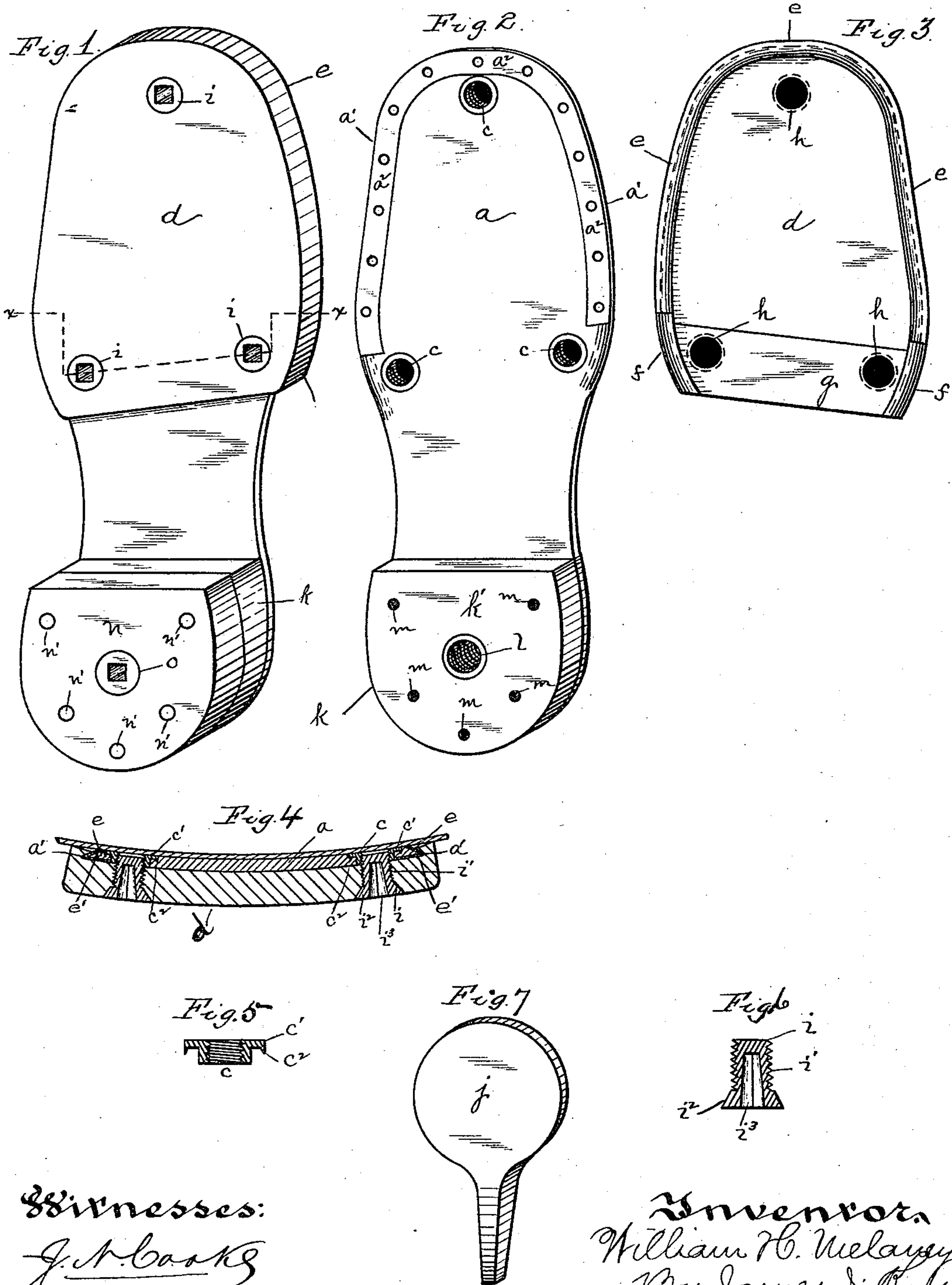


(No Model.)

W. H. MELANEY.
BOOT OR SHOE SOLE.

No. 430,234.

Patented June 17, 1890.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM H. MELANEY, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO J. KAUFMANN & BROTHERS, OF SAME PLACE.

BOOT OR SHOE SOLE.

SPECIFICATION forming part of Letters Patent No. 430,234, dated June 17, 1890.

Application filed August 5, 1889. Serial No. 319,710. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. MELANEY, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Boots or Shoes; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to an improvement in shoes, its object being to provide a shoe with a removable half or tap sole and removable heel, both of which are adapted to be neatly secured, respectively, to the sole and heel proper of the shoe in such manner that they may be readily and quickly removed when worn out or for any other cause and new ones substituted in their place. At the same time I am able to provide a shoe neat in appearance and serviceable in wear, while the arrangement of parts is so simple that any inexperienced person can remove the sole and heel, and replace them by new ones in a short time without the expense of placing them in the hands of the skilled boot and shoe maker.

My invention consists in certain improvements and combinations of parts, all of which will be more fully hereinafter set forth and claimed.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a perspective view of a boot or shoe with my improved tap-sole secured thereto. Fig. 2 is a like view with the tap-sole removed. Fig. 3 is an inner face view of the removable tap-sole, which is the subject of a divisional application filed by me January 17, 1890, Serial No. 337,193. Fig. 4 is a cross-section on the line xx , Fig. 1. Fig. 5 shows a nut for receiving the screws. Fig. 6 is a view of one of the screws. Fig. 7 shows a key suitable for operating the screws.

Like letters indicate like parts in each.

Although my invention relates and is adapted for boots and shoes of all sizes and shapes, I will describe it with reference to the shoe shown in the drawings, in which a represents the sole proper, which may be formed of leather, rubber, or other suitable material,

and is secured to the upper in any of the ordinary ways well known to those skilled in the art.

The sole proper a has formed therein the beveled edge a' , and in order to stiffen the said beveled edge a' it is bound with some suitable material which will give the required rigidity yet will not interfere with the flexibility of the sole. It is found that light sheet-brass may be employed for this purpose with good effect, and it is arranged to cover the beveled edge a' , being secured thereto in any convenient manner, as shown at a^2 . Nuts c are secured within the sole proper a and are arranged at suitable intervals therein. Any number found necessary for the purpose and object of the shoe may be employed. The most preferable form of nut to be employed is that shown in Fig. 7, which has the flange c' formed at one end thereof, said flange being supplied with the teeth or projecting points c^2 . These nuts c are introduced into holes prepared for them in the sole a , said nuts being inserted therein from the inside face of the sole, so that when in position the flange c' will rest upon said inner face while the teeth c^2 will be forced into the sole and so prevent any turning of the nut c when the screw is inserted therein.

The tap-sole d , as shown in Fig. 3, is formed of leather, rubber, or other suitable material, and is constructed to conform in size and shape to the sole proper a . A strip or flange e , of some suitable material—such as leather—is secured around the edge of the tap-sole d on its upper face, said strip e surrounding the toe and sides of said tap-sole as far back as the widest part thereof. This strip e is beveled on its inner face and forms above said tap-sole d and around the same a dove-tailed seat e' , as shown in Fig. 5, which corresponds in size and shape to the beveled edge a' as the sole proper a . This seat e' may be lined with thin sheet-brass similar to that employed on the beveled edge a' . The portion of the sides of the tap-sole d beyond the widest part thereof have secured thereto strips of material f similar to the strip e , but beveled on their inner faces in the opposite way from said strip e , for the purpose more

fully hereinafter set forth. These portions *f* may be formed integral with the strip *e*. A strip of brass or other suitable material *g* is placed across the tap-sole *d*, at the rear end thereof, to render the connection between the sole proper *a* and the tap-sole *d* more secure when brought in contact with each other. Screw-holes *h*, corresponding in number and position to the nuts *c*, are formed in the tap-sole *d*. The screws *i*, preferably employed to secure the tap-sole *d* to the sole proper *a*, as shown in Fig. 8, have the ordinary threaded shank *i'* and a long tapering or countersunk head *i³*, which prevents said screw from being drawn through the tap-sole *d* when said sole becomes worn. A seat *i³* is formed in the head of the screw *i*, or may extend through the entire length of said screw, if desired. This seat *i³* is adapted to receive any suitable key, as *j*, to tighten the screw or secure it as desired. The special advantage of such a form of screw lies in the fact that it may be worn away as the sole becomes worn without destroying the means of removing it. Any other forms, however, of screw or nuts which will answer the purpose may be employed, and I do not confine myself to the use of those specifically described.

The improvements in the heel portion of the shoe are made the subject of a divisional application filed January 17, 1890, Serial No. 337,193, and consequently are not described herein.

The sole proper *a* and the tap-sole *d* having been constructed in the manner described, I will show the manner in which the several parts are connected to form the finished shoe. The tap-sole *d* is first slipped into the sole proper *a*, the toe-sole proper first entering at the rear end of tap-sole *d*, and as the sole proper is further introduced the beveled edge *a'* thereof will enter the dovetailed seat *e'*, which surrounds the tap-sole. By this mode of construction the tap-sole *d* is held in place upon the sole proper *a* by a close dovetailed connection, as shown in Fig. 5, while the brass or other stiffening material which covers the beveled edge *a'* tends to strengthen such connection. When the tap-sole has been thus adjusted on the sole proper, the shoe will not differ in appearance from the ordinary shoe, as the flange or strip *e*, which surrounds the tap-sole *d*, will conceal the beveled edge *a*, the strip *e* extending up to the body of the shoe, and no appearance of any connection between the tap-sole and sole proper is visible. The strip *f*, which extends along the sides of the tap-sole *d*, at the rear end thereof, and from the joint where the strip *e* ends, being beveled in the opposite manner from said strip *e*, does not interfere with the slipping of the tap-sole on the sole proper, while they add to the neatness in appearance of the sole at the rear end thereof, and the break which would otherwise be apparent from the joint where the strip *e* ends to rear of the sole proper is filled in to complete the appearance

of the sole. With the tap-sole *d* in this position relative to the sole proper *a*, the screw-holes *h* will come directly over and coincide with the nuts *c* in the sole proper *a*. The screws *i* are then inserted in these holes *h*, the shank *i'* thereof entering the nuts *c*, and by means of the key *j*, fitting in the seat *i³*, the said screws *i* are screwed into the nuts *c*, and in this way the tap-sole *d* is rigidly secured to the sole proper *a*. I prefer to have the screws *i* pass through the strip of brass *g* at the rear end of the tap-sole *d*, so that when the said screws are tightened up the said strip *g* will press closely against the sole proper *a*, thereby preventing said tap-sole *d* from springing away from the sole *a*. The screws are generally arranged in the position shown in the drawings, although any other arrangement convenient may be employed.

My improved shoe is extremely well adapted to be worn by workmen in rolling-mills, where it is necessary to walk upon the hot sheets of metal. What are commonly known as "hob-nailed" shoes are employed for this purpose; but as the hob-nails are simply driven into the sole of the shoe, when they become heated and then contract on cooling they drop out and have to be continually replaced. In my improved shoe these hob-nails may be driven into the leather tap-sole and clinched on the inside sole before it is secured to the sole proper, thus preventing them from dropping out. At the same time, in order to protect the foot from the heat transmitted to it through the heated hob-nails, asbestos or other non-conductor of heat may be inserted between the tap-sole and the sole proper.

Rubber tap-soles may be employed to prevent slipping on icy sidewalks, as well as to keep the feet warm and dry, and they may be secured to the sole proper after the same manner as the leather sole. In fact, any material suitable for forming the sole of a shoe may be employed.

The convenience to the wearer of such a shoe lies in the fact that he may be supplied with a leather, rubber, or hob-nailed tap-sole which can be readily substituted for the other, according to the wear to which the shoe is to be subjected.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A boot or shoe having the sole proper beveled on its edge, said beveled edge being covered with metal or analogous stiffening substance, and a tap-sole having a dovetail seal fitting around said stiffened beveled edge, substantially as and for the purposes set forth.

2. A boot or shoe having the sole proper *a*, in combination with nuts *c*, having teeth *c²*, secured in said sole proper, a tap-sole *d*, having screw-holes *h* formed therein, and screws *i*, adapted to pass through said screw-holes and engage with said nut *c*, substantially as and for the purposes set forth.

3. A boot or shoe having the sole proper *a*,

provided with the beveled edge a' , in combination with the tap-sole d , having the dove-tailed seat e' , formed by the beveled strip e , which surrounds the two sides of said tap-sole d , said strip terminating at the widest portion of said tap-sole, substantially as and for the purposes set forth.

4. A boot or shoe having the sole proper a , provided with the beveled edge a' , in combination with the tap-sole d , having the dove-tailed seat e' , formed by the beveled strip e , which surrounds the two side portions of said tap-sole and terminates at the widest portion of said tap-sole, which said seat the beveled edge a' of the sole proper engages, and strips f , beveled on the opposite way from the strip e , extending along the portions of the sides

of said tap-sole back of the strip e , substantially as and for the purposes set forth.

5. A boot or shoe having the sole proper a , provided with the nuts secured therein, in combination with the tap-sole d , having screwing-holes h therein, screws i , adapted to pass through said holes and engage with said nuts, and a cross-plate g , secured on the inner face of said tap-sole at the rear thereof, substantially as and for the purposes set forth.

In testimony whereof I, the said WILLIAM H. MELANEY, have hereunto set my hand.

WILLIAM H. MELANEY.

Witnesses:

J. N. COOKE,

ROBT. D. TOTTEN.