

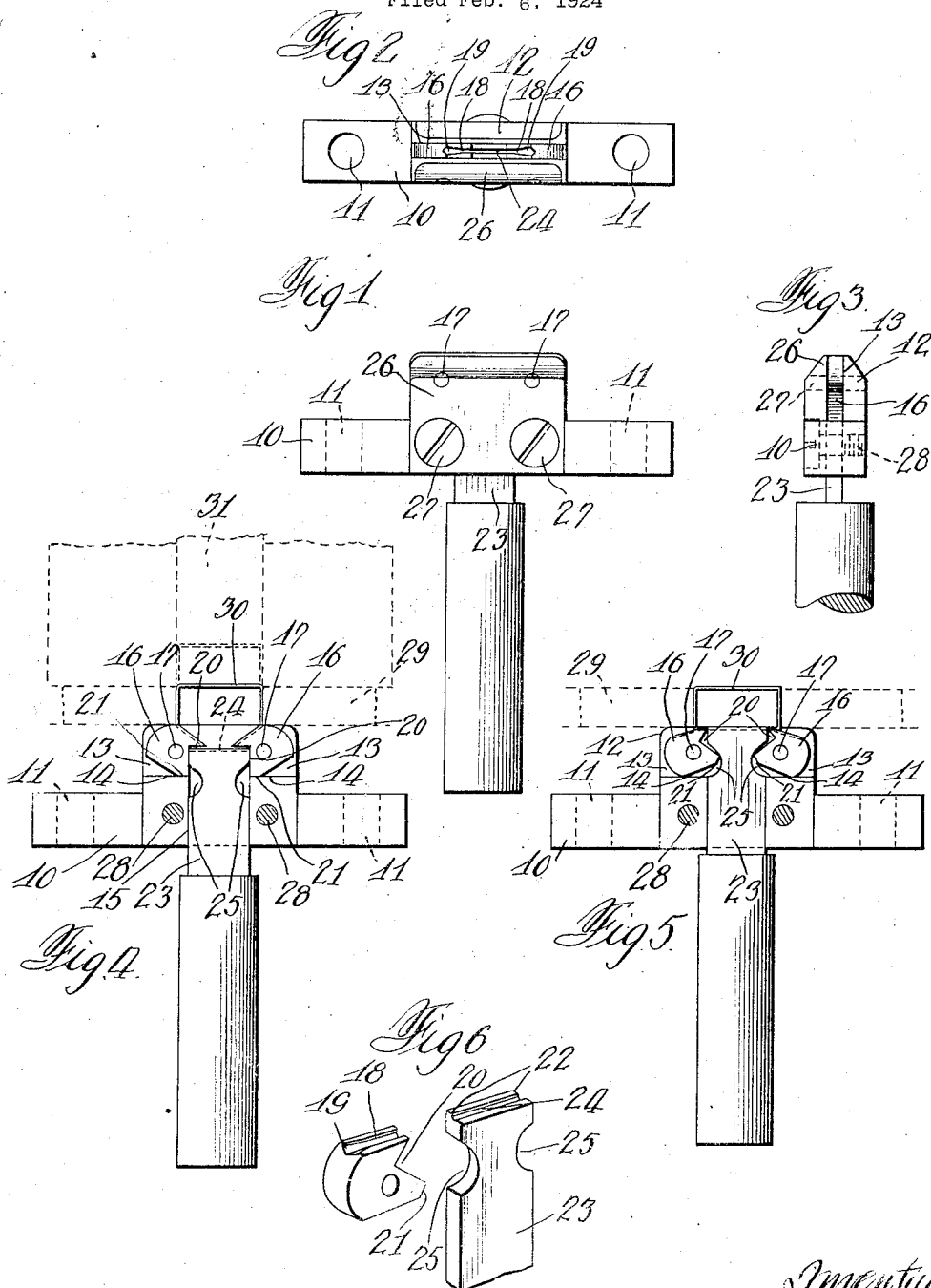
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STITCHING MACHINE

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STITCHING MACHINE.

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This invention relates to wire stitching machines and more particularly to improvements in clinching mechanism therefor.

One of the objects of the present invention is to provide a simple and efficient clinching mechanism.

A still further object of the invention is to provide an improved clinching mechanism which will positively drive the ends of the staple into the material being operated upon in such a manner that it gives a neater and more finished appearance to the work.

A still further object of the invention is to provide an improved clinching mechanism which is constructed of a minimum number of movable parts.

These and other objects are accomplished by providing a construction and arrangement of the various parts in the manner hereinafter described and particularly pointed out in the appended claims.

Referring to the drawings, Fig. 1 is a front elevational view of my improved clinching mechanism showing the same removed from the stitching machine.

Fig. 2 is a top plan view of Fig. 1.

Fig. 3 is a side elevational view of my improved clinching device shown in Fig. 1.

Fig. 4 is a front elevational view partly in section showing my improved clinching mechanism in the operation of clinching the ends of the staple.

Fig. 5 is a front elevational view partly in section showing my improved clinching mechanism completing the operation of clinching a staple, and

Fig. 6 is a perspective view showing the improved construction of the clinching members.

In carrying out my invention I have shown my improved clinching mechanism preferably consisting of a detachable bracket 10, which is adapted to be secured to the work arm of a stitching or stapling machine of most any well known type. For detachably securing this bracket 10 to the work arm I have provided two apertures 11 located on the opposite ends thereof, which may be adapted to receive bolts for securing the bracket in place. Formed integrally with the bracket and positioned centrally on one side thereof is a rectangular wall 12 of substantially one third the thickness of the bracket 10. This wall 12 is provided with a horizontally disposed recess 13 which

extends longitudinally of the bracket in such a manner as to form shoulders 14 on the opposite ends of the wall. Extending vertically through the vertical center of the bracket adjacent the wall 12 is a recess 15. This recess 15 is positioned in the same vertical plane and communicates with the horizontal recess 13 in the bracket 10. Pivotaly mounted on the opposite ends of the wall 12 within the horizontal recess 13 are two oppositely disposed clinching members 16, which are mounted on pins 17. These clinching members 16 are provided with channels or grooves 18 on the upper edge thereof and are slightly larger as shown at 19 at the outer ends thereof. These grooves 18 are adapted to receive and guide the lower ends of the staple in the operation of clinching the staples in the work. The inner ends of these pivoted clinching members are provided with angularly disposed notches 20 and stop portions 21. The notches 20 are adapted to be engaged by the upper opposite ends 22 of the reciprocating clinching member 23 positioned in the vertical recess 15 of the bracket 10. The reciprocating clinching member 23 is provided with a horizontal groove 24, which co-operates with the grooves 18 in the pivoted clinching members 16 in the operation of clinching the lower end of the staple. The reciprocating clinching member 23 is provided on its opposite sides thereof, adjacent the upper end, with cut-out portions 25. This construction permits the lower end or stop portions 21 of the pivoted clinching members 17 to swing inwardly about their pivots as the reciprocating clinching member 23 is actuated upwardly to clinch the staple. The clinching mechanism is completely encased by positioning a side plate 26, which is of substantially the same configuration as the wall 12 on the side opposite the wall. This plate 26 is secured in position by screws 27, which are adapted to be received in threaded engagement with the threaded apertures 28 of the bracket 10.

When the material 29 to be stapled is placed in the stitching machine above the clinching mechanism, the staple 30 is driven through the work by the staple driver 31, which is shown in dotted lines in Fig. 4. When the staple driver is driving the staple into the work the pivoted clinching members 16 are positioned so that their stop por-

tions 21 engage the shoulders 14 of the recess 13 and position the upper or grooved edges 18 at an inclined plane, or the position shown in Fig. 4, and as the staple 30 is being driven through the work the lower portions of the legs of the staple are guided by the grooves 18 of the clinching members 16 and simultaneously with the completion of the driving stroke of the driver the reciprocating clinching member 23 is actuated upwardly, which in turn actuates the pivoted clinching members 16 about their pivots on the pins 17 to completely and positively clinch the lower ends of the staple in the work, thus providing a clinching mechanism, which is simple in construction and efficient in operation, in that there are only three movable parts which co-operate to completely and neatly clinch the staples in the work. In this connection it will be noted that when the reciprocating member is actuated to its uppermost position the pivoted clinching members 16 are actuated to a position beyond their normal clinching position as shown in Fig. 5 in which the free ends of the staple are pressed or caused to be embedded in the work being stapled in such a manner that the staple is securely fastened in the clinched position.

It will of course be understood that the reciprocating clinching member 23 is operatively connected with the stitching machine in a manner well known in the art so that the clinching mechanism and the driving mechanism are co-operatively driven together.

While in the above specification I have described one embodiment which my invention may assume in practice, it will, of course, be understood that the same is capable of modification, and that modification may be made without departing from the spirit and scope of the invention as expressed in the following claims.

What I claim as my invention and desire to secure by Letters Patent is:

1. In a stapling machine, the combination with means for driving the staple through the work, of pivoted clincher means having notches therein, a reciprocable clincher member having an active clinching surface adapted to engage the pivoted clincher means for actuating said clincher means beyond their normal clinching position for clinching the staple in the work.

2. In a stapling machine, the combination with means for driving the staple through the work, of two oppositely disposed pivoted clincher members for bending the legs of the staple, a reciprocable clincher member operatively related to said clincher members and engageable with both legs of said staple for finally clinching them in the work and means whereby said clincher members may be actuated beyond their normal clinching position for positively clinching the ends of the staple.

3. A clinching mechanism for a stapling machine comprising a supporting bracket having a vertical opening therethrough and horizontal slots communicating with said vertical opening, clinching members pivotally mounted in said horizontal slots, stops formed integrally with said clinching members adapted for engagement with the bottom surfaces of said horizontal slots, and a vertical reciprocating clincher member co-operating with and actuating said first mentioned clincher members in a manner to rotate said members on their respective pivotal connections beyond their normal clinching position.

In testimony whereof I have signed my name to this specification, on this second day of February, A. D. 1924.

ERNEST LESCHHORN.