
18. Counter with drawers and enclosed shelving below.
19. Shelving.
20. Foot-operated patching machine.
21. Heavy-duty sewing machine with flat bed.
22. 9-inch screw cutting metal lathe with 42-inch bed, on bench with drawers and enclosed shelves below.
23. Metal cutting shears, floor type.
24. Telephone outlet.
25. Combination patching and heavy-duty sewing machine with removable flat bed.
26. Sliding doors.
27. Electric outlet, floor type.

LAYOUT SUGGESTIONS FROM THE DRAWING BOARDS OF THE PUBLIC HEALTH SERVICE



PLAN B

RECOMMENDED EQUIPMENT FOR TYPE 'A' APPLIANCE SHOP

- Work benches (2), 30 inches by 72 inches, wood top, 2½ inches thick, open tool racks above, drawers and enclosed shelves below.
- Metal stools (2).
- Heavy-duty, 4½-inch, swivel-type vises (2) mounted on right side of bench.
- Limb vise, mounted on left side of bench.
- 50-pound blacksmith's anvil.
- Floor-type metal cutting shears.
- Heavy-duty sewing machine with flat bed.
- Foot-operated patching machine.
- Floor-type 14-inch drill press.
- Pedestal-type, ¾-horsepower buffer and grinder.
- Fourteen-inch wood and metal cutting band saw.
- Nine-inch screw cutting metal lathe with 42-inch bed on bench with drawers and enclosed shelves below.
- Lavatory with plaster trap below and medicine cabinet above.
- Straight chairs (2).
- Counter with plaster bins and drawers below.
- Waste paper receptacles (2).

Existing facilities for the part-time services of the prosthetist and orthotist vary. Sometimes a small shop is provided for this service. Most of the time, however, an office, a treatment booth, the gymnasium or some other area is used for consultation, taking measurements and fitting. Minor adjustments and repairs are done on the appliances in the occupational therapy unit. Under another arrangement the patient is referred to the commercial shop where all procedures from making casts to final fitting take place.

A separate shop is recommended within the facility for the comprehensive rehabilitation program which serves a large segment of the population of a state. The shop would promote closer liaison between physician, prosthetist, orthotist and physical and occupational therapists, thus contributing to the effectiveness of the service.

Facilities for the prosthetist and orthotist should provide space for consultation, taking measurements, preparation of molds, fittings, adjustments and minor repairs only. This type of facility is not intended for the manufacture of major appliances. Consideration, however, should be given to the need for including facilities for the fabrication of some of the orthetic devices to meet the needs of individuals being trained in self-care. These devices include splints, crutches, feeders, reachers, page turners, typing sticks, and wheel chair adjustments and repairs.

Location

The room should be easily accessible to patients and staff and located near the gymnasium for trying out prostheses and braces.

Office

A separate office is not generally necessary. A small desk with drawers and a chair with arms should be provided in the fitting booth, however, for the use of the prosthetist or orthotist.

Shop

The shop shown in plan "A", below, includes equipment for the fabrication of orthetic devices and other features necessary for this service. A 9-inch screw cutting metal lathe is required for the fabrication of orthetic devices and a floor-type metal cutting shear facilitates this type of work. A separate work bench for the prosthetist and the orthotist is desirable although one work bench for both specialists would suffice in a minimum facility since their clinics are usually scheduled for different times.

Work benches should be 30 inches by 72 inches with open tool racks above, drawers and enclosed shelves below. The vises and anvil should be

located on the work benches approximately as indicated in the plan. It is essential that a minimum clearance of 3 feet be provided from each end of the work benches to permit working on appliances in the vises. This plan also includes a foot-operated patching machine and a heavy-duty sewing machine with a flat bed. (Separate machines are preferable to the combination patching and heavy-duty sewing machine with removable flat bed.)

Plaster bandages are generally used to make negative casts of stumps. Positive casts are usually made in commercial shops. It is desirable, however, to provide facilities for the use of powder plaster in the shop. The items presented in the equipment list, are recommended for the facility shown in the type "A" plan. In addition, a variety of small items including hand tools used by the prosthetist and the orthotist would be required.

In limited programs, it may be necessary to omit some of the features included in the type "A" plan and provide minimum facilities as indicated in type "B" plan. For this type of program, the following revisions are recommended in the shop requirements suggested in the equipment list:

Omit the nine-inch screw cutting metal lathe, the floor-type metal cutting shear, one work bench and stool, one 4½-inch heavy-duty swivel-type vise, the foot-operated patching machine and chair, and the heavy-duty sewing machine with flat bed.

Provide a 4½-inch heavy-duty swivel-type limb vise; a 50-pound blacksmith's anvil (on one bench for both specialists as indicated in plan B); and a combination patching and heavy-duty sewing machine with removable flat bed.

Fitting Booth

At least one fitting booth is recommended for the convenience and privacy of the patient during such procedures as taking measurements and making tracings of the stump and fitting or removal of the prosthesis or brace. The booth should be directly accessible from the shop and must be large enough to permit the movement of patients in wheel chairs and stretchers. A table with a firm, upholstered top similar to the treatment tables used in the physical therapy unit is recommended for taking measurements and making tracings of patients and for fitting and removal of some types of prostheses and braces. Work space should be provided on both sides and one end of this table.

The following equipment is recommended for the fitting booth: treatment table, 24 inches by 72 inches, 31 inches high; desk with drawers, 20 inches by 36 inches, 30 inches high; chair, with arms; and hook strip.

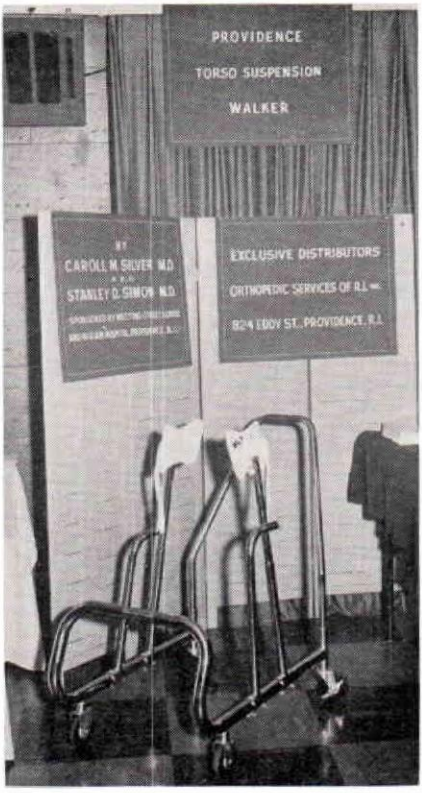
Storage

A storage room is recommended. Small drawers will be required for a variety of replacement parts and open shelves are needed for bulky supplies. The room can also be used to store appliances ready for fitting or being returned to the commercial shop for repairs of a major nature.

Waiting Area

A separate waiting area is not usually necessary for a minimum facility since patients can wait in a general waiting room and be supervised by the appointment clerk.

In some exceptional programs in which extensive research, teaching or specialized service are factors, more extensive facilities than those suggested may be needed. These programs require individual study as to requirements but most of the needs may be met by repeating the elements suggested for a minimum facility to the extent required by the program.



Displayed at the Cerebral Palsy Meeting. The booth of the Orthopedic Services of Rhode Island, which was one of the technical displays for the Academy of Cerebral Palsy Meeting in Providence this year.

Orthopedic-Prosthetic Idea Exchange

Contributing Committee: Everett J. Gordon, M.D., *Chairman;* Joseph Ardizzone, P.T.; Raymond Beales, C.P.; Edwin M. Brown, Prosthetic Representative; Victor L. Caron, C.P.; Charles Ross, C.O.&P.

Your editor has received very few communications in the past three months so that comments in this issue will be principally those of the Washington Area. Undoubtedly many of you were at the Miami Beach meeting and must have picked up a few items to contribute to us. We will expect to hear from you before the next issue goes to press.

The SACH foot is being received extremely well by almost all amputees. The manufacturers inform us that a majority of the prescriptions now being filled specify the SACH foot. The Hanger Co. alone has used over 1000 SACH feet and to date there has not been a single change back to the wood foot. Our experiences have also been most satisfactory although we have continued to learn a good deal about the SACH foot with its repeated use. The Washington Clinic will have an exhibit at the Chicago Meeting of the American Academy of Orthopaedic Surgeons in January 1959, showing a SACH foot in actual operation. We hope that some of our friends will stop by and make themselves known.

Some of the technical difficulties with the SACH foot have been a lack of standardization of the durometer of the rubber inserts in the heel cushion, making it difficult to properly evaluate each amputee. In several cases it has been necessary to remove some of the soft sponge rubber and replace it with firm Neoprene inserts to strengthen the heel cushion. Separation of the laminations does occasionally occur but to date it has not caused any significant problem; we are dispensing a tube of Barge Cement to each amputee so that he may make early repairs as indicated.

The Canadian hip disarticulation prosthesis has been used in two cases in the Washington Office. Both men have continued to wear it, one with excellent results, and the other with moderate success to date. Both men, however, state that they have difficulty in getting up from a soft chair and also difficulty in sitting because of the limitation of hip flexion. Getting in and out of an automobile has also proved troublesome but of course that is no easy feat for such an amputee. Neither of our amputees desires to change back to his old Tilt table prosthesis. Each states that the new Canadian type is much less bulky, and one which he believes promises a better gait after sufficient experience with it.

THE ORTHOPEDIC SHOE OR SURGERY

Prescription of orthopædic shoes continues to offer many problems. There have been several cases which have demonstrated unwarranted optimism in the effects hoped to be achieved from orthopædic shoes when more adequate surgery would definitely have been the correct choice of treatment. One veteran with four and one-half years in the hospital, ending with a completely stiff foot and ankle half covered by a skin graft with the foot in marked varus, had obvious difficulty in prolonged walking even with specially built orthopædic shoes. Orthopædic shoes can offer him only limited walking ability with incomplete comfort, whereas a Symes amputation would have greatly shortened his hospital stay and given him a much more functional extremity.

Other surgical corrections of deformities, such as removal of bony protuberances, triple arthrodesis for stabilization of the foot, tendon transplants, and correction of hammertoes and bunions permit a much more satisfactory fitting with orthopædic shoes than trying to build a shoe about the offending obstacle.

We would like to hear from some of you who have taken the functional bracing course at the University of California, Los Angeles. The teaching appears to be quite realistic if it can be applied to properly selected cases. This undoubtedly is a field where defeatism has long been prevalent and, where the type of research now under way may offer definite hope of rehabilitation and salvage to some of our crippled population. Proper construction of the apparatus required in these cases demands a great deal of time and individual study which of course augments the cost of the finished product. We certainly would like to have comments from some of you who have had experience with functional braces for the upper extremity.

The value of a promptly prescribed prosthesis coordinated with a good social service follow-up is of course well known. We recently had an excellent case demonstration in our clinic in one of our BK veterans who also was a chronic alcoholic, requiring treatment in our mental hygiene clinic. As a result of combined teamwork of our psychiatric consultants, our social service worker, and the proper fitting of a prosthesis, this veteran has now shown remarkable creative talent in oil painting. He has a current exhibit in this area and has organized a school for aspiring artists which appears to have an excellently organized curriculum. It is very reassuring to see such results of coordinated therapeutic regimes.

Please let us hear from you in regard to any of the above items, or anything else in the Orthopaedic or Prosthetic field. Perhaps some of you have learned of some special gimmicks for Canadian hip disarticulation prostheses which we can pass on to others, as there is certainly a lot to be learned about this particular prosthesis at the present time. A prosperous and informative New Year to all of you!

Everett J. Gordon, M.D.

MOALMA TECHNICAL SEMINAR

May 8 and 9, 1959, are the dates chosen for the New York City Technical Seminar. This is sponsored annually by the Metropolitan Orthopedic Appliance and Limb Manufacturers Association.

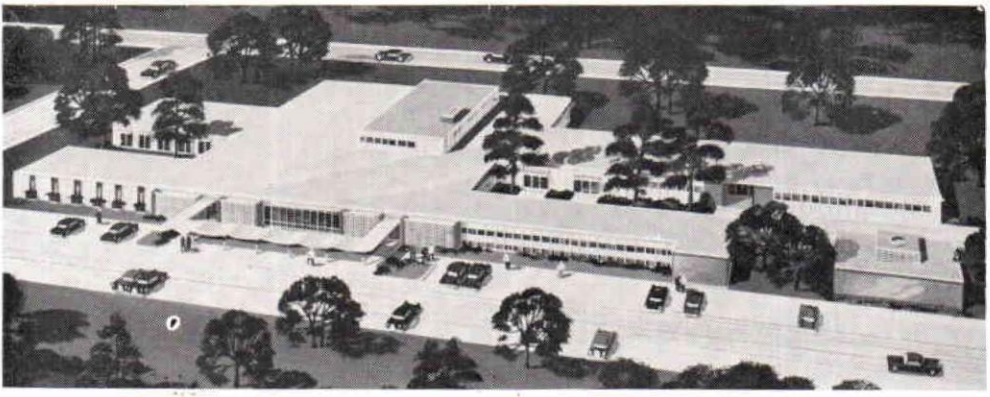
To plan the 1959 session, MOALMA has named this trio:

William Spiro of the Nassau Surgical Appliance Company, who will head up the Technical Program.

Fred Eschen of New York City, who will be in charge of the printed "Journal" of the Seminar; and

Mrs. Mary Dorsch of the Dorsch-United Limb and Brace Company, who will be in charge of the annual banquet for the Association. This will be held at the Biltmore Hotel May 8.

All members of the limb and brace profession wherever located are invited to attend this New York City session. Many members of OALMA from other parts of the country take in this seminar each year and find it convenient to confer with supplier firms in the New York City area at the same time.



New Building for Texas Institute for Rehabilitation and Research at Houston. Orthetic Department, headed by Thorkild Engen, C.O., is housed in this building.

Thorkild Engen, C.O., advises us that after January 15, the Orthetic Device Department which he heads, has the following address: *Orthetic Department, Texas Institute for Rehabilitation and Research, Texas Medical Center; Houston 25, Texas.*

The new Texas Institute is directed by Dr. William A. Spencer and has 54 beds for inpatients, with treatment facilities for approximately 100 outpatients.

The Orthetic Department of the Institute is responsible for the development of various types of appliances to serve individual needs of the patients and will include research in this field. Since August 1954, the Department has been in operation at the Wolff Home-Polio Rehabilitation Unit, operating under grants administered through Baylor University Medical School.

Mr. Engen is a native of Denmark and received his training at the V. A. Kaiser Institute from 1939-1944. After service in the Danish army he came to the United States in 1952 to work at the Warm Springs Foundation in Georgia. He came to Texas in 1954 to start the Orthetic Department. Mr. Engen has an academic appointment on the faculty of the Baylor University College of Medicine, as Clinical Instructor in Orthetics. The Orthetic Service Department which he heads is a member of OALMA.

WELCOME TO NEW MEMBERS

OALMA announces the election to active voting membership in the *Orthopedic Appliance and Limb Manufacturers Association* of these establishments:

William Chadwick, Orthopedic Braces & Supports. William Chadwick is the head of this establishment, which is located on Tower Road in South Lincoln, Massachusetts. The telephone number is Clearwater 9-8559. Mr. Chadwick opened his establishment in August of 1948.

Arthur Finnieston, Limb and Brace Establishment is located at 266-268 W. Flagler St., Miami 36, Florida. The telephone number is FR 4-6717.

Orthopedic Appliance Co., Inc., Limbs and Braces, 123 E. Wells St., Milwaukee 2, Wisconsin. Ludwig F. Karsten is head of the company which was founded in 1908. Telephone: BRoadway 6-3021.

Arthur Finnieston, prosthetist-orthotist of Miami, Florida. Arthur continues the business which his father established many years ago in Miami. He is married, has three children and two grandchildren (one son now in the service, plans to work with his father after he returns from military duty). The firm is located at 266-268 West Flagler Street, Miami 36, Florida, and the telephone number is FR 4-6717. Its scope includes limbs, braces, canes, crutches and wheelchairs.

EDITOR'S NOTES

Foreign Subscriptions

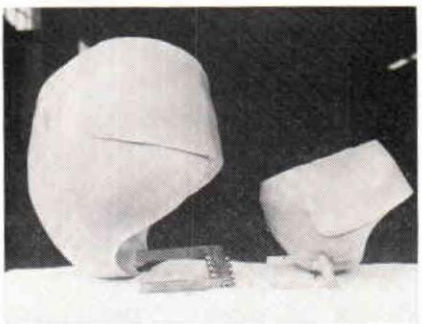
Our overseas subscription list continues to grow. In today's mail we have a note from Raineri Beretta of Corso Venezia, 14, Milan, Italy—subscribing for the year 1959. This firm is engaged in both artificial limbs and brace manufacturing.

And in Nagoya, Japan, Mr. Takeo Kato, of Matsumoto's Limb Co., also receives the *Journal* by subscription.

On an exchange basis two copies of the *Journal* go to Moscow. The Russian Journal which we have received looks very interesting, and as soon as we locate a translator, we will be publishing some abstracts of the articles in it.

CROSS COUNTRY REPORT

What's New in the Brace and Artificial Limb Field
Meetings - OALMA - Suppliers - Certifees



Is this the largest ever made?

We are indebted to Lloyd Brown of Hosmer for this news: George Scoville, of the Scoville Artificial Limb Company in Hartford, Conn., has recently been fabricating what he believes must be the largest Canadian type Hip Disarticulation Prosthesis ever made in the United States. George says it took two men to handle the tape in getting the necessary measurements of this patient. Considerable extra work was involved at every step.

Because of the size, standard materials could not be used and George called on the A. J. Hosmer Corp. for help in fabricating the socket. Hosmer also made up the special oversize metal hip joint needed for this job.

The above picture shows this large socket and special joint alongside of a common 34" waist socket and standard adult joint.

AMERICAN ORTHOTIST HAS BUSY WEEK IN CUBA

One of the happy results of OALMA's Technical Session at Havana, Cuba, was an invitation to Alfons R. Glaubitz, Certified Orthotist of Elizabethtown, Pennsylvania, to spend an additional week in Cuba as an official guest of the Franklin Delano Roosevelt Rehabilitation Center in Havana.

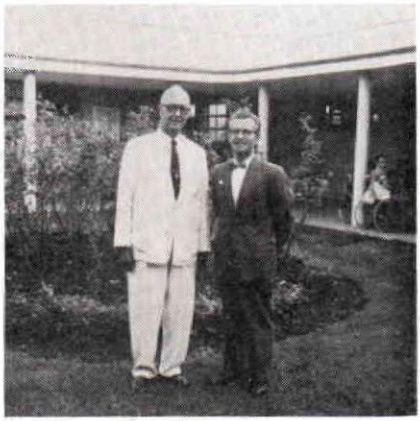
Alfons writes us that he spent a busy week conferring with Dr. Tarafa and his assistant, Dr. Janez about brace problems arising in their respective clinics. Mr. DeLazaro, who is the new head of the brace shop, called for him at the Havana Riviera Hotel every morning at eight o'clock and brought him back in the evening.

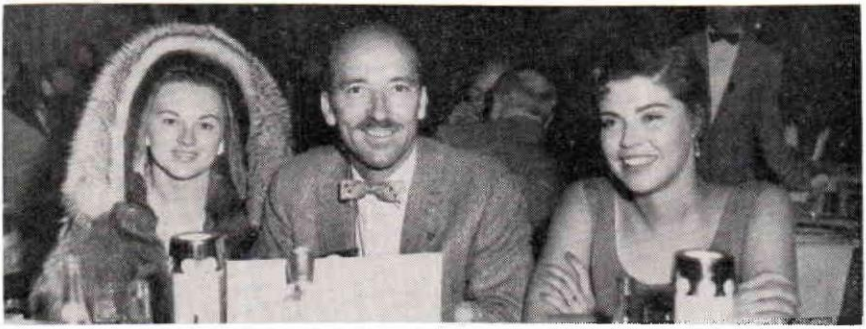
Alfons reports that he found many braces of improper length and spent a great deal of his time emphasizing how to take correct measurements and why they are so important. He believe that as a result of his work there, the brace shop will show a marked improvement.

Mr. DeLazaro has been invited to come to the Certified facility of the Pennsylvania State Hospital at Elizabethtown, Pennsylvania, where Mr. Glaubitz is Chief Orthotist.

Dr. Tarafa and Alfons Glaubitz in Havana

During his stay in Cuba, Alfons was a guest of honor at a meeting of the Havana Rotary Club, and on his departure from the Island of Cuba, there was a meeting in his honor at which he received an inscribed gold medal.





ALASKA COMES TO CUBA—During the OALMA session at Havana, Miss Kitty Casey, OALMA Insurance Clerk, tries on the parka of A. O. Rogers of Anchorage, Alaska. Mrs. Charles Radcliffe, wife of the distinguished faculty member and Assembly speaker from the University of California, Berkeley, is shown at the right.

HAVANA REUNION—Some of the OALMA Members who took part in the Havana Scientific Session, relax at dinner after a hard day of tusling with the Spanish language and the luxuries of Havana life. Left to right: Mrs. John DeBender, William Scheck of Chicago, Mrs. Paul Leimkuehler, John DeBender of Chicago, Mrs. Scheck, Regional Director Fred Quisenberry of Los Angeles, Assistant Director Les Smith, Mrs. Quisenberry, Vice President Paul Leimkuehler, Mrs. Jerry Leavy, Erich and Betty Hanicke and Jerry Leavy.

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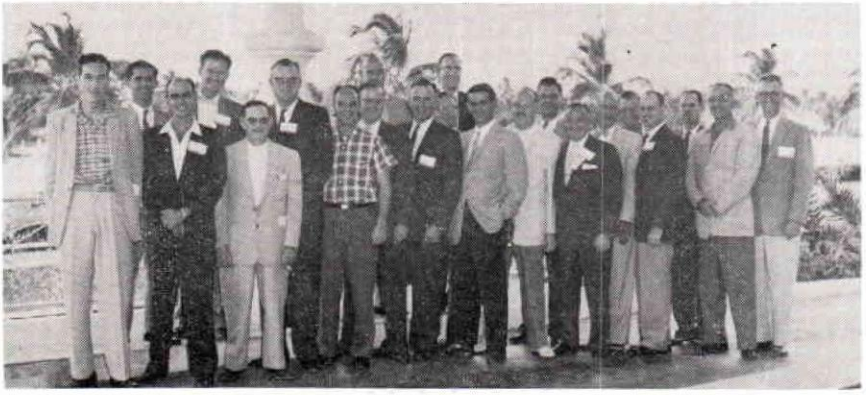
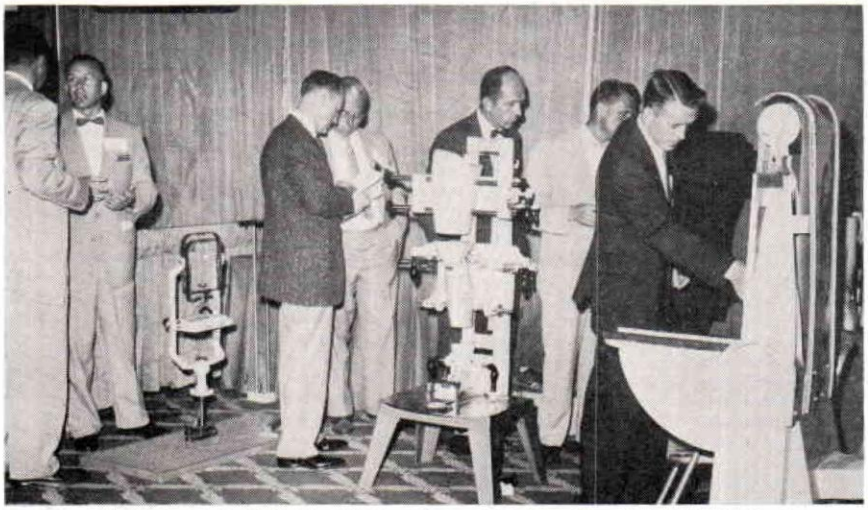


HANGER AT THE NATIONAL ASSEMBLY

A large delegation from J. E. Hangar Branches throughout the country attended the National Assembly in Miami Beach. Here they took time out from the Technical Sessions to gather in Florida sunshine for their picture. Left to right we see: Forrest T. Scarlott, Jr., Julio Rosas, Jr., Edw. P. Conti, Jack Caldwell, Karl Barghausen, Pierce A. Peacock, Richard Locke, Thomas Maples, Charles Wright, Dan B. Blair, Martin Massey, Ivan Letner, John Cranford, M. G. Manwaring, Garland Dellinger, M. P. Cestaro, OALMA Treasurer; Charles J. Miller, Floyd F. Keeton, J. M. MacFarlen, Howard Thranhardt, Flavel Lake and McCarthy Hanger, Jr. Other Hanger personnel who attended the Assembly at various times but could not be on hand for the picture-taking were: Donna Beaucaire of Lafayette, Louisiana, James Russ of New Orleans, Merrill Jordan and Horace Monroe of Orlando, D. A. McKeever of Atlanta and Asa Godbey. Asa, incidentally, got out of his hospital bed where he had undergone surgery, in order to arrange a fishing trip for his fellow members of OALMA.

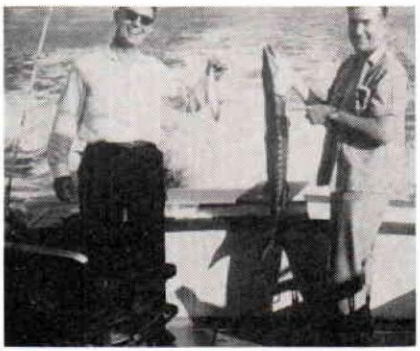


OTTO BOCK DISPLAY AT 1958 ASSEMBLY

The Otto Bock booth at the National Assembly was a center of interest, particularly when Lorrin Madsen, C.P. & O., was demonstrating the actual use of the Bock Alignment Apparatus used in the Bock system. In the picture above, left to right, we see Lorrin Madsen discussing a point with Paul Leimkuehler; next, J. M. McFarlen, Hanger Company Manager at Dallas, is checking a point with Max Nader, President of the parent Otto Bock organization. John DeBender and William Scheck of Chicago and Roland Daniel of Buffalo, are shown at the right.

PROSTHETISTS AS FISHERMEN!

What is there about the artificial limb and brace field that turns its practitioners into devoted fishermen? We don't know, but every time they get together fishing and fish stories are in order. This was the case at the recent National Assembly in Florida, and here are two pictures to prove it.



In the first picture we see a scene in the Everglades. Stanley Hedges of Indianapolis at the left, is comparing the size of his catch with that of Regional Director Dave McGraw of Shreveport, Louisiana. Indiana seems to be on the losing side.

Arthur E. Birdsey sends us the second picture. He is manager of the C. H. Davies Company, Certified Facility in Philadelphia. This is the company founded by the late C. H. Davies. (His daughter, Mrs. Virginia Rohe, is president of the company, and her husband, Bob Rohe, is Treasurer.)

Arthur writes as follows:

"Dear Les:

During a recent Assembly at the Eden Roc it was extremely enlightening to listen to the lobby discussions on technical problems and the excellently presented lectures. But most intriguing to me were the various "fish stories" complete with tape measure demonstrations. So I propose to submit a true story which should dedicate the "Lobby Isaac Waltons" to the bottom of the class—and what is more with the enclosed photograph I offer proof positive.

At the close of the Assembly I spent a few days with Bob and Virginia Rohe at their delightfully situated home at Pirate's Cove in Key Largo, Florida. Bob, besides being Treasurer of our company, is one of the top "game fishermen" in the Keys and a genial host to boot.

Saturday following the closing of the Assembly Bob chartered the ship "Sea Lion" under the able command of Capt. Eddie Linnett, and together with the Rohes' three sons who are capable fishermen, we set

our course for the Gulf Stream, and, we hoped, fish. About an hour out of the dock, the first strike was made on No. 1 outrigger, which was manned by Richard Rohe, aged 9. By beautiful handling the boy brought in a barracuda, which weighed half again as much as he did. Within a few minutes of this, again the No. 1 line went out with a pull, which made the monofilament "zing," and Bob hollered for me to grab it. Man, I've pulled knots out of wood sockets and pounded aluminum into all kinds of shapes but when I grabbed that rod I found muscles I never knew existed. For a while, which seemed a year, we couldn't determine what was on the line but all of a sudden, a huge, brilliantly marked sailfish broke water throwing its head from side to side in an effort to get rid of the hooks. We soon had 400 feet of line out but under Bob's instructions and guidance of the "bucket" seat, we had the monster alongside within an hour of hooking him. The skipper grabbed his "bill" and hauled him aboard. The "sail" weighed 41½ lbs. and measured six feet seven inches from the tip of his bill to tail. Quite a catch I think you'll agree.

In the accompanying picture taken by Mrs. Rohe, I'm on the left, Captain Linnett is in the center and Bob Rohe is on the right. The fish in the order of their appearance, reading from left to right are: a King Mackerel, Grouper, Barracuda, the "Sail," another Mackerel and a Trigger fish.

I wonder if any of our prosthetic piscatorialists can match this catch?

Sincerely,

Arthur E. Birdsey

LOBBY CONFERENCE ON BRACING—Left to right: Robert Bidwell of Madison, Frank Harmon of Atlanta and H. Maddox of Warm Springs Foundation, talk over bracing problems.

PROSTHETICS IN NEW ZEALAND

Editor's Note: We are indebted to the District Manager of the Disabled Servicemen's Re-Establishment League, Wellington Branch, for this account.

In New Zealand, artificial limbs are supplied free to ex-servicemen. The civilian amputee pays 20% of the total cost of limbs with the remainder being the responsibility of the N. Z. Government.

The manufacture and fitting of artificial limbs is undertaken throughout the country by the Artificial Limb Department of the Disabled Servicemen's Re-establishment League (Inc.) with the exception of Otago and Southland where this work is carried out by the Otago Hospital Board.

The principal limb factory is established in Wellington with branch factories at Auckland and Christchurch. Attached to each limb factory is an Orthopaedic surgeon who decides with the limb fitter when an amputee is ready for a fitting and inspects the leg and its fitting before the patient is discharged.

A Limb Factory Management Committee comprised of representatives of the N. Z. Government, Health Department, War Pensions Department, Returned Servicemen's Association, War Amputees Association and the Civilian Amputees Association, is elected every three years to manage the affairs of the limb factories. The representatives of the various groups concerned are unpaid and give their time voluntarily.

The limb factories manager, who controls the three limb factories, is under the direction of the Limb Factory Management Committee. Each limb factory is in the charge of a factory supervisor who is directly responsible to the limb factories manager.

Limb factory supervisors and limb fitters meet annually for a conference which is held at one of the factories and on these occasions lectures and discussions take place on every aspect of their work. Last year Mr. A. Thompson, Factory Supervisor at Wellington was sent overseas to U. S. A., Canada, and England in order to gain knowledge and new techniques of artificial limb manufacturing and fitting.

All amputees who are unable to work receive in some form a pension from the Government. Those who wish to learn a trade are especially provided for and facilities exist in the Disabled Servicemen's Re-establishment League's training factories at Auckland, Napier, Wellington, Christchurch, Dunedin and Invercargill, for them to be taught useful trades such as cabinet-making, upholstering, French polishing, manufacturing jewelry, printing, bookbinding, weaving, leather work, surgical bootmaking, etc. While undergoing training a good wage is paid so that a reasonable standard of living is maintained. Upon completion of training, work in private employment is found and a regular contact kept with the amputee.

Any other person suffering a disability may also receive training at any of the League Factories throughout New Zealand.

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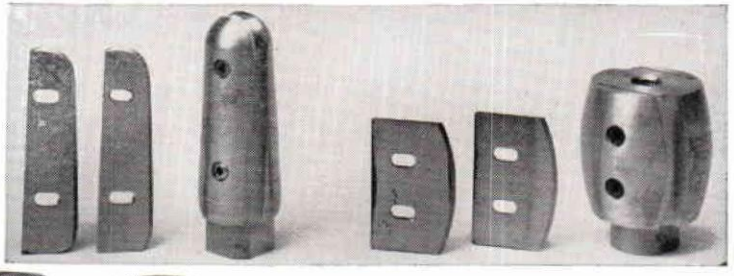

ATTACHMENTS

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JUVENILE AMPUTEE RESEARCH PROGRAM NATIONAL PROGRAM PLANNED

On August 18-19, 1958, twelve physicians, each in charge of a large, well-established child amputee center, attended a conference in Grand Rapids to discuss participation in a national research and clinical study program. The conference was sponsored by the U. S. Department of Health, Education and Welfare and the Bureau of Medical Rehabilitation, New York State Department of Health. The contemplated study program will be carried out by the Prosthetic Devices Studies of New York University in cooperation with the Committee on Children's Prosthetics Problems, National Academy of Science.

General F. S. Strong opened the meeting, followed by Dr. Anna M. Bahlke who discussed current needs in habilitating child amputees. Dr. Arthur Lesser described the growing interest in the development of amputee centers as a means of improving service to children.

Dr. Charles H. Frantz, who served as conference chairman, spoke of the advantages of a cooperative research program which would make available large numbers of patients for both long-term development studies and more immediate evaluations of devices and techniques.

Four problems for initial investigation were proposed by Dr. George T. Aitken:

Suitability of the quadrilateral socket for children under 12 years;

Utility of the SACH foot for children;

Effect of early prosthetic fitting, and the development of children's prehension patterns as related to the prescription of terminal devices;

Relative merits of the preflexed double wall socket and the split socket for the very short, below-knee amputee.

Dr. Sidney Fishman outlined the advantages of collecting normative data on the child amputee population in facilitating the selection of adequate samples for specific research problems. Each problem proposed for study was illustrated by a demonstration of one or more amputees wearing the prosthetic devices in question. Mr. Edward Hitchcock of New York University, who had fabricated the demonstration limbs, discussed the special features of the research devices.

The following morning, the conference discussed the effects of early fitting, the question of hook versus hand, the development of prehension patterns, and the psychological significance of these problems for amputee children and their parents. Dr. Fishman summarized the research procedures to be followed in each study area, the intention of using pre-coded questionnaires and schedules for IBM handling to reduce the time lag between data collection and actual reporting.

All physicians present unanimously agreed on the selection of proposed studies, deciding to meet again in Chicago during the proceedings of the National Academy of Orthopedic Surgeons. In the meantime, New York University will prepare the instruments and distribute them to the clinic chiefs for trial use before the Academy meeting.

Prosthetists at the conference included Carlton Fillauer, Harry Campbell and William E. Hitchcock. *(See list on page 87.)*

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DELEGATES TO THE JUVENILE AMPUTEE CONFERENCE

John Royal Moore, M.D.
The Shriners Hospital
Philadelphia, Pennsylvania

J. Leonard Goldner, M.D.
Department of Orthopedic Surgery
Duke University College of Medicine
Durham, North Carolina

Claude N. Lambert, M.D.
Department of Orthopedic Surgery
University of Illinois College of Medicine
Chicago, Illinois

Chestley Lee Yelton, M.D.
Birmingham Crippled Children's
Clinic and Hospital
Birmingham, Alabama

Richard E. King, M.D.
Crippled Childrens Division
Department of Public Health
Atlanta, Georgia

Frederick Vultee, M.D.
Medical College of Virginia
Richmond 19, Virginia

George G. Deaver, M.D.
Institute for Physical Medicine and
Rehabilitation
400 East 34th Street
New York, New York

Anne M. Bahlke, M.D.
Director, Bureau of Medical
Rehabilitation
Crippled Children's Services
Albany, New York

Sidney Fishman, Ph.D.
Director, Prosthetic Devices Studies
New York University College of
Engineering
New York, New York

Robert Mazet, Jr., M.D.
Veterans Administration Hospital
Los Angeles, California

Captain Thomas Canty, MC-USN
Director, NPRL
U. S. Naval Hospital
Oakland, California

General F. S. Strong, Jr.
Director, Prosthetics Research Board
Washington, D. C.

Ted Dennison, Asst. Executive Director
Prosthetics Research Board
Beverly Hills, California

Colin A. McLaurin
Rehabilitation Institute of Chicago
Chicago, Illinois

Charles Radcliffe, Ph.D.
Department of Civil Engineering
University of California
Berkeley, California

Edward Peizer, Ph.D.
Prosthetics Devices Studies
New York University College of
Engineering
New York, New York

Frank Potts, M.D.
Rehabilitation Center for Children of the
Childrens Hospital and Crippled
Childrens Guild
Buffalo, New York

James Glessner, M.D.
Newington Home and Hospital for
Crippled Children
Newington, Connecticut

Arthur J. Lesser, M.D.
Director, Division of Health Services
Washington, D. C.

Carleton Dean, M.D.
Director, Michigan Crippled
Children Commission
Lansing, Michigan

Milo Brooks, M.D.
Child Amputee Prosthetics Project
UCLA School of Medicine
Los Angeles, California

Colonel Maurice Fletcher, USA
Director, APRL
Walter Reed Army Medical Center
(Forest Glen)
Washington, D. C.

Charles H. Frantz, M.D., Chairman
Committee on Child Prosthetic Problems
Area Child Amputee Center
Grand Rapids, Michigan

George T. Aitken, M.D.
Area Child Amputee Program
Grand Rapids, Michigan

Carlton Fillauer, C.O. & P.
Committee on Child Prosthetic Problems
Chattanooga, Tennessee

Leon DeVel, M.D.
Regional Medical Coordinator
Michigan Crippled Children Commission
Grand Rapids, Michigan

Bertram Litt
New York University College of
Engineering
New York, New York

Harry Campbell, C.P.
Child Amputee Prosthetics Project
Los Angeles, California

Edward Hitchcock, C.P.
New York University College of
Engineering
New York, New York

EASTER SEAL SOCIETY MEETS AT DALLAS

OALMA and Prosthetic Research Board Have Exhibits

"Hand in Hand for Rehabilitation" was the theme when the National Society for Crippled Children and Adults met at Dallas, Texas, November 15-20. Over 700 volunteer and staff workers of Easter Seal Societies met at the Statler Hotel to plan their programs for the year ahead and to consult with each other about improved services.

The Orthopedic Appliance and Limb Manufacturers Association, through the courtesy of the Easter Seal Society, was assigned exhibit space and I had the pleasure of attending this meeting.

The OALMA exhibit called particular attention to its new project—the Committee on Advances in Prosthetics. Through the courtesy of Dorrance-Hosmer, Hydra-Cadence, Inc., and the John N. Eschen Company, samples of modern appliances which incorporate the principles of prosthetics research, were on display. Our thanks are due these firms which made these appliances available and did not ask for identification of them by company. The Official Registry was also featured in the display and several hundred were distributed to members of the Easter Seal Society.

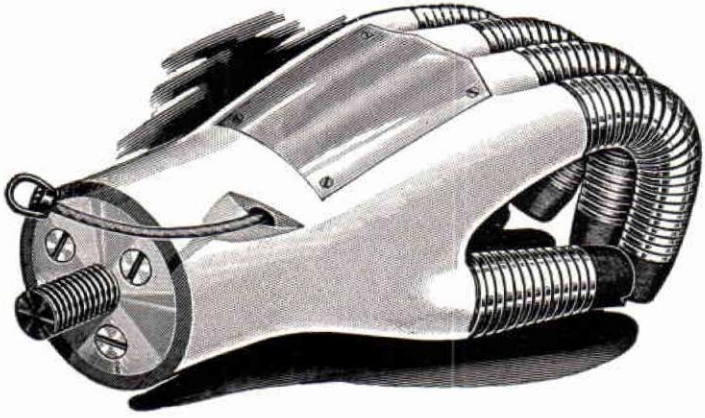
The Hedgecock Artificial Limb Company was one of the exhibitors. For this display Mrs. Hedgecock has written an article "Footprints—A Welcome Message to the National Society." This company is now celebrating its fiftieth anniversary. We thought that this passage summarized the progress of these years:

"Fifty years ago, a maimed or disfigured child was viewed only as an object of pity. Oftentimes loving and well-meaning, but sensitive and saddened, parents actually hid such children from the prying eyes of the unintentionally cruel public. It often seemed to take the wisdom of a Solomon and the patience of a Job to get parents to begin to believe that help for their crippled children might be possible. Little by little, step by step, inroads into superstition and doubt were made. Each rehabilitated child served as a symbol for others to see so that they too might believe and be helped." Also on view was the display of the Prosthetics Research Board (this is the one which is shown in 1957 session of OALMA in Washington). The principal addition to the exhibit for the Easter Seal Meeting was a series of beautiful miniature prostheses made in the Veterans Administration Prosthetics Center, New York City.

Dr. Harold Glattly, Secretary of the Committee on Prosthetic Education and Information, attended the convention. Prosthetists assisting in the manning of this booth and the OALMA display included Al Muilenburg and Richard Terry from Houston, J. H. Bennett from Waco, Alvin Rupley and J. A. Baker from Fort Worth, Edward Latimer and J. M. McFarlen from Dallas.

Since Dallas is to be the site of OALMA's National Assembly in 1959, this visit afforded an opportunity to become better acquainted with the features of this great Southwestern metropolis. Regional Director David McGraw and Mrs. McGraw joined me and Regional Director Ted W. Smith of Kansas City to inspect hotel facilities and make tentative plans for the comfort and convenience of the 1959 Assembly visitors. Mrs. McGraw is President of the Ladies Auxiliary, which will meet the same time as OALMA. —L.A.S.

SEE THE NEW LOCKGRIP HANDS



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WITH naturally shaped and molded rubber finger tips.

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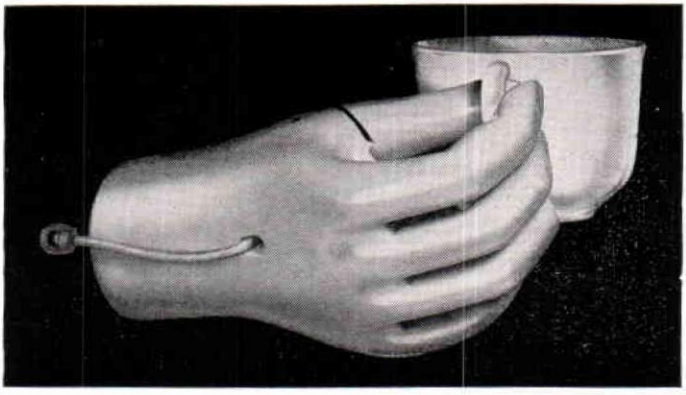

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MESSAGE FROM THE PRESIDENT OF OALMA

KARL W. BUSCHENFELDT

This is my first greeting to members since I was privileged to be elected President of OALMA at the 1958 Assembly in Miami Beach. It is an honor to be selected for this responsible and important post by my fellow members. I will serve you all to the very best of my capacity. Your constant support and help is needed and will be most appreciated.

All OALMA members should know of the outstanding leadership given this past year by retiring President John McCann and the members of the OALMA Board whose terms have expired. They have brought OALMA forward a long way during their term of office. You and I also recognize the untiring effort and leadership given to us by Mr. Gel Glenn Jackson, our National Director, and Mr. Lester Smith, Associate Director, and their staff.

OALMA's services to members continues to increase. In the past year the OALMA Almanac was put on a regular monthly basis as a printed news bulletin, we set up the OALMA Committee on Advances in Prosthetics and we provided and made a significant increase in our OALMA insurance coverage. In the year ahead we plan to continue this increased usefulness, so that it may truly be said "No member of OALMA stands alone."

A new President can have no greater help than the advice and cooperation of members. The Regional Meetings which our eleven Regional Directors hold in the spring will make it possible for me to talk with many of you in person about our OALMA activities.

Dates for these regional meetings will be announced. I wish all of you a Happy and Prosperous New Year.

Sincerely,

KARL W. BUSCHENFELDT

TO ALL CERTIFIED ORTHOTISTS AND PROTHETISTS

Greetings from

Roy M. Hoover, M.D.

President of the American

Board for Certification

The annual Assembly of OALMA and the meeting of the American Board for Certification with the administration of the examinations is now past. I believe that all who attended the meeting at Miami Beach in October will agree that it was a very successful and pleasant experience. The surroundings were pleasant and a very pleasing cooperative spirit governed the meeting.

The certification examinations were given to ninety prosthetists and orthotists, at three different locations: Los Angeles, St. Louis, and Miami Beach in order to accommodate applicants far distant from the Miami Beach area. It seemed to be the consensus of opinion that the examinations were administered unusually well this year and that the examination material, both written and oral, was better presented and would give a better idea of the knowledge and preparation of the applicant. I sincerely wish the best of results for all those who took the examination.

We are looking forward to even a better coming year and are hoping to make available educational material which will enable the men in brace and limb work to improve their knowledge, learn of various new developments and techniques; and, incidentally, be better prepared for the certification examinations when they are ready to take them.

The following committees are appointed for the coming year and I feel sure that they will carry out their duties in a manner which will benefit the entire limb and brace profession.

Examinations Committee: Howard Thranhardt, Chairman, and Carlton Fillauer. Dr. Eugene Record serves as Advisor.

Facilities Committee: Edward W. Snygg, Chairman, and Herbert Hart. McCarthy Hanger, Jr. serves as Advisor.

Credentials Committee: Chairman W. Frank Harmon and D. A. McKeever. (The President of the Certification Board will serve as Advisor to this Committee.)

Judicial Committee: Chairman Charles Hennessy and M. J. Benjamin. Dr. Vernon Nickel serves as Advisor.

Code of Ethics for the Artificial Limb and Brace Profession

The Federal Trade Commission has approved fair trade practices for the field of artificial limbs and for orthopedic appliances. Both codes have been adopted by the American Board for Certification as a guide for the Certified Prosthetist and Orthotist. The full text of the Codes may be obtained from the Board's Headquarters. The following digest is printed for ready reference.

It is an unfair trade practice:

(1) To deceive purchasers or prospective purchasers as to any of the qualities of a prosthetic or orthopedic appliance, or to mislead purchasers or prospective purchasers in respect to the service of such appliances.

(2) To infer an artificial limb is equivalent or nearly equivalent to the human limb, complies with any government specifications, or has the approval of a government agency unless such be wholly true or non-deceptive.

(3) To fail to disclose to a purchaser, prior to his purchase of a prosthetic appliance, that the degree of usefulness and benefit will be substantially dependent upon many factors, such as the character of the amputation, condition of the stump, state of health, and diligence in accustoming oneself to its use.

(4) To promise that any product will be made to fit unless such promise is made in good faith and industry member is possessed of the ability to fulfill such guarantee. A prosthetic device or an orthopedic appliance is not to be considered as fitting unless properly shaped for the body member to which it is applied, and in proper alignment and conformity with the physique of the person to wear such a product, and affords the optimum of comfort and use on the part of the wearer.

(5) To deceive anyone as to his authority to represent and make commitments in behalf of a member unless such be fully true.

(6) To use any testimonial or use any picture which is misleading or deceptive in any respect.

(7) To demonstrate any appliance in a manner having the tendency or effect of creating a false impression as to the actual benefits that may be reasonably expected from it.

(8) To use any guarantee which is false or misleading.

(9) To represent that any appliance conforms to a standard when such is not the fact.

(10) To publish any false statements as to financial conditions relative to contracts for purchase of appliances.

(11) To engage in any defamation of competitors or in any way to disparage competitors' products, prices, or services.

(12) To use the term "free" to describe or refer to any product which is not actually given to the purchaser without cost.

(13) To *wilfully* entice away employees of competitors, with the purpose of injuring, destroying or preventing competition.

(14) To take part in any concerted action with other members to wilfully fix prices.

(15) To promote the sale of any appliance to any person who can not be expected to obtain reasonable benefit from such appliance.

(16) To refrain from giving every assistance to doctors before and after amputation or crippling condition, or to fail to do everything possible to promote mutual trust and confidence between members and the medical profession.

(17) To undertake to supply an artificial limb by mail-order specifications without personal fitting thereof unless conditions are such which make an exception desirable, and in any case, no misrepresentation shall be made as to fit.

(18) To unduly exploit features of appliances less important than proper fit and alignment.

(19) To fail to recognize that the interest of the amputee and the handicapped is the first concern and therefore any failure to make available to all of its members and the general public any improved technique that may be used as to making, fitting, aligning or servicing products shall be an unfair trade practice.

(20) To pay anything of value to any doctor for the purpose of obtaining a referral of a patient by the doctor.

Further, the limb and brace profession desires to be an active and cooperative factor in all progressive developments of improved techniques that will contribute to the welfare and comfort of all who use its services.

Mrs. Bobbye McGraw
President

Mrs. Margaret Peters
Vice President

Mrs. Gertrude Buschenfeldt
Second Vice President

Mrs. Pearl Leavy
Secretary

Mrs. Marie Storrs
Treasurer

TO THE LADIES—

From OALMA's Women's Auxiliary

To those of you who did not attend the National OALMA Convention at the Eden Roc Hotel in Miami Beach, let me assure you that you not only were missed, but you missed a most enjoyable convention.

In my opinion, the locale alone was enough for a successful convention and a world of fun. The climate was positively perfect! Bathing suits were very much in evidence and many of OALMA's members acquired deep mahogany suntans, which are now quietly fading away in faraway states—including the 49th.

The elegance and luxury of the Eden Roc was quite an experience for some of us. In fact, it was just downright hard for us to settle down to these everyday chores of housekeeping again.

A record number of 78 ladies attended the business meeting on Wednesday morning which was preceded by a perfectly beautiful breakfast, arranged by our capable past-president, Virginia Hedges, who had placed at each place a lovely pink carnation corsage. To all of the ladies this was one of the highlights of the Convention.

The eighty members who flew to Havana Thursday for an added session report such a marvelous time that it makes the rest of us somewhat sad to know we missed this gala event. Next year, let's all plan to attend the post-convention session. *Where? Why! Mexico City, of course.*

On November 16th, Mac and I met Lester Smith of the Washington Office in Dallas where he had an OALMA booth at the Annual Convention of the National Society for Crippled Children and Adults, Inc. We were very much impressed with this Convention and with the work being done by this organization.

"It's Dallas in '59"

Our two and one-half days at the Adolphus Hotel in Dallas was most enjoyable and, I feel, quite profitable. Of course, as you all know, Dallas does not have the climate of Miami Beach and neither is the Adolphus an Eden Roc, but I'm sure the genuine warmth of all these friendly Texans will more than offset that.

The Adolphus has an abundance of space for meetings and exhibits which is a must for an OALMA Convention.

TO THE LADIES *(Continued)*

The Women's Auxiliary will have at its disposal, exclusively, the very spacious French Room on first floor to be used as a lounge and central meeting place.

Plans were made for several activities which we sincerely hope will make your stay in Dallas a most memorable one. You will hear more about them in later issues of the *Journal*. Meanwhile make your plans to come on down to Dallas next Fall and partake of some of this good ole Southwestern Hospitality, Pardner.

Sincerely,
Bobbye McGraw

REVIEWS

CLAYTON'S ELECTROTHERAPY AND ACTINOTHERAPY

Third Edition, by Pauline Scott. Published in the U.S.A. by The Williams and Wilkins Company, Baltimore, 1958. 427 pages. $6.50.

Reviewed by Joseph Ardizzone, Chief Physical Therapist, Mt. Alto VA Hospital, Washington, D. C.

The introduction of this book states that it is intended primarily for the use of physical therapy students, being designed to cover the subject of electrotherapy. (The authors are British).

The first section, 225 pages, is devoted to direct and low frequency currents. Basic principles in electricity are covered in the first seven chapters. Several chapters are devoted to low voltage currents used for the treatment of patients. A chapter on the physiological effects of the constant current is covered, as well as the use of electrical stimulation of nerves and muscles by the use of faradic, sinusoidal, and modified direct current. The final chapter of this section deals with changes in electrical response following disease or injury of motor nerves or muscles. A short but good paragraph is covered on electromyography. This first section is of definite value to physical therapy students and to those who wish to increase their knowledge in basic fundamentals of electricity. The diagrams are excellent and the sections on physics are well written and easily understood.

The second section, 79 pages, is devoted to high frequency currents and covers basic physics and the production of these currents. The remainder of this section deals with long wave diathermy, including physiological and therapeutic effects, methods of application, precautions and contraindications. Here again, as in the first section, basic material is covered and is easily understandable, with the author resorting to simple diagrams.

The third section of this book is devoted to actinotherapy. Here, as in the other sections, the first chapter covers physics of heat and radiation. This is followed by a chapter on infrared, ultra violet, and sources, physiological and therapeutic effects, techniques and precautions are covered.

This book may well be of some assistance to physical therapy students and for those seeking information in basic physics of electricity, heat, and radiation as applied to physical therapy. The book is well organized and well illustrated. The index is satisfactory and the printing is excellent.

ABSTRACTS

Prepared by Jack B. Faatz, C.O.

The Journal of Bone and Joint Surgery is the official publication of the American Orthopaedic Association, the American Academy of Orthopaedic Surgeons, The American Society for Surgery of the Hand, and The British, Australian, Canadian, New Zealand and South African Orthopaedic Associations. Because of its importance in the field, we are glad to publish below the abstracts which have been prepared by Jack B. Faatz, Certified Orthotist and Manager of the Johnson City, Tennessee Branch of Fillauer Surgical Supplies. Subscriptions to The Journal of Bone and Joint Surgery, American volume at $14.50 a year, British volume at $7.50 a year, may be placed with the office of the Journal at No. 8, The Fenway, Boston 15, Massachusetts.

A Brace for Corrections of Torsion of the Lower Extremity. S. L. Haas, M.D., San Francisco, California. "Journal of Bone and Joint Surgery," Jan. 1958, Vol. 40-A, No. 1.

A new twist in a torsion or rotation brace for the lower extremity. The correction is obtained by the use of a single bar long leg brace with a coil spring mechanism between the knee and ankle joint. The amount of corrective torsion may be easily adjusted to the patient's needs.

A Modified Forearm Rotation Splint. J. A. Mayne, M.D., Memphis, Tennessee. "The Journal of Bone and Joint Surgery," April 1958, Vol. 40-A, No. 2.

A forearm rotation splint is so seldom ordered that some of us do not know as much as we would like about this brace. The most significant modification in this brace is a molded leather lacer made to fit the hand, wrist, and 2" to 3" proximal to the wrist. The rest of the splint is more or less basic of a forearm rotation splint. There is a complete description and illustration.

Making the Milwaukee Brace. Walter P. Blount, M.D., Albert C. Schmidt, M.D. and Richard G. Bidwell, Certified Orthotist, Milwaukee, Wisconsin, "The Journal of Bone and Joint Surgery", June 1958, Vol. 40-A, No. 3.

This article on the Milwaukee brace for treatment of scoliosis gives complete instructions and illustrations for measuring and fabricating this appliance. Also, precautions are given to watch for possible malfitting.

In this same issue there are other articles on scoliosis and the use of the Milwaukee brace which should be of interest to the Orthotist.

Reprints of this article will be supplied by Mr. Richard Bidwell, C. O. and P., 535 North 27th St., Milwaukee 3, Wisconsin, upon request.

REVIEW

PRIMER FOR PARAPLEGICS AND QUADRIPLEGICS

Published by the Institute of Physical Medicine and Rehabilitation, New York University, Bellevue Medical Center, 1957. Reprinted June 1958. 38 pages, including drawings. Single copies 50 cents each—Send orders to the Institute at 400 East 34th St., New York 16, New York.

This very useful booklet appears as Patient Publication No. 1, of the Institute. It is the first of a series of booklets about specific disabilities which the Institute will issue from time to time for the use of patients. Most of the text was contributed by doctors Seymour S. Bluestone with the assistance of senior members in the Department of Physical Medicine and Rehabilitation.

As this booklet points out before World War II, Paraplegia was usually fatal in a short time. But since then, through the work of rehabilitation institutes such as the one at New York University, it has been proved that the paraplegic can be rehabilitated to an active, productive life and in many instances enjoy a normal life span. Hence there are many more paraplegics coming into brace shops. And Certified Orthotists are seeing an increasing number of paraplegics, either to make or to repair their braces.

While this booklet was designed for the use of the patient, a careful reading of it will be invaluable to the Certified Orthotist. This booklet is cordially recommended to every Certified Faculty.—L.A.S.

WINKLEY COMPANY CELEBRATES 70th ANNIVERSARY

From farm-home limb shop to world-wide distribution in 70 years—that's the growth history of one of the world's largest artificial limb manufacturers, Winkley Artificial Limb Co. of Minneapolis.

Celebrating its 70th anniversary this year, the firm was the direct development of an invention in 1884 by A. A. Winkley of Faribault, Minn.

His invention was a slip-socket for individuals who had lost a leg below the knee. It was designed to avoid the friction and chafing resulting from the use of conventional style artificial limbs. The slip-socket limb is still one of the company's headliners.

Augmenting this "comfort designed" unit are appliances for above-knee amputation, special ankle and foot units, artificial arms and hands, and mechanical hooks designed for specific kinds of jobs.

The firm was formed as a partnership in 1888 by Lowell Jepson of Minneapolis and Winkley. The first factory and office was in the Palace building located in the center of Minneapolis' loop area.

In 1890, Winkley decided to return to farming and the advantages of rural living. Jepson carried on for some years alone and then brought in his two younger brothers to form a new partnership which continued until 1938.

By 1895, traveling representatives for the firm covered most of the northern half of the United States and all Canadian provinces, taking measurements and fitting limbs in the homes of the amputees. Improved transportation facilities and establishment of limb facilities in practically every major city have made this procedure obsolete.

Today, an effort is made to have every fittin the favorable climate of the limb facility its available and adjustments may be readily ma

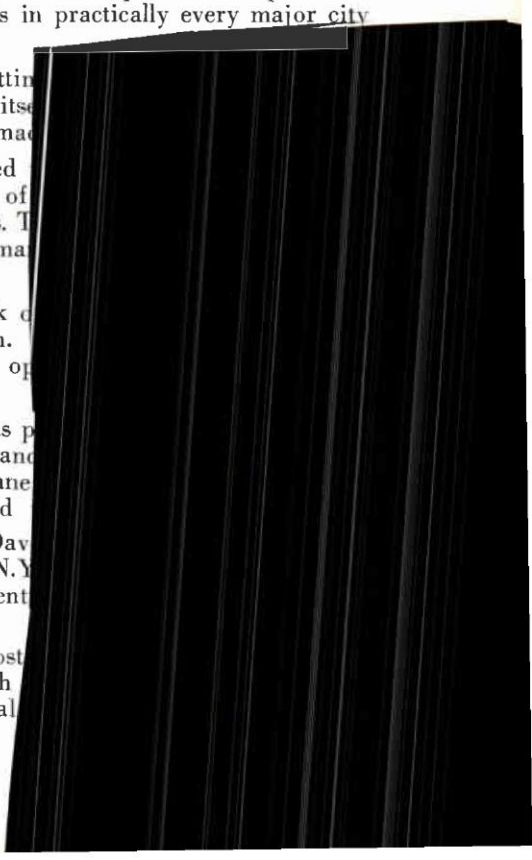
In 1906, increased business and the need for amputee fitting, resulted in the building of 1330 Washington Avenue N. in Minneapolis. T and most complete factory devoted to the ma the United States, firm officials state.

Jepson's son-in-law, A. P. Gruman, took c company in 1938 after the death of Jepson. son, executive vice-president in charge of op generation in control of the company.

During World War II, the company was p war contracts. Using available equipment an produced gun-sights, bridge timbers, airplane and also pre-fabricated houses for England

Company established branches are in Dav Wichita, Kan., New York City and Buffalo, N.Y They have field representatives in many Cent tries.

Today, Winkley limbs are found in almost have come from such distant places as South Guinea, India as well as Mexico and Central



THEORETISCHE GRUNDLAGEN FUER DEN BAU VON KUNSTBEINEN INSBESONDERE FUER DEN OBERSCHENKELAMPUTIERTEN

(Theoretical Basis for the Manufacture of Artificial Legs, especially for the Above Knee Amputee)

By Prof. Dr. Franz Schede
Published by Ferdinand Enke Verlag, Stuttgart, Germany, 1956, 106 pgs., Third revised edition.
Reviewed by Carlton E. Fillauer, CP & O, and Hans R. Lehneis, CP & O.

The first edition of this book was published in 1919. Up to that time there were no fundamental or basic principles followed in the prosthetic rehabilitation of the lower extremity amputee and especially in above knee prosthetics. With the first edition of his book, Prof. Schede was trying to introduce a theoretical foundation for the manufacture of artificial legs for the practical purpose of standardization for doctors and prosthetists.

Now after thirty-seven years, the author notes that his try was basically successful. A great many principles used in today's lower extremity prosthetics are based on Prof. Schede's first edition (e.g., the limitation of the dorsiflexion of the foot with its effects on knee stability, the wide use of physiological knees, ischial weight bearing, etc.) His theories were also very influential in the design of orthopedic braces for polio patients.

This book begins with special emphasis on the bio-mechanics of the lower extremities, then the mechanical principles of the artificial limb are explained.

Chapter One deals with general biomechanics related to lower extremities. In Chapter Two, the statics of the sound leg are discussed, while the statics of the above knee amputee are extensively described in Chapter Three. Chapters Four and Five deal with the gait of the normal and the above knee amputee respectively. The Sixth and last chapter, "Nutzanwendugen," has been added in this third edition. It describes the Schede-Habermann foot with lateral motion ankle and the advantages of physiological knee joints. In the last part of this chapter the author discusses the active pelvis, i.e., the active control of the knee by means of a metal bar and cable attachment to a Hessing type pelvic cage.

Prof. Schede's book is without doubt one of the most advanced descriptions of lower extremity prosthetic principles. One can only hope that it will be translated into the English language in the near future.

Rehabilitation Literature

CHICAGO — With the January 1959 issue, *Rehabilitation Literature*, published monthly by the National Society for Crippled Children and Adults, will appear in a new form with its contents expanded to give readers a broader service.

Rehabilitation Literature will report on the advancement of knowledge and skills in the various areas of rehabilitation and, through the communication of ideas and recent developments, strive to encourage cooperative efforts among professional members of the rehabilitation team.

The presently offered abstracts of current publications of interest to workers with the handicapped have been retained. Other features include original review articles written by authorities in particular phases of rehabilitation activities, book reviews, digests of selected articles of significance published in current issues of other journals, and a section of comments and events of interest to the readers.

The yearly subscription rate is $4.50. Correspondence regarding *Rehabilitation Literature* should be addressed to the editor, Earl C. Graham at the Society's new location, 2023 W. Ogden Ave., Chicago 12, Ill.

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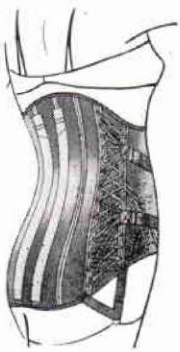

MODEL 423
Sacro-Lumbar Back Support for Women

SOUND BASIC DESIGN—In developing the corset type of support, Freeman has worked closely with the medical profession. The result of this work and cooperation is a sound basic design that can give the exact degree of support or immobilization desired and still retain comfort for the wearer whether he's sitting, standing or reclining.

COMPLETE LINE—When you handle Freeman surgical supports you have available the *right* model for every surgical garment application the doctor may prescribe. You can be sure that each is correctly designed for its job and *will be worn* because it will be comfortable. That's why you can fit and sell Freeman garments with confidence.

FREEMAN QUALITY FEATURES • *Self-smoothing, Non-Wrinkle Fly. Exclusive. Speeds putting on garment, assures extra comfort* • *Petal-Soft Interior Finish. Cushions stays, avoids irritation* • *Nylon Laces at points of greatest strain* • *Soft Plush Padding under hooks and eyes* • *Superb Needle Work* • *Correct Materials.*

FREEMAN MANUFACTURING COMPANY, Dept. 812, Sturgis, Michigan

Send me complete literature on Freeman surgical supports ☐. Send on approval, without obligation, a Freeman Sacro-Lumbar Back Support for my inspection ☐.

Men's ☐ Women's ☐ Size_____.

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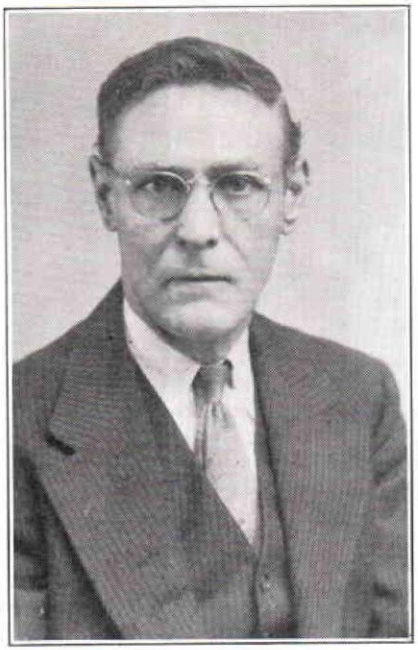
In Memoriam



Louis G. Caron, C. P., pioneer prosthetist, died suddenly November 11, 1958. Mr. Caron was the founder of the Universal Artificial Limb Company of 617 F St., N.W., Washington, D. C. Operations of this Certified Facility are continuing under the direction of his son, Victor L. Caron, C. P.

Louis G. Caron was born in Italy in 1882 and came to the United States before the turn of the century. Shortly after he arived in this country he entered the prosthetics field and began the development of numerous features on which he held patents. At the time of World War I, he went to Canada by invitation of the Canadian Government and opened an artificial limb facility for the Dominion. He returned to Washington, D. C. and opened his own company in 1919.

In 1951 Mr. Caron retired but even after his retirement he continued to experiment on improved components for prostheses. At the time of his death he was working on an idea for a lightweight mechanical and non-mechanical hand.

Charles M. Smith, founder of Guardian Latex Products Co. of Los Angeles, passed away on October 25th at the age of 70. Mr. Smith is survived by his wife Faith, a daughter Mrs. Elizabeth Brereton, and his son Alfred A. Smith. Mr. Smith, active in the surgical trade, for over 30 years had been living in retirement in Tucson, Arizona. He will be remembered and missed by all who knew him.

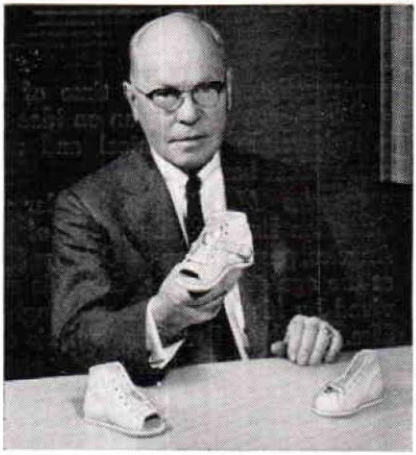
The company which Mr. Smith founded, now known as "Guardian Products Company, Inc.", is an Associate Member of OALMA.

John R. Orzulak, C.P. and O., died November 4, at the age of 56 in Buffalo, according to word received from Ben Pecorella. Mr. Orzulak was the operator of the Buffalo Limb and Brace Company.

Word has been received in the National Office of the sudden death of *Charles L. Wood*, C.P. & O., at Springfield, Missouri. Mr. Wood was manager of the Springfield Orthopedic Shop.

Word has been received of the death in November of *Martin Novak*, head of the Lyons Artificial Limb Company of Chicago. Mr. Novak was a member of the older Artificial Limb Manufacturers Association and was one of the pioneer prosthetists in the Chicago area.

Patrick F. O'Brien, C. O., died April 18, 1957. At the time of his death he was Supervisor of the brace shop at the V.A. Hospital at Boston, Massachusetts. Previously he had been Supervisor of the Boston Outpatient Clinic Shop and on the staff of the Cushing V.A. Hospital Orthopedic Brace Shop. Pat was respected by veterans and physicians alike and is fondly remembered by all who came in contact with him.



Mr. Louis C. Weld, President, G. W. Chesbrough Co., with three new Chesbrough Pre-Walkers. Club foot, Open toe and Closed toe Surgicals.

These corrective pre-walkers will help you and your customers

Big promise? Maybe. But here's why I think it's safe to say this new line of high-grade but *moderately* priced corrective pre-walkers offers you an opportunity.

A while ago a child in my own family needed a corrective shoe. I discovered then what a hardship the expense of most corrective footwear can mean to parents.

We got busy in our Chesbrough plant and put all our 58 years of experience into the shoes you see here: Corrective pre-walkers —moderately priced!

Sizes 000 to 4, Narrow and Wide.

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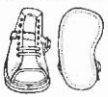

Club Foot Pre-Walker. Meets strict orthopedic specifications.

No. 1700

NO BACK SEAM

Open toe surgical Pre-Walker. Straight line symmetrical last, firm heel.

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PERFECTLY SMOOTH INSIDE

Closed toe surgical Pre-Walker. Lace-to-toe design permits snug, gentle fit.

No. 1300 WRITE for free desk sample.

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DECEMBER, 1958

SUPPLIERS INDEX

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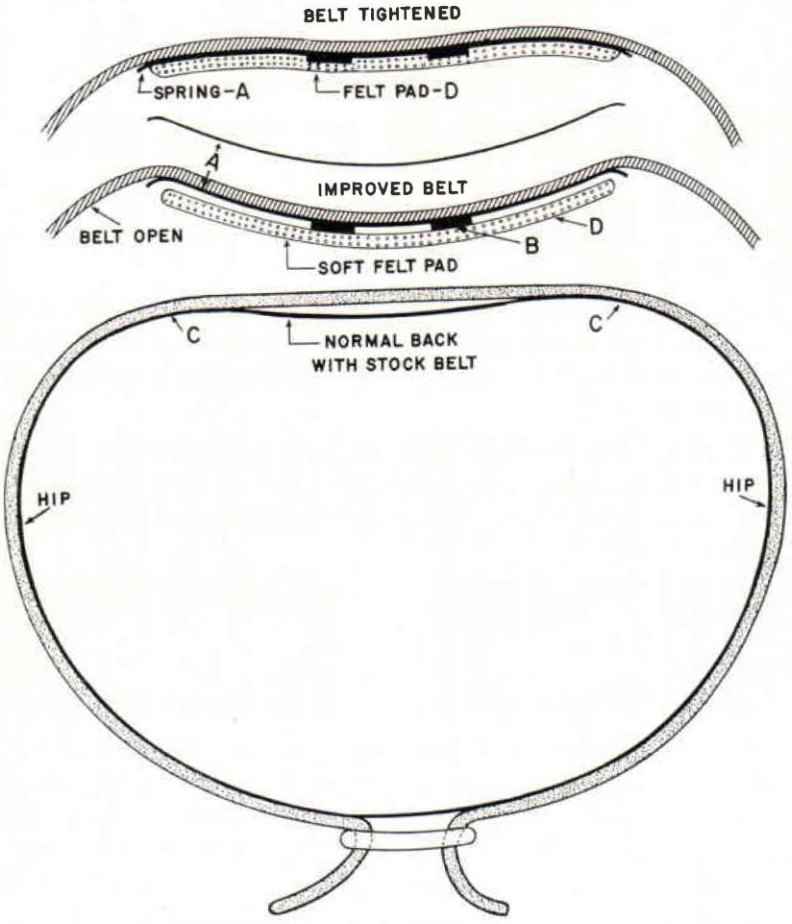

The more a stock belt is tightened the farther the belt leaves th spinal area because the muscles at "C" are forced outward pushing the belt away from the back but with my belt any tension desired can be obtained on the spinal area with weaker or stronger springs—"A". The vertical stays —"B"— under the springs —"A"— and over the soft pad—"D—" divide the pressure the full width of the belt and hold the back rigid. A 6" belt needs 6 springs ¾" wide and approximately 9" long.

At long last—a belt that actually holds the lower spinal area in place. Regardless of how tight the usual sacroiliac belt is placed, the hand can still be placed under the belt at the spine. All the pressure is at the hips. Any person with a lame back will press his hand against his spine to get relief. My belt puts permanent "hand" there regardless of the position of the body. For information and full details write to:

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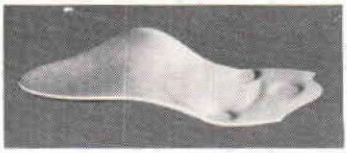
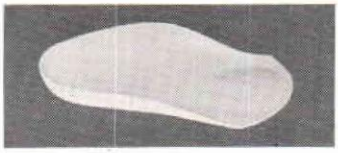
Cork—Rubber—Celastic Supports and Inlays. Levy Mould and Forefoot Balancer—Artificial Toes and Forefoot Amputees and short Limp Extension. Orthopedic work is our specialty.

All Inlays are made with Oak sole leather base—and in many types blue tempered steel springs are added. Also every type of stainless steel brace all hand hammered to your cast.





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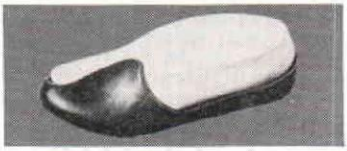

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