

G. F. STEWART.
 NAIL BLOCK TEMPLET FOR HEELING MACHINES.
 APPLICATION FILED MAR. 6, 1908.

947,510.

Patented Jan. 25, 1910.

2 SHEETS—SHEET 1.

FIG. 1.

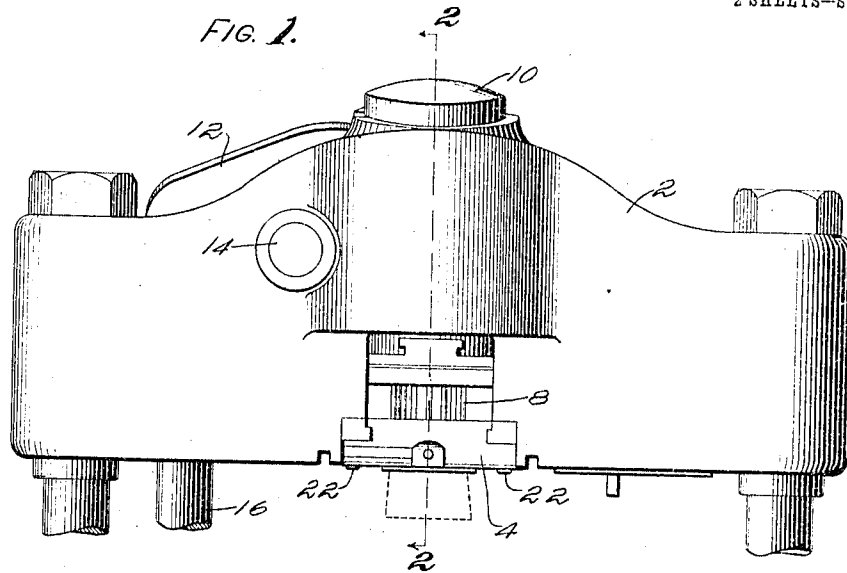
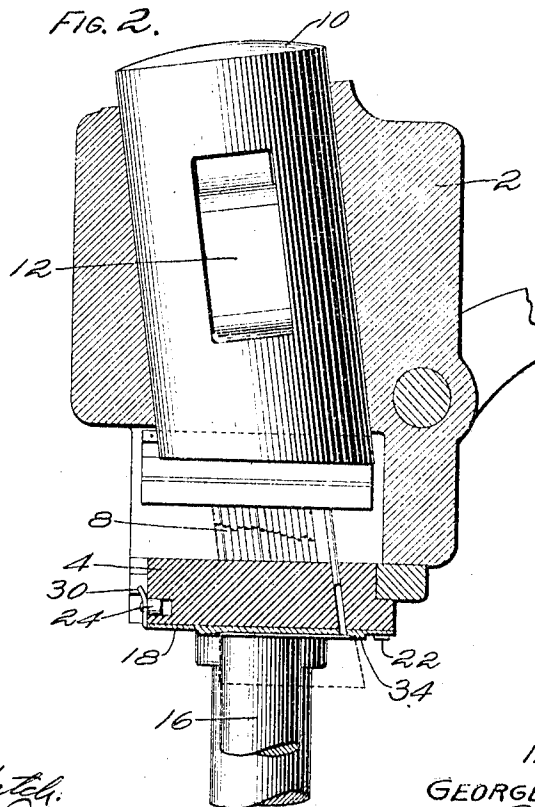


FIG. 2.



WITNESSES:

Roswell F. Hatch.
Amelia M. Ross

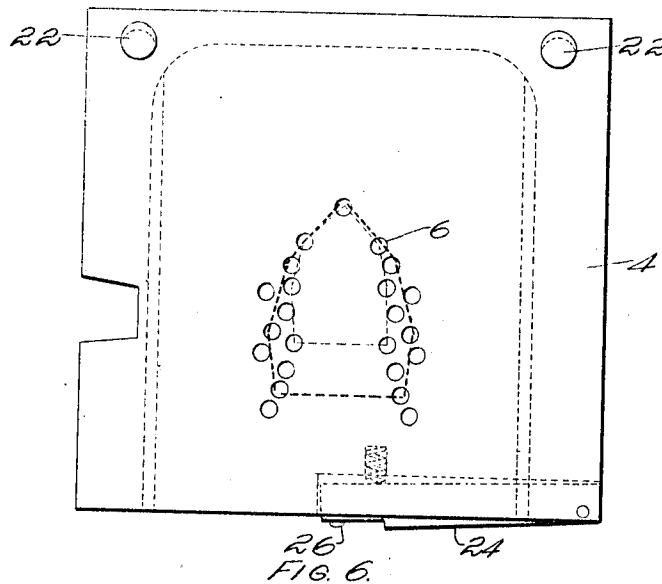
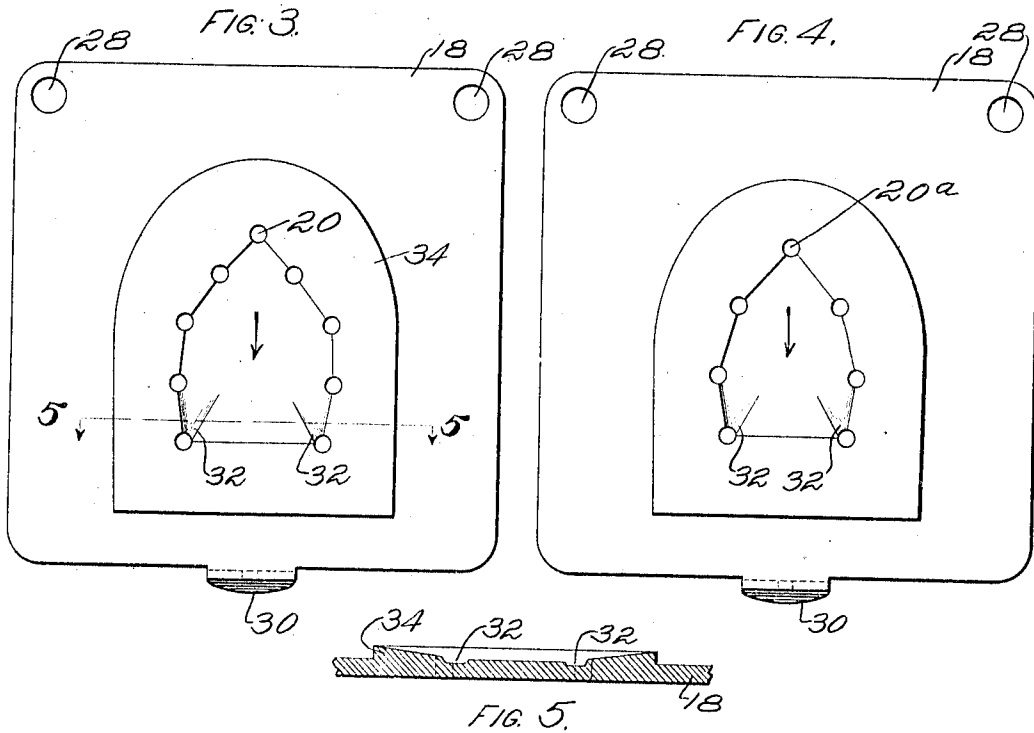
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GEORGE F. STEWART
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UNITED STATES PATENT OFFICE.

GEORGE F. STEWART, OF SWAMPSCOTT, MASSACHUSETTS, ASSIGNOR TO THOMAS G. PLANT, OF BOSTON, MASSACHUSETTS.

NAIL-BLOCK TEMPLET FOR HEELING-MACHINES.

947,510.

Specification of Letters Patent.

Patented Jan. 25, 1910.

Application filed March 6, 1908. Serial No. 419,424.

To all whom it may concern:

Be it known that I, GEORGE F. STEWART, a citizen of the United States, residing at Swampscott, in the county of Essex and State of Massachusetts, have invented an Improvement in Nail-Block Templets for Heeling-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to machines for operating upon boots and shoes and more particularly that type of machine known generally as "heel attaching machines."

Many heel attaching machines operate upon heels which have been previously loaded with nails in such manner that the heads of the nails are left projecting some distance from the tread face of the heel. In thereafter attaching such heels to shoes it is convenient to place the heel in the machine by inserting the projecting nail heads of the loaded heel into the apertures of the nail block used in connection with the attaching machine, the shoe being thereafter brought into engagement with the heel while so held. As heels of varying sizes require varying numbers of nails, and varying locations of nails, it is generally customary to employ, in a machine of this type, what is known as a multiple nail block, that is, a nail block having a sufficient number of nail apertures therein arranged to properly accommodate varying series of nails in any size or style of loaded heel.

When a heel has been loaded with a certain number of nails, say seven, it is clear that some difficulty is experienced in inserting these seven projecting nails in the properly corresponding seven nail apertures of a multiple nail block, which is provided with twenty-four or more closely spaced nail holes. This difficulty is increased by reason of the fact that, as a rule, the surface of the nail block against which the heel is to be placed is usually below the line of vision of the operator, and the placing of the heel must, therefore, be accomplished by sense of touch alone.

One object of the present invention is to provide an attachment, for machines of the general type described, that will permit the operator to invariably select from the great number of nail holes in the multiple nail block the correct series for the nail heads

projecting from the loaded heel which at any particular time he desires to attach to a shoe.

In assembling heels and shoes it very frequently happens that the heel seat of the heel and the heel seat of the shoe do not form a tight fit with each other, that is, when the two heel seats are placed together, an air space is left between them. In thereafter attaching such heels the great pressure upon the central portion of the heel incident to the nail driving will close up the air space, but at the same time it will depress the surface of the tread face of the heel through which the nails are driven. This will leave the edge of the heel outside of the nails higher than the central portion, and therefore, when the heel nail heads are left projecting for blind nailing on a top lift, these nail heads are too low to penetrate the top lift sufficiently to securely hold it on the heel. It is obvious, also, that an air space is formed between the tread face of the heel and the inner face of the top lift. If pressure is applied to the heel to close this air space and force the top lift upon the heel nails, it is given a hollow appearance which is undesirable as is well known to those skilled in the art. This defect might be remedied to some extent by hollowing out the area of the face of the nail block covered by the nail apertures, forming a recess, so that in the heel compressing operation the raised surface inclosing the perimeter of the area covered by the nail holes operates to place more pressure on the outer edge of the heel, or that portion of the tread face outside of the horse-shoe of nails. Thus when the nails are driven the excess depression of the central portion of the heel is compensated for, and the tread face of the heel is maintained level, as is desirable. This remedy, however, is not effective when using a multiple nail block. One reason for this is that generally each series of nail holes selected from the apertures in said block includes the aperture at the extreme rear of the great number of apertures in the block. This being the case, when operating upon a small heel the horse-shoe of nails, which of course is a great deal shorter than a horse-shoe selected for a large heel, will not extend forward as great a distance from the rearmost aperture in the nail block as in the case of the large heel. Therefore, al-

though the surface of the nail block in which the nail apertures are placed may have been hollowed out in the manner described, it is obvious that at the breast of the heel the increased pressure which it is desired to place upon the outer surface of the tread face of the heel will only be placed upon the breasts of heels which are to use the largest horse-shoe of nails selected from the series of apertures in the nail block. This is clearly seen from the fact that a smaller heel would not extend far enough forward for its breast to be engaged by the raised surface extending across the front of the nail block.

Another object of the present invention, therefore, is to provide means whereby the tread faces of all heels outside of the horse-shoe of nails, no matter what the size of the heel or the location of the series of nails therein, may be given proper compression to invariably level up the tread face of the heel and leave it in proper condition for the reception of a top lift.

To the accomplishment of these objects and such others as may hereinafter appear, as will be readily understood by those skilled in the art, the invention comprises the general features and combinations of parts herein described and more particularly defined in the appended claims.

The various features of the invention will be best understood from a description of one embodiment thereof, such for instance as shown in the accompanying drawings, in which for convenience the invention has been shown as applied to a heel attaching machine of the type shown and described in the co-pending application of Thomas G. Plant, Ser. No. 414,707, filed Feb. 7, 1908, and in which:

Figure 1 is a front elevation of the movable cross head of the machine of said co-pending application with the present improvement applied thereto, a heel being shown in position by dotted lines; Fig. 2 is an enlarged section, in elevation, on line 2—2 of Fig. 1; Figs. 3 and 4 are under-side plan views of the improved attachment hereinafter to be described, showing the same as constructed for operation with two different sizes of heels; Fig. 5 is a sectional elevation on line 5—5 of Fig. 3; Fig. 6 is an under side plan view of a multiple nail block such as is used in the machine of said co-pending application, the dotted lines showing two selections of horse-shoes of nail holes.

In the embodiment of the invention selected for illustrative purposes, 2 indicates a reciprocatory cross head carrying a multiple nail block 4 provided with a large number of nail apertures 6, so that a horse-shoe of nail holes of any desired dimensions, within certain limits, may be selected therefrom for use with a particular size of heel. A gang of drivers 8, one for each of the nail

apertures 6, is mounted in the lower end of a plunger 10. This plunger is reciprocated for driving nails, in the operation of attaching heels, by suitable mechanism indicated partly by a lever 12 fulcrumed at 14 in the cross head 2 and suitably connected to the plunger 10 and an operating rod 16. In the downward movement of the plunger 10 the lower ends of the drivers are brought to a position substantially flush with the lower face of the nail block. These parts all may be, and preferably are, substantially similar to those shown and described in the co-pending application of Thomas G. Plant heretofore referred to.

In order that the projecting nail heads on loaded heels may be readily inserted in the properly corresponding nail holes in the nail block 4, there has been provided a series of removable templets 18. Each templet has formed therein a horse-shoe of nail holes 20, etc., of different sizes, and so located that when any templet is superposed upon the nail block 4 its horse-shoe of holes will coincide with a similar and corresponding horse-shoe of holes in the great number of nail holes in the multiple nail block. A sufficient number of templets is provided to take care of all sizes and styles of heels to be operated upon by the machine.

The nail block 4 is provided at the rear of its exposed face with a pair of pins 22, slightly under-cut as shown in Fig. 6, and it also carries in its front face a pivotally mounted spring-pressed block 24 having a pin 26. Each templet is provided with a pair of holes 28 at its rear, and with an apertured lip 30 extending upwardly at its front. In placing any selected templet upon the nail block the holes 28 are first passed over the pins 22 and the lip 30 is then forced upwardly past the pin 26 which recedes against its spring and finally snaps into position through the aperture in the lip 30. The templet is thus held securely in operative position on the nail block. When a templet, having a series of nail holes corresponding in number and location to the nails in the heel which it is desired to attach, has been placed in position against the exposed face of the nail block, it is obvious that all nail apertures in said block, except the ones which it is desired to use, are covered. Therefore, when a templet has been so placed on the nail block it is a very easy matter for the operator, by the sense of touch alone, to place the nails projecting from a loaded heel through the nail holes in the templet and into the nail apertures in the nail block. In order further to assist the operator, however, in finding the nail holes with the nails projecting from the loaded heel, some of the nail holes in the templet have been countersunk, or provided with a sloping approach 32, as shown in

Figs. 3, 4 and 5. When the holes are so formed and the operator places a heel against the surface of the templet and moves it forward (in the direction of the arrows

5 Figs. 3 and 4), the nails projecting from the loaded heel are guided by the approaches 32 into engagement with the nail holes to which said approaches lead, and when these holes have been found by the nails in the heel the remaining holes are necessarily also found and the heel may then be easily slipped upwardly through the templet and into the nail apertures in the nail block.

10 In order to provide for the necessary pressure on the tread face of the heel outside of the horse-shoe of nails, as heretofore described as desirable, each of the templets 18 is provided with a raised surface 34 projecting above the level of the surface of the templet in which the nail holes 20 are formed. This raised portion 34 is preferably sloping, extending outwardly and also upwardly from the surface inclosed by the horse-shoe of nail holes, so that there is 20 formed substantially a cup-shaped depression in the acting face of each templet. The raised portion 34 extends closely around the perimeter of the selected horse-shoe of nail holes. Therefore, no matter what size of heel is being operated upon, this raised portion is always in the proper position relatively to the horse-shoe of nail holes in the nail block, at that time being used, to correctly and effectively impart the desired 30 added compression to the outer portion of the tread face of the heel and thereby level up the tread face of the heel as is desirable for the reasons heretofore pointed out. As is well known to those skilled in the art, when the heel attaching compression is relieved the portion of the heel outside of the series of attaching nails will expand, or spring back, somewhat, as there is no force to hold it under its full compression such, 40 for instance, as the clenched nails. This expansion will, of course, be greater at the extreme edge than at the line of nails. In order that the tread face of the heel may be level even after this varying expansion has taken place, the pressure placed on the heel should be greater at the extreme edge than farther in so that the excessive expansion at the edge may be compensated for. This is the purpose of the sloping form of the raised portion 34, above described, and shown most clearly by Fig. 5.

By means of this invention it is only necessary for the operator to make a simple interchange of templets 18 whenever he changes 60 the kind of heel upon which the machine is to operate, and after the interchange is effected the new heel may be as readily placed in operating position in the machine as was the old one, and also it is as effectively compressed as was the old one.

While the particulars of construction herein set forth are well suited to one form of the invention, it is not to be understood that these particulars are essential, since they may be variously modified within the 70 skill of the artisan, without departing from the true scope of the actual invention as defined by the following claims.

What is claimed as new is:

1. In a heeling machine, a cross head, a 75 multiple nail block secured thereto, driving devices for passing into the nail block, a templet provided with a series of nail holes selected from the holes in said nail block and so arranged that when superposed on 80 said nail block the series of holes in the templet coincide with the corresponding series in the nail block, and means for removably securing the templet upon the face of the nail block in position to contact with 85 the work as the nails are driven.

2. In a heeling machine, a multiple nail block, drivers for entering said block, and a removable templet having a horseshoe of nail holes so selected that when superposed 90 on the nail block the horseshoe of holes in the templet coincide with a similar horseshoe in the nail block, and having a raised surface projecting above the nail holes from that portion of the face of the templet in 95 which the nail holes are formed and shaped to extend closely around the perimeter of the selected horseshoe of nail holes.

3. As an article of manufacture a removable nail block templet for heeling machines 100 having a series of nail holes the approaches to some of said nail holes extending over and being countersunk with relation to the surface of the templet in which the holes are formed to engage nails on a loaded heel and 105 direct them to the nail holes in positioning a heel.

4. As an article of manufacture a removable nail block templet for heeling machines, having a series of nail holes, the approaches 110 to one or more of said nail holes being provided with guiding means to facilitate their location by the projecting nails of a loaded heel, the surface about the series of nail holes projecting beyond the level of the nail holes. 115

5. In a machine of the character described, the combination of a nail block provided with pins 22 and a spring catch 24, in combination with a removable templet having a horseshoe of nail holes to correspond to like 120 holes in the nail block, said templet having holes 28 to engage the pins 22 and a lip 30.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

GEORGE F. STEWART.

Witnesses:

WILLIAM C. STEWART.
REDFIELD H. ALLEN.