E. J. MILLER.

NAIL HOLDING AND SPACING DEVICE.

APPLICATION FILED OCT. 5, 1920.

1,378,550. Patented May 17, 1921.

FIG. 1

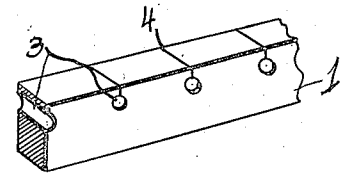
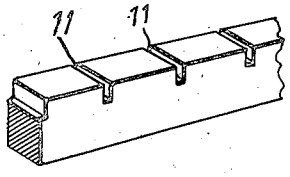
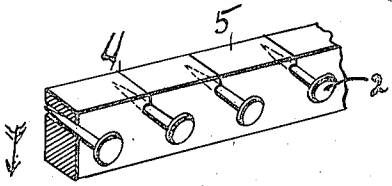


FIG. 3





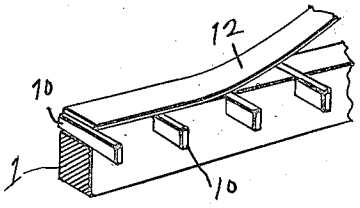


FIG. 2

FIG. 4

FIG. 5

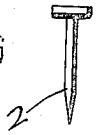




FIG. 6

FIG. 7

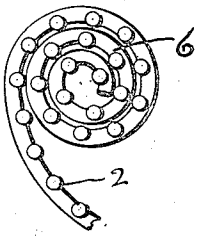
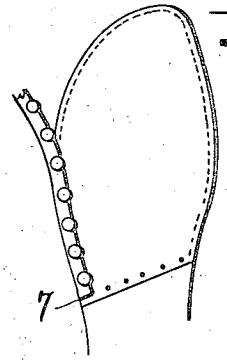


FIG. 8



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UNITED STATES PATENT OFFICE.

ELI J. MILLER, OF YORK, PENNSYLVANIA.

NAIL HOLDING AND SPACING DEVICE.

1,378,550. Specification of Letters Patent. Patented May 17, 1921.

Application filed October 5, 1920. Serial No. 414,903.

To all whom it may concern:

Be it known that I, ELI J. MILLER, a citizen of the United States, residing at York, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Nail Holding and Spacing Devices, of which the following is a specification.

My invention relates to articles of manufacture whereby a row of nails may be temporarily held suitably and regularly spaced, for starting, whereupon the holding means may be detached, and the nails driven home.

My invention is particularly adapted for holding rows of nails in connection with the shoemaker's art. This is particularly true, and my invention is particularly useful in connection with the half soling and heeling of boots and shoes, although, of course, it may be used in making new shoes. In half soling and heeling shoes the soles are frequently made to keep their position by driving a row of nails along the outer edge. In effecting this operation the workman, in ordinary practice, picks up the nails one by one and holds them between his fingers while he starts them with the tap of the hammer and then drives them home. Sometimes the starting hole is produced by the perforation of an awl.

My invention is designed to obviate the loss of time and labor involved in picking up the brads or nails one by one, starting them one by one, and also removes the difficulty of holding such small objects in true position, and also the difficulty of seeing that they are in true position.

In the drawing I have shown in—

Figure 1 a view of my strip for holding nails.

Fig. 2 the same strip with a series of nails held in place.

Fig. 3 a view of the strip of slightly modified form.

Fig. 4 is a view of the same strip with the nails in place.

Fig. 5 is an outline view of one of my nails.

Fig. 6 is an outline view of another.

Fig. 7 shows one of my strips with the nails therein coiled in a package; and

Fig. 8 is the outline of the shoe sole showing the method of application.

1 is the strip of rubber or other similar flexible material having a rubber-like or gripping quality, of substantial thickness, that is of a thickness sufficient to hold in firm position the nails 2 used in attaching the sole to the bottom of a shoe; and this strip is provided along one face with a series of vertical or inclined recesses 3 molded or otherwise made in the strip, and each of these recesses is connected by a kerf or slit 4 to the near face 5 of the strip, so that when the strip is moved in the direction indicated by the arrow away from the driven nails the latter will be stripped therefrom, the shank of the nail escaping through said kerf or slit.

The kerfs or slits 4 leading to the recesses 3 may be straight, inclined, angled or curved and may lead directly to the recesses and be perpendicular to the face 5 or they may be oblique or inclined relative to the face 5.

Of course, other substances having physical properties like those of rubber, may be employed, the special need being that they can grip the nails, and I wish to be understood as using the words "rubber" and "rubber-like" with the significance here indicated.

I show in Fig. 2 the head of the nails 2 in the strip. It will be seen that part of the shank and head are left extending above the strip while the pointed ends or points of the nails are about even with the other or bottom face of the strip. These strips are made in vulcanizing molds, or in any other suitable way, and the nails are placed in them by hand or any other suitable means. The nails should fit the holes tightly, of course, so that there is some slight distortion of the rubber or other equivalent material—the material being pushed aside to some extent, perhaps an infinitesimal degree.

These strips are then coiled as shown in Fig. 7, and preferably the coils should be made so that the face whereon the slits and recesses are, are on the inside of the coil. This will aid in pinching the rubber a little more tightly about the nails, the outside being subjected to stretching by the shoe-

maker or bench workman. This coil or bundle of strips of tacks or nails I have marked in the drawing with the number 6.

In using the device as shown in Fig. 8, the workman grasps the coil 6 or the strip containing a series of nails in his left hand, say, with the kerfs arranged preferably toward the right. Starting then at any suitable point in the sole, say the lower left-hand corner 7, as marked on Fig. 8, the workman preferably makes a hole with an awl, and in this hole he places the first nail 2 of the series. He then, with his left hand, holds the strip in place around the edge of the sole of the shoe and taps with the hammer along the heads of the nails and follows the outline of the shoe until he gets around to the starting point, or as near to that point as he cares to go. He may do this also around the heel or heel part.

After the nails are started and firmly attached to the sole, and after they have been driven through the sole in part, the workman divides the strip where the work ends. He now has a row of partly driven nails all around near the edge of the sole. These nails are held in a strip of rubber or other suitable material, one hole to each nail, and connected with each of these holes is a kerf or slit 4 before mentioned.

The workman may now seize one end of the strip and tear it off or remove it from the nails by an outward pull, since the rubber or other material will open at each of these slits and allow the shank of the nail to pass through. After this is done the workman simply drives the nails home all around the shoe and the job is completed so far as the nailing is concerned.

In Figs. 3, 4 and 6 I have shown the same strip provided with recesses for the cut nails 10 shown in Fig. 6 of pyramidal or prismatic shape. These nails are seated in the comparatively square recesses 11, and are held in place by a strip of paper or cloth 12, glued or cemented in position, thus holding the nails 10, as shown, beneath the paper. This strip is also coiled into a package 6. The paper or other material used should preferably be of a flimsy fragile character, so that the strip 1 may be easily removed from the attached nails 10.

It will thus be seen that I have invented an article of manufacture extremely useful in the matter of saving time of the workman, well adapted to use by comparatively unskilled persons, one which regularly spaces the nails all around the sole of a shoe, and one which affords facilities for handling nails in large numbers rather than individually, as has been customary heretofore. I have specified rubber as the material which I have regarded most suitable, but I reserve the right to use any suitable material of flexible or elastic nature, and I have shown the device in connection with nails of various kinds.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a nail-holding and spacing device, a strip of flexible elastic rubber-like material of substantial thickness and width provided with recesses along one face, said recesses communicating with said face, said recesses being spaced at suitable intervals, the walls of said recesses being adapted to be slightly distorted when the nails are inserted so that they grip the nails securely and yet permit the strip to be withdrawn from the started nails.

2. As a new article of manufacture, a nail-holding and spacing strip consisting of a strip of rubber of width and thickness suitable for holding nails, said strip provided with recesses along one edge and communicating with a face of the strip, and nails arranged in said recesses.

3. As a new article of manufacture, a nail-holding and spacing strip consisting of a strip of rubber of width and thickness suitable for holding nails, said strip having recesses, each of dimensions suitable to hold a nail, extending through the strip, and being open to a face of the strip whereby said strip may be withdrawn sidewise from a row of started nails driven partly into the material to be nailed.

4. As a new article of manufacture, a strip of flexible rubber-like material provided with a row of pockets near one edge, said pockets leading to said edge and a nail held by the grip of the material in each of said pockets, the pointed ends of said nails being near one face of the strip and the heads extending beyond the opposite face of the strip, whereby a row of nails may be started, the strip then detached from the started nails and the nails then driven home.

5. As a new article of manufacture, a package consisting of a coiled strip of flexible elastic rubber-like material provided with a series of regularly spaced pockets, nails held in said pockets by the grip of the material, the heads of the nails extending beyond the strip, the construction being such that after the nails have been started and partly driven home the strip may be removed from the started nails, and the nails driven home.

6. As a new article of manufacture, a strip of thick rubber provided with a row of regularly spaced holes extending through the rubber, the material between each hole and a face of the strip being divided to permit the passage of a nail, a nail in each of said holes, with its pointed end near the bottom of the hole and its head extending above

the hole, and said strip being made into a package.

7. A strip of substantially continuous flexible rubber-like material provided with recesses along one edge, nails fitting snugly and held by the grip of the flexible material in said recesses arranged with one face coincident substantially with the said face of the flexible strip, said recesses being spaced apart at nail using distances substantially, and a strip of paper pasted along said face and over said nails.

In testimony whereof I affix my signature.

ELI J. MILLER.