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MACHINE FOR APPLYING BOX FASTENERS.

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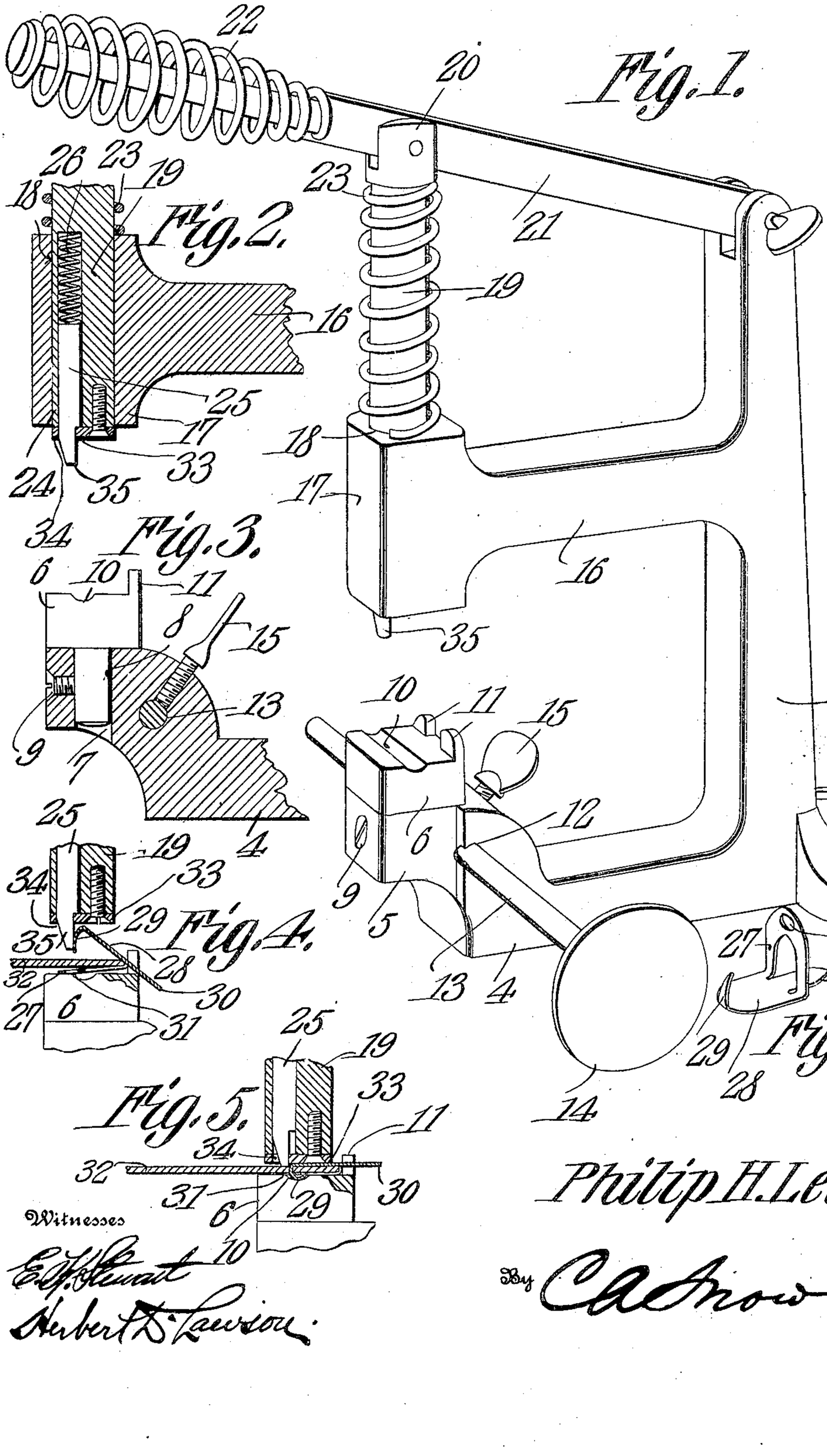

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Witnesses

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MACHINE FOR APPLYING BOX-FASTENERS.

934,738. Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed March 22, 1909. Serial No. 484,847.

To all whom it may concern:

Be it known that I, PHILIP H. LETTRÉ, a citizen of the United States, residing at Attleboro Falls, in the county of Bristol and State of Massachusetts, have invented a new and useful Means for Applying Box-Fasteners, of which the following is a specification.

This invention relates to machines for securing fasteners of that type disclosed in Patent No. 791,198, granted to me on May 30th, 1905.

The object of the invention is to provide a simple form of machine of this character by means of which the fastener can be properly held while being applied to a cardboard box or the like, simple means being utilized whereby the prong of the fastener is caused to bend in the desired direction during the clamping operation.

A further object is to provide a machine of this class which can be readily attached to a desk or table or other supporting structure and which is provided with a gage of novel form for holding the boxes and the like in proper positions with relation to the clamping members of the device.

With these and other objects in view the invention consists in certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a perspective view of a machine embodying the present improvements. Fig. 2 is a longitudinal section through the plunger and its supporting arm. Fig. 3 is a vertical section through the lower supporting arm of the machine, showing the die therein in elevation. Fig. 4 is a view, partly in elevation and partly in section, of the plunger and die, the same being shown in the positions assumed by them immediately prior to the clamping action. Fig. 5 is a similar view showing the positions of the parts with the fastener clamped therebetween. Fig. 6 is a perspective view of one of the fasteners.

Referring to the figures by characters of reference 1 designates a standard having an ear 2 extending from the bottom portion thereof and constituting a base, this ear being provided with a series of apertures 3 for the reception of screws or other securing devices. A lower arm 4 extends from the lower end of the standard 1 and has its free end upturned as indicated at 5 so as to constitute a seat for a die 6. An opening 7 extends vertically through this upwardly extending portion of the arm and receives the stem 8 of the die 6, said stem being secured in position in any preferred manner, as by means of a set screw 9. The upper face of the die is provided with a transverse groove 10 concaved transversely, and upstanding from the inner edge of the die are spaced ears 11. An opening 12 extends transversely through the upstanding portion 5 of the lower arm, and this opening is designed to receive a spindle 13 having a disk 14 at one end. Said disk and spindle constitute a gage for the purpose of holding boxes and the like in proper position upon the die, and the spindle is designed to be secured in any position to which it may be adjusted by means of a set screw 15.

Extending from the standard 1 and above the arm 4 is an arm 16 having a head 17 at its free end through which extends a guide opening 18. A cylindrical plunger 19 is mounted to reciprocate within this opening, the upper end of the plunger being forked as indicated at 20 and pivotally connected to a lever 21. This lever is mounted at one end upon the upper end of the standard 1, while its other end is provided with a handle 22. A spring 23 extends around the plunger 19 and bears at its ends against the head 17 and the forked end 20 of the plunger respectively, thus serving to hold the plunger normally elevated. The upward movement of the plunger 19 is designed to be limited by the inner end of the slot in fork 20 of said plunger moving against the lever 21.

Arranged eccentrically within the lower end of the plunger 19 is a bore 24, in which is slidably mounted a rod 25, there being a coil spring 26 interposed between this rod and the inner end of the bore so as to hold the rod normally projected below the plunger 19. A disk 33 is secured upon the end of the plunger and has a substantially semi-circular opening 34 therein for the reception of a guide finger 35 tapered downwardly toward its free end and having one flat face. The flat face of this finger is disposed in a plane extending through the outer

longitudinal edge portion of the groove 10 as will be clearly apparent by referring to Figs. 4 and 5 of the drawing.

The fastener to be used in connection with this machine has been shown in detail in Fig. 6. This fastener is of the type disclosed in my patent hereinbefore mentioned and consists of a U-shaped member 27, formed at one end of an imperforate member 28, said imperforate member having a prong 29 at one end thereof and slightly curved in the direction of the U-shaped member 27, while a tongue 30 extends from the other end of the imperforate member 28, and under and beyond the member 27. An opening 31 is formed in said U-shaped member at such a point that when the two members 27 and 28 are pressed together the prong 29 will enter the opening 31 and can be looped about that portion of the member 27 interposed between the opening 31 and the inner edge of the member 27.

In using the device herein described the edge of the card-board box or the like to which the fastener is to be secured is placed between the members 27 and 28 of the clip and said members pressed slightly toward each other so that the point of the prong will not contact with the inserted card-board, which is indicated at 32. The fastener is then placed upon the die 6 and with the member 27 lowermost while the tongue 30 extends between the ears 11 and is held against lateral displacement thereby. The card-board is then inserted between the members 27 and 28 as indicated in Fig. 4, and the plunger 19 forced downwardly by means of the lever 21. The finger 35 will move against the convex face of the prong 29 as shown in Fig. 4 and will finally come into contact with the card-board 32, the plunger 19 following the finger and pushing the prong 29 through the card-board and into the groove 10. Before the prong enters the groove it must first pass through the opening 31 in the member 27 and when it comes into contact with the curved bottom of the groove said bottom will curl the prong upwardly around the inner edge of the member 27 and press the points of the prong into the card-board as shown in Fig. 5. During the clamping action of the plunger 19 the finger 35 moves back into the bore 24 and the edge of the card-board will of course rest within the fold of the fastener and the tongue 30 will thus project beyond the edge and, if the fastener is attached to the edge portion of the wall of the card-board box this tongue 30 can be pushed through the cover of the box and by folding it or bending it inwardly it will operate to securely fasten the cover in place.

It is of course to be understood that after a box or the like has been properly marked to indicate the position where the fastener is to be placed the gage disk 14 is adjusted there-against and secured by means of set screw 15. This gage can subsequently be used for indicating the proper points at which additional boxes etc., are to be placed upon the die.

Obviously various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:—

A machine for applying box-fasteners and the like, comprising connected upper and lower arms, a stationary clamping member removably mounted upon the lower arm and having a deflecting surface, a spring-supported clamping member movably mounted within the upper arm and having an eccentric longitudinal bore, an apertured disk removably connected to one end of said member, a spring pressed element slidably mounted within the bore and normally bearing against said disk, a guiding finger extending from said element and through the disk, and an actuating device connected to the clamping member for successively moving the finger and disk into contact with the stationary clamping member.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

PHILIP H. LETTRÉ.

Witnesses:

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JOHN CHAS. A. DIEBEL.