No. 748,452. PATENTED DEC. 29, 1903.

C. W. WOODS.

HEEL ATTACHING DEVICE.

APPLICATION FILED OCT. 21, 1899.

NO MODEL.

Fig. 1.

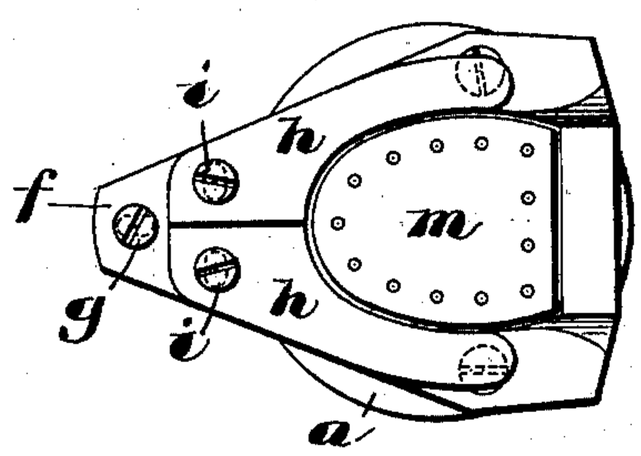


Fig. 2.

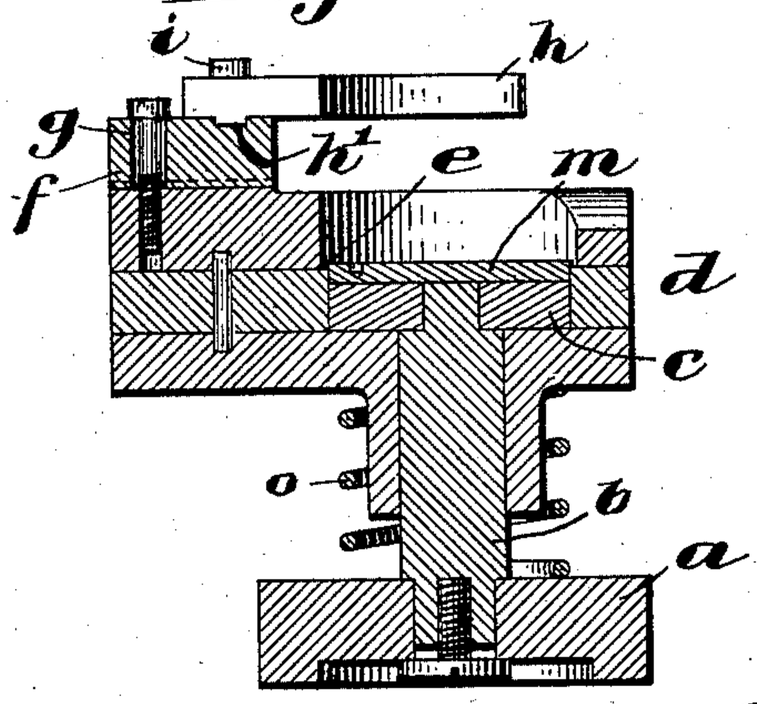


Fig. 4.

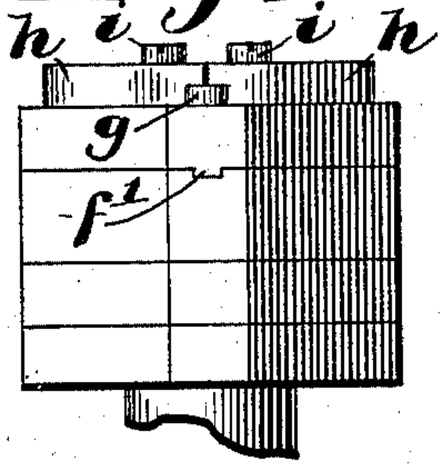
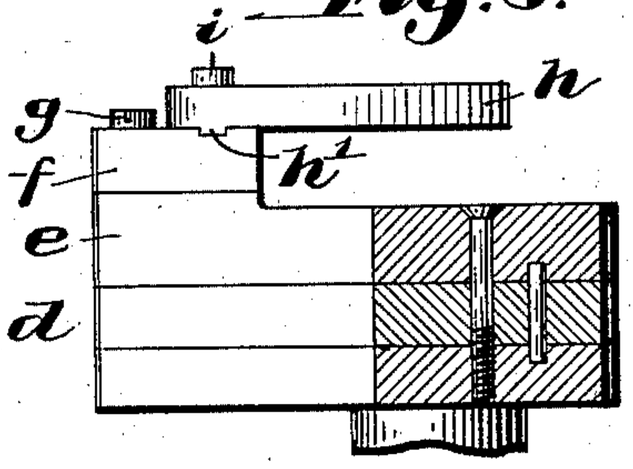


Fig. 3.



WITNESSES:

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No. 748,452. Patented December 29, 1903.

UNITED STATES PATENT OFFICE.

CALVIN W. WOODS, OF NORTH BROOKFIELD, MASSACHUSETTS, ASSIGNOR TO THE E. & A. H. BATCHELLER COMPANY, A CORPORATION OF MASSACHUSETTS.

HEEL-ATTACHING DEVICE.

SPECIFICATION forming part of Letters Patent No. 748,452, dated December 29, 1903.

Application filed October 21, 1899. Serial No. 734,296. (No model.)

To all whom it may concern:

Be it known that I, CALVIN W. WOODS, a citizen of the United States, and a resident of North Brookfield, county of Worcester, Massachusetts, have invented certain new and useful Improvements in Heel-Attaching Devices, of which the following is a specification.

My invention comprises certain improvements in devices for attaching heels to shoes, and is intended to provide simple and effective means for facilitating the rapid and perfect accomplishment of this step in the manufacture of boots and shoes.

As will be understood by those skilled in the art, the shoes, even of the same size, as they come to the heeling-machines vary greatly in the extent of overhang of the sole beyond the counter. When the old form of cup was used, this necessitated trimming the heel part of the sole to fit the cup. It has been proposed to make the upper extension of the old cup separate from the cup and to make it movable to accommodate varying degrees of overhang of the sole; but this necessitates an adjustment of the extension for every variation in overhang of the shoes as they are heeled.

My invention differs from the prior art in several particulars. I employ a gage that fits closely around the counter and is rigidly secured to the heel-cup, but in such a way as to accommodate different sizes of shoes and to permit any desired variation in the relative position of the heel upon the shoe, whether in a lateral or in a longitudinal direction. This is accomplished, too, without regard to the amount of overhang of the sole.

In addition to the above-enumerated features my invention comprises such a construction of heel-cup as will permit the top lift to be applied in precisely the proper relative position on the heel, so that the heel when trimmed down to the top lift in the subsequent trimming operation is of precisely the right form and size and so that all heels will be uniform. These and other features will be particularly explained in the following specification, and will be defined in the claims.

Referring now to the drawings, in which I have shown one mode of embodying my invention, which, it will be understood, is capable of considerable variation in form and detail, Figure 1 is a plan view of my improved device. Fig. 2 is a vertical longitudinal sectional view thereof. Fig. 3 is a side elevation, partly in section. Fig. 4 is a rear elevation thereof.

To the base *a* is secured the post *b*, which supports the driving-head or spanker *c*. The recessed heel holder or cup *d* is recessed to receive the heel and the spanker *c* and is mounted to slide vertically upon the supporting-post *b*. The spring *o* keeps the cup normally pressed upward, with its floor resting against the under side of the spanker. The false bottom or nail-plate *m* rests loosely upon the top of the spanker in the usual way.

It will be noticed that the lower portion of the recess is smaller in diameter than the upper portion thereof, its inner walls being somewhat offset from the inner walls or faces of the upper portion, this offset being formed slightly above the level of the top of the spanker. This lower portion accurately corresponds to the size of the top lift, while the upper portion corresponds in size to the heel to be attached. In consequence of this construction the top lift is so applied to the heel as to leave the edge of the heel slightly overhanging the edge of the top lift and permits the top lift to be placed uniformly in exactly the position that it should occupy upon the heel, so that when the heel is subsequently trimmed down to the top lift it will have precisely the size and shape desired. In the cups heretofore used the lower part of the recess was of the same size as the end of the heel to which the top lift was applied. As the heel at this stage is larger than when finished to permit its being trimmed and as the top lift is not made to be trimmed, the top-lift was likely to be too far to one side or to the front or rear, as the case might be, and so caused lack of uniformity in the heels when trimmed and finished, besides somewhat spoiling their shape.

For convenience I prefer to make the heel-cup in parts secured together by any suitable fastening means. This enables me to more

easily make recesses of different size in the upper and lower portions, respectively; but I do not confine myself to such a construction.

The gage *h*, which I prefer to make in two parts, as shown, is secured, by means of the screws *i*, to the block *f*, which projects above the cup and is rigidly secured thereto by means of the screw *g*.

The screws *i* and the screw *f* pass through slots in their respective members to permit an adjustment of the parts. As shown in this instance, the arms *h* are adjustable laterally, while the block *f* is adjustable longitudinally—that is, from front to rear—so that one adjustment is in a direction transverse to the direction of the other adjustment.

A tongue-and-groove connection or its equivalent may be employed to prevent any displacement pivotally about the fastening-screws, as indicated at *f'* and *h'*.

It will be observed that the gage *h* is of a shape to fit around the counter of the shoe, so as to determine both its lateral and its longitudinal position with reference to the heel. It will also be noticed that the said gage projects out over the heel-cup, but at some distance above and away from the top of the cup, so as to give ample clearance between itself and the cup for an overhanging sole.

The function of the block *f* is to form a rigid but adjustatble connection between the cup and the gage.

By making the gage in two parts it is possible to separate them or to bring them together, so as to accommodate different sizes of shoes. Their lateral adjustment also permits the heel to be placed a little to one side of the center of the shoe, which is sometimes desirable.

The operation of my device will be readily understood. The heel is placed in the cup with the projecting ends of the nails resting in the countersunk holes of the nail-plate *m*. The shoe-carrying jack, which is not shown here, as it forms no part of this invention, is swung into place until the counter of the shoe rests in the gage. The jack is then driven down, at the same time depressing the cup. The nails are thus forced into the sole of the shoe, their lower ends projecting slightly, according to the depth of the countersunk holes in the plate *m*. The shoe is then swung out, the plate *m* is withdrawn, and the top lift placed in the recess before occupied by the plate. The shoe, with the nails slightly projecting from the heel, is again swung into place and the jack depressed, forcing the ends of the nails into the top lift, which is thus attached to the heel.

Without attempting to set forth all the variations in form and arrangement of which my invention is susceptible, what I claim is—

1. In a heel-attaching device the combination of a heel-holding cup, an adjustable block rigidly secured to the cup, but at some distance from the edge of the recess in the cup, a gage supported by said block above the cup in position to receive the counter of the shoe, whereby the position of the shoe is accurately determined with reference to the heel without reference to the size or shape of the projecting sole, substantially as described.

2. In a heel-attaching device, the combination with a heel-holding cup, of a gage rigidly mounted above said cup and comprising two oppositely-curved arms independently adjustable with reference to the cup, whereby the position of the shoe with relation to the heel to be attached may be varied to any desired extent, substantially as described.

3. In a heel-attaching device the combination with a heel-cup, of a connecting-block rigidly secured to the cup, and a curved gage secured to the block and adapted to receive the counter so as to properly position the shoe, both laterally and longitudinally, said gage being adjustable laterally in order to secure lateral variation in the relative position of the heel when attached to the shoe, substantially as described.

4. In a heel-attaching device, the combination with a heel-cup recessed to receive the heel, a gage secured thereto and adapted to bear against and fit the counter of the shoe to be heeled, said gage being adjustable both longitudinally and laterally upon the cup with reference to the heel to be attached, substantially as described.

5. In a heel-attaching device, the combination with a heel-holder, of a block adjustably secured to said holder, and a counter-gage secured to and supported by the block, and being adjustable in a direction transverse to the direction of the adjustment of the block, substantially as described.

6. In a heel-attaching device the combination with a heel-holder, of a two-part gage adapted to fit and receive the counter of the shoe to be heeled, without touching the sole, the parts or members of said gage being independently adjustable to permit their being moved in the same or opposite directions, to permit the attaching of the heel in any position upon the sole of the shoe, substantially as described.

7. In a heel-attaching device the combination with a heel-holder, of a connecting-block mounted upon said holder, and being longitudinally adjustable thereon, a pair of oppositely-curved arms mounted upon said block and being independently adjustable laterally on said block substantially as described.

8. In a heel-attaching device, a heel-cup having its upper portion recessed to fit and receive the heel to be attached, the lower portion of said recess being of somewhat smaller diameter and having its interior walls slightly offset with reference to the upper portion in order to receive and properly position the top lift with reference to the heel substantially as described.

9. In a heel-attaching device the combination of a heel-cup formed with a recess whose upper portion is of a size and shape to fit the

heel to be attached and whose lower portion is of smaller diameter and whose inner walls or faces are slightly offset with reference to the inner walls of the upper portion, a nail-plate adapted to fit into the bottom portion of the recess, and a spanker whose top surface lies somewhat below the level of the offset, substantially as described.

10. A heel-cup formed of two or more sections, the upper section being formed with a recess to fit and hold the heel, the lower section being formed with a similar recess of smaller diameter to fit and hold the top lift, the two sections having their inner faces slightly offset with reference to each other, substantially as described.

In witness whereof I have hereunto set my hand this 12th day of October, 1899.

C. W. WOODS.

In presence of—
GEO. N. GODDARD,
M. J. BROWNE.