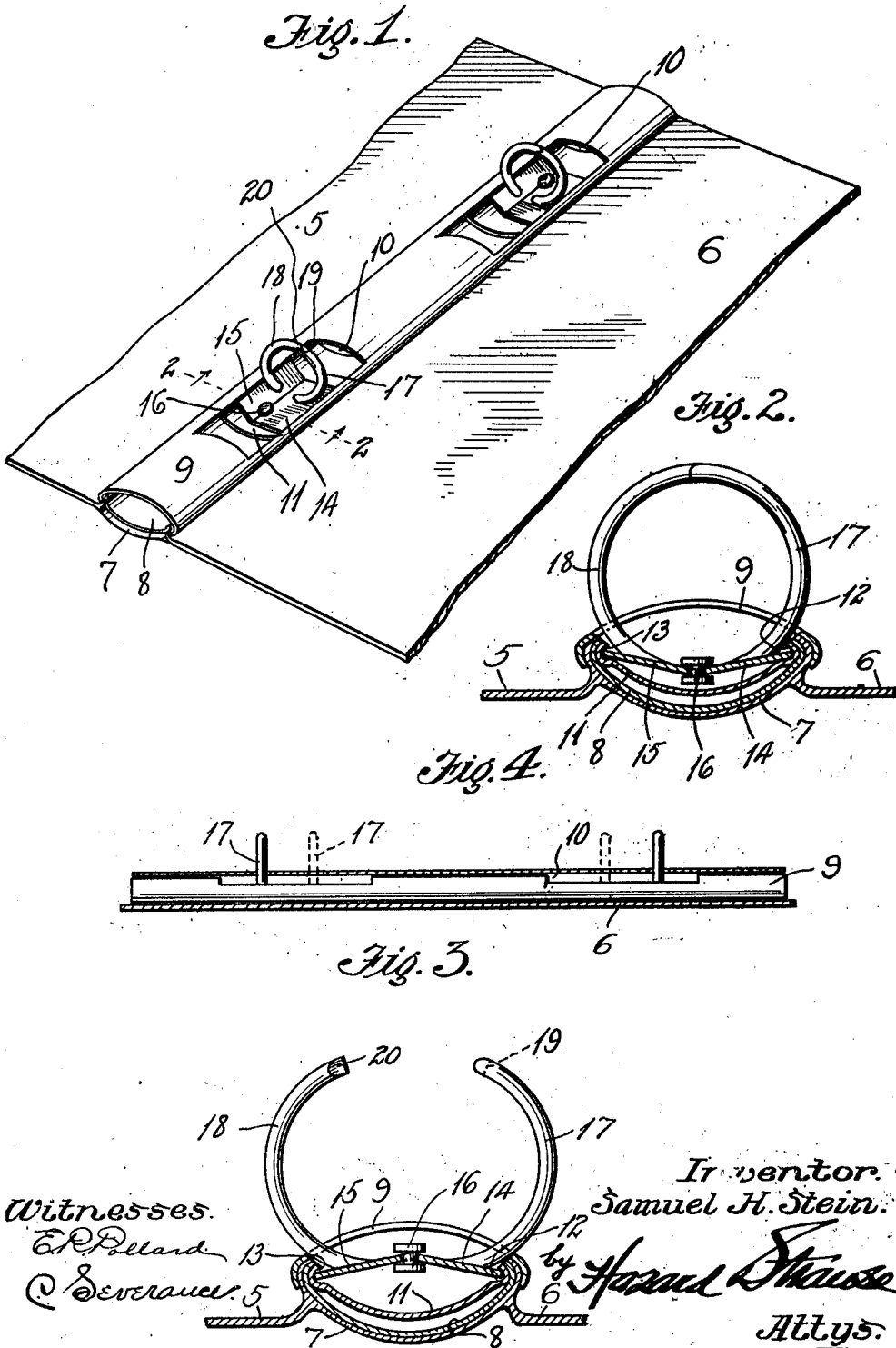


S. H. STEIN.
 LOOSE LEAF BINDER.
 APPLICATION FILED AUG. 3, 1911.

1,027,085.

Patented May 21, 1912.



UNITED STATES PATENT OFFICE.

SAMUEL H. STEIN, OF LOS ANGELES, CALIFORNIA.

LOOSE-LEAF BINDER.

1,027,085.

Specification of Letters Patent.

Patented May 21, 1912.

Application filed August 3, 1911. Serial No. 642,068.

To all whom it may concern:

Be it known that I, SAMUEL H. STEIN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Loose-Leaf Binders, of which the following is a specification.

This invention relates to improvements in loose leaf binders, and it is the object of the invention to provide a binder for loose leaves of any kind in which the leaf engaging means may be adjusted to various points with respect to each other to bring them opposite perforations or apertures formed in the sheets to be secured.

It is also an object of the invention to provide a binder with a securing back portion having openings formed therein and leaf engaging securing means adjustably mounted in said openings.

It is a further object of the invention to provide a loose leaf binder in which the back of the binder is formed with openings, the back also having guideways formed therein and to provide sliding means engaging said back and moving in said openings, the said sliding means having opening and closing fasteners for securing loose leaves to be bound.

In the accompanying drawing forming a part of this specification, Figure 1 is a perspective view of a portion of the improved loose leaf binder, the cover leaves thereof being open to reveal the back and leaf securing means. Fig. 2 is an enlarged detail section view taken transversely through the back of the binder and one of the leaf securing means, the leaf engaging arms thereof being shown in elevation taken on the line 2-2 of Fig. 1. Fig. 3 is a similar sectional view but showing the leaf engaging portion in open position. Fig. 4 is a longitudinal sectional view through the binder taken to one side of the back thereof and showing the position of the leaf securing portions.

The details of the invention will now be more particularly described, reference being had to the drawing in which 5 and 6 indicate the front and back leaves of the cover of the binder and 7 the connecting back interposed between said leaves. The back is formed with a hollow metallic portion usually made of curved back and front plates 8 and 9 respectively which are crimped or otherwise fastened together at their edges as clearly shown in the drawing. The back is

thus formed with a longitudinal recess extending between said plates and portions of the front plate 9 are cut away at 10 to accommodate and permit the adjustment of the leaf securing means employed. The said leaf securing means is made up of slides or plates 11 which are of approximately the full width of the opening in the back and are arranged to slide longitudinally within the space between the front and rear plates. The plates 11 are formed with their edges turned over to provide grooves at 12 and 13 in which ring carrying plates 14 and 15 are movably mounted. The said plates 14 and 15 are held with their meeting edges opposite each other, by means of double headed studs 16 the spaces between the heads of which are sufficient to permit the said plates to rock in and out, for opening and closing the leaf holding means. The width of the plates 14 and 15 is such that when they are brought into the same plane they will tend to force the flanges of the plate 11 outwardly to some extent so that in moving the said plates from one extreme of their movement to the other, they will be sprung by their central positions and always tend to occupy one of said extremes or the other. The said plates 14 and 15 carry leaf engaging arms 17 and 18, the ends of which may be brought together when the plates 14 and 15 are sprung inwardly as shown in Figs. 1 and 2. The meeting ends of the said arms are made to fit upon each other so as to form a smooth joint and not to interfere with the movement of the leaves upon the rings produced by the bringing of said arms together. For this purpose one of said arms is usually provided with a V-shaped notch 19 in its free end while the opposing arm is formed with a correspondingly tapered point 20. When the leaves are to be put in place the arms 17 and 18 are pulled apart as shown in Fig. 3, the plates 14 and 15 being sprung past their central positions in this way and holding the said arms in open position. The arms 17 and 18, by their engagement with the side edges of the opening 10, limit the upward movement of the said plates 14 and 15. After the leaves have been put in place upon the arms 17 and 18 they are snapped together again, the parts assuming the position shown in Fig. 3.

The mounting of the rings and the plates 14 and 15 carrying the same upon the slide plate 11 makes it possible for the rings to be

5 moved or adjusted to accommodate themselves exactly to the holes or openings punched in leaves. Leaves with openings made at different points therein may thus be
10 used in the binder. It may be desirable also to have the leaves in some instances punched at points farther apart than in other cases and the rings may be adjusted to accom-

15 modate such a change.
While the slides 11 are capable of being moved back and forth in the openings 10, they are usually made with sufficiently tight frictional engagement in the narrow portions of the back to prevent them sliding ac-

20 cidentally.
While only two ring fasteners have been illustrated in the drawing it will be evident that any number of such rings may be employed as desired without departing in the
25 least from the spirit of the invention. Of course it will be understood that no matter how many rings are used they will be provided with the same adjustable means for securing them in the back of the binder.

25 What I claim is:—

1. A loose leaf binder comprising a back having guide-ways formed therein, and having elongated openings formed in its front
30 wall for accommodating leaf engaging means, and adjustable leaf hinging means

adapted to slide in said guide ways to different points in said openings, and having leaf securing arms projecting through said openings.

2. A loose leaf binder comprising a back 35 having guideways formed therein and openings for accommodating hinging engaging means, and adjustable leaf hinging means adapted to slide in said guideways and having leaf engaging arms projecting through 40 said openings and adapted to spread for receiving or releasing a leaf.

3. A loose leaf binder comprising a back, slides movable longitudinally thereof and 45 having flanges forming edge grooves, plates adapted to be sprung back and forth opposite each other in said grooves, headed studs holding the meeting edges of said plates with respect to each other, and curved arms projecting from said plates adapted to form 50 leaf holding rings when they are brought together.

In witness that I claim the foregoing I have hereunto subscribed my name this 27th day of July, 1911.

SAMUEL H. STEIN.

Witnesses:

E. STADLMAN,
C. SEVERANCE.