

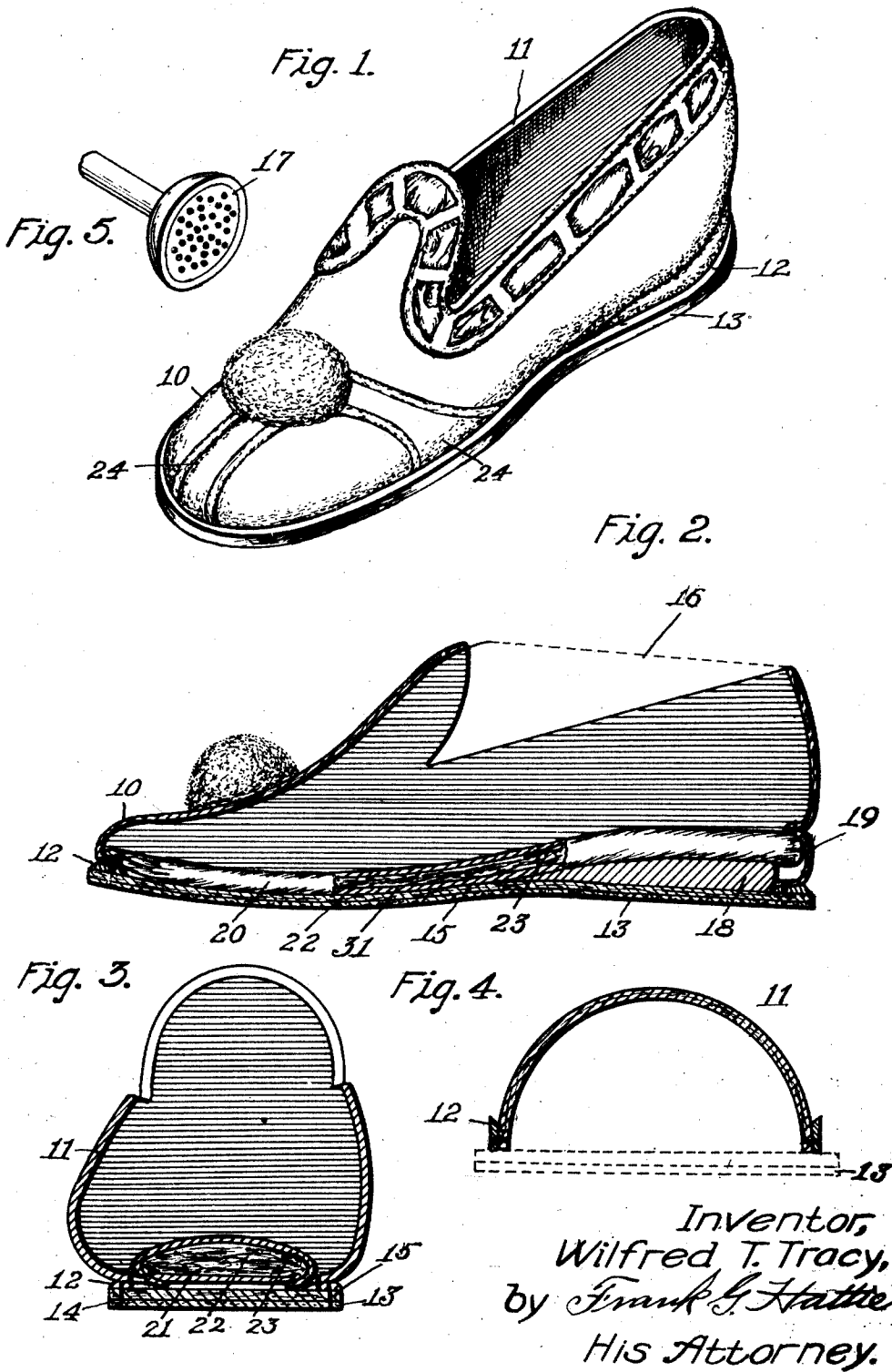
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W. T. TRACY

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PROCESS OF MAKING SHOES OR SLIPPERS

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WILFRED T. TRACY, OF LYNN, MASSACHUSETTS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO TRACY FOOTWEAR PROCESS, INC., OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

PROCESS OF MAKING SHOES OR SLIPPERS.

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The invention relates to improvements in footwear, and to an improved shoe or slipper and to a process of making the same without the use of lasts, by assembling the elements of the shoe together and shrinking them on a form by steam. The invention further consists of a heel for supporting the arch of the foot to prevent it from breaking down, and provides a slipper that will conform to the foot action.

The object of the invention is to provide an easy, light, and strong shoe or slipper and a process of making the same at a minimum cost.

Referring to the figures—

Figure 1 is a perspective view of a slipper.

Figure 2 is a longitudinal section of the same.

Figure 3 is a cross section of the same.

Figure 4 shows a cross section of the upper and welt before it is secured to the sole.

Figure 5 is a perspective view of a steam nozzle.

Referring to the drawings, 10 indicates a slipper or any form of shoe or foot covering having an upper 11, made of any suitable material, such as cloth, leather, or felt. The upper is cut to form and sewed together. The welt 12 is sewed to the lower margin of the upper 11 as indicated in Figure 4. After the welt 12 is sewed to the upper 11, and the sole is prepared, the welt 12 is covered with a coat of cement and also the marginal portion of the upper surface of the sole 13.

The welt is now stuck to the sole 13 by finger pressure which can be accomplished by unskilled labor. After the welt 12 and sole 13 are stuck together by hand, the shoe is preferably submitted to the action of a welt beater of any usual type to pound the welt down to shape and stick it firmly to the sole.

In preparing the sole 13, a strong durable leather is used, for example chrome split, or the like, which is shaped by suitable dies. A durable but flexible leather is used which is much cheaper than ordinary hard sole leather and is much easier handled by inexperienced help. This leather element of the sole is preferably reinforced by a layer of leather board 15 which is secured thereto by glue or other fastening means. This form of sole has good wearing qualities and is much lighter and

easier to the foot than ordinary sole leather and it holds the shape of the shoe or slipper as well as a sole of ordinary construction.

After the welt and sole have been stuck together, as above described, they are united by a sewed seam as shown in Figs. 2 and 3.

The shoe is thus made without recourse to the usual lasting process, but after sewing it is given its final shape as follows. After the sole is secured to the upper 11, a form or last 16 is placed in the shoe and the shoe is subjected to a steam treatment, for example by subjecting it to steam discharged by a steam nozzle 17. This steam shrinks the cloth or leather of the upper and causes it to conform to the shape of the last, thus providing a shoe of acceptable appearance but without the use of the usual lasting operation. My new process thus dispenses with several of the ordinary operations employed in shoe making, and thus reduces the cost of manufacture.

Preferably, I place an elongate tapering heel support 18 inside of the shoe after the upper has been attached to the sole. This heel support is made of some material, for example hard fiber adapted to form a solid support for the heel and arch portion of the foot, while this heel support also tends to preserve the shape of the shoe and prolong its life.

When using this heel support, I prefer to provide the upper with an extension 19 and the seam which unites this extension to the upper proper is turned inwardly. The extension piece 19 provides a proper space for the reception of the heel support 18 while the inwardly directed seam helps to limit upward movement of the heel support. The heel support 18 is permanently secured to the upper surface of the outer sole by means of glue or other suitable fastening means, and as it projects into the extension 19, it gives shape to the latter and imparts a finished appearance to the shoe but without requiring any heel finishing operation. Since this heel support 18 extends forwardly toward the shank of the shoe, it also acts as an arch supporter to prevent the arch of the foot from breaking down.

While I have provided a substantial and stiff outer sole which supports the foot in normal manner, I prefer to provide an inner sole

of soft and yielding character adapted to impart to the shoe the warmth and comfort of the usual soft soled slipper. This inner sole is preferably placed over the heel support and the forward portion of the outer sole and is secured in place by means of glue.

This inner sole preferably extends from the toe portion to the heel portion of the shoe and comprises a bottom member 21 which may be of cardboard or the like and which supports a yielding layer or pad 22 of felt or other suitable material. This yielding or padding layer of felt is covered with a thin layer 23 of flexible material such as thin felt. The covering 23, the pad 22 and the bottom member 21 are sewed together along the edges thus making a strong durable but yielding inner sole. The edge of the felt covering is turned under and secured to the bottom of the cardboard by means of cement. When this inner sole is placed in the shoe it imparts all of the advantages normally found in a soft soled shoe but is supported by the stiff outer sole so as to provide durability as well as ease and comfort.

In shoes made of felt or similar materials the toe portion of the upper ordinarily loses its shape very quickly, and to prevent this I

prefer to provide the forward portion of the upper with suitable straps or supports 24 which are sewed to the upper and conform to all subsequent operations of manufacture. These straps are placed in such a position as to take the side and toe strains and assist in confining the foot to proper shape without sacrificing the comfort of a soft slipper. After the slipper is completed, it may be decorated in any desired manner and finished in accordance with usual methods.

What I claim as new and desire to secure by Letters Patent of the United States is:

That process of making shoes which comprises as steps preparing a stiff outer sole consisting of superposed layers of leather and leather board, preparing an upper, sewing a welt to the marginal portion of the unlaced upper, attaching the unlaced upper to the sole by sewing the welt to the sole, preparing an inner sole comprising a cushioning layer and a covering layer, preparing a heel support, sticking the heel support to the inner surface of the outer sole at its rear end, and sticking the inner sole to the inner surface of the outer sole and to the heel support.

WILFRED T. TRACY.