March 13, 1951 K. F. MORBERG 2,545,372

MAGAZINE CLOSURE FOR TACKING MACHINES

Filed Dec. 21, 1946

Fig. 1

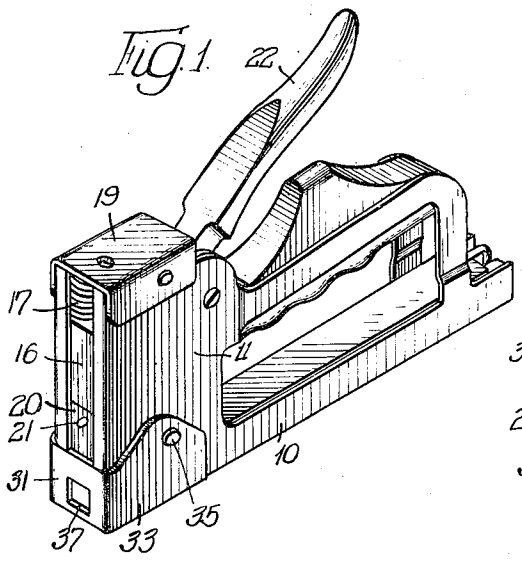


Fig. 3

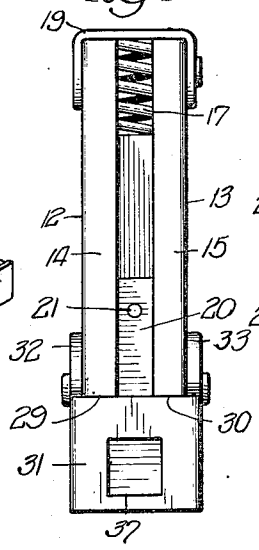


Fig. 4

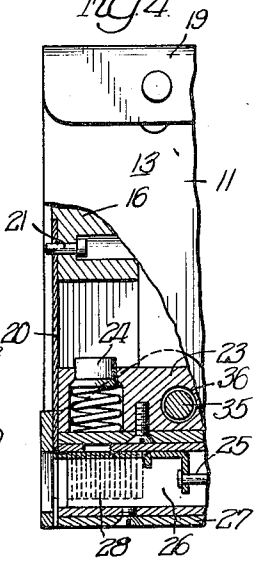


Fig. 5

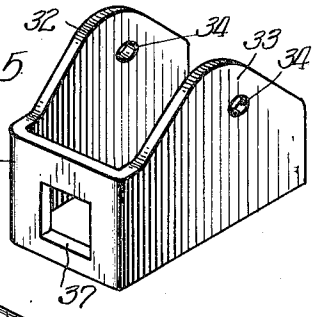


Fig. 2

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MAGAZINE CLOSURE FOR TACKING MACHINES

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3 Claims. (Cl. 1—49)

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My invention is concerned with improvements in a tacker or staple driving device of the type employing U-shaped staples.

Fastener or staple driving devices of the general type which include a vertical reciprocating staple driving blade and a staple feeding mechanism for positioning the staples in driving position beneath the blade frequently become jammed or clogged due to the staples being too large or too small or of incorrect form to be properly positioned for driving in the guideway beneath the driving blade. In order to remove the jammed staple and clear the device for subsequent operations, it is generally necessary to disassemble at least a portion of the mechanism.

The object of my invention is to provide in a fastener driving device improved means for effecting quick and easy removal of a jammed or damaged staple without any disassembly of the staple driving mechanism.

Other objects and advantages of my invention will be apparent to those skilled in the art from a description of the preferred embodiment of my invention which is shown by way of illustration in the accompanying drawings, wherein:

Fig. 1 is a perspective view of a fastener driving device embodying the principles of my invention;

Fig. 2 is a side elevation of the device, to an enlarged scale, with portions broken away;

Fig. 3 is a front end elevation of the device;

Fig. 4 is a side elevation of the front portion of the device with parts broken away; and

Fig. 5 is a perspective view of a removable front wall section of the device.

My invention is applicable to all kinds of fastener driving devices such as stapling machines, compression tackers, magazine hammers, etc., and I have illustrated only one application thereof. For convenience, I have shown my invention embodied in a tacker used for driving U-shaped staples into wood, cardboard or other surfaces. A tacker of this type is shown and described in my copending application Serial No. 626,675, filed November 5, 1945, to which reference is made for a detailed description of those features which it is not deemed necessary to describe in detail in this application.

The tacker comprises a generally U-shaped frame 10 having a forward chamber or driving head 11 formed by the spaced vertical frame side plates 12 and 13. The forward ends of side plates 12 and 13 are turned inwardly at 14 and 15 to form part of the front face of the tacker and the forward side of a guideway for the driving

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plunger 16. The driving plunger 16 is vertically reciprocal in the guideway formed in the forward portion of the head 11.

The driving plunger 16 is actuated by a compression spring 17 which is seated in a recess 18 in the top of the plunger 16 and extends to the cap 19 at the top of the guideway. A staple driving plate or blade 20 is secured to the front of the plunger 16 by a pin 21.

The driving plunger 16 is elevated to compress the spring 17 and then released for the driving stroke by pivotal operation of a lever or handle 22 and a trip mechanism (not shown) within the driving head 11 which cooperates therewith.

A bumper block 23 is secured immediately beneath the driving plunger 16 and a shock-absorbing bumper mechanism 24 is provided in the forward portion thereof for engagement with the lower end of the driving plunger 16 to cushion the shock at the end of the driving stroke.

A staple supply and delivery mechanism 25 is arranged beneath the bumper block 23 in the horizontal chamber or magazine 26 formed by side frame members 12, 13 and bottom frame member 27. The chamber 26 extends rearwardly from the driving head 11 and the staple delivery mechanism 25 is removable at the rear to reload the mechanism with a supply of staples 28.

The front flanges 14 and 15 are cut away at their lower portions, terminating at 29 and 30 (Fig. 3). A removable front wall section 31 is provided which forms the lower front portion of the guideway for the staple driving blade 20. The front wall section or member 31 (Fig. 5) is provided with rearwardly extending side flanges 32 and 33 which are adapted to embrace the lower portions of side walls 12, 13 of the head 11. The flanges 32 and 33 are provided with aligned apertures 34 for receiving a removable locking pin 35 to secure the member 31 in locked position on the front of the head portion 11. The locking pin 35 is retained in a recess 36 which is formed by aligned apertures in the bumper block 23 and the frame side walls 12 and 13, the locking pin being held therein so that it may be removed by a force driving it in an axial direction.

The front wall member 31 is provided with an aperture 37 which (Figs. 2 and 4) is in alignment with the forward delivery end of the staple supply chamber 26. The aperture 37 is narrower than the width of the staple being used so that the legs of the first staple in the magazine 26 engage with the rear face of the front wall section 31 adjacent the side edges of the aperture 37 to position the staple beneath the blade 20 for the

driving operation. The height of the aperture 37 is sufficient to provide access to the top of the staple magazine 26 in which the bight portion of the staple moves.

With this arrangement when the blade 20 is elevated for the driving operation as in Fig. 4 the forward staple is projected into driving position below the same by the staple feeding mechanism 25 and thereafter the driving plunger 16 is released to drive the staple. If there is any failure of the staple resulting in a clogging or jamming of the mechanism the aperture 37 permits the insertion of a pointed tool, or the like, by means of which the jammed or defective staple may be withdrawn or removed and the mechanism may be freed for operating on the succeeding staples in the magazine without the removal of the staple feeding mechanism 25, the front wall section 31 or any of the other parts of the device.

While I have referred to particular details of construction in describing the device illustrating the principles of my invention, it will be understood that other details of construction may be resorted to within the spirit of my invention.

I claim:

1. In a device for driving U-shaped staples comprising a forward chamber having a generally vertical guideway therein, a generally horizontal staple supply chamber communicating with the lower portion of said vertical guideway, a reciprocal staple driving member operable in said guideway, staple feeding means to deliver successive staples from said staple supply chamber into said vertical guideway beneath said staple driving member, and means for actuating said staple driving member to drive said staples, said vertical guideway being formed at the lower end thereof by a forward wall member having an aperture therein, said aperture being located above the lower edge of the forward wall member with the top edge of the aperture above the forward path of the staple as it is fed forward from the horizontal supply chamber and with the side edges of the aperture inwardly of the path of the side edges of the staple whereby a jammed staple may be readily removed from said device without disassembly of any of the parts of said device.

2. In a device for driving U-shaped staples having a head provided with a generally vertical guideway therein, a generally horizontal staple supply guideway communicating with the lower portion of said vertical guideway, a reciprocal staple driving member operable in said vertical guideway, means for delivering successive staples along said staple guideway and into driving position beneath said driving member, and means for operating said driving member to drive said staples, the improvement comprising a removable forward wall member in said head at the bottom of said vertical guideway, said forward wall member being provided with rearwardly extending flanges secured in detachable engagement with the side walls of the head, and said forward wall member having a generally rectangular aperture therein with the top edge thereof spaced above the bight receiving portion of the staple guideway and the side forming edges thereof spaced inwardly of the leg receiving portions of the staple guideway whereby a jammed staple may be readily removed from said device without disassembly of any of the parts of the device.

3. In a stapling machine, comprising a forward chamber having a generally vertical guideway therein, a laterally extending staple supply chamber communicating with the lower portion of said guideway, a reciprocable staple driving member in said vertical guideway, means for feeding staples successively from said supply chamber into driving position in said vertical guideway, and means for actuating said staple driving member to drive successive staples, the forward side of said guideway being defined by a forward wall portion having an aperture therein, said aperture being arranged in spaced relation to the bottom edge of said forward wall portion and in alignment with the forward end of said staple supply chamber, and said aperture being narrower than said supply chamber and approximately the height of the same whereby to permit removal of a jammed staple from said vertical guideway and said staple supply chamber.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,096,573	Crosby	Oct. 19, 1937
2,294,463	Krantz	Sept. 1, 1942
2,420,258	Maynard	May 6, 1947

OTHER REFERENCES

Publication entitled "Who Makes It and Where," published by Andrew Geyer, Inc., 260 Fifth Ave., N. Y., edition 1929 at page 162.