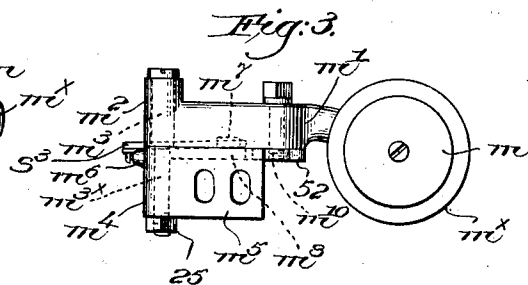
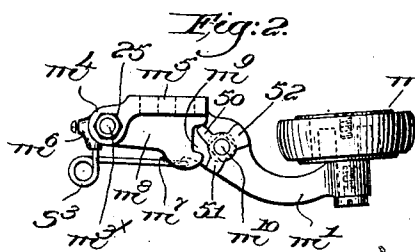
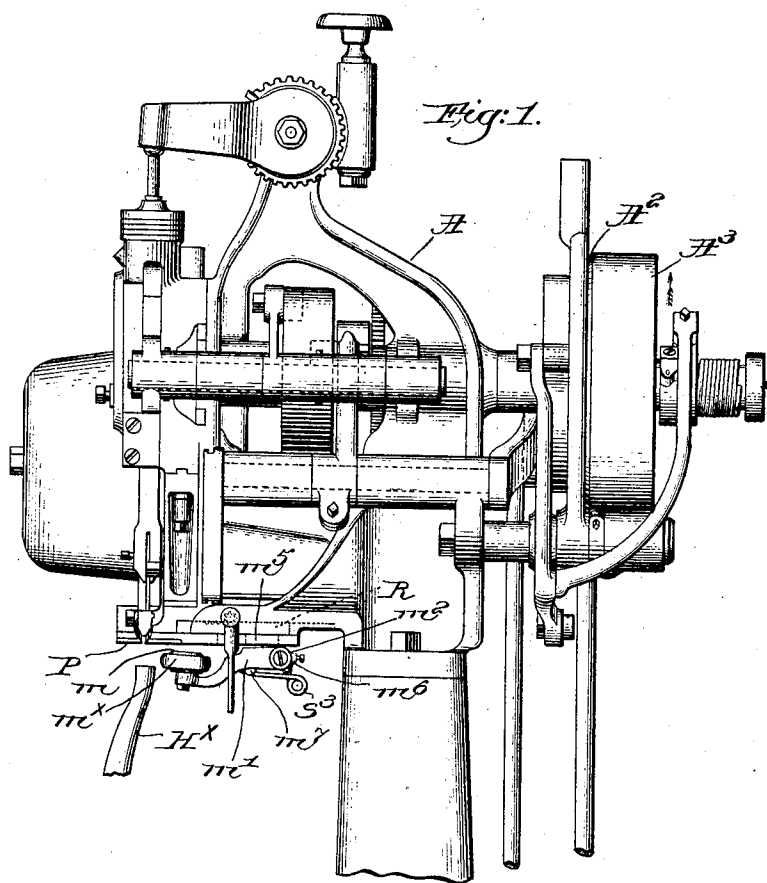


No. 865,329.

PATENTED SEPT. 3, 1907.

L. A. CASGRAIN.
WORK GAGE FOR NAILING MACHINES.

APPLICATION FILED AUG. 18, 1902.



Witnesses,
Edward H. Allen.
W. C. Sunsforg.

Inventor:
Louis A. Casgrain,
by Crosby Gregory.
attys

UNITED STATES PATENT OFFICE.

LOUIS A. CASGRAIN, OF WINCHESTER, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF NEW JERSEY.

WORK-GAGE FOR NAILING-MACHINES.

No. 865,329.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Original application filed August 4, 1898, Serial No. 687,682. Divided and this application filed August 18, 1902. Serial No. 120,044.

To all whom it may concern:

Be it known that I, LOUIS A. CASGRAIN, a citizen of the United States, residing at Winchester, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Work-Gages for Nailing-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 a novel work-gage more particularly designed for use in connection with apparatus for inserting fastenings into boots and shoes in the manufacture thereof.

During the operation of inserting the fastenings into the work the latter is held upon a work-support or horn, and a gage is usually employed to assist the workman in guiding the work as it is turned upon the work-support and fed to present different portions to the fastening inserting mechanism.

The work-gage forming the subject matter of my present invention is constructed and arranged to engage, preferably, the upper of the boot or shoe near the sole.

The gage is especially intended for machines used for heel seat nailing. The heel seat portion of the sole extends for an irregular distance beyond the counter portion of the upper so that it is impracticable to use in heel seat nailing machines a gage arranged to contact with the edge of the sole, as the use of such a gage would result in an irregular placing of the nails and frequently in the driving of the nails entirely outside of the counter portion of the upper. While, however, the gage is especially intended for use in heel seat nailing, it is obviously well adapted for use in any kind of work in which the same conditions exist, that is, where it is impracticable to guide the shoe by the edge of the sole and therefore preferable to guide it by a gage which contacts with the upper. This form of gage is also frequently preferable in machines in which the horn is periodically depressed to allow the work to be fed. In machines used for heel seat nailing or for attaching soles, it is necessary, in using a gage which contacts with the edge of the sole, to have it so thin that there is danger that when the horn is depressed the sole will get away from the gage and not get properly into place again when the horn again rises. I have provided the gage with a work-engaging member, preferably rotatable, and have made provision for permitting the gage to move up and down with the work as the latter follows the up and down movement of the horn or work-support, with the extending heel seat portion of the sole resting continuously on the top of the gage, thereby preventing any abrasion or rubbing of the upper while in contact with the gage. Adjustable means are pro-

vided for regulating the up and down movement of the gage in accordance with the movement of the horn and the character of the work.

This work-gage is shown in operative connection with a machine for inserting metallic fastenings in my application Se. No. 687,682, for nailing machine, filed August 4, 1898, from which application the present application is a division.

Figure 1 is a right hand side elevation of the head of a nailing machine, with one embodiment of my present invention shown in operative connection therewith, the machine being at rest; Fig. 2 is an enlarged view in side elevation, of the work-gage and its supporting bracket, the view being taken from the side opposite to that shown in Fig. 1, and Fig. 3 is a top or plan view, also enlarged, of the work-gage and its supporting bracket.

Referring to the drawing, Fig. 1, A represents part of the head of a machine for inserting fastenings, provided with cooperating clutch members A^2 , A^3 , means for inserting fastenings in the work, and a presser P, all substantially as shown and described in United States Patent No. 310,816, dated January 13, 1885, the upper end of a work-support or horn H^X being shown in Fig. 1.

The work-gage is herein shown as comprising a work-engaging member in the form of a roll m preferably having a peripheral covering m^X of some soft or yielding material such as felt, rubber, etc., and slightly convexed axially, see Fig. 2.

A plate or bracket m^5 for sustaining the work-gage is adapted to be secured to the usual gage carrier R, see Fig. 1. The gage carrier is adjustable to vary the distance between the gage and the driver of the machine to determine the distance from the edge of work at which the nail or other fastening is to be inserted. The bracket m^5 has a tubular bearing m^4 , Figs. 2 and 3, through which is extended the reduced portion m^{3X} of a shouldered bolt m^3 . The body portion of the bolt passes through a hub m^2 of an arm m' , on the outer end of which the work-engaging member m is rotatably mounted. A nut 25 on the reduced portion m^{3X} of the bolt holds the latter rigidly in place in the bearing m^4 of the bracket, the arm m' having a rocking movement upon the bolt as a fulcrum. One end of a spring s^2 is held in a housing m^6 on the bracket, Fig. 2, and the other end of the spring extends beneath a lug m^7 on the arm m' , the spring normally acting to elevate the arm and the roll m thereupon.

As shown clearly in Fig. 2 the bracket m^5 has a depending portion or web m^8 provided in its upright edge with a recess or notch m^9 , adapted to receive one

or the other of a series of different sized stops 50, 51, 52. I have herein shown these stops as radially arranged ears of different width connected by a combined clamping and supporting bolt m^{10} with the side of the arm m' adjacent the web m^8 , the width of the largest ear 52 being slightly less than the length of the notch m^9 . The narrowest ear 50 of the series is, in Fig. 2, shown projecting into the said notch and engaging one of the shoulders formed by the ends of the notch, so that the maximum vibratory movement of the arm m' in a vertical path is permitted, and when the apparatus is thus adjusted the roll m is permitted to have its greatest rising and falling movement. The ear 51 is a little wider than the ear 50, and when placed within the notch permits less movement of the arm m' and the roll, while the ear 52 is so wide that a very slight play is allowed between the stop and ends of the notch and only the minimum vibration of the work gage is permitted.

20 The spring s^3 is purposely made light, its strength being sufficient to retain the work-gage in operative position without opposing any material obstacle to the movement of the gage with the work as the latter follows the up and down movement of the horn.

25 By rotatably mounting the work-engaging member of the gage and permitting it to move up and down, as described, the contacting part of the upper of the boot or shoe is not rubbed, abraded or otherwise injured, while a laterally firm gage is provided for the work during the manipulation thereof by the operator.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A work-gage comprising a yieldingly-controlled work-engaging member adapted to guide the work and movable in a vertical path, and adjustable means to positively regulate such movement in both directions.
2. A work-gage comprising a spring-controlled support movable in a vertical path, a work-engaging member mounted on the support, and adjustable means to regulate the amplitude of vertical movement of the latter.
3. In a mechanism for inserting fastenings, a presser, a yieldingly mounted support adjacent thereto and movable in a vertical path relatively to said presser, a work-engaging member on said support, and adjustable means to posi-

tively regulate the extent of movement of the latter in both directions.

4. In a mechanism for inserting fasteners, a presser, a bracket adjacent thereto, a spring-controlled arm pivotally mounted on the bracket and vertically movable relatively to said presser, a rotatable work-engaging member on the arm, and means to adjustably limit the movement of the arm.

5. In a mechanism for inserting fastenings, a yieldingly controlled work-engaging member, sustaining means therefor, a plurality of different sized stops movably mounted on one of said parts, and means on the other of said parts constructed and arranged to engage said stops singly to limit the movement of said work-engaging member.

6. In a mechanism for inserting fastenings, a bracket, a yieldingly controlled arm connected therewith, one of said parts having a recess, a plurality of different sized stops movably mounted on the other of said parts to enter singly said recess to limit the movement of said arm, and a work-engaging member carried by said arm.

7. In a mechanism for inserting fastenings, a bracket, a spring-controlled arm pivotally mounted on the bracket, a plurality of connected stops of different width movably mounted on one of said parts to enter singly a notch in the other, to limit the movement of the arm, one of said parts having a notch, and a rotatable work-engaging member carried by the arm.

8. A work-gage comprising a bracket, a spring-controlled arm pivotally connected therewith, a plurality of connected stops of different width movably mounted on one, to cooperate singly with a notch in the other, of said members, to adjustably limit swinging movement of the arm, one of said members having a notch, and a work-engaging member carried by the arm.

9. A work-gage comprising a bracket, a spring-controlled arm pivotally connected therewith, a plurality of connected, radial stops of different width rotatably mounted on one of said members, to cooperate singly with a notch in the other member, to adjustably limit swinging movement of the arm, one of said members having a notch, means to retain the stops in adjustment, and a rotatable work-engaging member carried by the arm.

10. A work-gage comprising a yieldingly controlled work-engaging member mounted to have movement in a vertical path only, and adjustable means to regulate the amplitude of such movement.

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

LOUIS A. CASGRAIN.

Witnesses:

JOHN C. EDWARDS,
EMILY C. HODGES.