

No. 617,757.

Patented Jan. 17, 1899.

H. C. MILLER.
TEMPORARY BINDER.

(Application filed May 28, 1898.)

(No Model.)

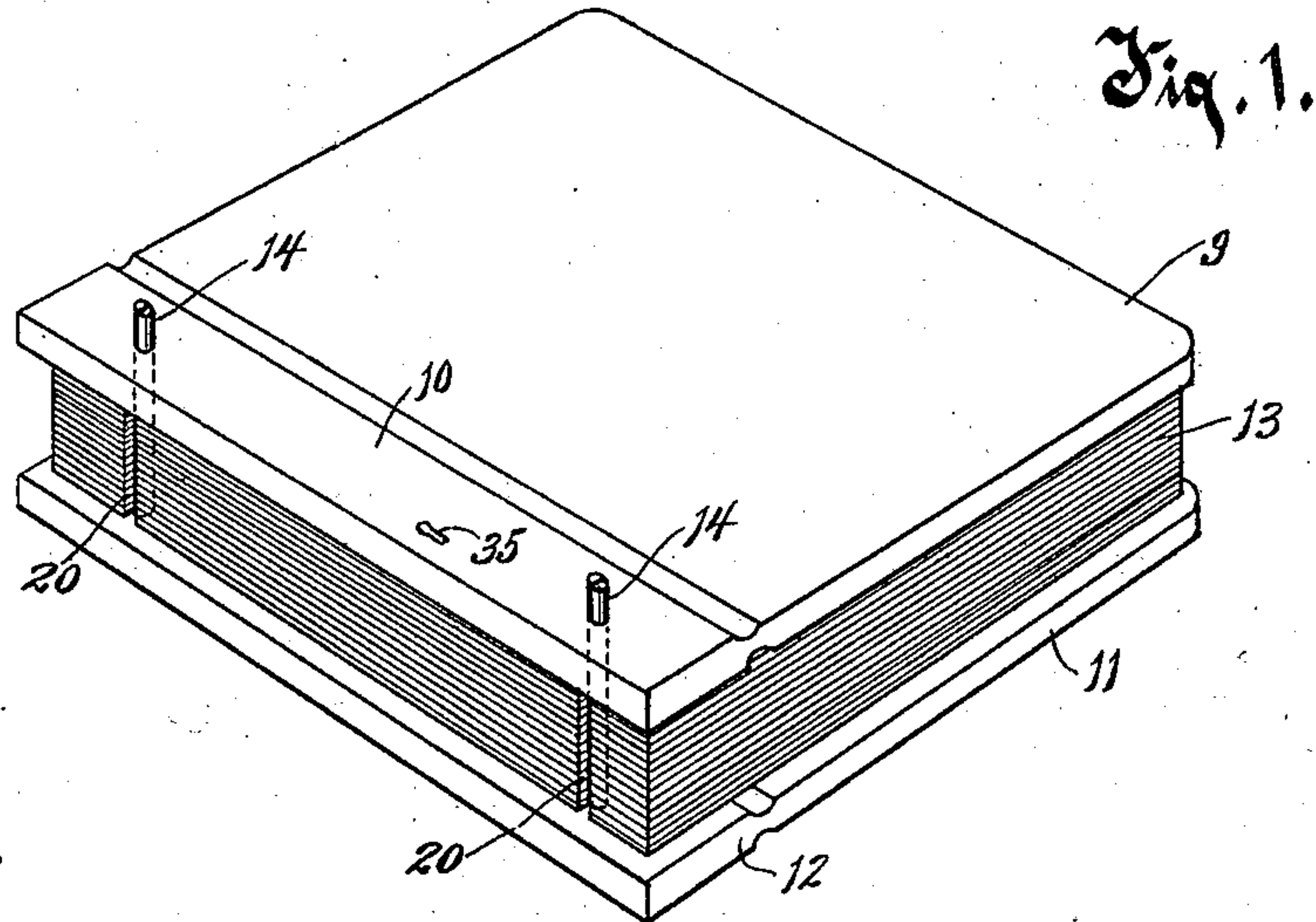


Fig. 2.

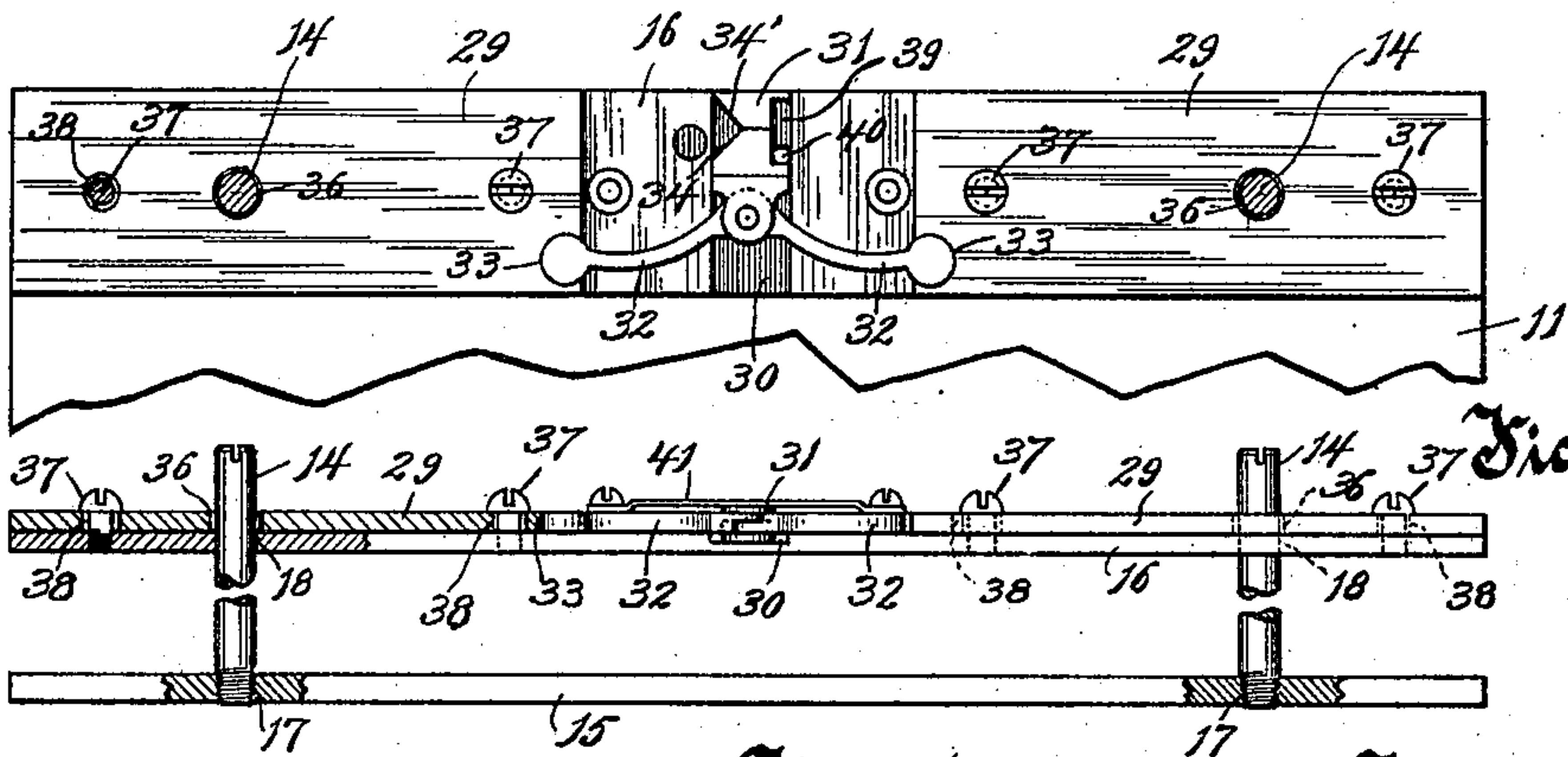


Fig. 3.

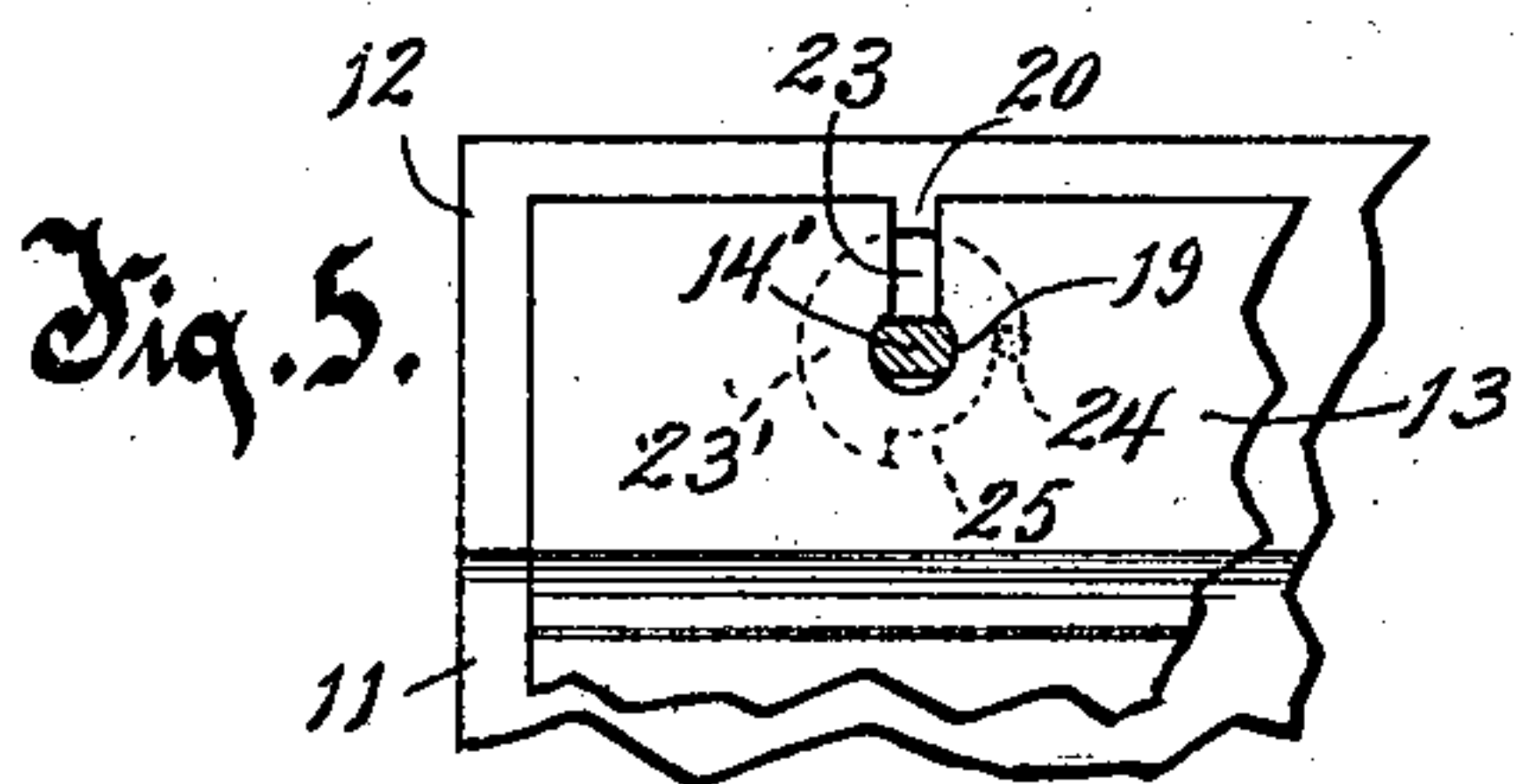
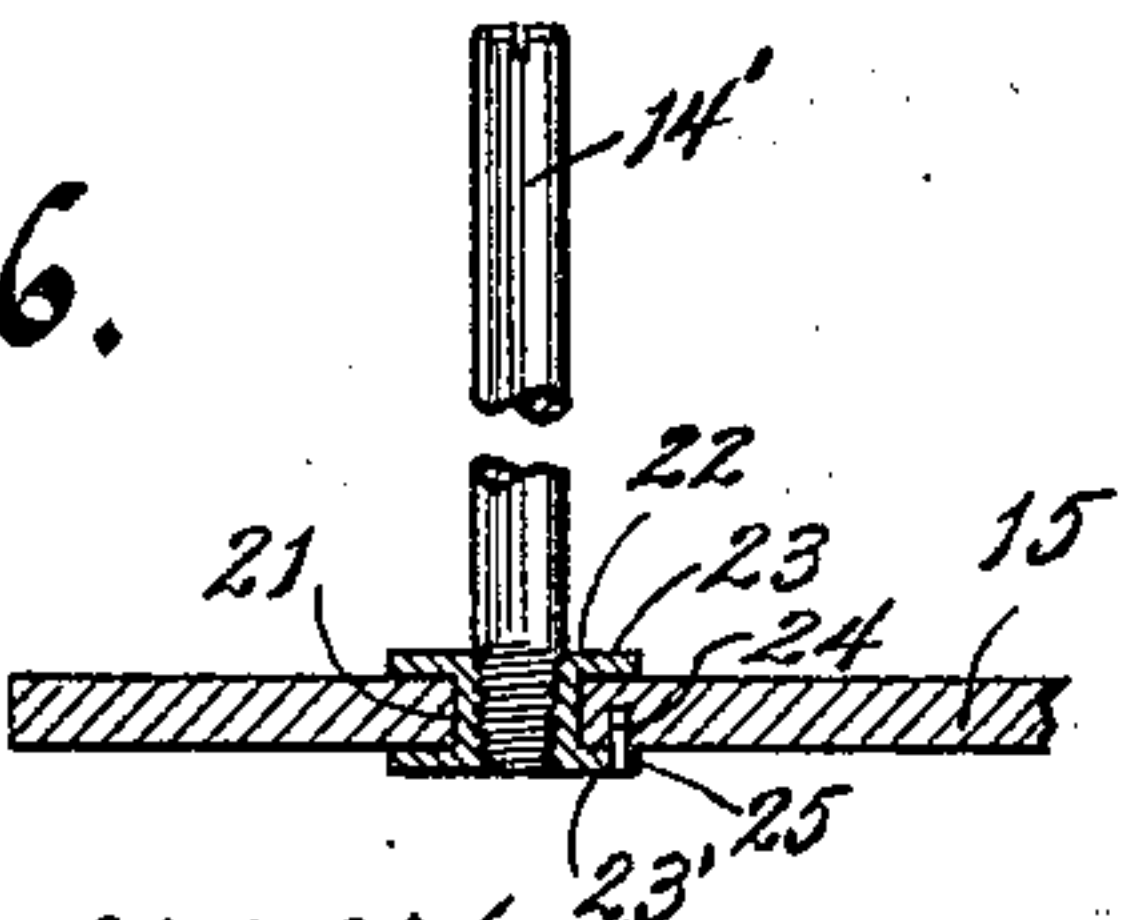


Fig. 6.



Witnesses:

O. N. Keeney,
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Fig. 7.

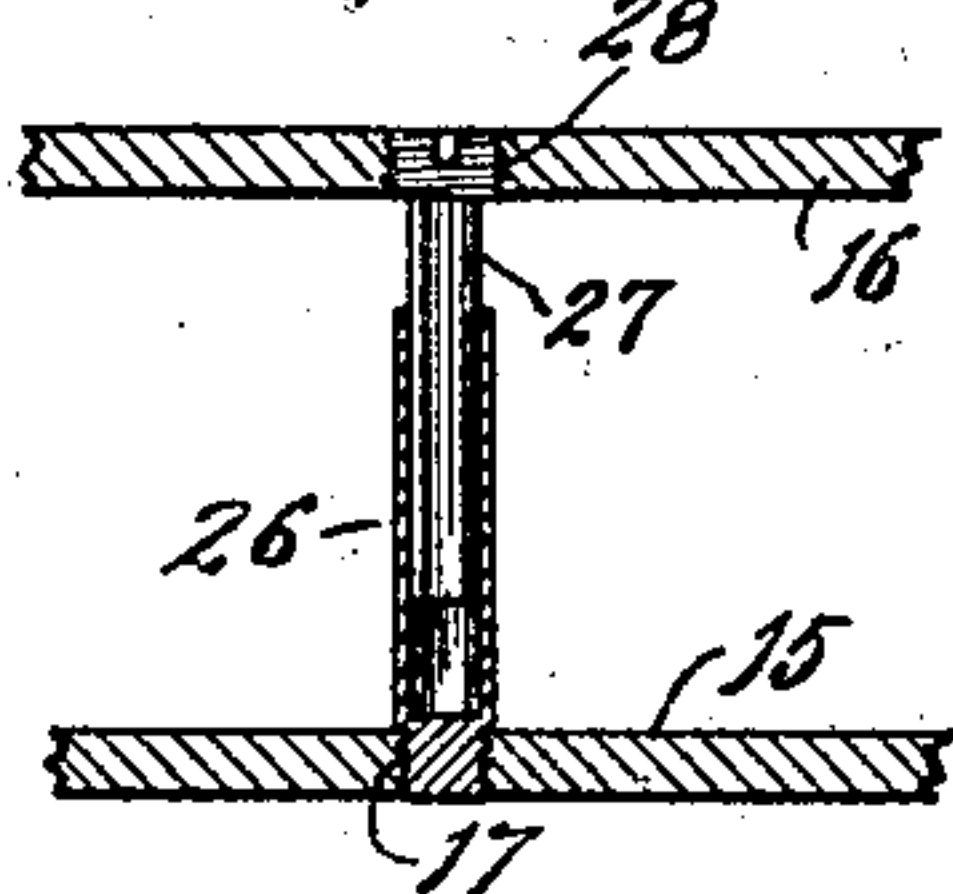


Fig. 8.

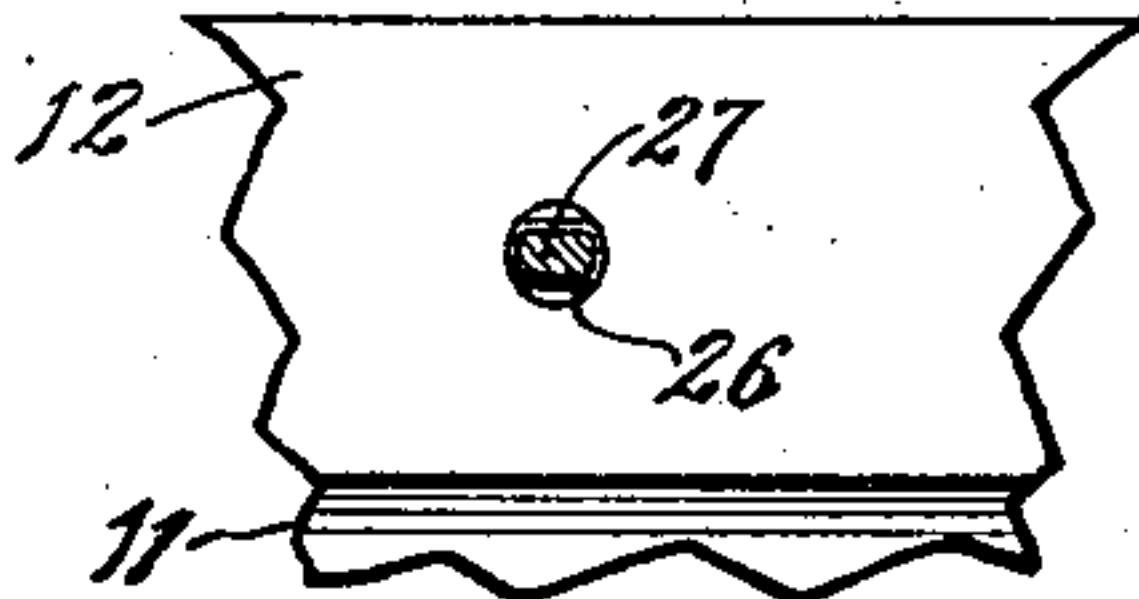
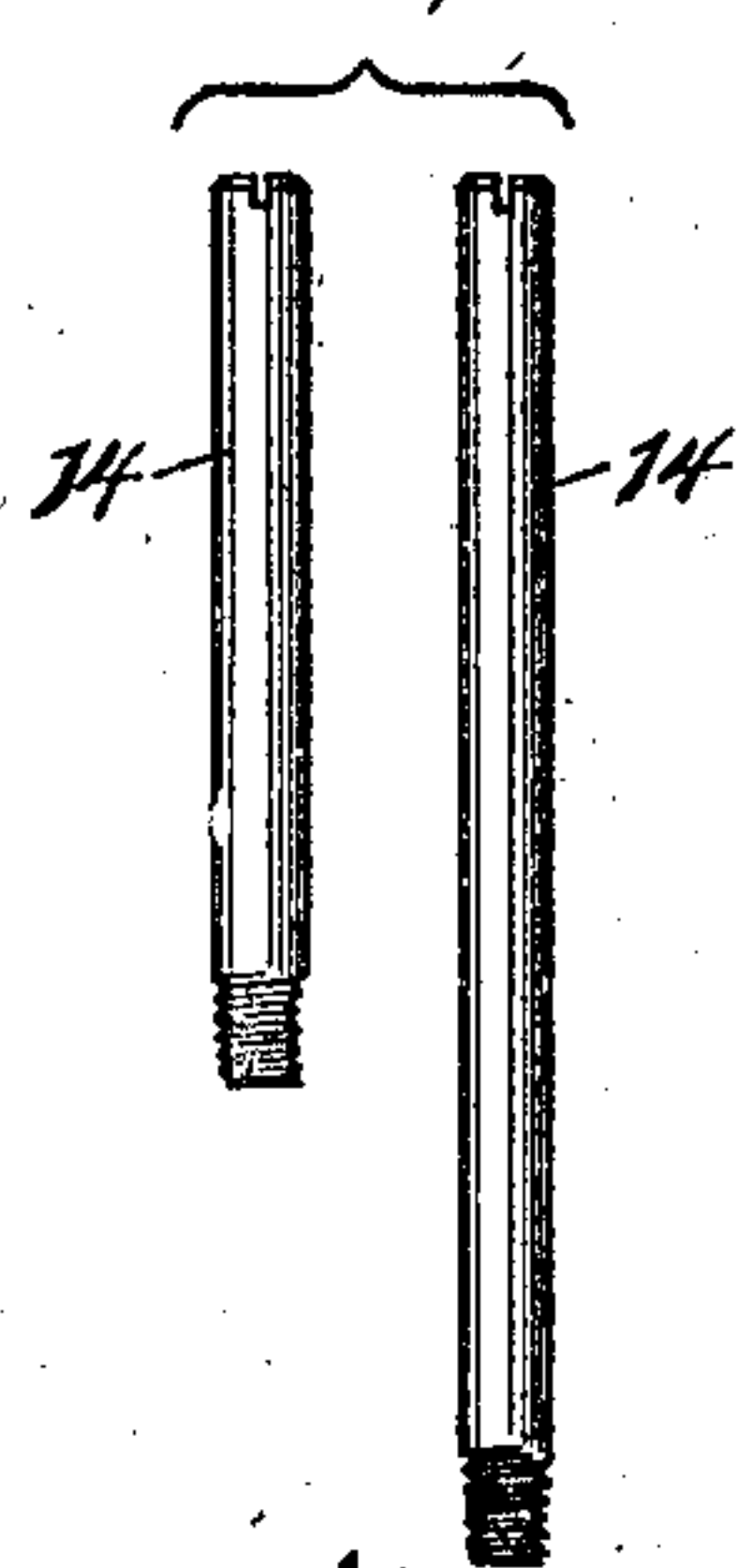


Fig. 4.



Inventor.

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UNITED STATES PATENT OFFICE.

HENRY C. MILLER, OF MILWAUKEE, WISCONSIN.

TEMPORARY BINDER.

SPECIFICATION forming part of Letters Patent No. 617,757, dated January 17, 1899.

Application filed May 28, 1898. Serial No. 681,999. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. MILLER, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and
5 useful Improvement in Temporary Binders, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements
10 in temporary binders.

The invention relates more particularly to that class of binders in which leaves are placed and secured between the side pieces constituting the cover of a book and firmly
15 locked therebetween and when unlocked any one or more of the leaves may be removed and others substituted therefor.

The primary object of the invention is to provide an improved construction whereby
20 the posts which engage the leaves are capable of being readily removed as the thickness of the book increases by reason of the insertion of additional leaves, so that other posts of greater length may be substituted in order to
25 accommodate the increased number of leaves.

The invention also contemplates as an object an improved form of locking mechanism.

With the above and other incidental objects in view the invention consists of the devices
30 and parts or their equivalents, as hereinafter more fully pointed out.

In the accompanying drawings, Figure 1 is a perspective view of a temporary binder involving my invention. Fig. 2 is a plan view
35 of the upper plate, the leather or other covering being removed, and also showing a fragment of the lower cover-section of the book. Fig. 3 is a front view of the plates constituting the frame, portions being broken away, the
40 figure being a view at right angles to Fig. 2. Fig. 4 is a view of two of the removable posts of different lengths. Fig. 5 is a view showing a form of removable post which is adapted to be turned freely in either direction to a limited extent, the view being a horizontal section
45 through the post and looking down upon one of the leaves of the book and upon the upper side of the lower cover-section. Fig. 6 is an elevation of the form of construction shown in Fig. 5. Fig. 7 is a sectional view
50 through the metallic plates, showing the removable post as consisting of telescoping sec-

tions; and Fig. 8 is a view through the upper telescoping section of the form of post shown in Fig. 7, looking down upon the lower cover-
55 section and binding-strip.

Referring to the drawings, the numeral 9 indicates one of the cover-sections of the binder, provided at its rear with the usual binding-strip 10.
60

The numeral 11 indicates the other cover-section, provided at its rear with a similar binding-strip 12. The leaves, which are confined between the cover-section, are indicated by the numeral 13.
65

As shown in Figs. 1 to 4, inclusive, I employ posts 14, which have their lower ends threaded. These threaded lower ends are adapted to engage threaded openings in one of the binding-strips of a cover-section. As
70 is well understood in this class of inventions, the rear binding-strips are usually composed of metallic plates which are covered by leather or other suitable covering. In the illustration of my invention I prefer to show
75 such plates, although I wish it distinctly understood that I do not limit myself to the use thereof, as the omission of such plates is within the spirit and scope of my invention, and the binding-strips 10 and 12 may be formed of any
80 suitable material. The lower metallic strip is indicated throughout different views of the drawings by the numeral 15, and the upper metallic strip by the numeral 16. The lower threaded ends of the posts 14 in the form of
85 construction shown in Figs. 1 to 4 are shown as engaging threaded openings 17 in the metallic strip 15, while the upper strip 16 is provided with plain or unthreaded openings 18, through which the posts are adapted to pass.
90 The upper ends of the posts are advisably formed with nicks for the engagement therewith of a screw-driver, so that after such a quantity of leaves has been adjusted between the cover-sections the lengths of the posts
95 will not permit the insertion of additional leaves. These short posts may be turned until their threaded ends are disengaged from the threaded openings 17, thereby permitting these posts to be removed and longer posts
100 substituted therefor. Fig. 4 of the drawings shows two of the posts of different lengths, arranged side by side. It will of course be understood that these posts pass through

openings 19 in the leaves 13, and I prefer that the leaves be formed with slots 20, extending from these openings to the rear edge of said leaves, so as to provide for the leaves being readily removed when desired. If preferred, however, merely round openings in the leaves may be provided.

In Figs. 5 and 6 of the drawings I show a form in which the post indicated by the numeral 14' is not only removable, but also revolvable in either direction. To accomplish this function, I provide the lower metallic strip 15 with unthreaded openings 21, in each of which is fitted a sleeve 22, said sleeve formed with top and bottom flanges 23 23', which embrace the metallic strip. The sleeve is interiorly threaded, and the lower threaded end of the post is adapted to be turned therein. If desired, the extent of the turning of the sleeve 22 may be limited by means of a pin 24, extending downwardly from the under side of the metallic strip 15, said pin being adjacent to a cut-out portion 25 in the periphery of the bottom flange 23'. It will be evident that the shoulders formed at opposite ends of the cut-out portion will contact with the pin 24, and thereby limit the extent to which the sleeve can be turned in either direction. This construction of flanged sleeve is the same as that covered in the United States Letters Patent issued to myself and Julius Bauer on August 10, 1897, No. 587,986, for improvements in temporary binders, it being illustrated on the drawings of the present invention in order to show that a removable post can be applied thereto, so as to make the post both removable and revolvable. The sleeve covered in the Letters Patent aforesaid, however, was made a part of a section of a telescoping post and did not have a threaded connection with the section of post, as in the present invention.

The form of post preferably used in the arrangement shown in Figs. 5 and 6 is a post oblong in cross-section, so that when the post is turned so as to present its greatest width across the opening 19 of the leaf, which greatest width is greater than the width of the slot 20, the leaf is locked in place, whereas if the post is turned so as to present its greatest width in line with the slot 20 the leaf can be readily withdrawn from engagement with the post. It will be obvious, however, that in this form of construction a post round in cross-section may be employed either in connection with a leaf having merely a round opening or a round opening having a straight slot extending therefrom and satisfactory results secured. The construction shown, however, is preferable. Attention is also called to the fact that in the construction shown in Figs. 1 to 3 an oblong or similar form of post could also be employed instead of the round form shown, especially when leaves are used having openings therein for the reception of the posts, with slots extending from said openings. In this case the post would be turned on its

thread so as to bring its greatest width in line with the slot 20.

In Figs. 7 and 8 I show the application of my invention to a telescoping post, whereby a lengthening to a certain extent is effected by the raising of one post within the other. I show a tubular section 26, having a lower threaded end engaging the threaded opening 17 of the lower metallic strip 15 and an upper section 27 telescoping into the lower tubular section. The upper extremity of section 27 is enlarged somewhat, said enlarged portion being threaded and engaging a threaded opening 28 in the upper metallic strip 16. This upper enlarged end is also preferably formed with a nick for the insertion of a screw-driver. The form of these two telescoping sections is preferably oblong in cross-section, as clearly shown in Fig. 8, so that when the upper section is turned it will necessarily turn the lower section therewith, so that both sections together will be disengaged from their respective threaded openings. When the upper cover-section has been raised to such an extent that the lower end of the upper post-section 27 is almost out of the bore of the lower tubular section, it then becomes necessary to remove the two sections and substitute others of greater length, which of course is accomplished in the manner just pointed out. While it is preferred in this form of construction where telescoping post-sections are employed that both sections be removed, yet it is obvious that successful results might be obtained by merely making one section removable. Again, while in the description of this form of device I have described the two sections of the post as of oblong shape in cross-section, yet, if preferred, they need not necessarily be of this particular form, but may be square or rectangular. In fact, round sections may be employed, if desired. In the latter instance, however, some suitable means should be provided for causing the lower tubular section to turn with the upper section when a screw-driver or other turning tool is applied to said upper section. I would also call attention to the fact that, if desired, in the form shown in Figs. 7 and 8 the lower tubular post-section may have a threaded connection with a revolvable sleeve, such as that shown in Figs. 5 and 6. In such case, therefore, I would thereby provide removable telescoping and revolvable posts.

While any suitable locking mechanism may be employed for holding one of the cover-sections of the book to adjusted position, yet I prefer to employ the locking mechanism shown in Figs. 1 to 3 of the drawings. Referring to this locking mechanism, the numerals 29 29 indicate two metallic strips arranged on the upper side of the strip 16. These strips 29 are of such diminished length that a space is left between their inner edges. The upper strip 16 is provided at a medial point of this space with an intersecting recess 30. In this recess is slidingly mounted

a bolt 31, one end of said bolt being pivotally connected to the inner ends of two arms 32 32, the three parts forming a toggle-joint. The outer ends of these arms are fitted in recesses 33 33 in the metallic strips 29, the ends of the arms being preferably rounded and the recesses being of a corresponding form. The bolt is also formed on one edge with oppositely inclined or beveled surfaces 34 34', which are adapted to be engaged by the ward of a key inserted through the key-opening 35. When the key is passed through said opening and turned in one direction, it will act on the inclined surface 34 and shoot the bolt in one direction, so as to thrust the pivoted ends of the arms 32 toward the edge of the strip 16. This will force the ends of the arms which fit in the recesses 33 in a direction to force the strips 29 outwardly and cause the edges of the openings 36 36 of said strips to bear firmly against the posts 14, said posts passing through the openings referred to. By this movement it is obvious that the upper cover-section is maintained at adjusted position. When the key is turned in an opposite direction, so as to act against the beveled surface 34', the bolt 31 is drawn inwardly, and pressure of the arms 32 against the strips 29 is thereby relieved, so that the cover-section may be readily adjusted to another position. It will be noticed that the openings 36 are of such greater diameter than the posts 14 as to permit slight play of the plates 29, and thereby make it possible for said plates to be moved to locking position, as just described. The strips 29 are held to the strips 16 by means of screws 37. These screws pass through plain openings 38 in the strips 29, which openings are also of such greater diameter than the screws as to permit of a slight play of the strips 29. It will also be noticed that the bolt 31 is provided

on one edge with a recess 39, into which recess a pin 40 extends. When the bolt is moved, this pin contacts with the shoulders formed at the ends of the recess 39, and thereby limits the extent of the movement of the bolt in either direction. The toggle-joint-locking mechanism is advisably covered by a plate 41.

What I claim as my invention is—

1. The combination, of longitudinal strips, each having an opening or openings there-through, a sleeve or sleeves fitted to the opening or openings of one of the strips and revoluble therein, said sleeve or sleeves being interiorly threaded, of a post or posts having a threaded end fitting the internal threads of the sleeve, and said post or posts entering the opening or openings of the other longitudinal strip.

2. In a temporary binder, the combination, of parallel longitudinal strips, posts extending from one of said strips and through openings in the other strip, short strips superimposed upon the last-mentioned strip, said short strips having their inner ends a distance from each other so as to leave a space therebetween, and said strips provided with openings through which the posts pass, the openings being of such greater diameter than the posts as to permit of a slight movement of the strips, a bolt seated on the longitudinal strip in the space between the inner ends of the short strips, arms pivotally connected to the bolt and having their outer ends engaging the ends of the short strips, and means for actuating the bolt.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY C. MILLER.

Witnesses:

A. L. MORSELL,
ANNA V. FAUST.