

# THE ARCH ANGLE METHOD OF FITTING LADIES' HIGH HEELED SHOES WITH SACH FEET

By KENNETH KINGSLEY

Kingsley Manufacturing Company, Costa Mesa, California.

The fitting of SACH Feet to ladies' high-heeled shoes has not been satisfactory in many cases, because of the varying contour of the soles of ladies' shoes. At first, shoes of varying heel heights from a single manufacturer were examined. There was a definite indication of correlation of heel heights. However, when shoes of other manufacturers were to be fitted, at times discrepancies appeared.

About 250 ladies' high-heeled shoes were procured, from a wide number of manufacturers, with all the various heel heights available, and, of course, in the full range of sizes normally sold to ladies.

In the examination of this number of shoes, it was found that different manufacturers might use three different arch angles for the same heel height. This meant that a wide variety of sole contours existed, as is shown in Figure 1. On this chart are shown the sole contours for several shoes, all of which had the same heel height. This examination proved rather conclusively that no simple sole contour could be used and satisfactorily fit women's high-heeled shoes, as is now done with the male shoes.

The measuring of the arch angle of the various shoes indicated that if female SACH Feet were made with keel angles of 30, 40, 50 and 60°, one of them could satisfactorily fit any ladies shoe we had examined. This means that the arch angle of the shoe is the one factor that determines the selection of the SACH Foot to be used.

It then became apparent that an easy method for determining the arch angle of the shoe was needed. A pistol shaped measuring stick and a simple angle chart seemed to give this. By mounting this chart (Figure 2) on the wall back of any convenient shelf, you have your measuring site. You place the shoe on the shelf. You then place the pistol-shaped arch angle

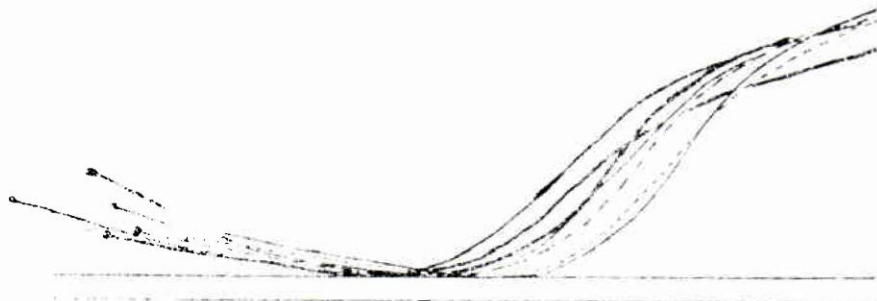


Figure 1

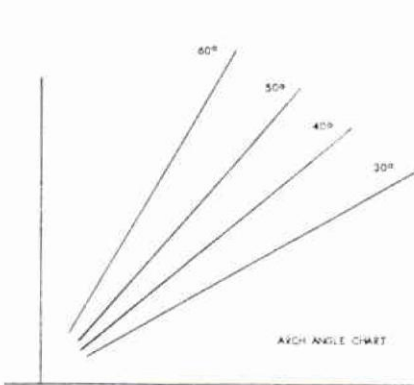


Figure 2. Arch Angle Chart.

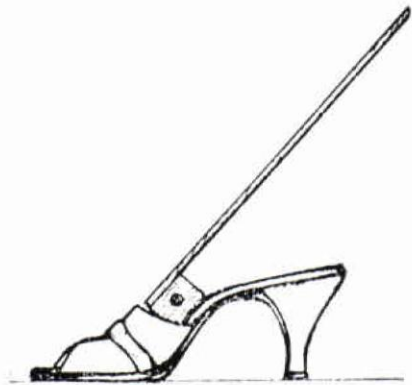


Figure 3

measuring stick on the inside arch of the shoe and read the *maximum* angle on the chart (Figure 3).

If the stick is too high or too low, the angle will be less than when placed correctly on the maximum angle area. Therefore, if you move the stick up or down on the arch, it is easy to discern the maximum angle. If this angle read  $42^\circ$ , you would select a  $40^\circ$  keeled foot, but if it read  $45^\circ$  or  $47^\circ$ , you would naturally select a  $50^\circ$  keel. In other words, by using a foot of greater angle, you assure yourself of the proper arch clearance.

Female SACH Feet in all keel angles should be made with the sole attached only at the toe and to be equipped with a full heel cushion of sufficient size that it can be cut to the sole contour shape of any shoe that might have that arch angle.

A template of the contour of the sole of the shoe should next be made. Mark the weight-bearing line on the contour, which is usually in line with the front edge of the heel of the shoe, or slightly forward of it. By next placing this contour on the SACH Foot with the weight-bearing line lined up with the bolt, you can trace the sole contour of the shoe to the foot. Band-saw along this line and adhere the balance of the sole to the foot. Mark the weight-bearing line on the inner sole of the shoe and remove it from the shoe. Place the inner sole on the sole of the SACH Foot with the weight-bearing line directly beneath the bolt. Trace this outline to the sole of the foot and shape the foot to this outline and to the shoe.

The Arch Angle Method has satisfactorily been used to fit female SACH Feet to ladies high-heeled shoes of all sizes and all heel heights.