(No Model.)

W. H. BROCK.

NAIL STRIP.

No. 294,111. Patented Feb. 26, 1884.

Fig. 1.

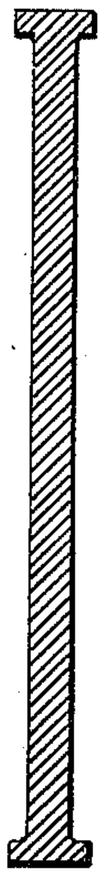

Fig. 2.

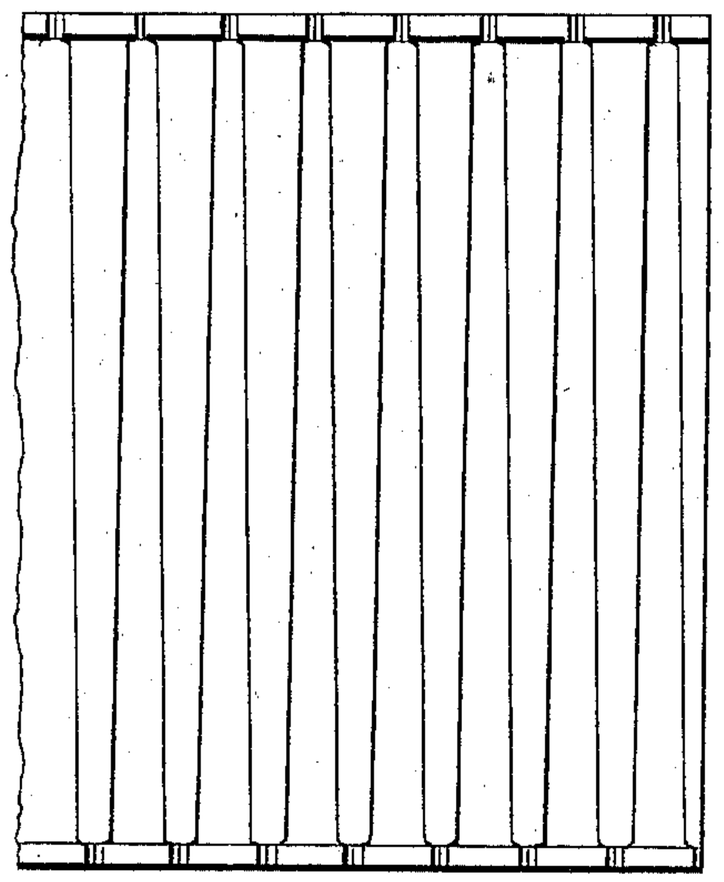

Fig. 5.

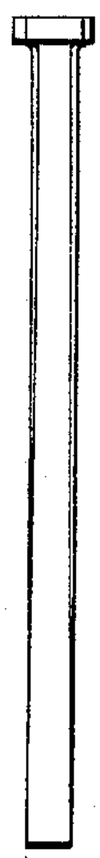

Fig. 3.

Fig. 4.

Witnesses:

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Inventor.

William H. Brock.

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Atty.

UNITED STATES PATENT OFFICE.

WILLIAM H. BROCK, OF CORONA, NEW YORK.

NAIL-STRIP.

SPECIFICATION forming part of Letters Patent No. 294,111, dated February 26, 1884.

Application filed September 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BROCK, a citizen of the United States, residing at Corona, in the township of Newtown, in the county of Queens and State of New York, have invented a new and useful Nail-Strip for the Supply of Nails in the Nailing of Boxes, a description of which is herein so clearly, exactly, and fully presented as to enable any one properly skilled therein, by reference to the following specification and annexed drawings, to construct and use the same.

The object of my invention is to produce a nail-strip of such unique and peculiar structure that the single nail, whatever be its size and strength, may be automatically severed therefrom, one after another, by the cutter of the machine feeding the strip; and, secondly, that the single nail thus produced shall have its head flat-topped, with lateral extension of uniform depth, and equidistant from and forming a right angle with each of the four sides of its shank, its entering end square or blunted, with the opposite interior sides of its shank slightly tapering downward, the whole similar in all respects to and having every requisite of the regular hand-driven nail used in the nailing of boxes.

Letters Patent No. 285,729 have already been duly issued to me by the United States Patent Office, dated September 25, 1883, for my invention of a machine which uses the nail-strip in the nailing of boxes, and in the specification of which patent reference was then made to this my present nail-strip device as having the definite individual structure necessary for the supply of a single nail exactly adapted to box-nailing.

Figure 1 is a view in transverse section of the metal as finally prepared, out of which two of my nail-strips are formed. Fig. 2 is a plan view of the same sheet of metal, showing the two nail-strips after being cut therefrom and before their separation. Fig. 3 is an oblique view of either nail-strip after separation from the other, showing the head-piece as partly severed by indentations made in its sides, along the exact lines, for contact with the cutter of the machine which feeds it, while Figs. 4 and 5 show, respectively, front and side views of a single nail after severance from the nail-strip.

For making my particular nail-strip, I first cause to be rolled into an **I**-shaped plate or sheet, as viewed in cross-section, Fig. 1, an ordinary bar of metal, so that when thus treated the body of the sheet shall be of the uniform thickness requisite for the desired size of nail to be produced, while the two head-bands at the top and bottom, respectively, of the sheet project laterally from both of its sides, at right angles thereto, to a distance and having a thickness sufficient to form for each nail, when severed from the nail-strip, a head of like structure and size to that of the regular nail used in box-nailing. Having given to the sheet or plate of metal the peculiar structure described, I next cause to be cut or partly severed, by means of a dye or other effective agency, each of the two head-bands of the plate, so as to form indentations, as at *a* and *b*, in both of the sides of each, as shown in Fig. 3, and so that the indentations thus formed upon one side of a head-band shall have corresponding and opposite ones upon its other side, while both are in the exact line of division requisite for the formation of a single nail having a perfect head, and for the application of the cutting-instrument of the machine into which the nail-strip is fed.

By this novel construction of my nail-strip, whereby the mass of metal left in the strip to be severed by the cutter is invariably reduced by the requisite varying depths of the indentations to the limits of the strength of the machine and capacity of the cutter, it is always feasible to operate the nail-strip, whatever be its thickness and bulk, and thus to supply a nail of any desired strength and size exactly proportionate to the size of box to be nailed, from the smaller to the greater. It is thus readily apparent that this peculiar provision in the structure of my nail-strip is not only in every case ancillary to performance of the function of the cutter, but is in general, owing to the impracticability of otherwise automatically severing the nail of the usual size common in box-nailing, an absolute necessity and prerequisite. This important feature I claim is new, and has never before been known or used.

Simultaneously with the indentations or act of partly severing the head-bands, and by the

same agency, the whole plate of metal is cut into two equal parts, so that after the cutting, and before the separation of the two parts one from the other, the entire sheet presents the appearance shown in Fig. 2, and thereafter consists of the two head pieces or bands, each of which, throughout its length, is still continuous and, saving the indentations along its sides, intact, while the body or residue of the sheet is divided into two distinct series or sets of nail-shanks, each of which sets intro-projects from its opposite respective head-piece, so as to interlie in close alternate contact one with the other. Thus at one and the same time do I obtain two complete and similarly-fashioned nail-strips, each in readiness for use in the machine, while likewise utilizing every part of the sheet, so as to leave no waste or scraps whatever.

The fabrication of two individual nail-strips by one and the same act from one and the same sheet, and without loss of material in cutting, has never before been effected, but was unknown and wholly impracticable, for the substantial reason that previous to my invention of a machine using the nail-strip in the nailing of boxes the strip had been limited to use in pegging boots and shoes, wherein a pointed nail or tack alone being required, the single sheet of metal from which the strip is produced must of necessity conform in shape, and hence, while fashioned to yield at one end a single head-piece, taper thence down to an edge at the other and opposite end.

Each of the two nail-strips, when cut as above described, forms a single sheet or plate of metal, and, separated from the other, is of a form as shown in Fig. 3; and as the particular object of the invention is the production of a nail-strip such that the single nail, when automatically severed, shall have the characteristics of the regular hand-driven nail used for box-nailing, it is requisite that the head-piece of the nail-strip, throughout its horizontal extension, should have for its top C a smooth, level surface, Fig. 3, and be likewise uniform in depth, as well as in width, Fig. 1, so that a single nail, when cut from the body-strip, shall have an even, flat head of the proper thickness, as shown in Figs. 4 and 5, rectangular in form, as viewed in section, and projecting laterally at right angles to and equidistant from the respective four sides of its shank.

While the interior opposite sides of the shanks of my nail-strip are slightly, though perceptibly, tapering in form from the head downward, Fig. 2, the two exterior sides of the shanks remain parallel to each other throughout their length, thus preserving to the single nail taken therefrom the necessary binding and tractive power of the regular nail for box-nailing.

The lower or entering end of the shanks of each of the nail-strips, cut out as hereinbefore described, are squared or blunted in finish, as shown in Figs. 2 and 3, so that the same seen in section at their very extremities, equally with any other portion of the shanks, are rectangular.

Thus have I succeeded in making a nail-strip for practical use in the nailing of boxes having such novelty in structure that the single nail, when severed therefrom, shall be exactly similar to and have incorporated within it each and every feature of the ordinary nail classed and known as "ten-penny," "six-penny," "four-penny," &c., in common use and alone practicable for the object intended.

I do not claim the lasting nail-blank device patented July 7, 1874, under No. 152,735, W. E. Fischer inventor, nor any mere tack blank or strip whatever hitherto devised or patented; but

What I do claim as my invention is—

A nail-strip for box-nailing having such structure that its head-piece is partly severed by the indentations *a* and *b*, made in its sides, and that the single nail mechanically cut therefrom has its head, shank, and entering end identical with the corresponding parts of the regular nail in common use for the nailing of boxes, all substantially as and for the purposes herein shown and described.

WILLIAM H. BROCK.

Witnesses:

WHIPPLE O. SAYLES,

ALEXANDER H. WRIGHT.