

928,993.

S. H. MITCHELL.
LOOSE LEAF BINDER.
APPLICATION FILED NOV. 12, 1908.

Patented July 27, 1909.

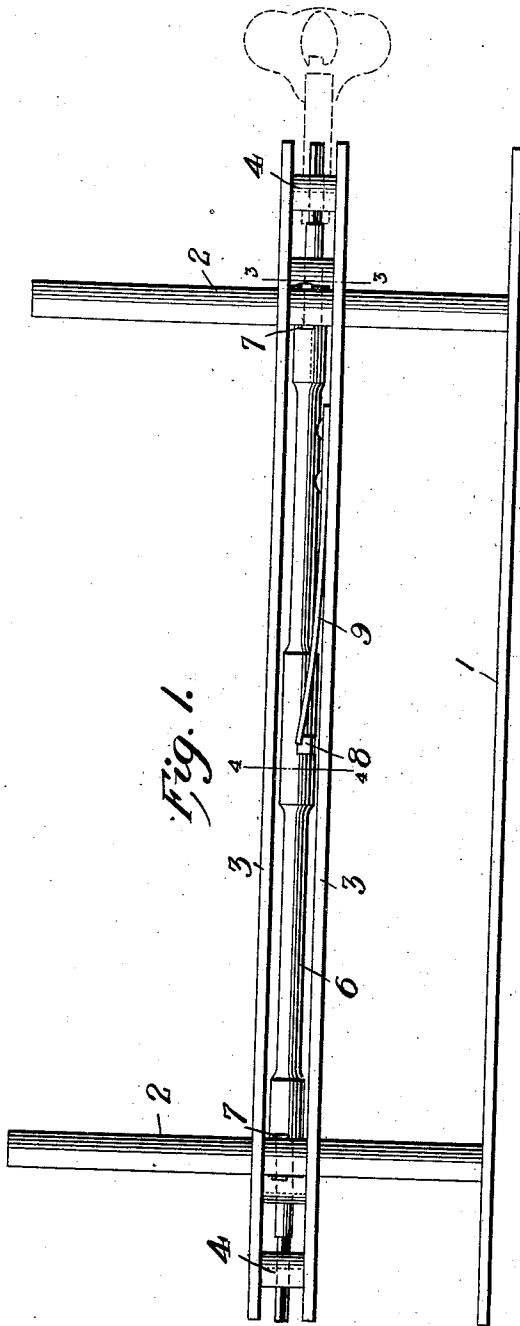


Fig. 1.

Fig. 2.

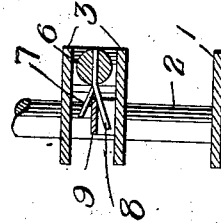
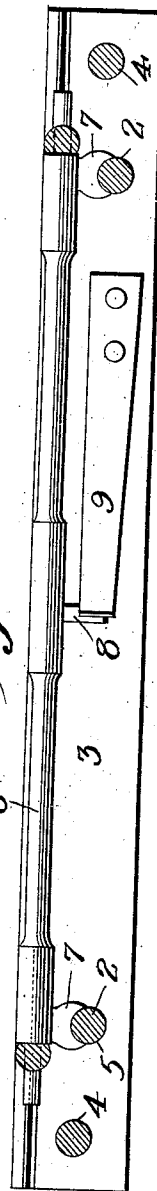


Fig. 3.

Fig. 4.

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UNITED STATES PATENT OFFICE.

STEPHEN H. MITCHELL, OF SALT LAKE CITY, UTAH.

LOOSE-LEAF BINDER.

No. 928,993.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed November 12, 1908. Serial No. 462,307.

To all whom it may concern:

Be it known that I, STEPHEN H. MITCHELL, a citizen of the United States of America, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented certain new and useful Improvements in Loose-Leaf Binders, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in loose-leaf binders and consists in certain novel features hereinafter first fully described and then particularly pointed out in the claims.

In the drawings, Figure 1 is an elevation of a binder embodying the invention. Fig. 2 is a plan view with the upper plate of the slidable frame removed. Fig. 3 is a detail transverse section of the line 3—3 of Fig. 1, and Fig. 4 is a similar view on the line 4—4 of Fig. 1.

In carrying out the present invention, I employ a base plate or bar, 1, from which posts, 2, rise, the said posts being intended to retain the loose leaves by passing through openings formed in the same, as will be readily understood. Above the loose leaves, a slidable frame or casing is mounted on the posts, the frame being shown in the drawings as consisting of two plates, 3, held rigidly a slight distance apart by connecting bolts or rivets, 4. These plates are, of course, provided with openings, 5, through which the posts pass and between the plates a rock shaft, 6, is journaled in suitable bearings, the said rock shaft being provided near its ends with radial arms, 7, having notched free ends adapted to partly embrace the posts 2 as clearly shown in Fig. 2. The ends of the shaft are made angular to be engaged by a suitable key and at an intermediate point of its length an offset or lip, 8, is provided on the shaft. A spring, 9, is secured on the lower plate 3 and bears upon the said offset or lip 8 to force the same normally toward the plate.

The loose leaves, it will be understood, are previously prepared with perforations so that they may be readily placed over the posts to the desired number. The slidable frame is

then placed in position on the posts and pressed downward to rest upon the leaves so that they will be held firmly in place. As the said slidable frame is pushed down over the posts the frictional engagement of the posts and the notched radial arms will cause the said arms to rise slightly and rotate the rock shaft against the tension of the holding spring to such an extent that the downward progress of the frame will not be impeded, it being understood that the arms 7 exceed in length the distance between the rock shaft and the posts so that they will always extend upward, as shown in Figs. 3 and 4. Should it be attempted to raise the frame, however, the frictional engagement between the said arms and the posts will act with the said spring to cause the arms to bind strongly against the posts and thereby prevent the upward movement of the frame. The surreptitious removal of leaves will thus be prevented but when leaves are to be properly removed, the custodian of the apparatus will engage a suitable key on the end of the rock shaft and then slightly rock the said shaft so as to disengage the binding arms or grippers from the posts and will lift the frame while holding the rock shaft in this disengaged position.

The device is very simple in its construction being composed of few parts which are compactly arranged. The slidable clamping frame may be easily pushed downward to more firmly secure the leaves but can be lifted to loosen or permit removal of the leaves only after the releasing key has been brought into play, as will be readily understood from the foregoing description.

Having thus described my invention, what I claim and desire to secure by Letters-Patent is:—

1. In a loose-leaf binder, the combination of the retaining posts, a clamping frame mounted to slide on the said posts, a rock shaft on said frame having radial gripping arms adapted to bind on the posts when the frame moves in one direction and slide thereon when the frame moves in the opposite direction, and yielding means for holding the said arms normally in engagement with the posts.

2. In a loose-leaf binder, the combination

with retaining posts, of a clamping frame
slidably mounted on the posts, a rock shaft
in the said frame having radial arms adapt-
ed to partly embrace the posts, a lateral lip
5 on the rock shaft, and a spring secured with-
in the frame and bearing on said lip.

In testimony whereof, I have signed this

specification in the presence of two subscrib-
ing witnesses.

STEPHEN H. MITCHELL.

Witnesses:

CHARLOTTE MITCHELL,
EDWIN J. SHIELDS.