

Dec. 23, 1941.

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2,267,045

BOOKBINDING

Filed Nov. 12, 1940

Fig. 1.

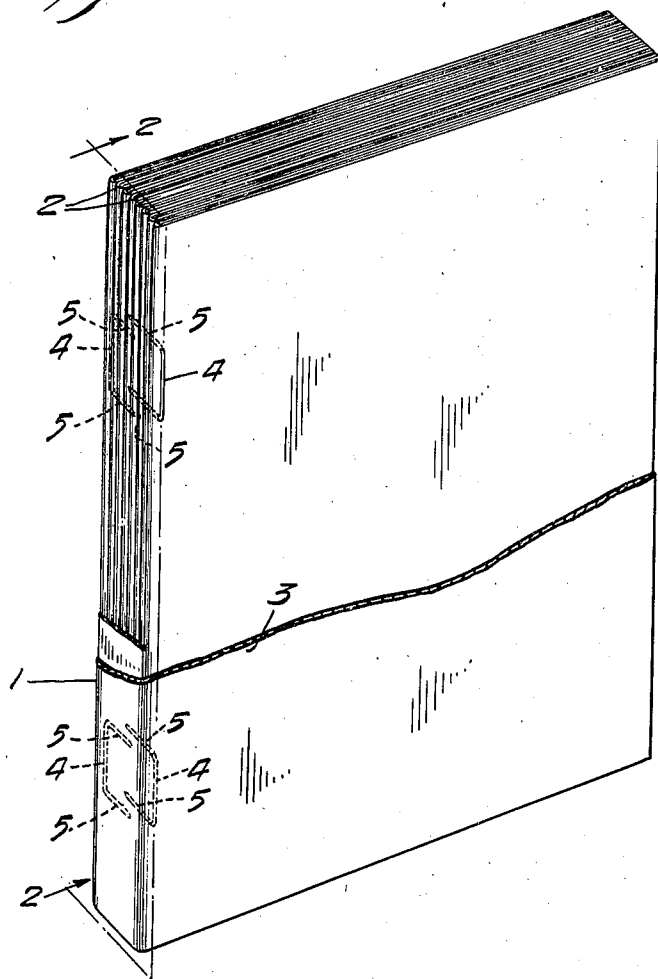
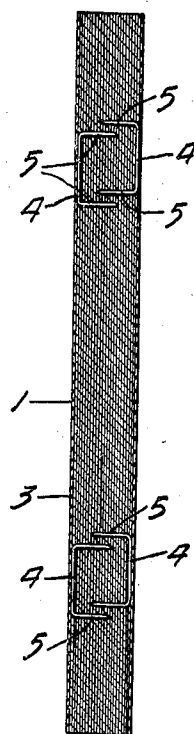


Fig. 2.



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UNITED STATES PATENT OFFICE

2,267,045

BOOKBINDING

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Application November 12, 1940, Serial No. 365,378

4 Claims. (Cl. 281—25)

The invention relates to magazines and the like and more particularly to a binding for magazines in which staples are utilized, the staples being so positioned and disposed in reference to the signatures forming the magazine that the bound magazine, when opened at any point will lie flat to thereby obtain an effect in binding similar to that obtained by sewing the signatures to each other.

Before describing the invention in detail it might be well to point out that in the binding of magazines, such for instance as the publication of the National Geographic Society which involves the distribution monthly of more than a million copies, it is impossible, without prohibitive expense, to utilize the old method of sewing the collected signatures together.

Various devices have been tried to obtain the benefit of a sewed magazine without necessitating the tremendous increase in cost caused by such sewing operation. One example is set forth in my co-pending application, Ser. No. 313,794, filed January 13, 1940, in which, by providing a plurality of diversely inclined slots in the closed edges of the signatures and by filling such slots with a latex glue, I obtain a web of glue extending across and into the several signatures, said web being connected by a latex backing and also connected at the side edges of the magazine by additional bands of latex. I have found, however, that the cost of such a construction, while materially less than the cost of sewing, is much higher than the cost of stapling the signatures together as has been customary in the past.

If one will examine the back of a magazine, after the cover has been removed, it will be observed that a plurality of staples, 2, 3 or 4 in number, are utilized to fasten the collected signatures together. These staples extend through the assembled signatures and have their separate ends peened or bent over so as to prevent the withdrawal of the staples after the binding operation.

In the accompanying drawing illustrating a preferred embodiment of my invention:

Figure 1 is a perspective view of a magazine or the like with portions broken away to more clearly illustrate the details of the invention; and

Figure 2 is a sectional view taken along lines 2—2 of Figure 1 looking in the direction of the arrows.

Referring more particularly to the drawing, 1 indicates a magazine or the like formed of collected signatures 2 and having a cover 3. The

signatures are secured together by a plurality of spaced pairs of staples 4, the legs of which penetrate the signatures in close proximity to the fold or closed edges thereof.

5 In carrying out my invention I collect the various signatures in the usual or customary manner and cause the collected signatures to be carried into and between the clamping jaws of a suitable stapling machine, as is also customary in the binding art. In the past, however, as has been pointed out above, staples were entered from one side of the magazine formed by the collected signatures and engaged on the opposite side of the magazine an anvil member by which the extension of the legs of the staple beyond the thickness of the collected signatures were directed at right angles to the leg portions so as to form clamps to prevent the withdrawal of the staples and to prevent the signatures, after being released from the clamping jaws of the stapling machine, from returning to their previous size.

After the signatures have been placed within the stapling machine and securely clamped therein I provide in the stapling machine two opposing pairs of staples, each pair being so positioned that the legs of one staple are closely adjacent the legs of the opposite staple of the pair after the same have perforated the signatures. The legs of each pair of staples are, however, of less length than the combined thickness of the clamped magazine. By utilizing staples of this construction I am enabled to eliminate from the stapling machine the anvils heretofore used and by causing the legs of each pair of staples to lie adjacent each other and to overlap, I provide a frictional grip which is sufficient to resist the expansive force of the signatures and to securely lock the signatures in their pressed condition.

Were the staples to be placed at a point spaced a quarter of an inch or at even a greater distance from the back of the signatures they would act in a very similar manner to the staples now employed and the magazine, after completion, would not remain open at any given page. Where riveting or peening over of the ends of the staple legs is necessary, as in previously stapled magazines, it is essential that the staples be positioned not less than one quarter of an inch from the back of the magazine since the tearing effect of the riveting operation would otherwise cause the staple to tear through the signatures and prevent a perfect binding operation. Since there is no riveting or peening over of the projecting staple

legs in the method which I employ, there is no tendency, upon the stapling operation, for the portion of the staple which connects the two legs to cut into the pages of the adjacent signatures and it is therefore possible to cause the staples to enter the signatures at points much closer to the edges of the signatures than has heretofore been deemed possible. I have, in fact, found that it is possible to place the staple within one sixty-fourth of an inch of the edge of each signature without damage to the same and without in any way affecting the holding effort of the staple. By so doing it will be evident from an examination of magazines stapled in this manner that the magazine will lie open at any given page and that I have, by this means, obtained the full benefit, in so far as opening of the magazine is concerned, of the sewing process heretofore used and at the same time reduced the cost of such binding to a point which is directly competitive with the previous method of stapling magazines.

Having now described my invention and the means by which the same is accomplished, what I claim and desire to secure by Letters Patent, is:

1. A binding for a magazine or the like formed of collected signatures comprising a plurality of spaced pairs of staples penetrating and frictionally engaging said signatures in close proximity to the fold edges thereof, each pair being oppositely directed and the legs of each pair overlapping in closely adjacent relation and being of less length than the thickness of said magazine.

2. A binding for a magazine or the like formed of collected signatures comprising a plurality of spaced pairs of staples penetrating and frictionally engaging the signatures approximately one sixty-fourth of an inch from the fold edges thereof, the staples of each pair being oppositely disposed and the legs of the staples of each pair being of less length than the thickness of the magazine and disposed in overlapping relation.

3. A binding for a magazine or the like formed of collected signatures comprising a plurality of spaced pairs of oppositely directed staples penetrating and frictionally engaging the signatures in close proximity to the fold edges thereof, the legs of the staples of each pair being disposed in overlapping relation and being of less length than the thickness of the magazine.

4. A magazine or the like comprising a body formed of signatures collected in selective sequence, a plurality of spaced pairs of oppositely directed staples penetrating and frictionally engaging the signatures adjacent the fold edges thereof, the legs of the staples of each pair being disposed in overlapping relation and of less length than the thickness of said body, and a cover secured to the fold edges of said signatures.

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