

No. 686,730.

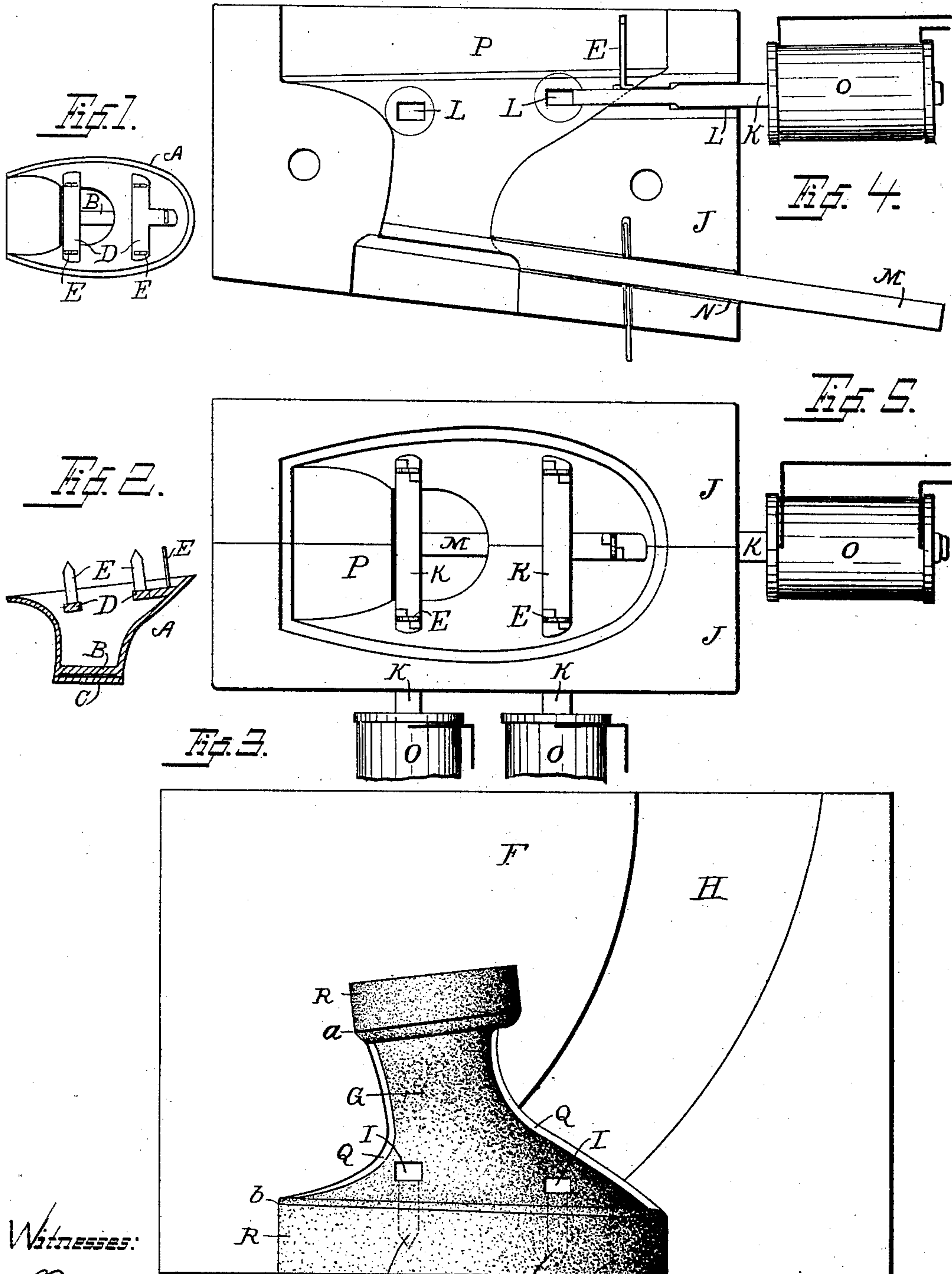
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H. HELLWEG.

PROCESS OF MANUFACTURING SHOE HEELS.

(Application filed Jan. 18, 1901.)

(No Model.)



WITNESSES:

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HENRY HELLWEG, OF MILWAUKEE, WISCONSIN.

PROCESS OF MANUFACTURING SHOE-HEELS.

SPECIFICATION forming part of Letters Patent No. 686,730, dated November 19, 1901.

Application filed January 18, 1901. Serial No. 43,691. (No specimens.)

To all whom it may concern:

Be it known that I, HENRY HELLWEG, a citizen of Germany, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Processes of Manufacturing Shoe-Heels, of which the following is a specification.

My invention relates to improvements in processes of manufacturing aluminium heels for shoes.

My invention is explained by reference to the accompanying drawings, in which—

Figure 1 is a top view, and Fig. 2 a longitudinal vertical section, of one of the shoe-heels formed by my process. Fig. 3 is a side view of one-half of the metallic mold in which the heel is cast. Fig. 4 is a longitudinal vertical section of one-half of the core-box employed in forming sand cores used in casting the heel. Fig. 5 is a top view showing the two parts of the core-box secured together.

Like parts are identified by the same reference-letters through the several views.

One form of metallic shoe-heel made by my process consists of a thin hollow shell A, having horizontal cross-piece B, (to which a non-metallic tread-piece C is attached,) metallic cross-pieces D, and flexible fastening-barbs E. Owing to the peculiar shape of the shell A it becomes necessary to cast the same in a two-part separable metallic mold, one of which parts is shown at F.

G is the core, which is preferably made of sand.

H is the duct or passage through which the molten metal is poured into the mold.

I I are horizontal apertures formed in the core in which the molten metal flows to form the cross-pieces D of the heel. The flexible barbs E (shown in dotted lines) are held in place by the core preparatory to casting the heel, when the molten metal forming the cross-piece congeals around the lower ends of said barbs and holds them in place.

J J represent the respective halves of the core-box in which the core G is formed. The respective halves J J are held in place preparatory to forming the core G therein in the ordinary way, when the horizontal bars K are inserted through the apertures L, formed in the sides and one end of the core-box, for the

purpose of forming the mold for the horizontal bars D and for supporting the barbs E. A similar bar M is also inserted in the aperture N for the purpose of forming a mold for the cross-piece B. This being done, electric coils O are placed upon the protruding ends of the bars K, whereby said bars become electromagnets and are thereby caused to hold the barbs E rigidly in place while the sand which forms the core G is being packed around them. The sand having been placed in the core-box and the same thoroughly packed, filling the space P, the electric coils O are removed from said bars K, whereby they are demagnetized and cease to attract said barbs E when said bars K are withdrawn from the core-box, leaving said barbs supported by the sand in their proper places. This being done, the respective halves J of the core-box are separated and the core is removed and placed in the mold F, as indicated in Fig. 3. All that part of the core between the lines *a* and *b* forms the core proper of the shell A, and when in place a space Q is left between such part of the core and the mold for the reception of the molten metal, which is poured into the duct H. The parts of the core R R above and below the lines *a* and *b* are nicely fitted to the walls of the mold and serve to hold the central part of the core G securely in place midway between the walls of the mold, while such parts R serve as stops for the molten metal. When the cores have been thus located in the mold, the mold is ready to be used for casting the heels in the ordinary manner.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The improved process herein described of manufacturing aluminium shoe-heels, consisting, first, in supporting the heel-retaining barbs upon electromagnet-bars within a core-box, preparatory to forming the core around them; second, in forming a core around said barbs and electromagnet-bars; third, in cutting out the electric circuit communicating with the electromagnet-bars, whereby said bars are demagnetized and said barbs released therefrom; fourth, in removing said bars from the core; as set forth.

2. The process herein described, of manu-

facturing aluminium shoe-heels, consisting,
first, in supporting barb-retaining bars in ap-
ertures of the core-box; second, in support-
ing malleable heel-retaining barbs upon said
5 bars, preparatory to forming a sand core
around said bars and barbs; third, in form-
ing a sand core around said bars and barbs;
fourth, in removing said bars from the core,
leaving said barbs suspended from the core,
10 with their heads exposed within the apertures
formed by the removed bars, whereby, as the

heel is cast, the molten metal will congeal in
said apertures around the heads of, and form
supporting-bars for, said barbs between the
walls of the heel, substantially as set forth. 15

In testimony whereof I affix my signature
in the presence of two witnesses.

HENRY HELLWEG.

Witnesses:

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