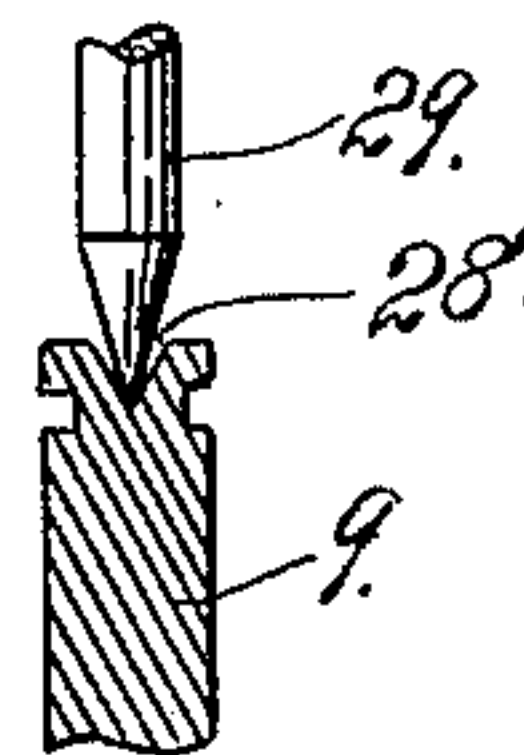
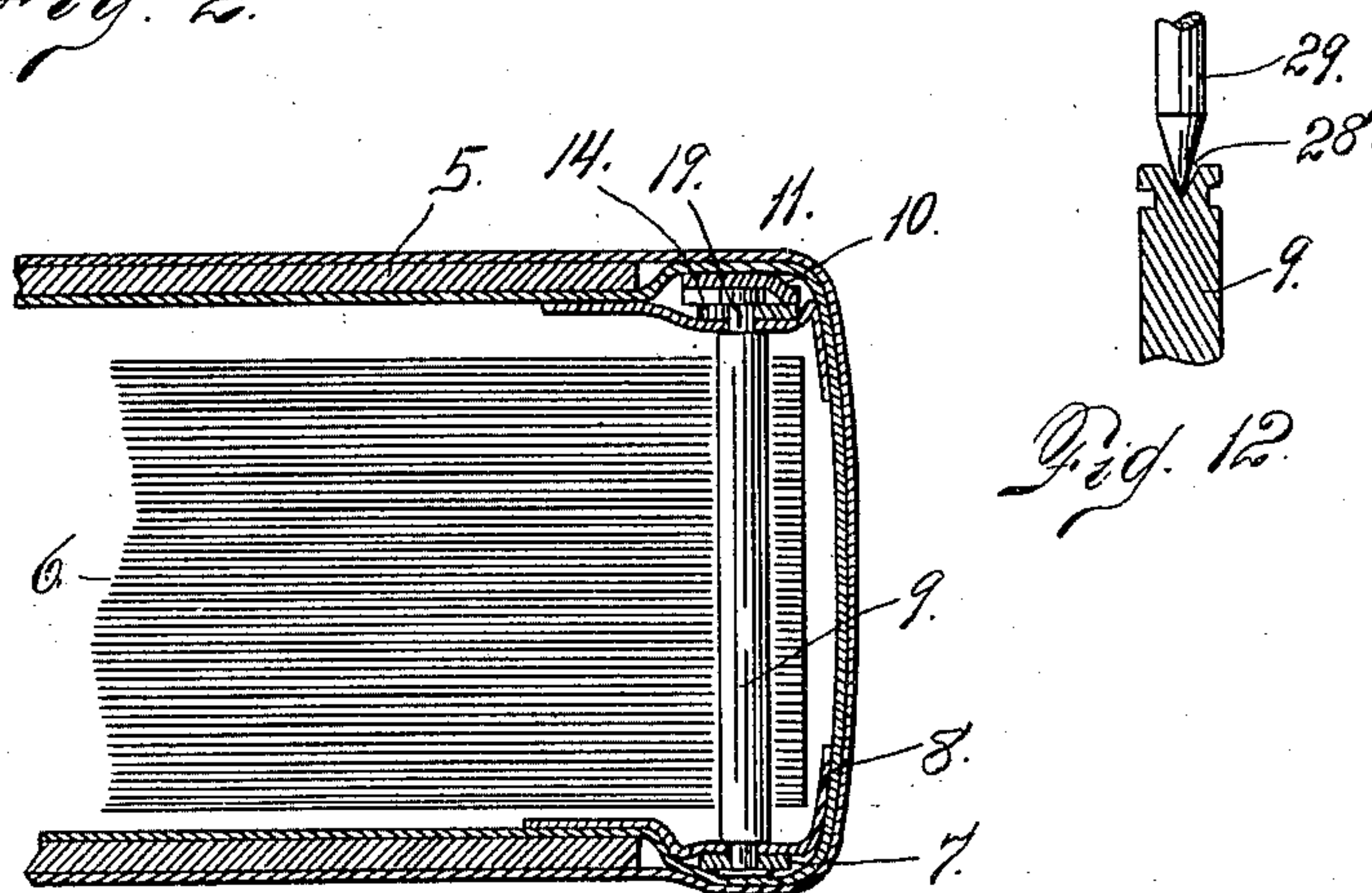
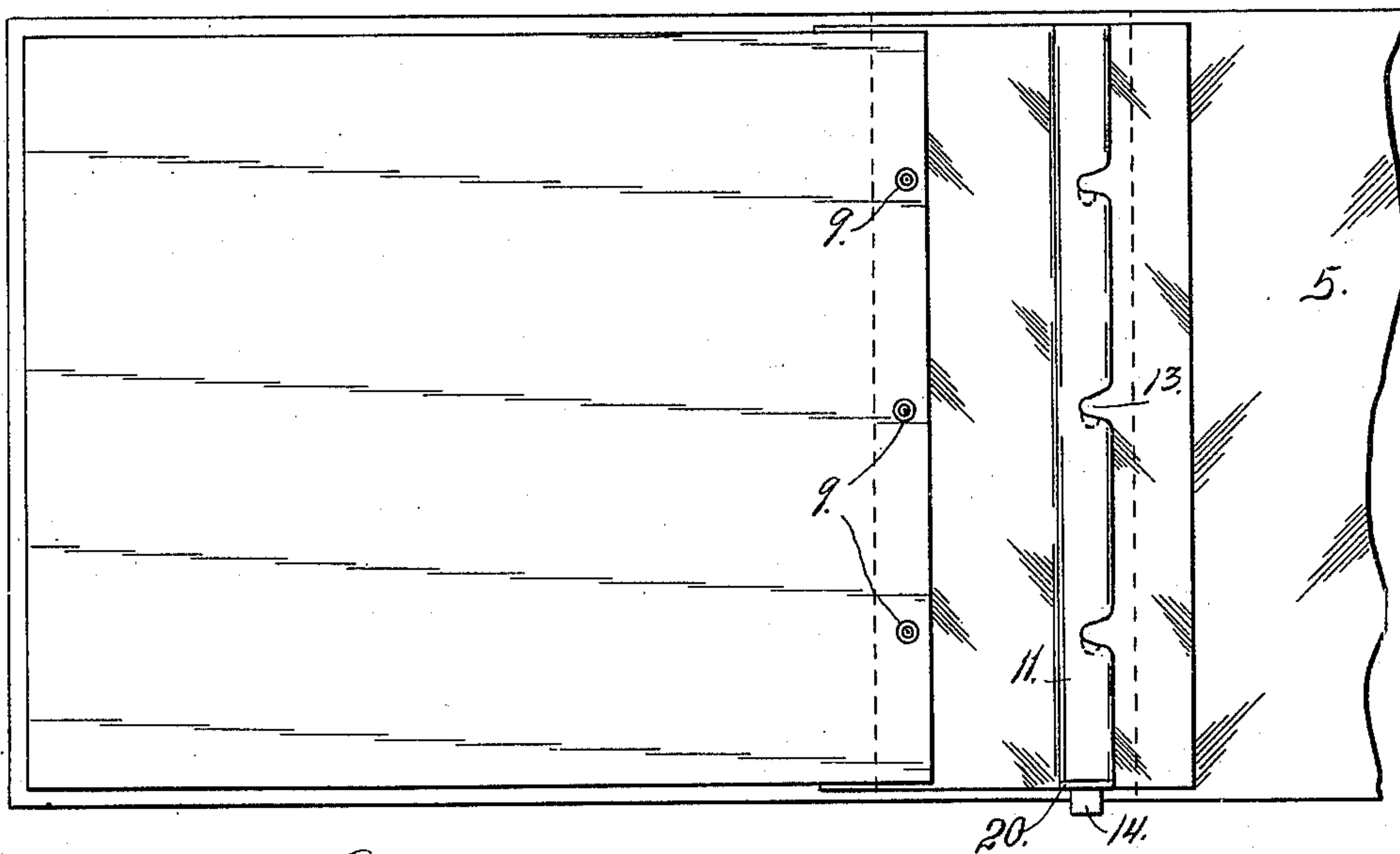
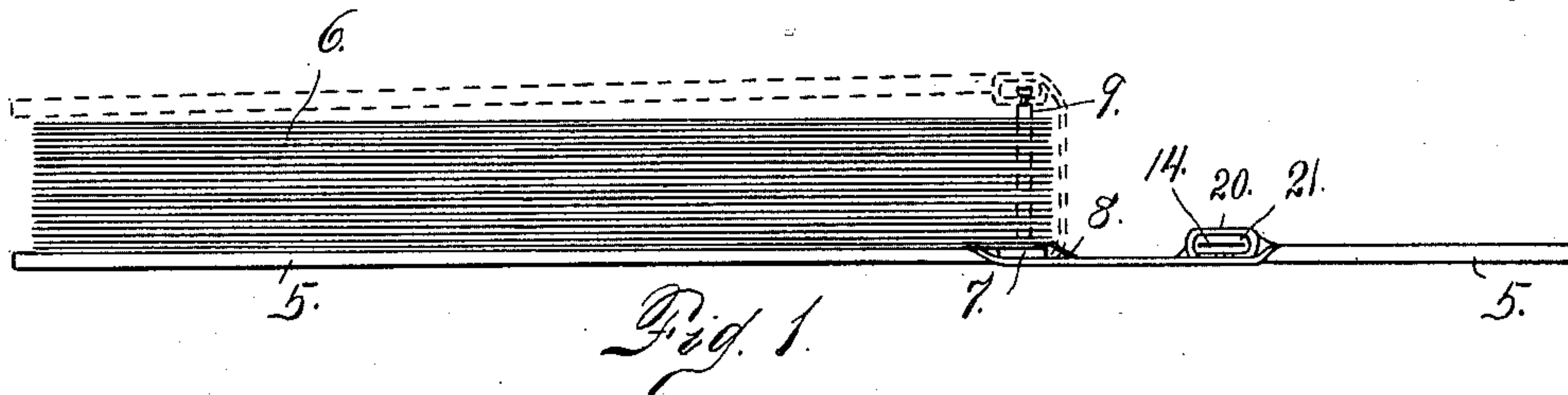


A. M. SOUTHARD.
 LOOSE LEAF BINDER.
 APPLICATION FILED JUNE 30, 1910.

994,959.

Patented June 13, 1911.

2 SHEETS—SHEET 1.



Witnesses
 Otto E. Hoddick.
 C. H. Rossner.

Fig. 3.

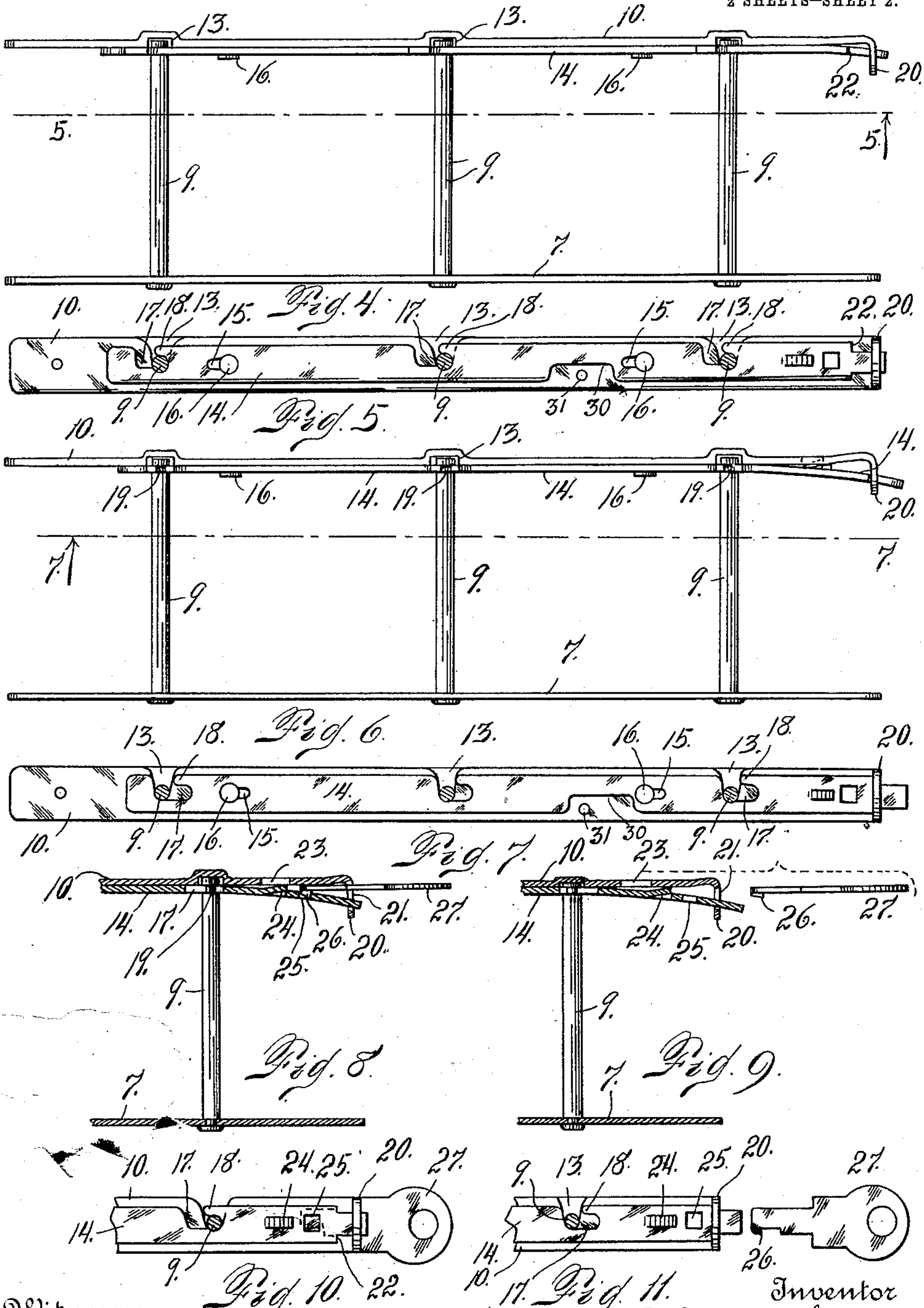
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UNITED STATES PATENT OFFICE.

ABRAHAM M. SOUTHARD, OF DENVER, COLORADO, ASSIGNOR OF ONE-HALF TO THE
WHEELER PUBLISHING COMPANY, OF DENVER, COLORADO.

LOOSE-LEAF BINDER.

994,959.

Specification of Letters Patent. Patented June 13, 1911.

Application filed June 30, 1910. Serial No. 569,706.

To all whom it may concern:

Be it known that I, ABRAHAM M. SOUTHARD, a citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Loose-Leaf Binders; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in loose leaf binders, and consists of arranging within a cover a number of pins which are adapted to be passed through perforations formed in the loose leaves. These pins are permanently mounted upon a bar which is secured within the cover on one side of the book. A locking bar is secured within the cover on the opposite side of the book, and arranged to receive the opposite ends of the pins. This locking bar may be detached and disconnected from locking engagement with the pins, whereby one side of the book may be thrown back into a position so that the loose leaves may be inserted on the pins or removed therefrom.

Having briefly outlined my improved construction, I will proceed to describe the same in detail, reference being made to the accompanying drawing in which is illustrated an embodiment thereof.

In this drawing: Figure 1 is a side elevation of a cover showing the device secured in the binding thereof. Fig. 2 is a top plan view of a cover in the open position and illustrating the device secured therein. Fig. 3 is a sectional view of the cover in the closed position, illustrating the device secured therein. Fig. 4 is a side elevation of the device removed from the cover, and showing the removable bar attached to the pins. Fig. 5 is a plan view of the removable bar taken on the line 5—5 of Fig. 4, looking in the direction of the arrow, and showing the bar secured to the pins. Fig. 6 is a side elevation showing the device removed from the cover, and showing the removable bar in position to be detached from the pins. Fig. 7 is a plan view of the removable bar taken on the line 7—7 in the direction of the ar-

row in Fig. 6, illustrating the bar in position to be removed from the pin. Fig. 8 is a sectional elevation of one end of the device, showing the removable bar locked in position on the removable pin and illustrating the means whereby the same is unlocked in removing the bar. Fig. 9 is a sectional elevation of one end of the device illustrating the removable bar in position to be removed and illustrating the position of the locking device after the same has been unlocked. Fig. 10 is a plan view of one end of the removable bar, illustrating the same in a locked position. Fig. 11 is a plan view of the removable bar, illustrating the same in the unlocked position. Fig. 12 is a view illustrating the means for applying the loose sheets to the device.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate a cover in which the loose leaves 6 are placed. 7, a bar arranged transversely of the cover and secured in position by means of a piece of fabric 8, secured to the cover over the bar. To the bar 7 is permanently attached pins 9, adapted to be passed through the perforations formed in the loose sheets.

10 is a removable bar which is secured transversely to the cover on the opposite side from the bar 7, as shown at 11. This bar 10 is held in position in the cover in the same manner as the bar 7. The bar 10 is provided with recesses 13, which are stamped therein, and are adapted to receive the ends of the pins 9.

On the inward side of the bar 10 is a slidably mounted bar 14, having longitudinal slots 15, through which are inserted rivets 16, anchored in the bar 10, whereby the bar 10 is permitted a limited degree of longitudinal movement. The bar 14 is provided with recesses 17 cooperating with the recesses 13 of the bar 10. These recesses 17 are cut out of the bar 14 in such a manner that one side of the recesses is open and the other side is closed by a projection or locking device 18. The extremities of the pins 9, which project into the recesses 13 of the bar 10, are provided with a circumferential groove 19, whereby when the pins have been inserted in the recesses 13 of the bar 10, the bar 14 is shifted to cause the locking member 18 of the recesses 17, to be brought into

engagement with the circumferential groove 19, thus holding the bar 10 in locking engagement with the pins 9.

One extremity of the bar 10 is provided 5 with an inwardly turned portion 20, having an opening 21, through which one extremity of the bar 14 passes. The extremity of the bar 14 passing through the opening 21, is reduced in size to form shoulders 22, which 10 come into engagement with the inwardly turned portion 20 of the bar 10 to limit the longitudinal movement of the bar 14. The opening 21 is wider than the bar 14, whereby the bar 14 is permitted a limited degree 15 of lateral movement. The bar 10 is provided with an opening 23, a short distance from the inwardly turned portion 20. This opening is adapted to receive a locking device 24 stamped out of the bar 14. Forward of the locking device 24, the bar 14 is 20 provided with a recess 25, adapted to receive a hooked and laterally deflected extremity 26 of a key 27. When it is desired to remove the bar 10 from the pins 9, the 25 key 27 is inserted through the opening 21 of the inwardly turned portion 20, of the bar 10, between the bars 10 and 14, thus forcing the bar 14 outwardly, whereby the locking device 24 of the bar 14 is removed from 30 the opening 23, and the hooked extremity 26 of the key 27 enters the opening 25. The bar is now in position to be moved on the bar 10 to bring the locking device 18 of the bar 14 out of engagement with the pins 9. This 35 is accomplished by pulling on the key 27.

It is found to be desirable to form a recess 28 in one extremity of the pins 9, whereby the loose leaves are readily placed on the pins by first placing them on a suitable 40 guide pin 29, shown in Fig. 12, the point of which is adapted to be inserted in the recess 28 to prevent the same from slipping. A number of these guide pins 29, corresponding with the number of pins for holding the 45 leaves in the cover, may be permanently secured upon a bar in such a manner that they are of the same distance apart as the pins for holding the leaves in the cover, whereby the points of the pins will register with the 50 openings 28 formed in the top of the pins 9. The pins 29 may be used for punching the perforations in the loose sheets or the perforations may be first punched in the sheets, and then strung upon the pins 29. After 55 the sheets have been strung upon the pins 29, the points of the pins are inserted in the openings 28 of the pins 29, and the sheets slid downwardly on to the pins 9.

From the foregoing description the use 60 and application of my loose leaf binder will be readily understood. The bars 7 and the removable bar 10 are secured in opposite sides of the cover in such a manner that one extremity of the removable bar is exposed, 65 so that the locking key 27 may be inserted in

the opening 21 between the bars 10 and 14, for moving the bar 14 to engage and disengage the pins 9. Assuming that the cover is in the positions shown in Figs. 1 and 2, and that the bar 14 has been slid to the unlocked 70 position, the key 27 is inserted in the opening 21, of the inwardly projecting portion 20 of the bar 10, between the bars 10 and 14, whereby the extremity of the key 27 engages the locking device 24, to push the bar 14 75 into the locking position. Before the bar 14 is slid to the locking position, the cover is thrown to the dotted line position, as shown in Fig. 1, whereby the recess 13 in the bar 10, receives the pins 9, then the bar 14 may 80 be slid to locking engagement with the pins 9 by pushing on the key. This movement of the bar causes the locking projections 18 thereof to be slid into the circumferential grooves 19, and at the same time the locking 85 device 24 is moved to register with the opening 23 in the bar 10, thus allowing the locking device 24 to drop into the opening 23, after the key has been removed from between the two bars. In order to unlock the 90 bar 10 from engagement with the pins 9, the key is inserted between the bars 10 and 14, through the opening 21, in the inwardly projecting portion 20 of the bar 10, in such a manner that the lateral projection 26 of 95 the key 27, will enter the opening 25 in the bar 14. As the key is inserted between the bars in this manner, the bar 14 is pried away from the bar 10, thus releasing the locking device 24 from the opening 23, and 100 at the same time the hooked extremity of the key enters the opening 25 of the bar 14, whereby the same may be pulled forwardly for unlocking the bar 10 from engagement with the pins 9. 105

In order that the bar 10 may be secured in the cover and at the same time permit movement of the bar 14, a recess 30 is formed in the bar 14 and registers with a perforation 31, through which a thread, 110 rivet or other suitable fastening device is passed for securing the bar 10 to the cover. This recess 30 is large enough to permit of the full limit of its sliding movement without coming into contact with its fastening 115 means passed through the bar 31.

Having thus described my invention, what I claim is:

1. A loose leaf binder, consisting of pins for holding the loose sheets in position, 120 parallelly arranged bars connected with the extremities of the said pins, one of the said bars being permanently connected with the pins, while the other bar is removably connected therewith, a slidably mounted bar 125 carried by the removable bar for locking the latter on the pins, a locking device stamped out of the slidably mounted bar, the removable bar having an opening into which the locking device is adapted to project for 130

holding the slidably mounted bar in interlocking relation with the pins, and means adapted to be inserted between the removable bar and the slidably mounted bar for releasing the locking device from the opening formed in the removable bar, and for disconnecting the slidably mounted bar from its interlocking relation with the pins, substantially as described.

10 2. A loose leaf binder consisting of pins for holding the loose sheets in position, and parallelly arranged bars, connected with the extremities of the said pins, one of the said bars being permanently connected with the
15 pins, while the other bar is movably connected therewith, the removable bar having one extremity turned inwardly, and provided with an opening in the inwardly turned portion, a slidably mounted bar carried by the removable bar for locking the
20 latter on the pins, the said slidably mounted

bar having one extremity projecting through the opening formed in the inwardly turned portion of the removable bar, a locking device formed on the slidably mounted bar, the
25 said locking device being adapted to interlock with the removable bar for holding the slidably mounted bar in interlocking relation with the pins, and means adapted to be inserted between the removable bar and the
30 slidably mounted bar through the opening formed in the inwardly turned portion of the removable bar, whereby the slidably mounted bar may be slid out of the interlocking relation with the pins, substantially
35 as described.

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

ABRAHAM M. SOUTHARD.

Witnesses:

JNO. G. POWELL,
F. E. BOWEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
