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W. E. DE GENERES

2,215,662

STAPLE REMOVER

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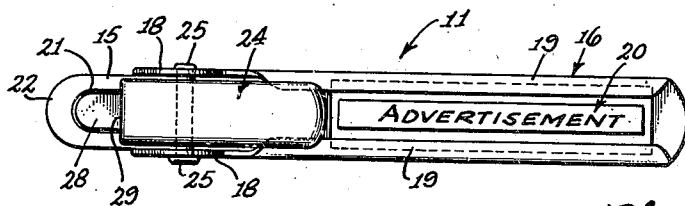
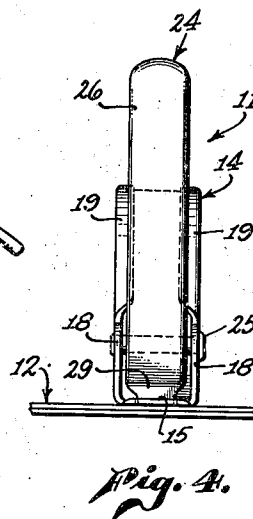
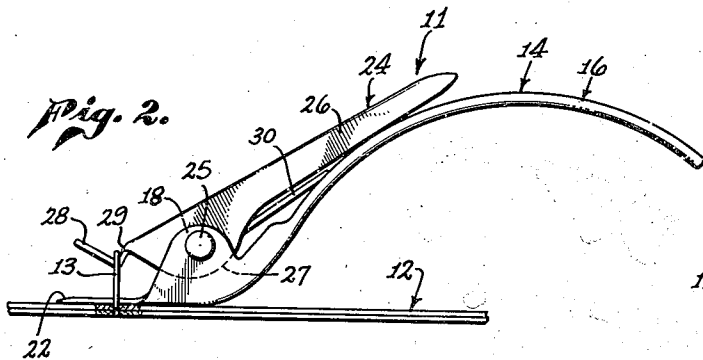
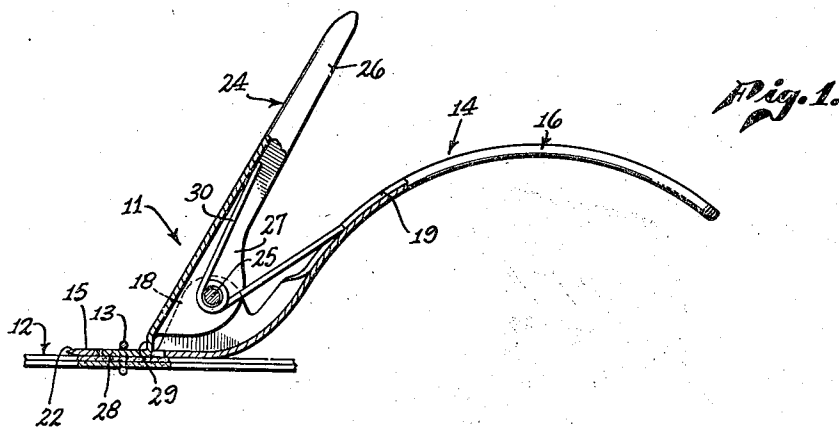


Fig. 3.

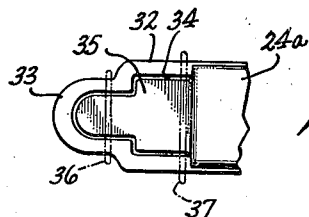


Fig. 5.

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STAPLE REMOVER

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4 Claims. (Cl. 254—28)

This invention relates generally to means for removing paper fasteners and particularly to devices such as are designed to remove the ordinary wire staples used to attach sheets of paper together.

It is a primary object of this invention to provide a simple, light weight, inexpensive, manually operable device for removing staples. In this connection it is a particular object of the invention to provide a device which is easily operable by the thumb and forefingers for removing staples.

It is also an object of this invention to provide a staple remover device which will not injure the paper during the removal of the staple therefrom. In this connection it is an object to provide a device having a part which slips under the upper portion of a staple and another part contained in the first part which is so arranged that it may be moved upwardly and away from the first part in order to remove the staple, the first mentioned part acting as a base adapted to bear against the paper during removal of the staple.

There are various sizes of staples in use and so far as I know, staple removers are usually designed for the removal of a particular size staple and do not function efficiently when used to remove a different size staple from the one for which the device was designed.

Therefore, it is another object of this invention to provide a staple remover which is particularly designed for use in removing staples of different sizes.

It is also an object of this invention to provide a staple remover which is so constructed as to accommodate advertising matter so that the device may be used as an advertising medium.

These and other objects will be apparent from the drawing and the following description thereof. Referring to the drawing which is for illustrative purposes only:

Fig. 1 is an enlarged side elevation partly in section of the staple remover of this invention shown in operative relation to a staple and two sheets of material;

Fig. 2 is a side elevation of the device in the position the parts assume at the end of the staple removing operation;

Fig. 3 is a top plan view of the device;

Fig. 4 is a front elevation of the device; and Fig. 5 is a top plan view of the forward end of a modified form of staple remover device particularly for the removal of different size staples.

More particularly describing the invention, reference numeral 11 generally indicates the device of the invention shown in position on two sheets of material generally indicated by reference numeral 12 and through which the staple 13 extends.

To facilitate illustration of the device the staple remover has been shown in all of the views slightly larger than normal size.

The staple remover device comprises a primary member 14 which has a base portion 15 and a handle portion 16. The base portion is flat and the handle portion extends upwardly and rearwardly thereof substantially in the form of an arch. In the form of the invention shown the primary member 14 is formed of a single metal strip which has been cut to the desired pattern and bent to provide the upwardly extending side portions 18. In the region of the handle portion the sides have been bent back upon the main body of the member as at 19 in order to provide a flat handle. If desired, a card 20 bearing advertising matter may be inserted under the folded side portions of the handle as shown in Fig. 3 and the device used as a medium of advertising.

The base portion 15 of the primary member 14 is provided with an aperture or cut-out portion 21 for the purposes which will subsequently be described. The outer end or forward end of the base portion is tapered or bevelled at 22 in order to facilitate the insertion of the base portion under a staple so that it may occupy the position relative to the staple as shown in Fig. 1.

A secondary member or thumb lever generally indicated by reference numeral 24 is pivotally mounted on the primary member by means of a pin 25 which extends through the sides of said member and through the side portions 18 of the primary member. Preferably the member 24 is formed of a single sheet of metal which has been cut to the desired shape and bent to form the side portions 26 which terminate in the ears 27 through which the aforementioned pin 25 extends.

At its outer or forward end the member 24 is provided with what will be termed a tongue portion 28 which is adapted to be accommodated by the aperture 21 in the base portion 15 of the primary member 14. In the form of the invention shown this tongue portion 28 is bent at an angle to the main body of the member 24 as is best illustrated in Figs. 1 and 2 and is adapted to fit flush within the base member. At the inner end of the tongue the material forming the member 24 is flared outwardly at 29 so as to form a stop means to prevent the tongue from being moved beyond the desired position within the base portion of member 14.

In order to yieldably hold the members 14 and 24 in the normal position of the device, that is the position in which it is shown in Fig. 1, a spring 30 is provided, the ends of which bear against the respective members and the intermediate portion of which is coiled about the pin 25. It is obvious of course that any suitable

means might be used in place of the particular type of spring shown for yieldably holding the parts of the device in the desired position.

In operation, the device is inserted under a staple as shown in Fig. 1. The particular shape of the handle portion 16 and of the member 24 permits ready manual manipulation of the device by means of the thumb and forefingers. After the base portion and tongue portions have been inserted under the staple as shown in Fig. 1, the members 24 and 14 are brought together by downward movement of the upper end of member 24 to the position in which the members are shown in Fig. 2 thereby causing the tongue to move upwardly with relation to the base portion and extract or remove the staple as shown in Fig. 2.

In Fig. 5 there is shown a modified form of the device which is designed for removing two different size staples. In this form of the device a base portion, here indicated by reference numeral 32, is provided with an outer end portion 33 which is of reduced width with respect to the main body of the base portion. The base portion is provided with an aperture or cut-out portion 34 which is wider in the region of the wide portion of the base portion and has a narrower extension into the end portion of reduced width as indicated in the drawing. The secondary member, here indicated by reference numeral 24a, is provided with a tongue 35 which generally corresponds in shape to the shape of the aperture 34 in the base portion. With this construction the outer end 33 of the base portion may be inserted under a small size staple indicated by reference numeral 36 and the device operated as in Fig. 2 to extract the staple. In the event it is desired to remove a staple of larger size, such as the staple indicated by reference numeral 37, the base portion is slipped under the staple as shown in the drawing and the device operated as pointed out in connection with the form of the device shown in Figs. 1 to 5. With this construction it is possible to remove both large and small size staples without damaging the paper in any way such as by crinkling or tearing due to the fact that the particular portions of the base portion and the tongue are designed to fit the particular staple to be removed.

Although the invention has been shown and described as taking particular forms, it is contemplated that certain changes might be made without departing from the invention and it is intended to cover such changes as come within the scope of the claims.

While I have particularly referred to the utility of my invention as applied to the removal of staples where such staples have been used for binding together several sheets of paper, it is to be understood that my invention is not limited in that respect but is applicable for other purposes such, for instance, as the removal of staples which have been used for attaching drawing paper to a drawing board, etc.

I claim as my invention:

1. A device for removing staples comprising a primary member formed of a single piece of sheet metal bent to form a flat base portion and an upwardly and rearwardly extending arched portion having side edge portions bent upon the main portion of the arched portion to form hold-

ing guides to receive an advertising card or the like, said base portion having an aperture, said member also being bent to form upwardly extending side portions in the region of the inner end of said base portion; a secondary member formed of a single piece of sheet metal pivotally mounted on said upwardly extending side portions, said secondary member having a tongue portion extending outwardly of said point of pivotal connection and being normally positioned in said base portion; and means for yieldably holding said primary and secondary members against movement.

2. A device for removing staples comprising a primary member having a base portion and a handle portion said base portion having an outer end portion of reduced width and having an aperture extending from the end portion of reduced width inwardly into the portion of greater width, said aperture being proportioned in width relative to the width of the respective portions of said base portion; a secondary member pivotally mounted on said primary member at a point in the region of the inner end of said base portion, said secondary member having a tongue portion extending outwardly of said point of pivotal connection and being normally positioned in the aperture in said base portion; and means for yieldably holding said primary and secondary members against movement.

3. A device for removing staples comprising a primary member having a base portion and a handle portion said base portion having an outer end portion of reduced width and having an aperture extending from the end portion of reduced width inwardly into the portion of greater width, said aperture being proportioned in width relative to the width of the respective portions of said base portion; a secondary member pivotally mounted on said primary member at a point in the region of the inner end of said base portion, said secondary member having a tongue portion extending outwardly of said point of pivotal connection and being normally positioned in the aperture in said base portion; stop means for limiting the movement of said members when said tongue is in said aperture; and means for yieldably holding said primary and secondary members against movement.

4. A device for removing staples comprising a primary member having a relatively short apertured flat base portion and having a relatively long arched handle portion extending upwardly and rearwardly of the base portion, the major portion of said handle portion being spaced a considerable distance from the plane of said base portion; a relatively short thumb lever pivotally mounted on said primary member at a point in the region of the inner end of said base portion, said thumb lever including a generally straight major portion normally rearwardly inclined and positioned in front of and spaced from the handle portion of said primary member, and a tongue portion at its lower end disposed at an obtuse angle to the major portion, said tongue portion being receivable in the aperture in said base portion and normally positioned therein in the plane of said base portion, and means for yieldably holding said thumb lever and primary members against movement.

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