

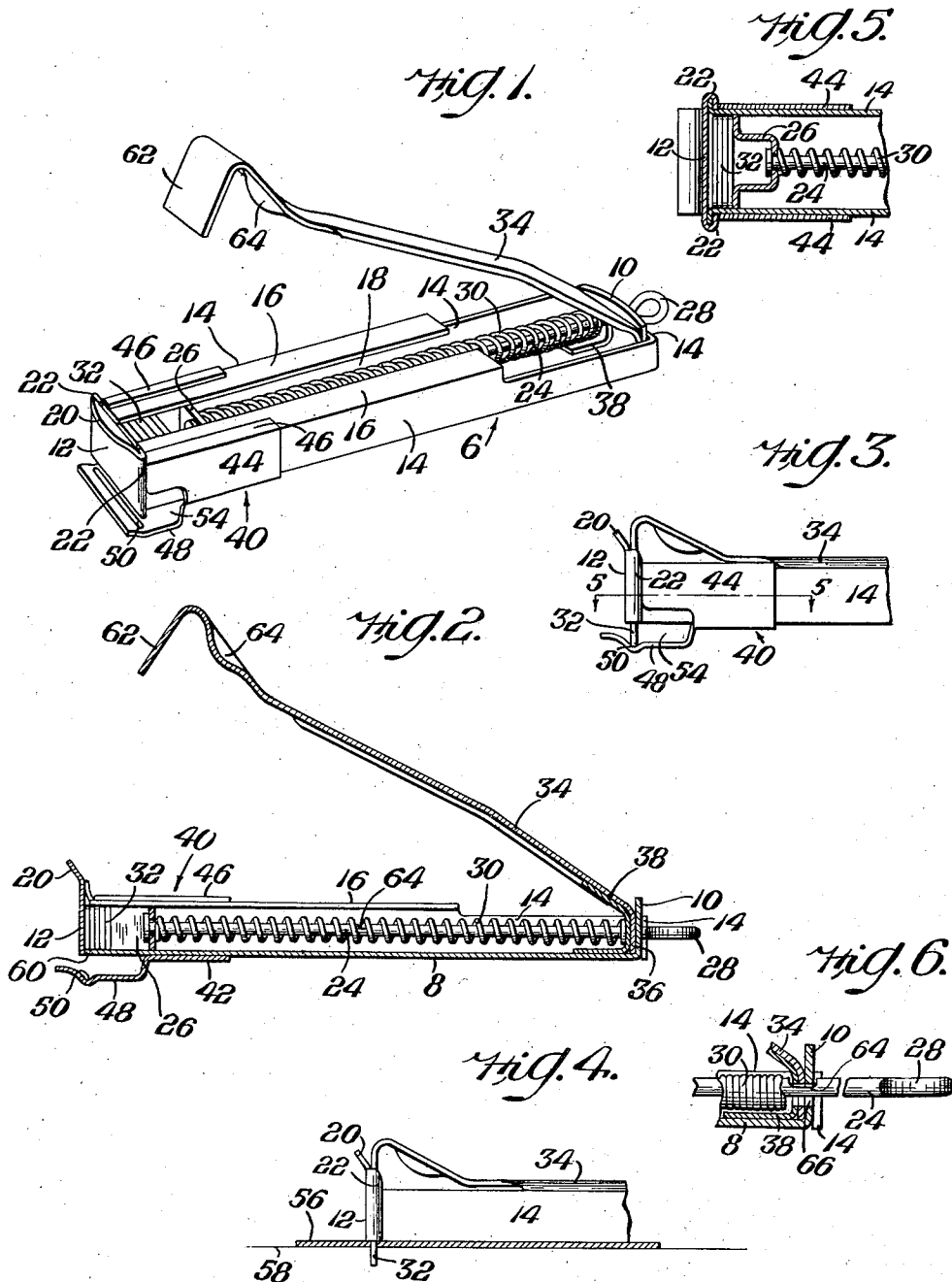
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STAPLER

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STAPLER

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1 Claim. (Cl. 1—49)

My invention relates to a new and useful stapler of the type used for stitching or clamping together by means of a wire staple two or more sheets of material, or for similarly securing one or more sheets of material to a backing or support.

Stapling devices of this character have been known and used in both the "desk" type and the "portable" type but all such devices have been large, complicated and expensive to make. It is therefore the object of my invention to produce a stapling device which is completely operative and which is, nevertheless, so simplified in construction as to be very small and inexpensive to produce and which will work with equal effectiveness to staple sheets of material together or to a separate backing or support.

In the accompanying drawing:

Fig. 1 represents a perspective view of a stapler embodying my invention.

Fig. 2 represents a vertical cross section of the device shown in Fig. 1.

Fig. 3 represents a fragmentary view in side elevation showing the stapler in the process of being operated when used for fastening sheet material together.

Fig. 4 represents a view similar to Fig. 3 showing the device in the process of operation when used to fasten sheet material to a separate backing or support.

Fig. 5 represents a section on line 5—5 of Fig. 3.

Fig. 6 represents a fragmentary view partly in section and partly in elevation showing details of construction.

Referring to the drawing in which like reference characters indicate like parts, 6 designates a channel having the bottom wall 8, the rear wall 10, the front wall 12 and the side walls 14. The channel is provided, over the front portion thereof, with the overlaps 16 which define an opening 18 therebetween. The front wall 12 is provided with the inclined upper guide extension 20. The front wall 12 is separate from the body of the channel proper and is provided with the inturned portions 22 which snugly and frictionally engage the outwardly deflected ends of the side walls 14 as best seen in Fig. 5. It will be noted that the channel proper 6 is made from an integral blank by a stamping and bending operation which is extremely inexpensive, and the front wall 12 is similarly formed by stamping and bending and applied in position. 24 designates a staple feed rod having the head 26 and the handle 28 which extends through the

rear wall of the channel, the staple feed rod 24 being urged forwardly or to the left of Figs. 1 and 2 by the spring 30. The head 26 on the plunger 24 serves to engage and urge forwardly the prepared staples 32. 34 designates an operating arm which is deflected at its rear end as at 36, and through which the plunger 24 passes, as best seen in Fig. 2, the operating arm 34 being constantly urged into an open position as shown in Figs. 1 and 2 by the spring 38. 40 designates a sliding anvil member which is provided with the bottom wall 42, the side walls 44 and the upper, overlapping edges 46 which engage the overlaps 16 of the channel 6. The sliding anvil 40 is provided with the front extension 48 which has the depression or groove 50. When the anvil 40 is in its forward position, as shown in Figs. 1 and 2, the side walls 44 thereof abut against the deflected ends 22 of the front wall 12 which form a stop to the movement of the anvil in that direction. The groove 50 registers with the front end of the channel and the bottom edge of the staple 32 which is driven by the operating arm 34.

The operation is as follows:

When it is desired to staple papers or other sheets or material together, the ends of the paper are inserted in the space 54 between the bottom extension 48 of the anvil 40 and the bottom of the channel 6 and the operating arm 34 is depressed to drive a staple 32 through the paper as best seen in Fig. 3. If it is desired to use the device for securing paper or the like to an independent backing or support, the anvil 34 is completely removed from the stapling device by sliding it rearwardly toward and over the back wall 10 of the channel so that the stapling device presents a completely flat and interrupted bottom surface as shown in Fig. 4. The sheet material 56 to be fastened is placed on the support 58 and then the operating arm 34 is depressed to drive the staple 32 through the sheet 56 and the support 58. If it is desired to reload or charge the device with a new supply of staples 32, the front wall 12 is removed by sliding it in a plane at right angles to the longitudinal axis of the channel 6 preferably in a direction away from the extension 48 of the sliding anvil 40, and the staple feed rod 24 and the head 26 are then pulled back by means of the handle 28 whereupon a supply of staples is introduced into the channel 6 underneath the overlaps 16 and the front wall 12 is again replaced. The device is now ready for operation. The front wall 12 is of course spaced sufficiently from the front edge of

the channel 6 to provide the opening 60 through which the staple 32 is driven by the head 62 of the operating arm 34. The deflected upper portion 20 of the front wall 12 serves to guide the head 62 of the operating arm 34 and to the top of the foremost staple 32 which is next in line.

It will thus be seen that my novel stapler, of which a complete working model has been built and extensively operated both as shown in Fig. 1 and Fig. 4, has been extremely simplified in its construction and manner of operation, and that, due to its novel structural features, can be produced at very small cost so as to bring it within the range of universal purchasing power. Also, the actual life-size model referred to is small enough to be held in the palm of the hand or conveniently placed in the pocket and it works satisfactorily for clamping sheets of paper or the like together, or, when the sliding anvil has been removed, by sliding it over the rear end of the device, my novel stapler operates to secure a sheet or the like to an extraneous support such as when it is desired to post a notice on a bulletin board or an outdoor bill board. The operating arm 34 can be made straight, or, if desired, can be provided with a depression 64 to accommodate the finger (usually the thumb) which is used to press down the arm 34 over the successive staples 32. Also, if desired, the spring 38 may be omitted so that the device will normally assume a closed position which may be desirable when the device is to be used exclusively or mostly as a portable device or a pocket size stapler to be carried around.

As will be best seen from Fig. 6 the staple feed rod 24 is provided with a notch 64 which, when the staple feed rod is pulled back in order to recharge, the stapler is adapted to engage the edge of the opening 66 in the rear wall 10, whereby

the staple feed rod 24 is retained in its retracted position against the tension of the spring 38 while a new charge of staples is being introduced through the front end of the channel 14 after the front wall 12 has first been removed. As shown in Fig. 6 the notch 64 engages the edges of the rear wall 10, the rear extension of the operating arm 34, as well as the edge of the spring 38. This is due to the particular construction as illustrated, but it is obvious that the notch 64 need only engage a single obstacle which will retain the plunger 24 in its retracted position to obviate the necessity of holding it in that position with one hand while inserting the new charge of staples with the other hand. In other words, the opening in the rear portions of the spring 38 and arm 34 can be much larger than the opening 66 in the back wall 10 and, in that event, the notch 64 will only engage the edge of the opening in the back wall 10.

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

A stapling device comprising a casing having an open end and adapted to receive and contain staples, means for urging said staples towards the open end of said casing, a guide wall detachably secured to the open end of said casing and constituting an abutment for said staples, an operating mechanism for successively driving said staples through a discharge opening formed between said wall and the adjacent end of said casing and into the material to be stapled, an anvil slidably mounted on said casing, said guide wall forming means at the open end of said casing for limiting the movement of said anvil, said anvil being removable from said casing by a sliding movement over the opposite end of said casing.

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