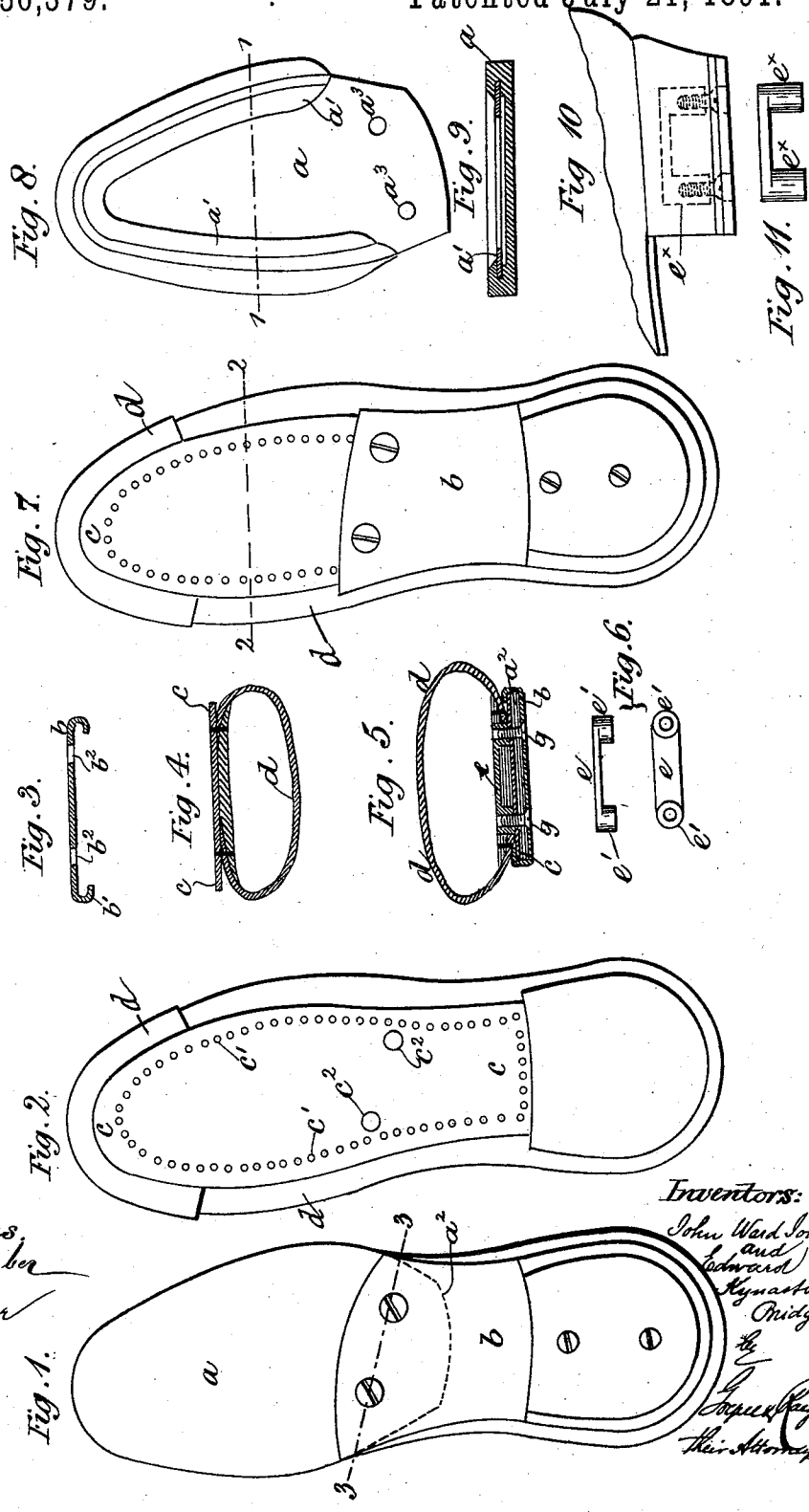
(No Model.)

J. W. JONES & E. K. BRIDGER.

MANUFACTURE OF BOOTS AND SHOES.

No. 456,379. Patented July 21, 1891.



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UNITED STATES PATENT OFFICE.

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MANUFACTURE OF BOOTS AND SHOES.

SPECIFICATION forming part of Letters Patent No. 456,379, dated July 21, 1891.

Application filed May 15, 1890. Serial No. 351,934. (No model.) Patented in England April 23, 1890, No. 6,218.

To all whom it may concern:

Be it known that we, JOHN WARD JONES, engineer, of 1 Canonbury Terrace, London, England, and EDWARD KYNASTON BRIDGER, gentleman, of Temple Chambers, Falcon Court, Fleet Street, in the city of London, England, subjects of the Queen of Great Britain, have invented certain new and useful Improvements in the Manufacture of Boots and Shoes, (for which we have made application for Letters Patent in Great Britain, dated April 23, 1890, No. 6,218,) of which the following is a specification.

This invention relates to improvements in the manufacture of boots and shoes, and is designed as an improvement on the shoe patented to us May 15, 1888, No. 382,985.

It consists of a special device or appliance, first, for embedding in the waist part for securing together the "outer sole" and "waist" when the former only or when both are made to slide on and off, as hereinafter explained, and, secondly, for embedding in or under the heel to secure same or the outer wearing-piece thereon, so that they—*i. e.*, the heel or the outer wearing-piece—may be readily removed and replaced at pleasure; and in order that our present invention may be easily understood and readily carried into practice we will proceed to fully describe the same with reference to the accompanying drawings.

Figure 1 is a plan of the bottom of a boot or shoe having our improvements applied thereto. Fig. 2 is a view similar to Fig. 1, the sliding sole and sliding metal waist being removed. Fig. 3 is a cross-sectional view on line 3 3, Fig. 1, of the metal waist alone. Fig. 4 is a cross-sectional view on line 2 2, Fig. 7. Fig. 5 is a cross-sectional view on line 3 3, Fig. 1, showing the device or appliance for securing the sliding outer sole and metal waist together embedded in its position in the waist part. Figs. 6 are separate views in side elevation and plan, respectively, of the said device or appliance shown in Fig. 5 in its position. Fig. 7 is a view similar to Fig. 1, the outer sole only being removed. Fig. 8 is an inside view of the outer sole. Fig. 9 is a cross-section of Fig. 8 on line 1 1. Fig. 10 shows similar device or appliance embedded in the heel of a boot or shoe, by means of which the outer wearing-piece of the heel can be attached by two screws and, when desired, can be readily removed and replaced by a new wearing-piece. Fig. 11 is a separate view of the said device shown in Fig. 10 embedded in the heel.

a is the outer sole or sliding fore part, Fig. 8.

b is the metal waist.

c is a thin steel or other suitable sheet-metal plate secured, by sewing, riveting, or otherwise, at *c'* to the insole and the upper *d*.

e is the said special device or appliance, Fig. 6, formed of brass or other suitable material, and which is embedded crosswise in the waist part of the boot, so as not to interfere with the action of walking, (at about the position of line 3 3, Fig. 1,) between the sock or lining of the boot or shoe and the metal plate *c*. The flat side of the device *e* is mounted toward the inside of the boot, while the projections *e' e'* point toward the metal plate *c*, as shown in Fig. 5. Each projection *e'* is tapped to receive a screw *g*, as hereinafter explained.

The metal waist *b*, having the turned-in edges *b'*, Fig. 3, is mounted in its position on the metal plate *c*, as shown in Fig. 7, during the construction of the boot—that is, it is slid on from the back before the heel is put on.

The sliding fore part *a* has a metal rim *a'* sewed or otherwise secured on the inside thereof, and this rim or projection engages and slides under the edge of the metal plate *c*, so that the outer sole *a* is thus slid onto the boot or shoe until its end a^2 passes under the metal waist *b*, as shown in dotted lines in Fig. 1, and is there secured in position by means of the screws *g g*, which pass through holes b^2 b^2 in the metal waist *b*, then through holes a^3 a^3 in the outer sole or sliding fore part *a*, then through the holes c^2 c^2 in the metal plate *c*, and then screw into the internally-screw-threaded hole in each projection *e'*, thus firmly securing the sliding outer sole *a* and the metal waist *b* to each other and to the body of the boot or shoe. Thus it will be seen that the outer sole can be readily removed when worn and replaced by a new sliding outer sole, as desired; and we wish it

to be clearly understood that it is the foregoing means of securing a sliding outer sole or sliding fore part, such as *a*, or equivalent sliding fore part, onto a boot or shoe which constitutes the first part of our present invention, and not the particular construction or details of manufacturing a boot or shoe, as hereinbefore set forth, which details may be considerably varied without departing from the nature of our said invention so long as the essential condition of a sliding outer sole is retained.

A similar device to *e*, but having longer projections than *e'*, may be used for the heels of boots and shoes, as shown at Fig. 10, the device itself $e^{\times}$, Fig. 11, being embedded at any suitable depth in the heel of the boot or shoe, and the outer heel-piece or wearing-piece is then secured in position by screws passing through same into the metal sockets in $e^{\times}$, tapped to receive such screws, and thus the outer wearing-piece of the heel can be readily removed and replaced, as desired. The fastening into this device $e^{\times}$ in the heel may be otherwise than by screwing, if desired, as before described with reference to the device *e* for securing the sole.

We would point out that the shape of the device *e* or $e^{\times}$ may be considerably varied without departing from the nature of our present invention, provided it is arranged to act in the manner and for the purposes set forth.

It will be obvious that the device *e*, embedded in the waist part, may be used with the heels and heel-pieces fastened as previously described or in any ordinary or suitable way.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is—

1. The combination, with a boot or shoe, of a metal piece embedded in the waist part of the shoe and provided with downwardly-projecting sockets having screw-threaded bores, a bottom plate on the under side of the waist part of the shoe, a sliding sole, the rear part of which extends under said plate, and screws passed through apertures in said plate and in the sole and screwed into the sockets, substantially as set forth.

2. In a boot or shoe, the combination, with a sliding fore part or outer sole, of a metal piece having bent edges secured to said sliding sole, a piece embedded in the waist part of said boot or shoe and provided with downwardly-projecting sockets, screws passed through said apertures in said plate and in the sliding sole and screwed into the above-mentioned sockets, and a sheet-metal plate secured to the inner sole and upper, the edges of which plate engage the bent edges of the sliding sole, substantially as set forth.

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