No. 762,419. PATENTED JUNE 14, 1904.

A. LAWSON.

LOOSE SHEET BINDER.

APPLICATION FILED OCT. 5, 1903.

NO MODEL.

Fig. I.

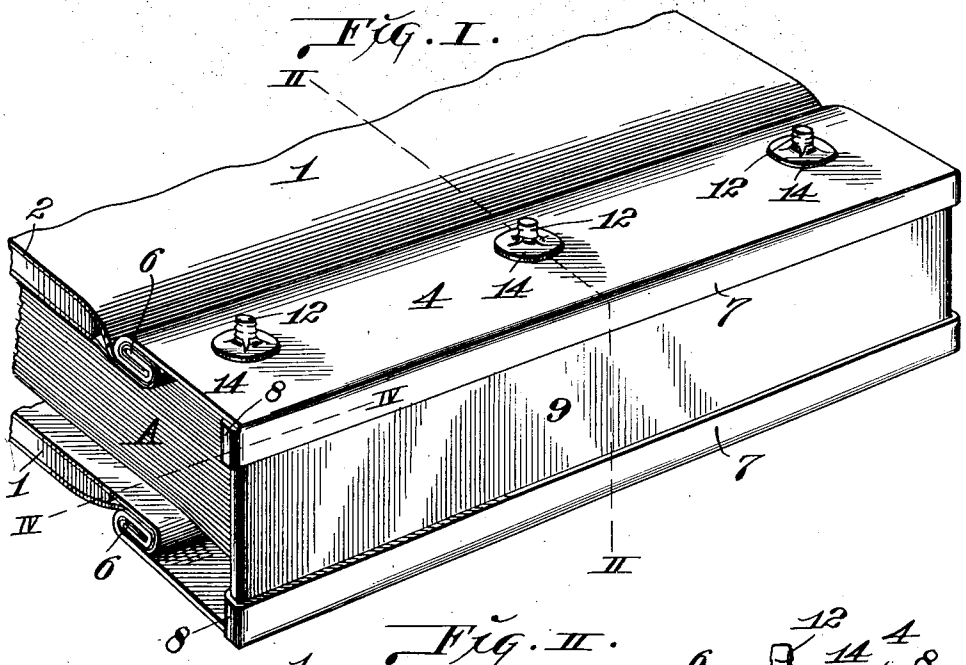


Fig. II.

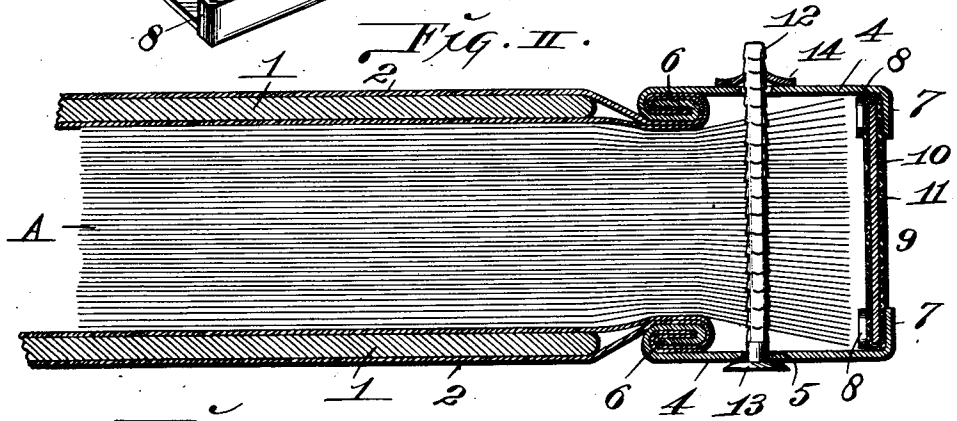


Fig. III.

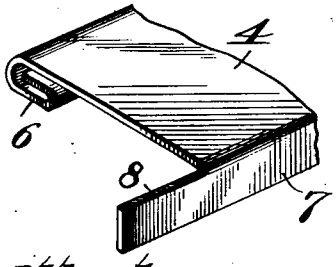


Fig. IV.

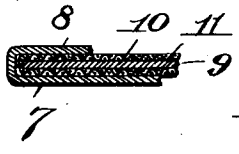
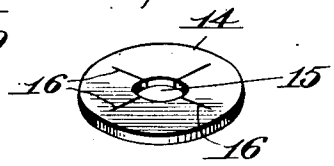


Fig. V.



Attest:—

M. P. Smith.

E. S. Knight

Inventor:—

Albert Lawson.

By Knight Bros Atty's.

No. 762,419. Patented June 14, 1904.

UNITED STATES PATENT OFFICE.

ALBERT LAWSON, OF ST. LOUIS, MISSOURI.

LOOSE-SHEET BINDER.

SPECIFICATION forming part of Letters Patent No. 762,419, dated June 14, 1904.

Application filed October 5, 1903. Serial No. 175,731. (No model.)

To all whom it may concern:

Be it known that I, ALBERT LAWSON, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Loose-Sheet Binders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a binder for inclosing and confining loose sheets of paper, and is particularly intended for confining into book form tissue copies of railroad way-bills, the object of the invention being to provide a binder in which loose sheets of the character named may be bound more readily, quickly, and cheaply than in binders as heretofore produced.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a perspective view of the rear end of my binder. Fig. II is a longitudinal section taken on line II II, Fig. I. Fig. III is a perspective view of one end of one of the binding-plates carried by the covers of the binder. Fig. IV is a section taken on line IV IV, Fig. I, through one of the inturned flanges of one of the cover-carried binding-plates. Fig. V is a perspective view of one of the clutch-disks applied to the binder-posts.

A designates a series of loose sheets shown in position in my binder.

1 designates the cover-boards of a binder, which are inclosed within sheets 2, of canvas or other fabric. The sheets of fabric 2 extend beyond the rear edges of the cover-boards and receive the connections to be hereinafter mentioned.

4 designates binding-plates that are provided with apertures 5, spaced at desirable distances apart therein, and the forward edges of which are curved or coiled rearwardly with respect to the main bodies of the plates, as seen at 6, Figs. I, II, and III. Within the coils of the plates are seated the flexible rear ends of the cover-board, inclosing sheets 2, which are introduced into the coils and quickly clamped therein to hold the covers to the binding-plates, thereby furnishing flexible joints between the binding-plates and the binder-covers. At the rear edge of each binding-plate 4 is an inturned flange 7, the flange of the top plate extending downwardly and the flange of the lower plate extending upwardly, as seen in Figs. I and II. At each end of each of the flanges 7 is a tongue 8, that in the production of the binder project beyond the ends of the binding-plates in a longitudinal direction, as seen in Fig. III, and which are bent inwardly from the ends of the flanges to extend in lines parallel with the flanges 7 by slightly removing therefrom to produce U-shaped pockets at the rear of and at the ends of each of the binding-plates. (See Figs. II and IV.)

9 designates the back of the binder, which is seated between the binding-plates 4 and is confined within the pockets produced by the flanges 7 and tongues 8, the said backs being held from rearward movement by said flanges 7 and held from forward or endwise movement by the tongues 8, which extend across the ends of the back and embrace it at its forward side, as shown. The back 9 is preferably composed of a central sheet 10, of metal, that is incased by a covering 11, of fabric.

12 designates posts furnished with heads 13 and extending through the apertures 5 in the binding-plates 4. These posts are preferably serrated, as illustrated in Fig. II.

14 designates clutch-disks (see Figs. I, II, and V) which are provided with apertures 15 and containing a plurality of slits 16, which divide the disks into a series of spring-tongues the free ends of which are presented inwardly to the apertures 15. These clutch-disks are designed to be passed over the points of the posts 12 and pressed onto said posts to adhere thereto by engaging the serrations on the posts. The aperture in each clutch-disk is slightly less in area than the diameter of the post to which it is fitted, and therefore when the disk is forced onto the post its tongues are sprung outwardly, as illustrated in Figs. I and II, and after the tongues have engaged the serrations of the post their return movement is effectually prevented, so that escape of the disk is impossible, and it must remain to hold the post from displace-

ment and the confining binding-plates from separation from the sheets of paper that are confined between them.

In the operation of binding the loose sheets into my binder the posts 12 are first passed through the binding-plate carried by the lower cover, and the loose sheets to be bound are then pressed onto the posts, their application thereto being greatly facilitated by pointed prongs that are fitted to the posts and over which the loose sheets may be readily passed, so that they will be perforated and move readily onto the posts. These prongs do not, however, form any part of the invention in this application, but are included in the subject-matter of another application for patent. After the desired amount of loose sheets have been applied to the posts of the binder the upper cover of the binder is passed over the posts and the clutch-disks 14 are pressed onto the posts. Previous, however, to the depression of these clutch-disks the back 9 of the binder is introduced between the binding-plates and seated in the pockets furnished by the flanges 7 and tongues 8, after which the clutch-disks may be forced onto the posts to the desired extent to thoroughly clamp the plates 4 against the sheets which they confine.

The back 9, in addition to its utility as an inclosure for the rear of the binder, has two important functions—viz., that of holding the binding-plates 4 separated at their rear edges to prevent their collapse and that of relieving strain on the posts 12, this latter being due to the back extending in a line parallel with the posts, and thereby resisting and preventing the occurrence of any lateral strain on the posts when the binder is opened and being handled in its use. In addition the back serves to give the proper shape to the binder and hold all of the binding members with rigidity.

A binder constructed in accordance with my invention is extremely simple and inexpensive for manufacture, both in the point of material and labor, and it is one in which the operations of binding loose sheets of paper therein are quickly and easily performed, with the result of a compact and cheap book being produced when the operation of binding is completed.

I claim as my invention—

1. A binder composed of a pair of covers, binding-plates secured to said covers, means for connecting said binding-plates, and a separate back interposed between said binding-plates and confined thereby, substantially as set forth.

2. A binder composed of a pair of covers, apertured binding-plates secured to said covers, posts passing through said binding-plates, means for securing said posts, and a separate back interposed between said binding-plates, substantially as set forth.

3. A binder composed of a pair of covers, binding-plates secured to said covers, flanges projecting from said binding-plates, means for connecting said binding-plates, and a separate back interposed between said binding-plates and confined by said flanges, substantially as set forth.

4. A binder composed of a pair of covers, binding-plates secured to said covers, flanges projecting from said binding-plates, inturned tongues carried by said flanges, means for connecting said binding-plates, and a separate back interposed between said binding-plates, and confined between said flanges and tongues, substantially as set forth.

5. A binder composed of a pair of covers, apertured binding-plates secured to said covers, posts passing through the apertures in said binding-plates and uniting the plates, clutch-disks fitted to said posts, and a separate stiff back interposed between said binding-plates, substantially as set forth.

ALBERT LAWSON.

In presence of—
E. S. KNIGHT,
BLANCHE HOGAN.