2 Sheets—Sheet 1.

I. REYNOLDS

Removable Book-Binding.

No. 199,572. Patented Jan. 22, 1878.

Fig. 1.

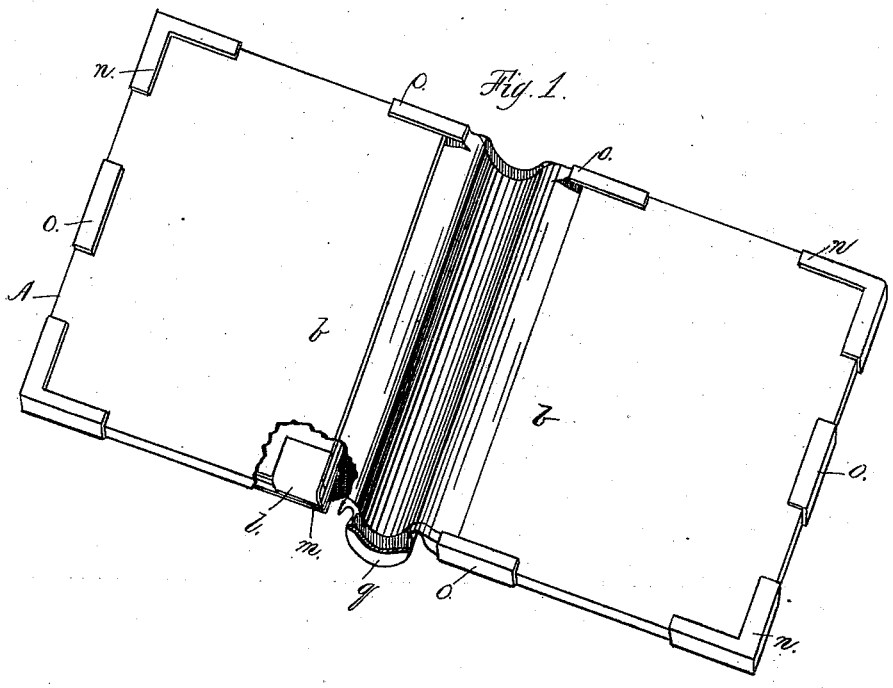
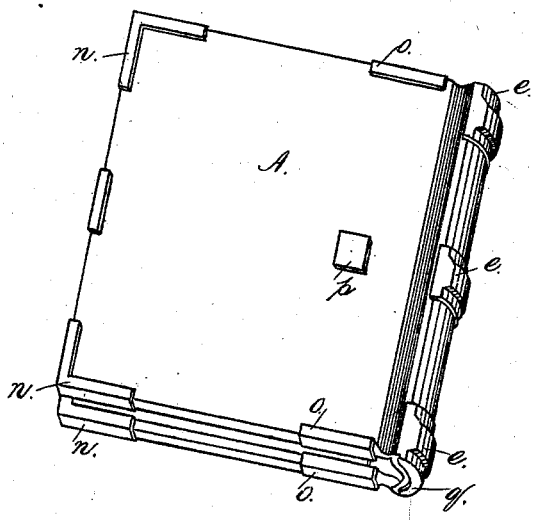


Fig. 2.



Attests:

Geo. T. Smallwood Jr.

Pennington Halsted

Inventor:

Ira Reynolds.

2 Sheets—Sheet 2.

I. REYNOLDS

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Fig. 3.

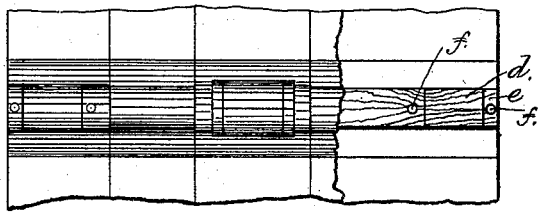


Fig. 4.

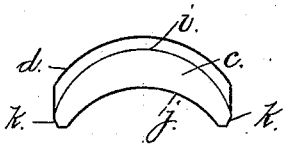


Fig. 5.

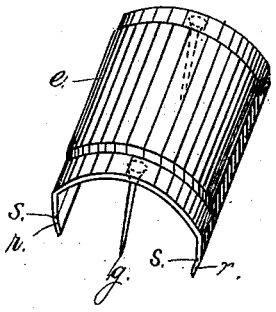
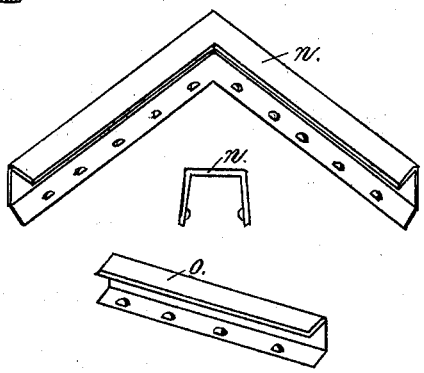


Fig. 4*.

Fig. 6.



Attests:

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Inventor:

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UNITED STATES PATENT OFFICE

IRA REYNOLDS, OF DAYTON, OHIO, ASSIGNOR TO REYNOLDS & REYNOLDS, OF SAME PLACE.

IMPROVEMENT IN REMOVABLE BOOK-BINDINGS.

Specification forming part of Letters Patent No. **199,572**, dated January 22, 1878; application filed December 18, 1877.

To all whom it may concern:

Be it known that I, IRA REYNOLDS, of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Removable Book-Bindings; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My present invention is a further improvement upon the removable book bindings or covers described in my Patent No. 193,036, granted July 10, 1877, and is more especially applicable to large books suitable for merchants, bankers, &c., who use many books per annum, and the cost of which is very burdensome when each book has its own costly permanent binding, the objects of the present invention being to furnish a removable binding of peculiar but elegant character, and having provisions for strength and durability, whereby a single cover may be kept in constant daily use for hundreds of the removable books to which it may be applied, and yet be well preserved, while at the same time its use admits of great economy, as but few covers are required.

In the drawings, Figure 1 is a perspective view of my improved cover opened and showing its inner side, one of the inner corners being partially broken away; Fig. 2, the cover closed; Fig. 3, a plan of the back, with its leather coverings partly broken away, as also the flaps or leaves; Fig. 4, an end view of the wooden back; Fig. 4*, a plan of the metallic heads or caps for the ends of the wooden back; Fig. 5, a metallic back-piece; Fig. 6, the metallic corner and side tips. Figs. 4, 4*, 5, and 6 are shown enlarged.

A represents my improved cover, having pockets *b* to receive the outer pasteboard or other stiff fly-leaf of the removable book, and which book may be made as described in my above-named patent, or otherwise, so long as it is adapted to be connected by the pockets and used with such a cover. The interior or body of the back *c* of the cover I form of wood of a length equal to that of the cover, and with exterior elevations or swells *d*, adapted to receive metal hubs and bands *e*, as hereinafter more fully stated; and I make holes *f* through such wooden back, adapted to receive the headed nails *g*, which are either cast integral with or connected to the hubs and bands *e* at the time the latter are cast, or afterward soldered thereto, the tips of such nails being clinched on the inner or concave side of the wood. At each end of this wooden back I secure by points, nails, screws, or otherwise a thin metal heading or cap-piece, *h*, the object of which is that the leather may at that point be turned closely and sharply over its thin edge, and be thus given a fixed and defined position, and not liable to derangement or damage, as contrasted with the common practice of leaving it unprotected and puckered up, and always flexible and liable to strain and injury. These metal pieces also add strength to the cover, and serve to protect the hook when the same is in use. This wooden back-piece has its exterior curvature *i* in the arc of a circle of about the same radius as its interior or concave part *j*, so that a cross-section of the back resembles a crescent, and the inner curve is, therefore, more nearly conformable to the arched back of the books which are to be protected by the cover. This also adds materially to the strength and durability of the back, and affords a stronger hold or purchase both for the nails or fastenings *g*, and for the bands *e*, and greatly enhances the strength of the whole structure. This varying thickness is not so practicable when the backs are made of paper or pasteboard, because several layers of different widths would have to be glued together to give the requisite thickness, leaving their edges abrupt, or else requiring to be shaved or trimmed down to give the requisite curvature; and these layers tend to separate if not properly glued together, and the inside lining cannot take a continuous hold upon the pasteboard if the latter be not trimmed down to a curve, but, on the contrary, there will remain gaps having no contact of the pasteboard with this lining or cover; besides the strength of pasteboard is not sufficient for the proper hold-

ing of the nails, and the expense and labor are very considerable, while my wooden back is very inexpensive, is integral, has no abrupt gaps, and is far better in use. Nor is pasteboard so well adapted for securely holding and retaining the metallic hubs and bands above named, and which add so much to the strength, durability, and beauty of finish of the cover. The edges *k* of this wooden back are beveled, chamfered off, or inclined inward, as seen, not only because the leather which forms the hinge of the cover turns over such edge better to act as a hinge, but also because, when the metallic hub and band *e* is applied, it also holds better by being turned over the bevel; and its edges being tightly clamped or compressed upon the two beveled edges it obtains a secure hold or purchase, by which it may cling to place even independently of the nails or prongs *g*. Although these bevels may be dispensed with when the hub and band *e* are not used, yet I need to have them, for the reasons above stated, when the hub and band *e* are used.

In the construction of the pockets *b* of these large books, although they may be re-enforced or strengthened by cords or tapes, as described in my above-named patent, yet I have devised a better and stronger means, as follows: I employ pieces of parchment at each end of the mouth of the pocket, as seen at *l* in Fig. 1, and tightly glue the same to the pasteboard or other material of which the pocket is composed, and turn the same over its edge, and secure and glue it upon or between other parts of the cover, as seen at *m*.

As a means for protecting the surface of the leather which is used for the exterior finish of the cover, and also for protecting its edges and corners, and to give strength as well as beauty, I employ ornamental metal tips or caps *n o p*, each having nails or teeth cast therein on their inner face or faces. The corner tips *n* and the side tips *o* are shaped to span the edge of the cover, their open side being slightly divergent or flaring, so that they may be slipped to place over the edge of the cover, after which they are tightly clamped or pressed to place to force their teeth into the pasteboard or material composing the leaves of the cover, and to bring to parallelism the divergent opposite sides.

The caps or plates *p* have nails, which can pass through the cover and be clinched on the other side. These plates prevent the cover from sagging at its center, and have the same elevation as the side and corner tips above the level of the cover, and thus always protect the leather from soiling or wear by contact with a table or desk.

The hubs and bands for the two ends of the wooden back are each provided with an end cap, *q*, which serves as a guard and protector for the end of the book, and for the cap-piece *h* and its covering; and also, while giving greater strength to these outer bands, they bring them to a level with the side and corner pieces when the covered book is stood on end. The side pieces or flanges *r* both of the end and middle hubs and bands *e*, are made with a groove or cut, *s*, near their edges, to facilitate the bending down of such flaps upon the longitudinal bevels *k* of the wooden back.

The hub or more elevated part of the wooden back may be dispensed with, and this back made plain, the metallic hub and bands being, however, as already described.

When leather instead of metal is used for the hub and band it takes its form by being applied to the hub or elevated part of the wooden back.

I claim—

1. The back for a book-cover, made of a single piece of wood, having its inner face concaved with a continuous or unbroken curve, its center thicker than its edges, and its edges rigid or unyielding, substantially as shown and described.

2. The wooden back having its inner face concaved in cross-section, and thicker at its center than at its edges, and having its edges beveled or chamfered off, as described, and as shown in Fig. 4.

3. The metal headings or end pieces *h*, in combination with the wooden back, as and for the purposes set forth.

4. The center metal hub and band, cut or grooved longitudinally on the inside, and bent down over the leather and bevel of the wooden back, as shown at Figs. 2 and 5, and for the purposes set forth.

5. The end metal hub and band provided with a head, *q*, and also with their edges longitudinally grooved on the inside and bent down over the leather and bevel of the wooden back, for the purposes set forth.

IRA REYNOLDS.

Witnesses:

JAS. H. GRIDLEY,

PENNINGTON HALSTED.