

A. S. HARN.  
 LOOSE LEAF BOOK BINDER.  
 APPLICATION FILED DEC. 13, 1906.

911,977.

Patented Feb. 9, 1909.

Fig - 1 -

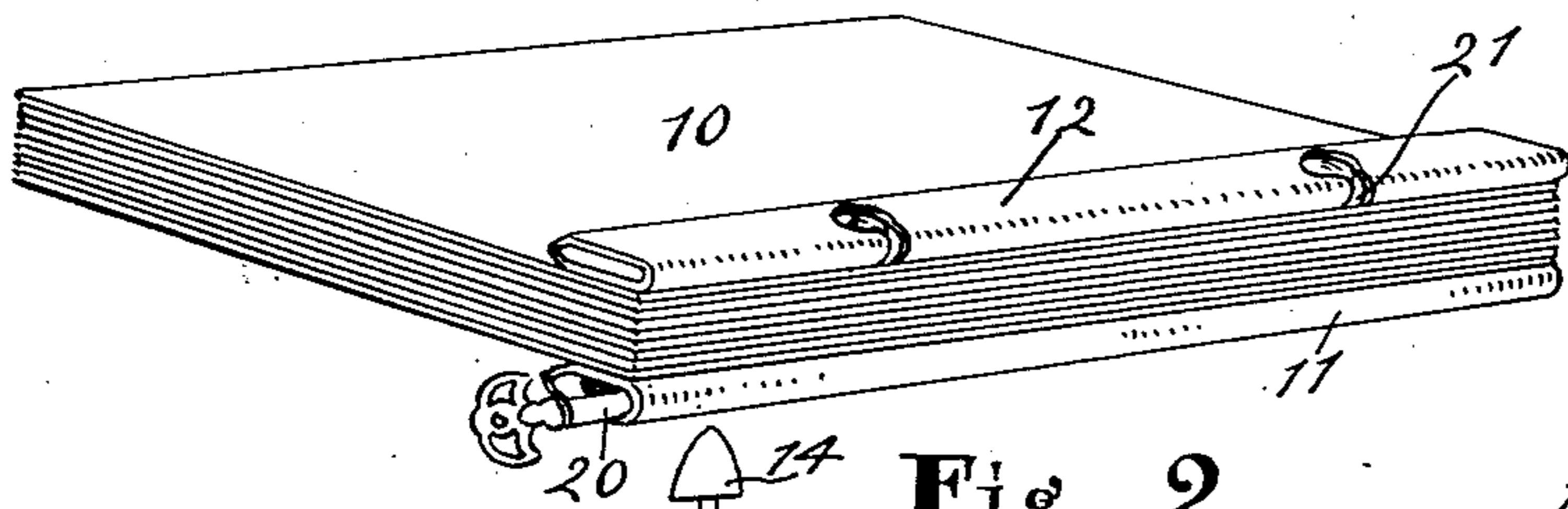


Fig - 3 -

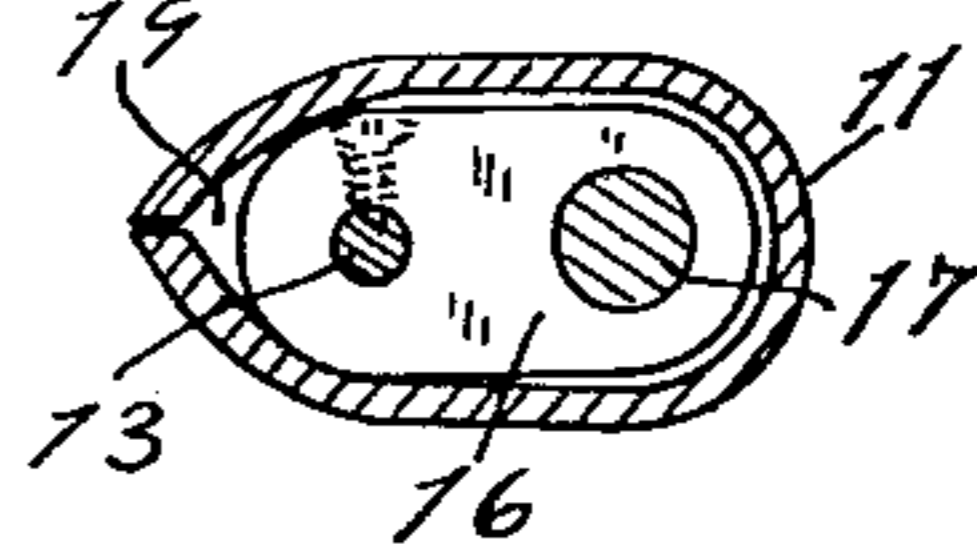


Fig - 2 -

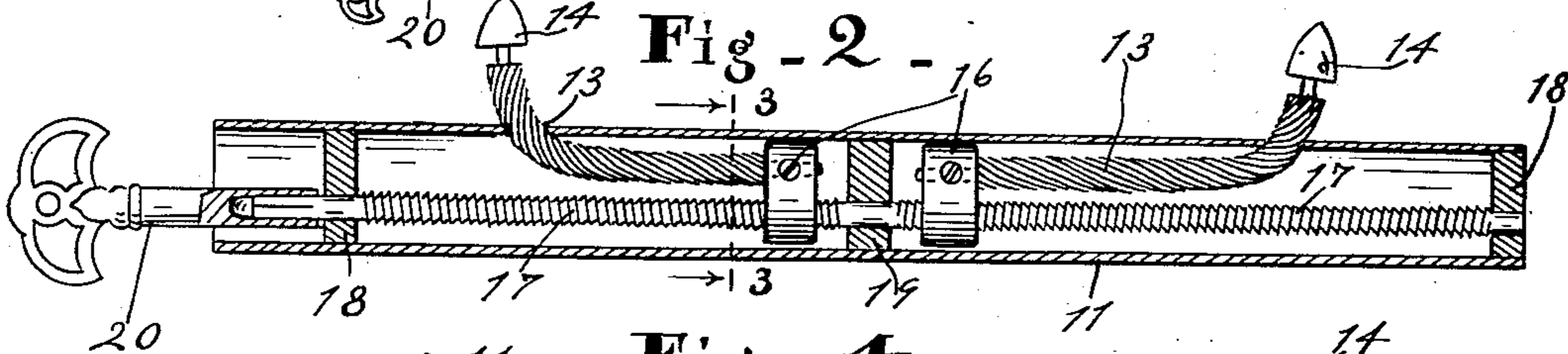


Fig - 4 -

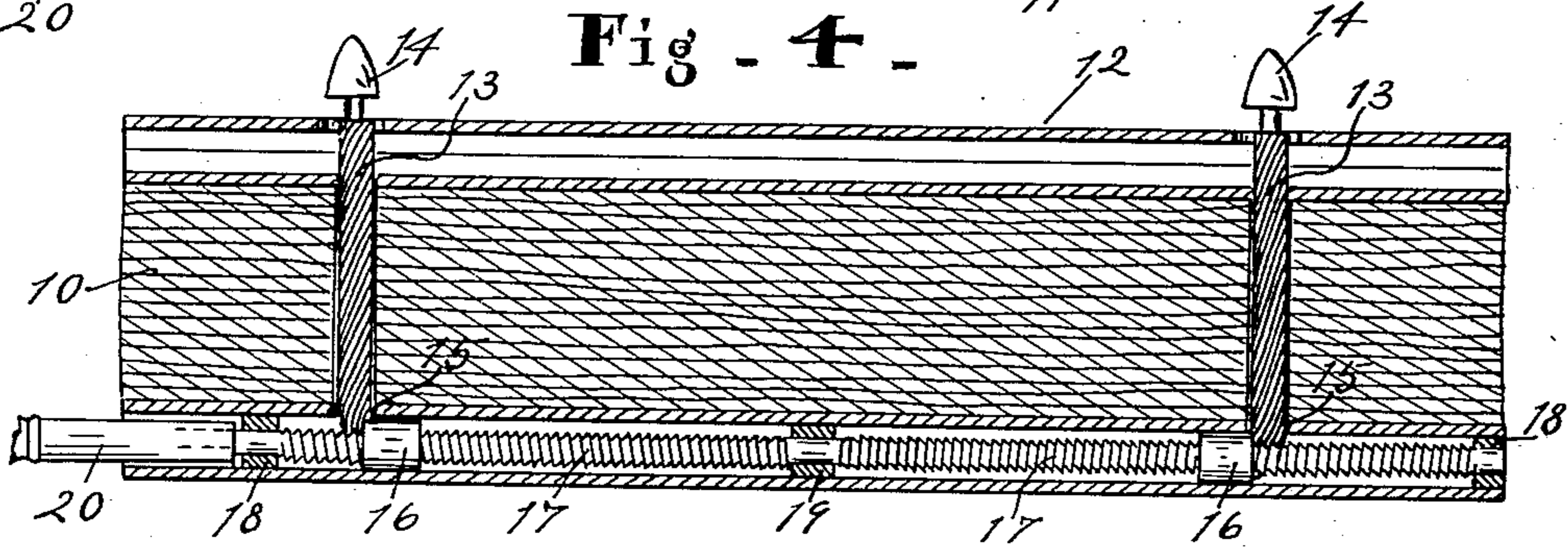
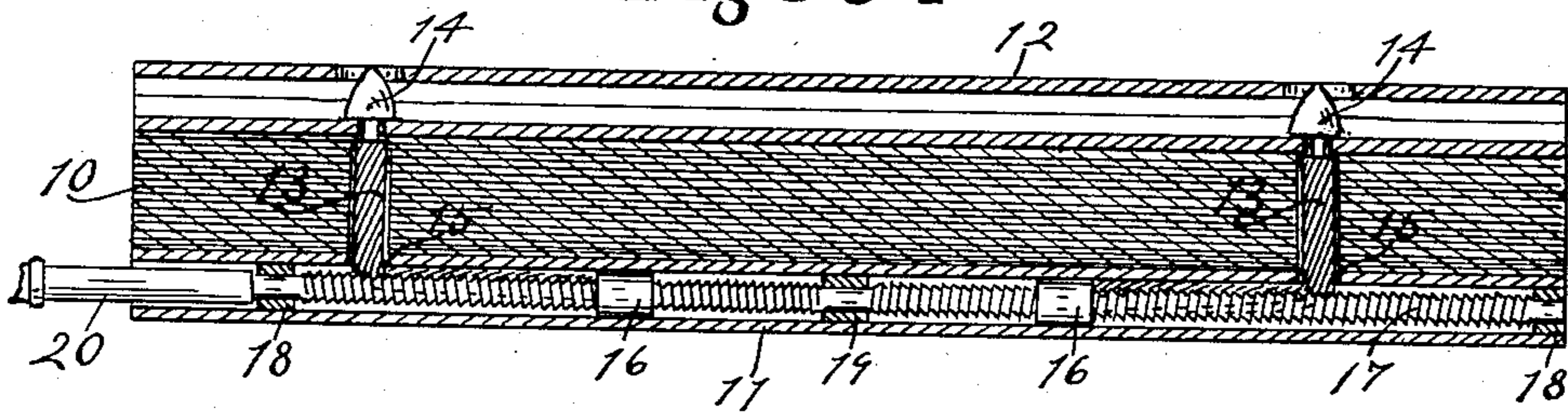


Fig - 5 -



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ALBERT S. HARN, OF BLOOMINGTON, INDIANA.

## LOOSE-LEAF-BOOK BINDER.

No. 911,977.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed December 13, 1906. Serial No. 347,605.

*To all whom it may concern:*

Be it known that I, ALBERT S. HARN, of Bloomington, county of Monroe, and State of Indiana, have invented a certain new and useful Loose-Leaf-Book Binder; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like letters refer to like parts.

The object of this invention is to improve loose leaf book binders.

To that end the chief feature of this invention consists in providing stiff flexible posts for binding the leaves. These posts are stiff enough to be insertible through the holes of a number of leaves and be forced in a curved line out of one side of the binder. They are flexible enough to curve in passing out of or into the side of the binder in which the same are mounted. In other words, in such side member of the binder the flexible posts extend longitudinally of the binder for a distance and then are turned outwardly through a hole and thence are projected at a right angle to the binder so as to be insertible through the sheets of paper to be bound.

The nature of the invention will be understood from the accompanying drawing and the following description and claims.

In the drawings Figure 1 is a perspective view of a book bound with my binder. Fig. 2 is a central longitudinal section through the member of the binder which carries the flexible posts. Fig. 3 is a transverse section on the line 3—3 of Fig. 2. Fig. 4 is a longitudinal section through a book provided with my binder showing the parts in position after the parts of the binder are first put in place on the leaves. Fig. 5 is the same with the binder tightened.

In detail 10 represents the loose leaves of a book that are each provided with a pair of holes, as is customary with leaves for loose leaf binders.

The binder consists primarily of two binding members 11 and 12. As shown, these two members extend longitudinally of the book and are hollow, being formed preferably of a single sheet of brass or other metal folded over into an oval form in cross-section substantially as shown in Fig. 3. The thickness of the binding member, or rather the width of the space within it, may be varied to suit the size of the parts to be mounted therein.

The binding member 11 has mounted in it flexible stiff binding posts 13, which are made

preferably of wire like a cable. This is so made as to be quite stiff, so that the head 14 on the outer end of the post may be readily insertible through the holes of a large number of leaves at once. In fact it should be only flexible enough to bend as it passes through the hole 15 in the binding member 11, for the portion outside of said hole must extend substantially at a right angle from said binding member, while the portion within the binding member extends longitudinally of and parallel with said binding member, and at its inner end is attached to the movable block 16 that is provided with a threaded hole and is mounted on a screw rod 17. This screw rod at each end has bearings in an end plate 18, and at its center in a middle plate 19. Said rod is reversely threaded at each end so that when rotated by the removable key 20, the rod will move the block 16 in opposite directions. The other binding member 12 has in it slots 21 cut through the rear edge thereof, the portion of said slot in the rear edge and in the inner surface adjacent the leaves is narrow, and the end of the slot in the outer surface of said binding member is enlarged, substantially as appears in Fig. 1. The enlarged portion of said slot 21 is large enough for the insertion of the head 14 of the post, and the narrow portion of said slot is large enough for the insertion of the narrow portion of the post, but it is too narrow to permit the passage through it of the head 14.

The device is used as follows: After the leaves 10 have been duly punched, the threaded rod 17 is operated so as to move the blocks 16 away from each other and thus push the outer ends of the posts 13 outward and away from the binding member far enough to extend through the number of leaves to be bound. The leaves are then put in place on the post in the customary manner; and the binding member 12 is put in place upon the leaves and on the outer ends of the posts. This latter step is accomplished by merely sliding the member 12 rearward until the posts enter the slots 21, as shown in Fig. 4, and the heads 14 extend over the enlarged ends of said slots 21. Then the threaded rod 17 is operated in a direction the reverse of that mentioned above so as to draw the blocks 16 toward each other and draw in and down said posts 13 until the heads 14 of the posts pass through the enlarged portion of the slots 21 and engage the inner wall of the

member 12, as shown in Fig. 3, and until said posts are drawn down tightly enough to bind the leaves 10 between the two binding posts, as appears in Fig. 5. The key 20 is then removed.

It is thus seen that a very simply constructed loose leaf binding is provided, as there are only the two binding members with the stiff flexible posts that are drawn into or pushed out of one of said members. The binder is adjustable from one to any number of leaves, as the two members can be drawn absolutely against each other and at no time will the posts project, but will always be out of the way, as shown in Fig. 5. There are other advantages which will occur to any person experienced in loose-leaf book binding.

What I claim as my invention and desire to secure by Letters Patent is:

1. A loose leaf book-binder having two binding members between which perforated sheets of paper are adapted to be bound, said binding members having a casing to form a chamber and holes in the side of said casing adjacent the sheets of paper when in place and registering with the perforations in the paper, stiff flexible posts mounted in said casing and projecting through said holes and

through the perforated sheets of paper, enlarged heads on the outer ends of said posts, slots in the outer binding member, through which said enlarged heads may be extended for removably securing the posts to said binding member, and means in said casing for withdrawing said posts and projecting the same therefrom, substantially as set forth.

2. A loose-leaf book-binder having binding members, flexible posts with heads on the ends thereof for connecting said members, and means mounted in connection with one binding member for lengthening and shortening said posts, the other binding member being hollow and slotted through the rear edge thereof to receive said flexible posts, said slots being widened in the outer surface of said binding member to admit the heads on said flexible posts and narrow enough in the inner surface of said binding member to prevent the passage through them of the heads of said flexible posts, substantially as set forth.

In witness whereof, I have hereunto affixed my signature in the presence of the witnesses herein named.

ALBERT S. HARN.

Witnesses:

THEODORE J. LOUDEN,  
SAMUEL W. COLLINS.