

Jan. 2, 1923.

A. P. ALDRICH ET AL.
SELF LOCKING BOLT FOR HASPS.
FILED OCT. 18, 1921.

1,440,949.

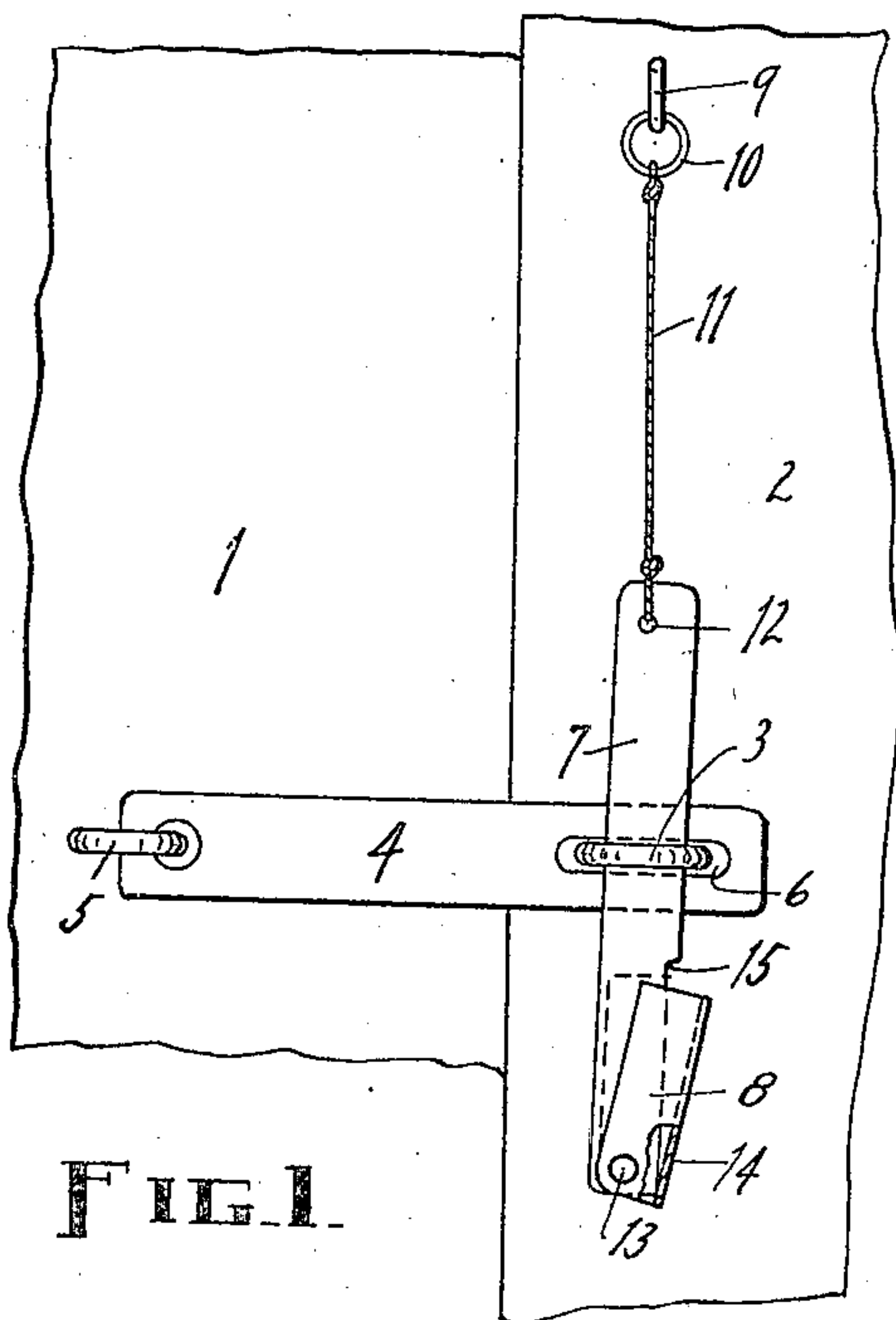


FIG. 1.

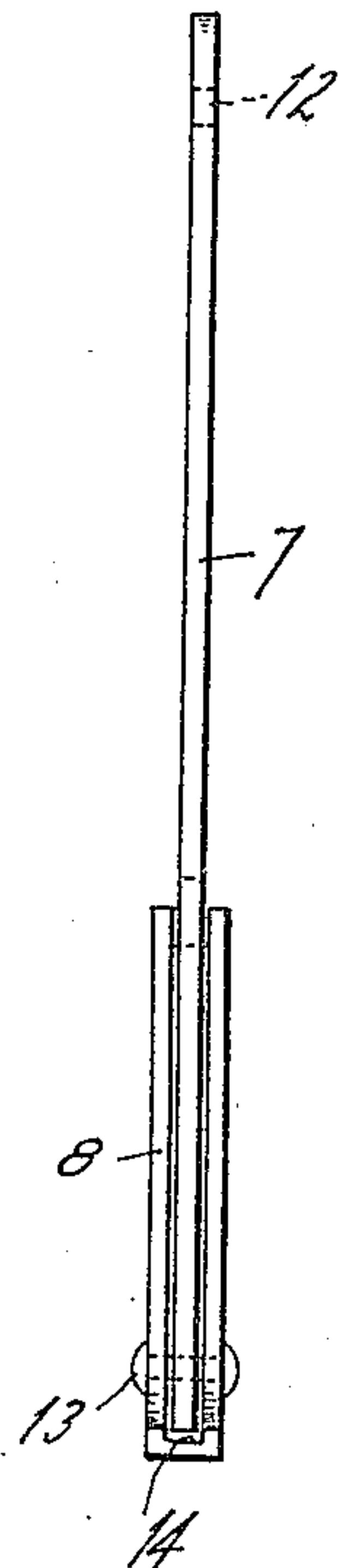


FIG. 2.

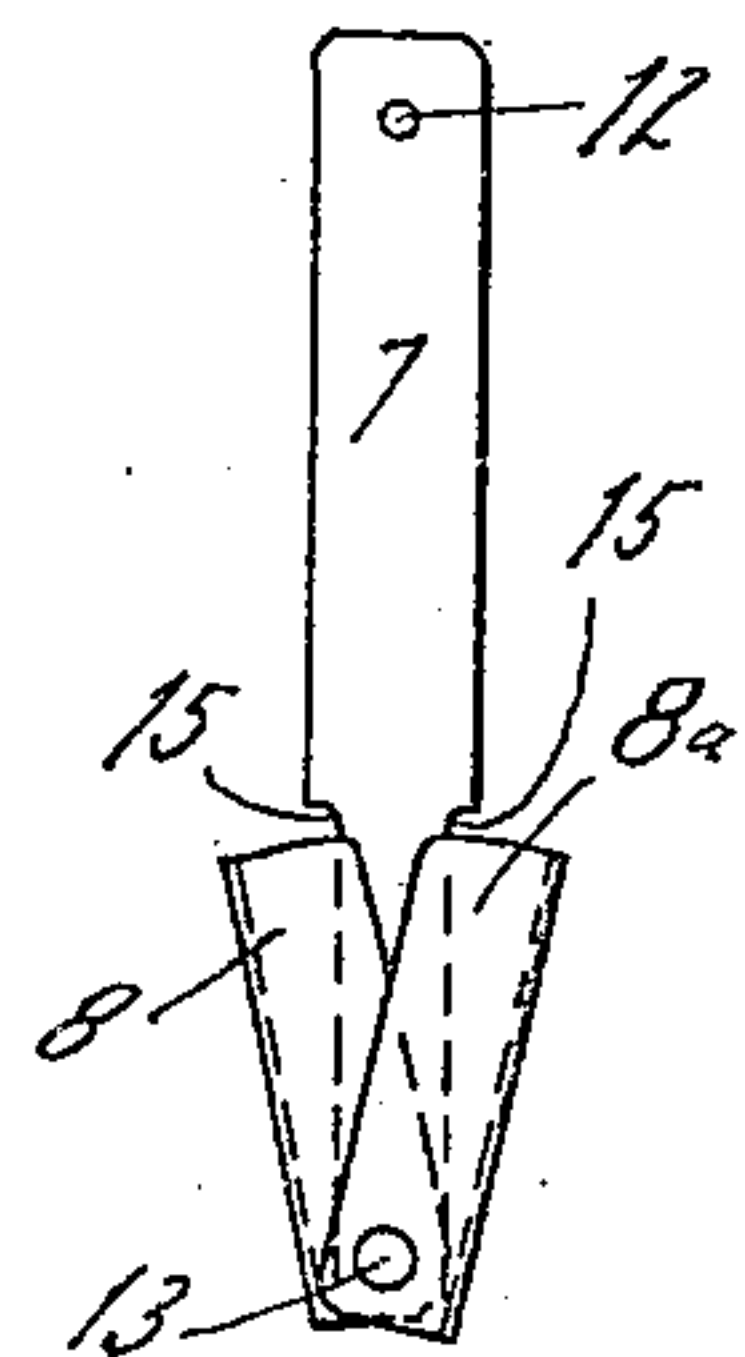


FIG. 3.

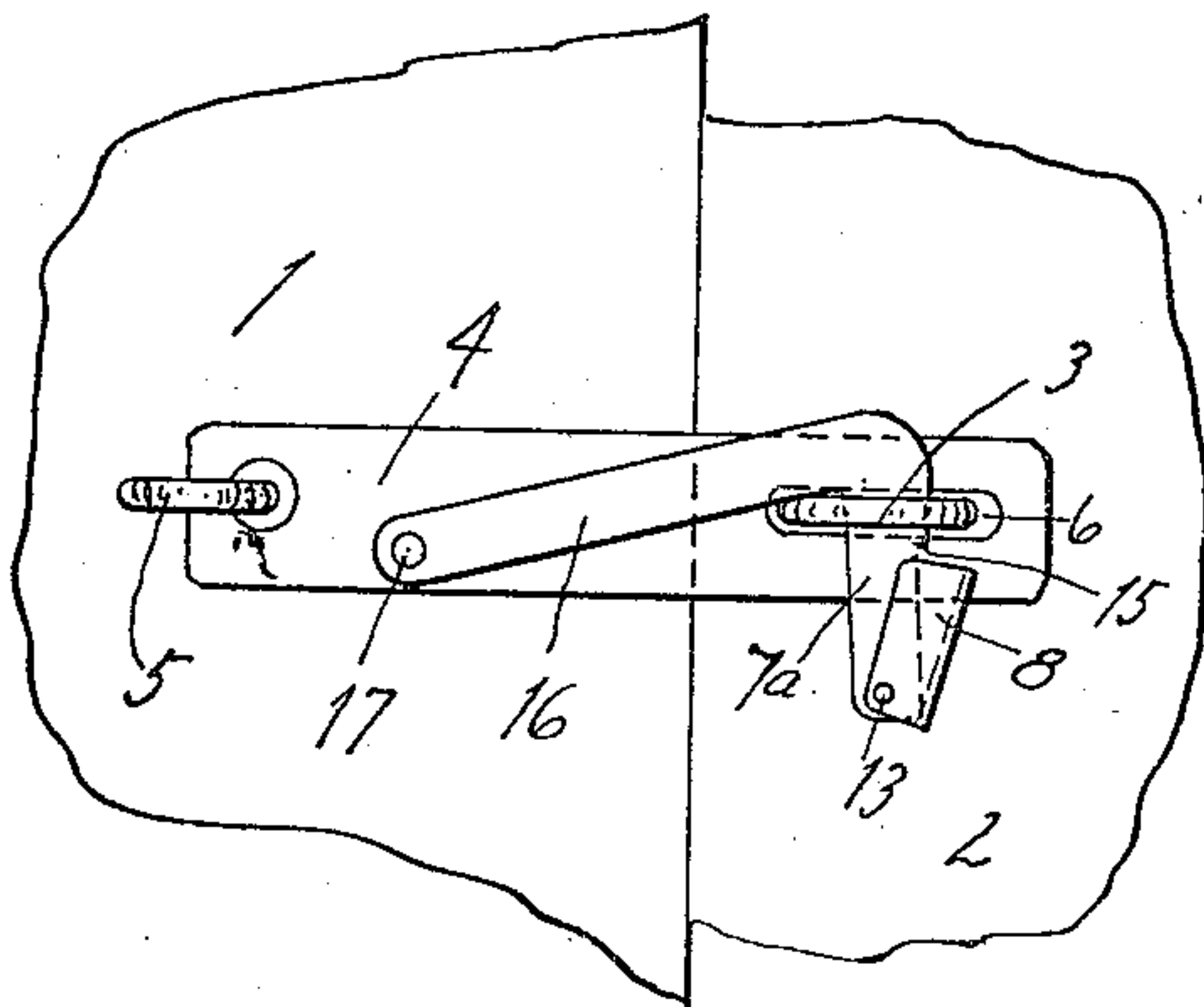


FIG. 4.

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SELF-LOCKING BOLT FOR HASPS.

Application filed October 18, 1921. Serial No. 508,479.

To all whom it may concern:

Be it known that we, ALFRED P. ALDRICH and GEORGE R. BARKSDALE, both citizens of the United States of America, and residents of Greenwood, in the county of Greenwood and State of South Carolina, have invented a new and useful Self-Locking Bolt for Hasps, of which the following is a specification.

Our invention relates to improvements in fastening or locking means for hasps used on barn-doors, gates, cribs, and the like, and consists essentially of a bar which is adapted to be introduced into a staple after a hasp has been placed over or caused to engage the same, supporting means for said bar, and a gravity locking member adapted normally to prevent the withdrawal of the bar from the staple, together with such other parts and members as may be required or desired in order to render the device complete in every particular, all as hereinafter set forth.

Ordinarily a hasp of the class mentioned above is fastened in place, after being engaged with its staple, by means of a wooden pin or the like, that can be easily raised out of the staple so as to release the hasp, by a thrust from the nose of an animal, and the primary object of our invention is to produce a bolt which, while serving the same purpose as a pin, can not be removed by an animal in the manner just explained, but can only be removed by a certain manual operation such as no animal ordinarily is capable of performing.

A further object is to provide a bolt of this character which is not only strong and durable, but inexpensive, simple in construction and operation, convenient, and not likely to become impaired by exposure to the elements.

Other objects and advantages will appear in the course of the following description.

We attain the objects and secure the advantages of our invention by the means illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a self-locking bolt for hasps which embodies a practical form of our invention; Fig. 2, an enlarged, left-hand edge elevation of the bolt shown in the first view; Fig. 3, a side elevation of a bolt which is provided with two locking members, and, Fig. 4, a front elevation of a modified construction.

Similar reference characters designate similar parts throughout the several views.

In each of Figs. 1 and 4, fragmentary portions of a door and a door-frame respectively appear at 1 and 2, and in each of these views are shown also an ordinary staple 3 and hasp 4, said staple being set in said frame and said hasp being connected with said door by means of a staple 5 in the customary manner. The hasp 4 has therein adjacent to the free terminal thereof of the usual slot 6 to receive the staple 3. When the hasp 4 is engaged with the staple 3, and a member is inserted in said staple in front of said hasp to prevent said hasp from becoming disengaged from said staple, the door 1 is securely fastened to the frame 2. Upon removing the confining member from the staple the hasp can be disconnected from said staple and the door opened. There is, of course, nothing new so far as the members thus far described are concerned.

Referring first to the bolt illustrated in the first two views, it will be observed that the same comprises a bar 7, and a locking member or latch 8, and that said bar is suspended from a staple 9 set in the frame 2 above the staple 3, by means of a ring 10 and a cord 11. Any flexible supporting means may be substituted for the ring 10 and the cord 11, such as a chain. The lower terminal of the cord 11 passes through an opening 12 in the upper part of the bar 7.

The latch 8 is preferably in the shape of a channel-iron in cross section, of an interior width sufficient to receive the lower terminal portion of the bar 7. The latch is connected with the bar by means of a pivot 13 which passes through the sides of said latch near the bottom and through said bar also near the bottom. The pivot 13 is so inserted in the latch 8 as to provide an axis for said latch which is offset relative to the longitudinal central plane transversely of said latch, on the side of such plane that is opposite to that where the closed edge of the latch is located. Thus it is seen that the latch will normally assume by the force of gravity an angular position relative to the bar 7, so that the upper corner of said latch which includes the top of the closed edge thereof extends beyond the adjacent edge of said bar, substantially as shown in full lines in Fig. 1. This is the locking or open position of the latch, and the latter projects sufficiently to underlie the arm of the staple 3

which is above, consequently, if the bar 7 be raised while the latch is in such position, the projecting part encounters said arm and prevents said bar from being withdrawn from the staple 3. The bar 7 can, however, be made free for withdrawal from the staple 3, by rocking the latch 8 on the pivot 13, inwardly into closed position, so that it will not encounter or be interfered with by the staple when said bar is raised and drawn out of said staple. When the latch 8 is in the closed or unlocked position just described, it is disposed as indicated by dotted lines in Fig. 1.

In the first view a portion of the latch 8 is broken out to show at 14 the closed edge of which mention has been made, and to disclose the manner in which the outward movement of the latch on its pivot 13 is limited. From the drawing it will be seen that, when the latch swings outwardly, the base of the member 14 comes into contact with the adjacent corner of the bar 7 and thus prevents the latch from moving outwardly at the top beyond a predetermined distance.

Preferably the opening 12 in the bar 7 is located at one side of the longitudinal central plane transversely of said bar, with such plane between the center of said opening and the member 14 of the latch 8. The purpose of this is to cause the bar 7 to be suspended from the cord 11 in an oblique direction or manner which increases the tendency of the latch 8 to assume its open position, as will be readily seen and understood. The opening 12 and the pivot 13 are, therefore, both off center, the latter being usually off center in the bar 7 as well as in the latch 8.

If desired the edge of the bar 7 which is adjacent to the part 14 may be cut away to accommodate such part and enable the latch 8 to be closed in such a manner as to position the outer surface or face of said part in the same plane with the edge of said bar above.

In practice, after the hasp 4 has been placed over the staple 3, the bar 7 is inserted therein from above in front of said hasp, the latch then offering no resistance, but rocking inwardly and outwardly on its pivot 13 at this time, and said bar is left suspended from the staple 9 by the ring 10 and the cord 11, with said latch in open position beneath said staple 3. As previously explained, any effort to push the bar 7 from below up out of engagement with the staple 3 is frustrated by the latch 8. The parts are now disposed as shown in full lines in Fig. 1. To unlock the hasp 4, rock the latch 8 with the thumb and finger into closed position, and push or draw the bar 7 upwardly out of the staple 3. The hasp 4 can now be disengaged from

the staple 3. The bar 7 is left suspended until it is required for use again. Thus it is plain that the device is ready at all times for use, can be placed in locking position instantly, automatically assume such position, and can readily be removed with the hand at any time.

Should occasion require, two latches in place of one may be employed, as illustrated in Fig. 3. In this example the latches are similar, but it is necessary, of course, to provide one, as 8^a, with an interior width sufficient to accommodate the other as well as the bar. In this construction two projections are provided for engagement with the two arms of the staple 3 in the event an effort be made to raise the bar 7 out of said staple from below, it being necessary to close both latches by hand before the device can be withdrawn from locking position. In the double-latch construction the pivot 13 is off center relative to the latches, as in the first example, but the opening 12 is preferably in the longitudinal center of the bar, and said bar may have both edges cut away and shouldered as at 15—15.

In the event it be preferred to incorporate the bolt with the hasp, rather than have the same suspended from a flexible member, we provide the construction illustrated in Fig. 4. Here the bar, as 7^a, is bent to provide an arm 16 that is pivotally connected at 17 with the hasp 4, so that the bolt partakes of the nature of a hook. The bar 7^a is provided with a latch 8 as in the first construction, and the operation of the device is substantially the same except that it swings on the pivot 17 into and out of locking and unlocking positions, instead of being lowered into and raised from such positions vertically. When the Fig. 4 bolt is in locking position it is supported by the arm 16 which then rests on one of the arms of the staple 3. Before this bolt can be withdrawn from the staple 3, it is necessary, as in all cases, first to close the latch 8. As soon as the hasp 4 is engaged with the staple 3 the bolt can be permitted to drop into locking position relative to said staple and hasp, which is the position shown in the view. Obviously the bolt must be swung upwardly on the pivot 17 far enough to clear the slot 6 in the hasp 4 before the latter is placed over the staple 3.

More or less change in the size, shape, construction, and arrangement of some or all of the parts in this device, in addition to those herein specifically shown and described, may be made without departing from the spirit of our invention or exceeding the scope of what is claimed.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. As an improved article of manufacture a bolt, of the class described, comprising a

bar, and a latch, consisting of side and edge members, pivotally connected at the bottom end with said bar, and adapted to assume by gravity a projected position relative to said bar, the edge member of said latch being in juxtaposition to one longitudinal edge of the bar.

2. As an improved article of manufacture, a bolt, of the class described, comprising a bar, and a latch consisting of side and edge members, pivotally connected at the bottom end with said bar, and adapted to assume by gravity a projected position relative to said bar, the edge member of said latch being in juxtaposition to one longitudinal edge of the bar, and the bottom of such edge member forming a stop to limit the outward movement of said latch.

3. As an improved article of manufacture, a bolt, of the class described, comprising a bar, a latch substantially U-shaped in cross section, and in which latch a portion of said bar is receivable, pivotally connected at the bottom end with said bar, the pivotal connection being off center to enable said latch to swing outwardly by gravity at the top, and means to limit the outward movement of said latch.

4. As an improved article of manufacture, a bolt, of the class described, comprising a bar, a latch, substantially U-shaped in cross section, pivotally connected at the bottom end with said bar, and in which latch a portion of said bar is receivable, the pivotal connection being off center to enable said latch to swing outwardly by gravity at the top, and the construction and arrangement

of parts being such that the lower portion of that part which is between the sides of said latch engages the lower portion of said bar to limit the outward movement of the former.

5. The combination, with a staple, and a slotted hasp, of a bolt comprising a bar provided with a pivotally-connected gravity-opening latch, the latter consisting of side and edge members, which edge member is in juxtaposition to one longitudinal edge of the bar, and flexible supporting means for said bar above said staple.

6. The combination, with a staple, and a slotted hasp, of a bolt comprising a bar provided with a pivotally-connected gravity-opening latch, the latter consisting of side and edge members, which edge member is in juxtaposition to one longitudinal edge of the bar, and means freely to suspend said bar obliquely.

7. As an improved article of manufacture, a bolt, of the class described, comprising a bar, and a latch, consisting of side and edge members, pivotally connected at the bottom end with said bar, such pivotal connection being off center to enable said latch to swing outwardly by gravity at the top, and the bottom of the edge member of the latch serving as a stop to limit the outward movement of the latter.

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Witnesses:

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