

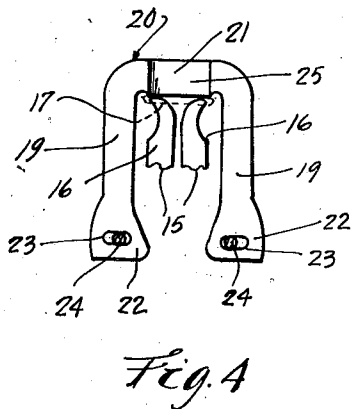
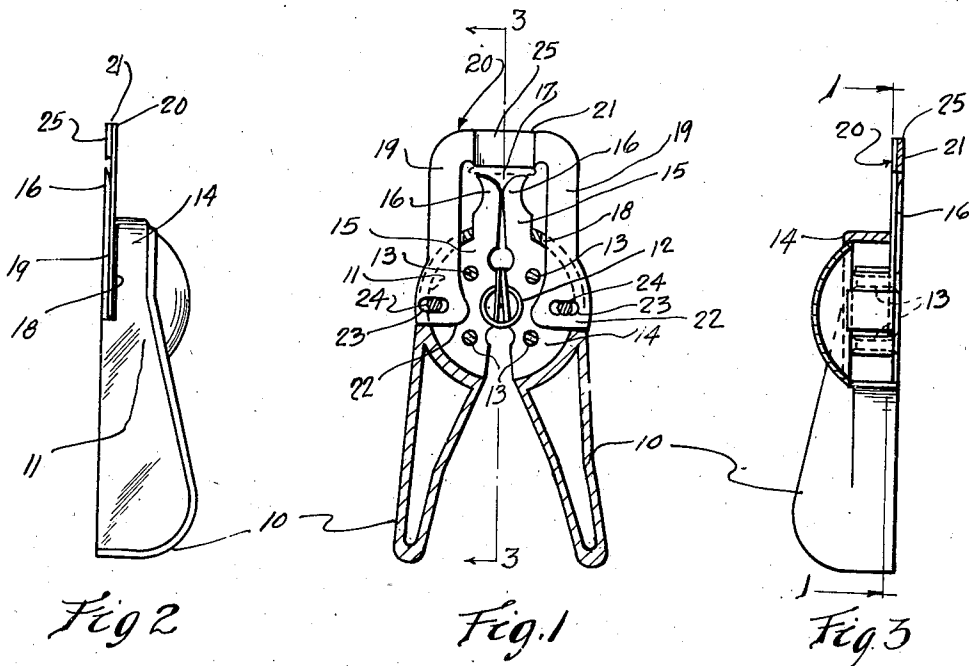
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STAPLE REMOVER

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STAPLE REMOVER

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This invention relates to new and useful improvements in a staple remover.

The invention more specifically constitutes an improvement over that shown in United States Patent No. 2,343,921, dated March 14, 1944, granted to Curt E. Nyberg on a Staple remover. The staple remover disclosed in the Nyberg patent referred to, comprises a pair of pivotally connected handle or actuating members pivotally connected at an intermediate portion and having forwardly extending spreader jaws with a spring normally urging the spreader jaws toward each other. These spreader jaws have thin portions adapted to extend below the bight or bridge portion of a staple whereby upon pivotal movement of the handle members toward each other against the action of the spring, the spreader jaws will spread the staple a predetermined distance, thereby facilitating removing the staple from the sheets of paper connected thereby.

In the employment of such a staple remover, I have found that by reason of the weakness of the textile of the paper sheets connected together by the staple, very frequently in inserting the spreader jaws beneath the bight or bridge portion of the staple, the staple is torn from the paper instead of being cleanly removed therefrom. This invention therefore contemplates the provision of an arrangement whereby upon operation of the spreader jaws an abutment will be brought into engagement with the bight or bridge portion of the staple during the movement of the spreader jaws beneath the staple. By such an arrangement the sheets of material are prevented from being torn during the removal of the staple therefrom.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings showing the preferred form of construction, and in which:

Fig. 1 is a top sectional detail view of the staple remover shown in the Nyberg patent hereinbefore referred to, illustrating my improvements associated therewith and taken substantially on line 1—1 of Fig. 3;

Fig. 2 is a side elevational view of the same;

Fig. 3 is a sectional detail view of the same taken substantially on line 3—3 of Fig. 1; and

Fig. 4 is a plan view illustrating the staple abutment in its relationship to the staple and spreader jaws.

The drawings illustrate the preferred form of construction by which the several objects of my

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invention are accomplished. In this connection, only so much of the staple remover shown and described in the Nyberg patent is here illustrated and described as will enable one skilled in the art to fully understand the nature and character of my improvements over such staple remover.

The staple remover referred to comprises the handle portions 10 terminating into jaw portions 11. The jaw portions 11 are pivotally connected together as at 12 in a manner fully shown and described in the Nyberg patent hereinbefore referred to and in such manner that when the handle portions 10 are pressed inwardly toward each other, these jaw portions 11 will be pivoted relative to each other. Each jaw portion has secured thereto as at 13 a semi-circular plate 14. Each plate 14 has a spreader jaw 15 in the form of a relatively thin tapered finger 16. These fingers or spreader jaws 16 are adapted to engage beneath the bight or bridge portion 17 of a staple connecting sheets paper together.

Each of the jaw portions 11 is provided with cut-out portions 18, and projected into the jaw portions 11 through these cut-out portions 18 are the arms 19 of an abutment plate 20 formed substantially U-shaped to provide the bight portion 21. The inner extremities 22 of these arms 19 are provided with elongated slots 23 through which project connecting elements or pins 24.

The bight portion 21 of the abutment plate 20 has its intermediate portion 25 disposed beneath the horizontal plane of the arms 19 whereby to dispose this intermediate portion 25 in a position directly opposite the spreader jaws or fingers 16, whereby in the application of the staple remover the bridge 17 of the staple will be disposed between the intermediate portion 25 of the abutment plate 20 and the spreader fingers 16.

In the employment of the staple spreader here-in described, when the spreader jaws or fingers 16 are disposed against one side of the bridge or bight portion of the staple and the handles 10 pressed toward each other, the pivotal movement thus transmitted to the jaws will cause the connecting element 23 to act upon an adjacent edge of each of the slots 23 and move the abutment plate in a direction against the opposite side of the bridge 17 of the staple, whereby during the forward movement of the spreader fingers or jaws beneath the staple, the staple bridge, by virtue of its engagement with the intermediate portion 25 of the abutment plate, will be held against movement away from the spreader jaws, thus preventing the staple from being ripped out or otherwise torn from the paper sheets connected

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thereby. Thus, it is clear that by the use of a staple remover having the improvements herein set forth, the staple during the positioning of the spreader jaws therebeneath for removal purposes, is prevented from tearing or otherwise rupturing the sheets of paper connected thereby.

While I have shown my improvements associated with the staple remover of the Nyberg patent hereinbefore referred to, it is manifest that the same may be associated with staple removers of various constructions wherein there are employed spreader jaws adapted to be inserted beneath the bight or bridge of a staple for removal purposes.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. A staple remover in which the remover comprises a pair of members pivotally connected at an intermediate portion and providing rearwardly extending handles and forwardly extending spreader jaws, with spring means for normally urging said spreader jaws together, comprising a staple abutment member movably associated with the pair of members, and means for movably connecting said staple abutment member to said pair of members whereby when said handles are pressed inwardly the said staple abutment member will be moved relatively to said pair of members into abutment with the bridge of a staple on that side of the staple opposite the spreader jaws.

2. A staple remover in which the remover comprises a pair of members pivotally connected at an intermediate portion thereof and providing rearwardly extending handles and forwardly extending spreader jaws, with the jaws adapted to engage on one side of the bridge of a staple, together with means for normally urging said spreader jaws together, comprising abutment means cooperating with the spreader jaws for holding a staple when said spreader jaws are moved to engage beneath the bridge of said staple by pivotal movement of said pair of members relative to each other, and means for movably connecting said abutment means with said pair of members for movement thereby when said pair of members are pivoted relative to each other.

3. A staple remover, in which the remover comprises a pair of members pivotally connected at an intermediate portion and providing rearwardly extending handles and forwardly extending spreader jaws with the jaws adapted to engage the bridge of a staple at one side thereof and spring means for normally urging said spreader jaws together, comprising an abutment member formed substantially U-shaped to provide opposite arm portions and an intermediate section with a portion of the intermediate section depressed to engage the bridge of a staple at that side opposite the spreader jaws, the said arm portions being provided with transversely extending

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elongated openings, and means operative in said openings and carried by said pair of members whereby to move said abutment member relative to said pair of members when said pair of members is pivoted relative to each other whereby to bring the staple-engaging portion of said intermediate portion into engagement with the bridge of said staple.

4. A staple remover in which the remover comprises a pair of members pivotally connected at an intermediate portion and providing rearwardly extending handles and forwardly extending spreader jaws, with spring means for normally urging said spreader jaws together, comprising a staple abutment member movably associated with the pair of members, and means for movably connecting said staple abutment member to said pair of members whereby when said handles are pressed inwardly the said staple abutment member will be moved relatively to said pair of members into abutment with the bridge of a staple on that side of the staple opposite the spreader jaws, said abutment member being substantially U-shaped and having an intermediate depressed portion adapted to engage the bridge of said staple.

5. A staple remover in which the remover comprises a pair of members pivotally connected at an intermediate portion thereof and providing rearwardly extending handles and forwardly extending spreader jaws, with the jaws adapted to engage on one side of the bridge of a staple, together with means for normally urging said spreader jaws together, comprising abutment means cooperating with the spreader jaws for holding a staple when said spreader jaws are moved to engage beneath the bridge of said staple by pivotal movement of said pair of members relative to each other, and means for movably connecting said abutment means with said pair of members for movement thereby when said pair of members are pivoted relative to each other, said abutment means being substantially U-shaped and having an intermediate depressed portion adapted to engage the bridge of said staple.

6. The combination with a staple remover in which the remover comprises a pair of pivotally movable spreader jaws, of a staple abutment member comprising a pair of arms and an intermediate portion connecting said arms and with the intermediate portion having a portion adapted to engage the bridge of a staple on that side opposite the engagement between the bridge and said spreader jaws, and common means for pivotally moving said jaws relative to each other and the staple-engaging portion of said intermediate portion against the bridge of said staple.

HENRY RUSKIN.

REFERENCES CITED

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

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Number	Name	Date
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1,980,573	Cavanagh	Nov. 13, 1934
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