No. 740,086. PATENTED SEPT. 29, 1903.

W. M. BYRNE.

REINFORCEMENT FOR BOOK SHEETS.

APPLICATION FILED NOV. 28, 1902.

NO MODEL.

Fig. 1

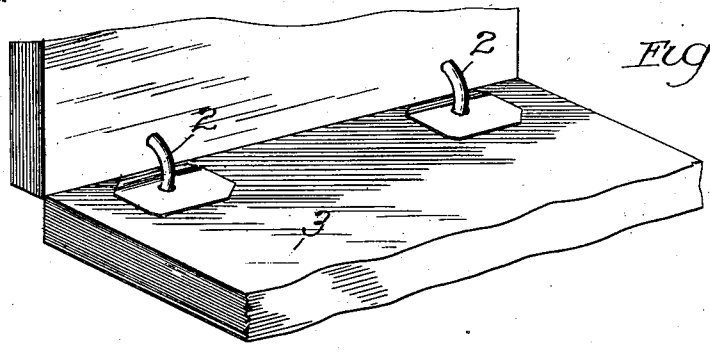


Fig. 2

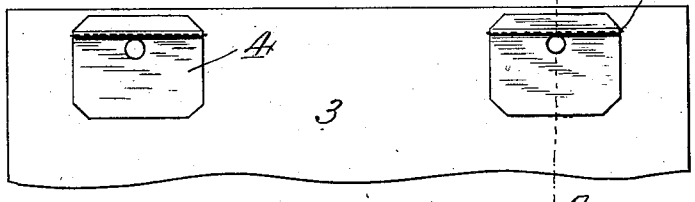


Fig. 3

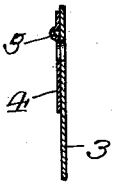


Fig. 4

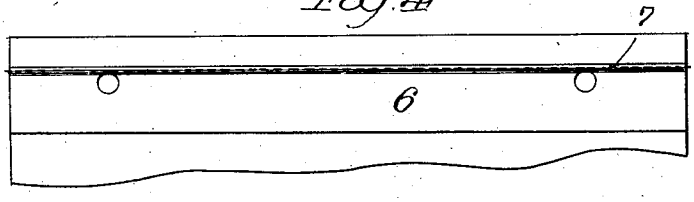


Fig. 5

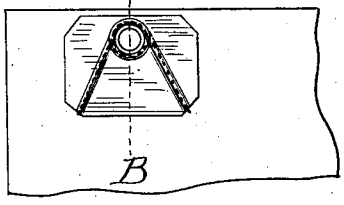


Fig. 8

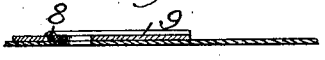


Fig. 6

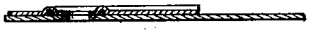
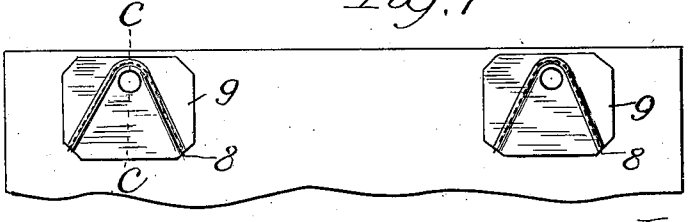


Fig. 7



Witnesses:
Harold G. Barnett
E. S. Breitaud.

Inventor:
William M. Byrne.
By O. Mawley. Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 740,086. Patented September 29, 1903.

UNITED STATES PATENT OFFICE.

WILLIAM M. BYRNE, OF CHICAGO, ILLINOIS.

REINFORCEMENT FOR BOOK-SHEETS.

SPECIFICATION forming part of Letters Patent No. 740,086, dated September 29, 1903.

Application filed November 28, 1902. Serial No. 133,068. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. BYRNE, a resident of Chicago, Cook county, Illinois, have invented a certain new, useful, and Improved Reinforcement for Book-Sheets, of which the following is a specification.

My invention relates to means for reinforcing the edges of book-sheets and the like. The sheets or pages to which this invention particularly refers are usually loose sheets that are bound between covers by clasps, pins, or rings, which are attached to the covers and by which the sheets are temporarily held. Books of this construction are largely employed for bills, accounts, notes, and memoranda, and the users thereof experience much annoyance and inconvenience because of the tearing of the paper sheets from the fastenings. The paper used is cheap and fragile, but by my invention is strengthened or reinforced across the edges of the sheets and around the fastener-holes, making it difficult to tear the paper.

The object of my invention is to provide a cheap reinforcement for book-sheets and the like; and my invention primarily consists in a sheet or page having a fastener-hole and a reinforcing strip or piece pasted thereon, with a flexible cord adhesively secured between the sheet and said piece to prevent the tearing of the paper between the hole and the edge of the sheet. My invention consists, further, in particular constructions and in combinations of parts, all as hereinafter described, and pointed out in the claims.

The invention will be more readily understood by reference to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a perspective view illustrating my invention. Fig. 2 is a detail view showing the reinforced edge of the sheet. Fig. 3 is a sectional view on the line A A of Fig. 2. Fig. 4 shows the reinforcement extending entirely across the sheet. Fig. 5 illustrates a modification of Fig. 2 in which the cord is carried around the hole in the paper sheet. Fig. 6 is a section on the line B B of Fig. 5. Fig. 7 shows still another arrangement of the cord or thread, and Fig. 8 is a sectional view on the line C C of Fig. 7.

As shown in Fig. 1 of the drawings, the book is made up of a number of sheets, which are held by the rings, pins, or fasteners 2. Each sheet 3 is provided with a reinforcement around each of the holes therein. The reinforcement may partake of numerous forms, but that which I prefer is illustrated in Figs. 1, 2, and 3. As therein shown, a small piece or reinforcing-patch 4 is pasted to the sheet 3 at each fastener-opening. These pieces are perforated at the same time with the sheet 3 and under each is provided a short cord or thread 5, placed between the hole and the edge of the sheet. These cords or threads are practically as flexible as the pieces of paper between which they are held, and being firmly bound therein they effectually prevent the tearing of the sheet from the fasteners. As represented in Fig. 4, the paper-reinforcing strip 6 and the cord 7 may extend clear across the edge of the paper, the cord, as before, being placed close to the holes and between the same and the edge. This device is less desirable than that shown in Fig. 2, for the reason that unless care is observed in applying the reinforcement the larger sheet is apt to become wrinkled. Nevertheless I prefer this construction for very wide sheets, which if not reinforced are likely to be torn between the fasteners. A very acceptable, though somewhat more expensive, form of my invention is illustrated in Fig. 7, in which the cords 8 are arranged in V form between the sheet and the reinforcing-pieces 9, forming loops that pass around the holes in the paper. For heavy sheets I prefer the construction shown in Figs. 5 and 6, the string in such cases being carried or wound entirely around the fastener-hole to prevent the tearing of the paper in any direction. It is obvious that the flexible cord or thread may be embedded in the paper during the process of manufacturing the sheets, and for this reason and because numerous modifications will readily suggest themselves to one skilled in the art I do not confine my invention to the specific constructions herein shown and described, the gist thereof being the flexible cord that is secured in or upon the sheet with a portion of the cord lying between the fastener-hole and the edge of the sheet.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The page or sheet, provided with a fastener-hole and a flexible cord or thread attached thereto extending upon each side of said hole and between the same and the edge of the sheet, substantially as described.

2. The page or sheet provided with an adhesively-secured reinforcing-piece and therewith provided with a fastener-hole, in combination with a flexible cord or thread adhesively secured between said sheet and reinforcing-piece, between said hole and the edge of said sheet, substantially as described.

3. The page or sheet provided with the fastener-holes, in combination with the correspondingly-perforated reinforcing-strip upon the edge of the sheet and the flexible fibrous cord or thread adhesively secured at the edge of said sheet, between the same and said reinforcing-strip, substantially as described.

4. The page or sheet, in combination with the reinforcing-piece and the loop of fibrous cord or thread adhesively secured between said sheet and piece, said sheet and piece being perforated within said loop, substantially as described.

In testimony whereof I have hereunto set my hand, this 21st day of November, 1902, at Chicago, Cook county, Illinois.

WILLIAM M. BYRNE.

Witnesses:
C. G. HAWLEY,
E. G. VREELAND.