Jan. 8, 1957 R. E. STRONG 2,776,431

STAPLING DEVICE

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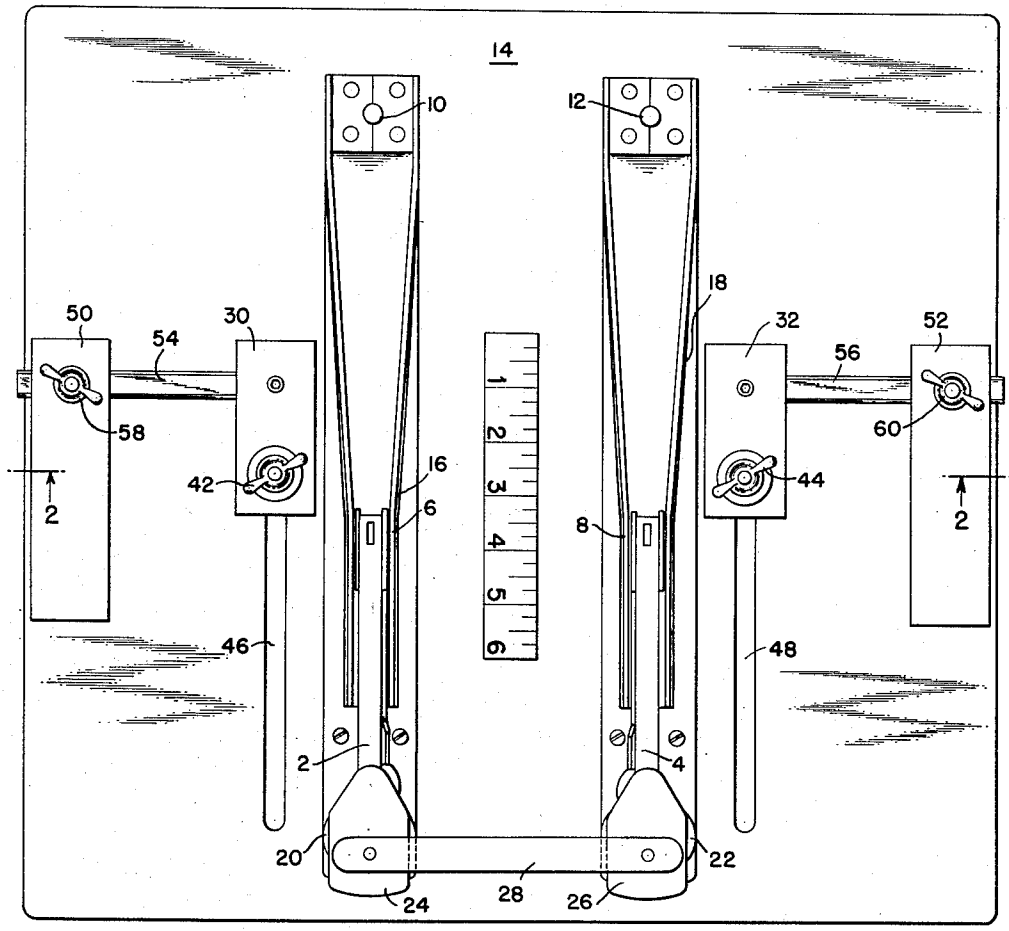
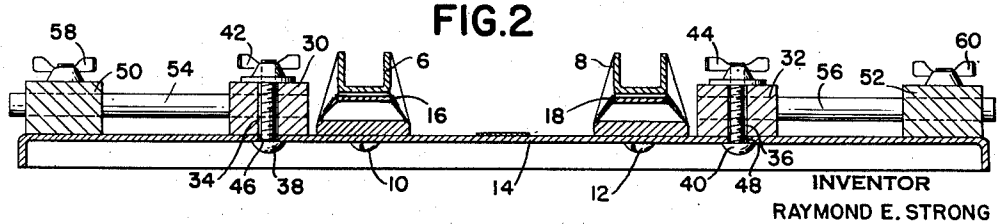


FIG.1

FIG.2



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STAPLING DEVICE

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3 Claims. (Cl. 1—3)

This invention relates to stapling devices and more particularly to an improved device for stapling together pages of a booklet.

In many instances a number of sheets of paper are assembled and are to be stapled along a longitudinal axis and then folded over in book-like relationship.

In the usual office setup, particularly where a number of such booklets might have to be assembled, it is difficult to align the papers and to staple them all uniformly.

Accordingly, it is a first object of this invention to provide an improved stapling device whereby a number of sheets may be aligned for stapling along a predetermined axis.

It is a further object of this invention to provide a combined stapling and aligning device wherein a number of sheets that are to be stapled may be guided into stapling alignment and be held there while a stapling machine fastens the sheets together.

It is a still further object of this invention to provide a combined positioning and stapling device wherein the stapling position relative to an edge of the sheet may be varied so that booklets of varying sizes may be uniformly stapled together.

It is a still further object of this invention to provide an improved stapling device and guide fixture combination for holding assembled sheets in prearranged position while a number of staples are simultaneously driven into preassigned spots, which spots are accurately located relative to all edges of the sheets being stapled.

Further objects and advantages of this invention will become apparent and the invention will be better understood by reference to the following description and the accompanying drawing, and the features of novelty which characterize this invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

In the drawings, Fig. 1 is a plan view of the stapling machine and fixture; while Fig. 2 is a front elevation taken along the plan 2—2 of Fig. 1 in the direction of the arrows.

Briefly, this invention relates to a combined stapling machine and positioning fixture wherein a pair of stapling devices are mounted on a base plate which is provided with a pair of slots running parallel to the longitudinal axes of the stapling devices. A pair of stops is provided with adjustable securing means engageable with the slots whereby the stops may be moved along the slots to vary the depth of insertion of assembled sheets for stapling. The device is also provided with end guides whereby the position of the staples is accurately determined relative to all edges of the sheets.

In the drawing, a pair of stapling machines 2—4 of the type described in U. S. Patent No. 2,281,557, Crosby, are provided with extension arms 6—8, respectively, which in turn are mounted by means of screws 10—12, respectively, on a base plate 14. A pair of leaf springs 16—18, respectively, are longitudinally supported under the extensions 6—8 and are secured by means of the above-mentioned screws 10—12 to the base plate 14. In this manner, when the screws 10—12 are passed through suitable apertures in the base plate 14 and through bores near an end of the springs 16—18 into the extensions 6—8, the staplers 2—4 are resiliently mounted relative to the base plate 14; that is, the springs 16—18, respectively, normally hold the staplers 2—4 upwardly away from the base plate 14, but the staplers may be rocked in opposition to the resilient force of the springs 16—18 down into engagement with the base plate 14. In this respect, a pair of conventional anvils 20—22, respectively, are positioned to bend over the ends of the U-shaped legs of the staple driven by the staples 2—4,

In order that the two staplers may drive their staples simultaneously, the two handles 24—26 are joined via a bar 28 (or a single handle may be provided for both staplers) whereby the staplers may be rocked towards the base plate 14, thereby being positioned to drive staples through the sheets of paper and into the receiving anvils.

When pages are to be assembled, the position of the staple relative to one edge of the paper is first determined. Then, in order to align this predetermined position with the anvils, a pair of stops 30—32 are positioned to limit the insertion of pages so that the stapling line will overlie the anvils. To accomplish this result, the stops 30—32 are provided with central bores 34—36 which accommodate a pair of screws 38—40, respectively, which in turn are equipped with conventional wing nuts 42—44, respectively. The base plate is then provided with elongated slots 46—48 which run parallel to the longitudinal axes of the staplers and accommodate the screws 38—40. In this manner, it is apparent that the stops 30—32 may be adjustably positioned relative to the stapling anvils, and then by tightening the wing nuts 42—44, a guide is provided which limits the degree of insertion of the sheets to be asembled. When the handle 28 is rocked towards the base plate 14, staples will be driven through the pages into the folding anvils, thereby fastening the sheets together.

A still further refinement is provided by means of end stops 50—52 which are mounted on rods 54—56, respectively, which extend laterally from the stops 30—32 and are perpendicular to the slots 46—48. The end stops 50—52 are secured via the wing bolts 58—60 to the rods 54—56. Specifically, the wing bolts 58—60 pass through threaded apertures (not shown) in the stops 50—52 until the wing bolts engage the transverse rods 54—56. Further tightening of the wing bolts secures the end stops 50—52 to the transverse rods 54—56, respectively, and thus determines the limits of end movement of the sheets.

With this arrangement of parts, a predetermined stapling line is first decided upon and then the stops 30—32 and the end stops 50—52 are positioned to guide the sheets so that the predetermined stapling line will overlie the anvils. Accordingly, once a job has been set up, the sheets are simply inserted parallel to the base plate 14 into engagement with the stops 30—32 and between the end stops 50—52 and then the handle 28 is depressed until staples pierce the sheets and enter the anvils 20—22 to lock the sheets together.

While I have illustrated and described a particular embodiment of my invention, modifications thereof will occur to those skilled in the art. I desire it to be understood, therefore, that my invention is not to be limited to the particular arrangement disclosed, and I intend in the appended claims to cover all modifications which do not depart from the spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A combined stapler and guide plate comprising in

combination a base plate, a pair of staplers, a spring interpositioned between said staplers and said base plate whereby said spring normally holds said staplers resiliently above said base plate, a pair of staple receiving anvils positioned on said base plate to engage said staplers thereby determining a stapling line, said base plate defining a pair of elongated slots running parallel to the longitudinal axis of said staplers, a pair of side stops, means adjustably connecting said stops through said slots to said base plate thereby providing a guide to limit the side insertion of pages to be stapled, and end stops releasably connected to said side stops for determining the degree of end movement of the sheets to be stapled whereby the operation of said staplers will force a staple through the stapling position of sheets to be assembled.

2. A combined stapler and guide plate comprising in combination a base plate, a pair of staplers, a common operating handle therefor, resilient means mounting said staplers normally above said base plate, a pair of staple receiving anvils mounted on said base plate to accommodate said staplers and thereby determine a stapling line, a pair of side stops, means adjustably connecting said stops to said base plate thereby providing a guide to limit the side insertion of pages to be stapled, end stops, and means mounting said end stops on said side stops for determining the end movement of sheets to be assembled whereby the operation of said common handle will drive staples through the stapling position of sheets engaging said stops.

3. A combined stapler and guide plate comprising in combination a base plate, a pair of staplers, a common operating handle therefor, resilient means mounting said staplers normally above said base plate, a pair of staple receiving anvils mounted on said base plate to accommodate said staplers and thereby determine a stapling line, said base plate defining a pair of elongated slots running parallel to the longitudinal axis of said staplers, a pair of side stops, means adjustably connecting said stops through said slots to said base plate thereby providing a guide to limit the side insertion of pages to be stapled, end stops, and means mounting said end stops on said side stops for determining the end movement of sheets to be assembled whereby the operation of said common handle will drive staples through the stapling position of sheets engaging said stops.

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