

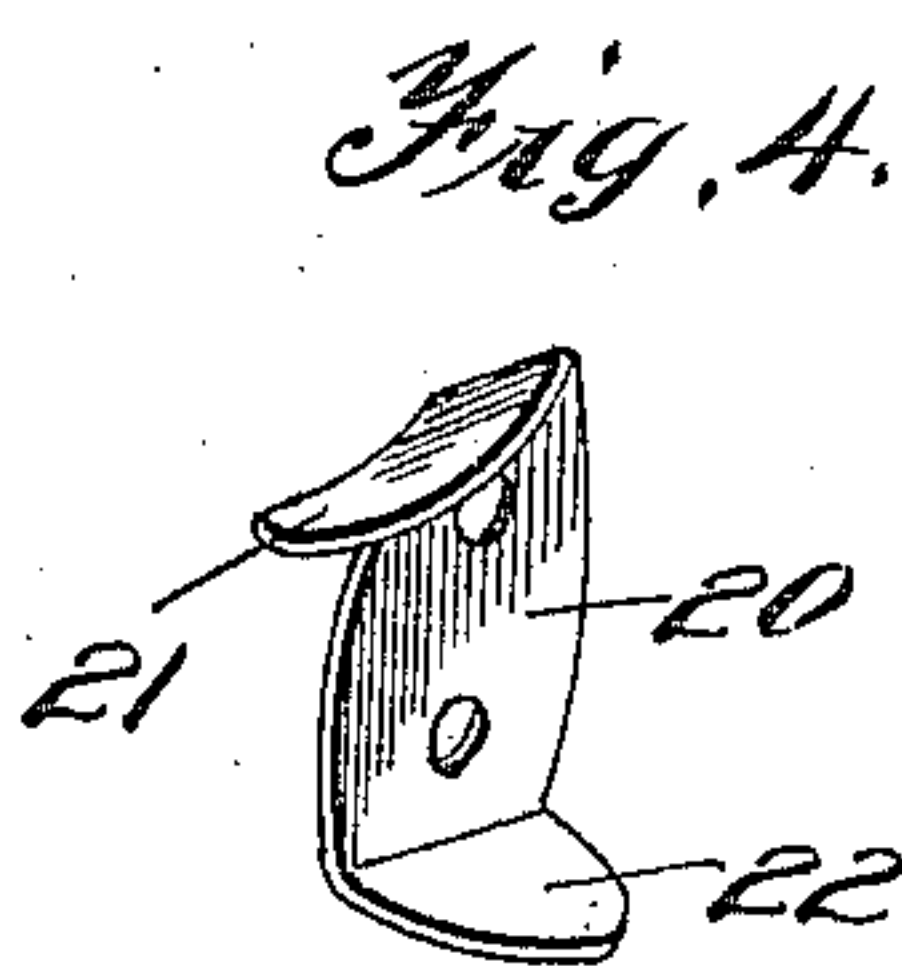
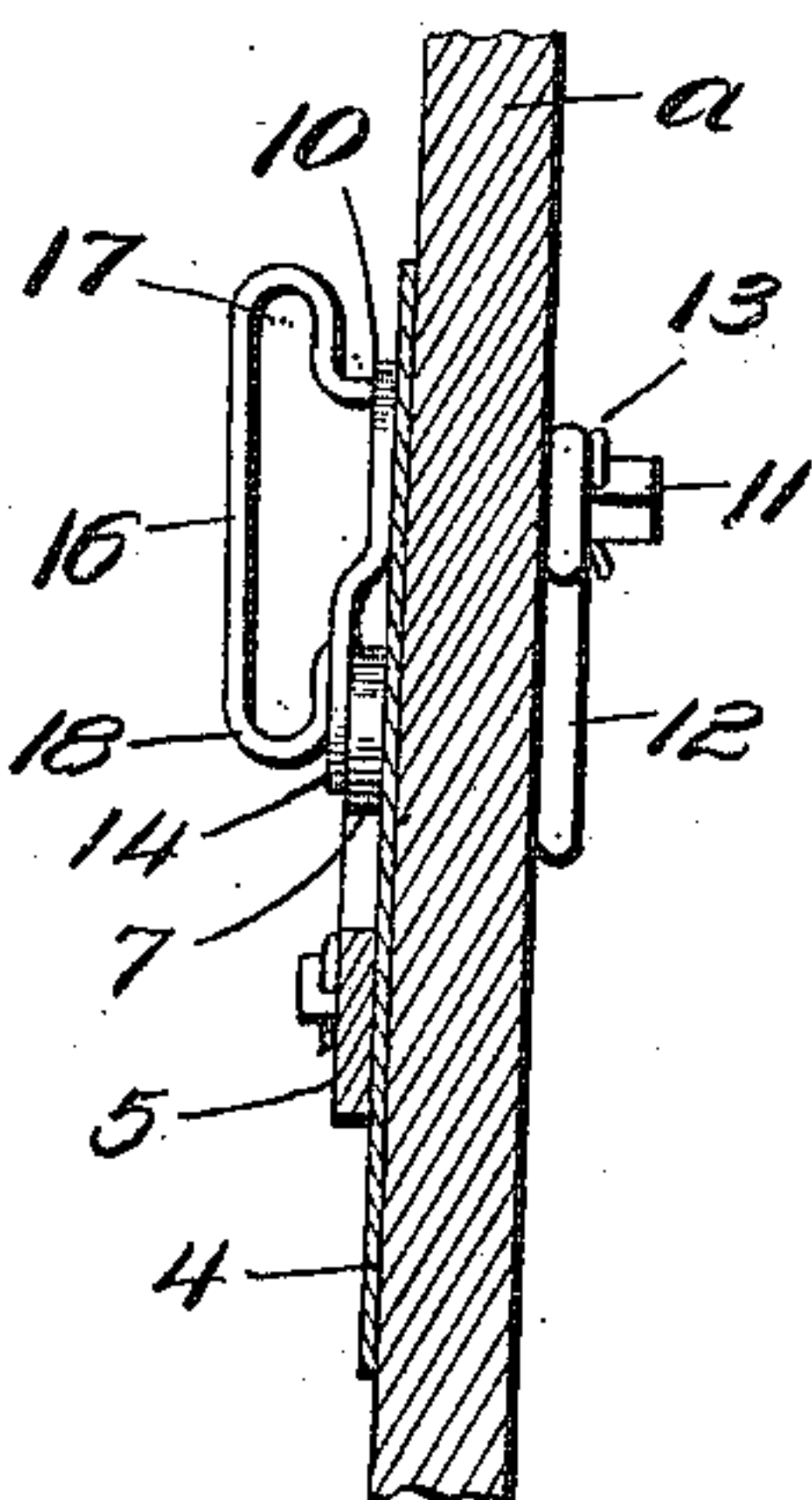
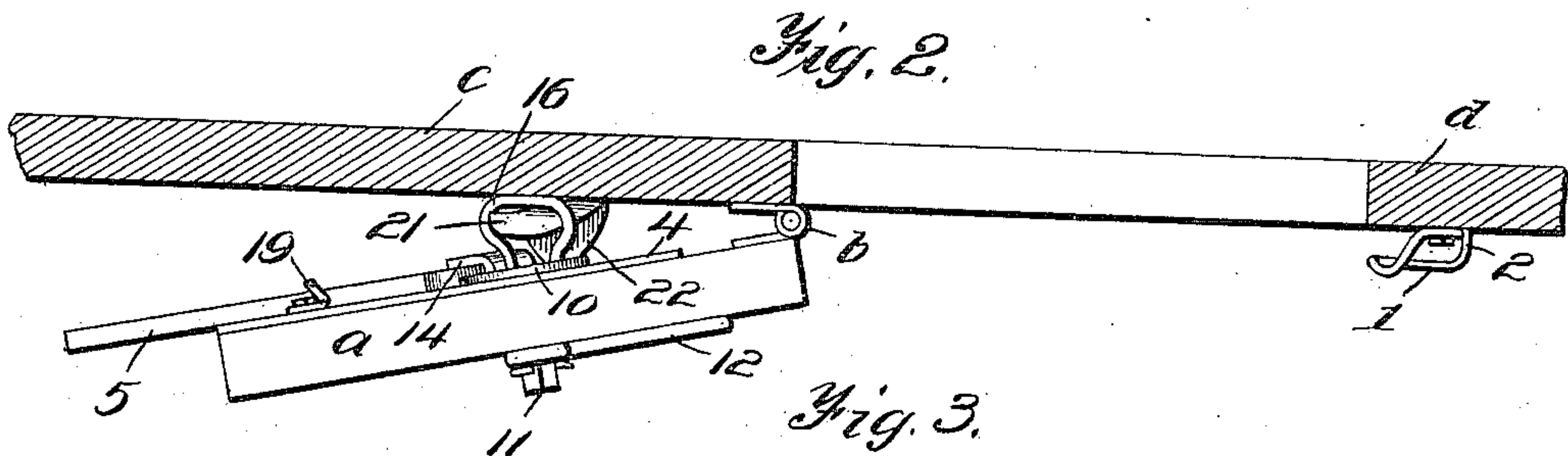
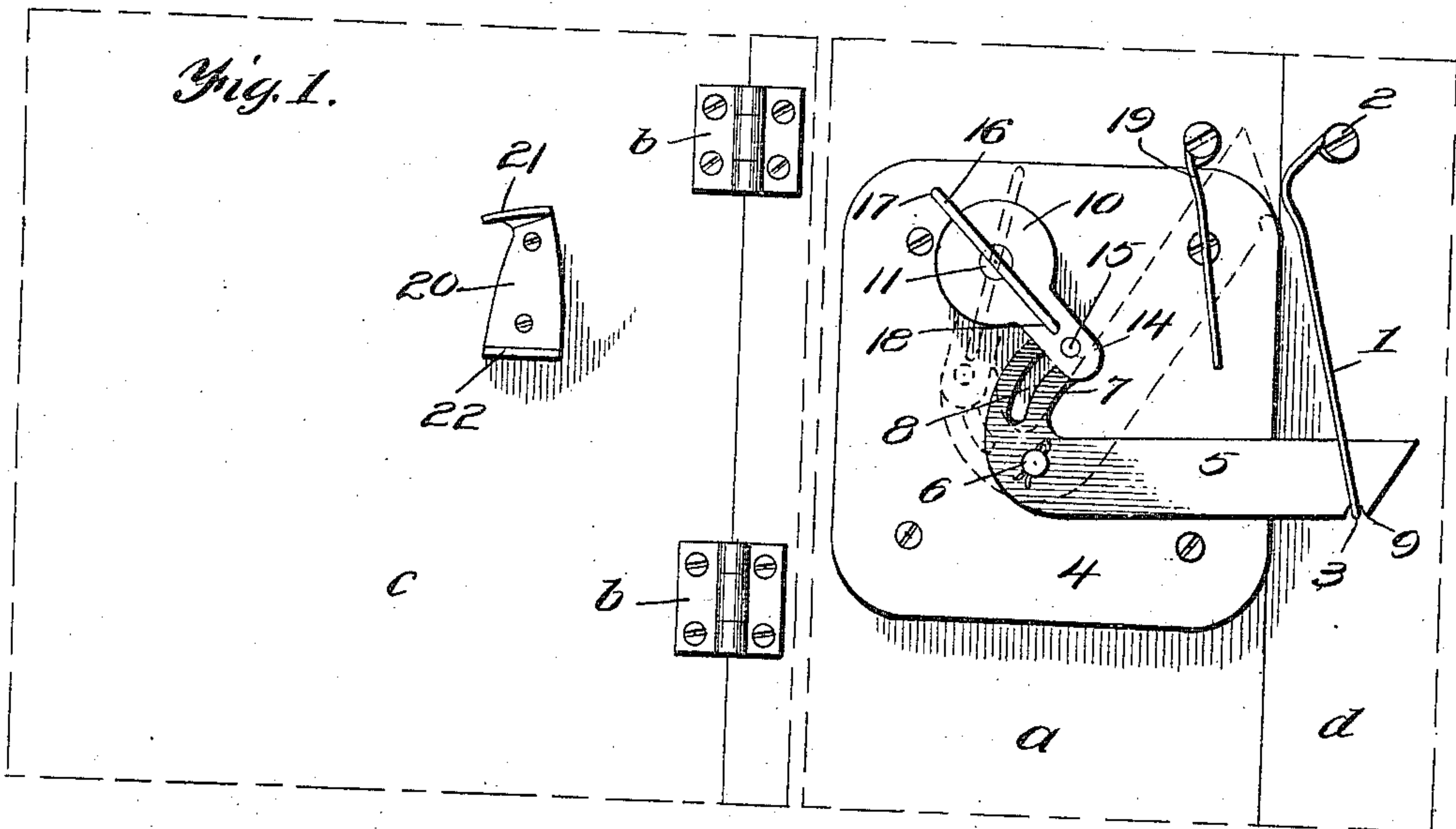
V. C. MIEHER.

DOOR LATCH.

APPLICATION FILED AUG. 11, 1909.

985,617.

Patented Feb. 28, 1911.



Witnesses

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# UNITED STATES PATENT OFFICE.

VICTOR C. MIEHER, OF CARLINVILLE, ILLINOIS.

## DOOR-LATCH.

985,617.

Specification of Letters Patent.

Patented Feb. 28, 1911.

Application filed August 11, 1909. Serial No. 512,424.

*To all whom it may concern:*

Be it known that I, VICTOR C. MIEHER, a citizen of the United States, residing at Carlinville, in the county of Macoupin and State of Illinois, have invented new and useful Improvements in Door-Latches, of which the following is a specification.

This invention is an improved door latch and operating means therefor, the object of the invention being to effect improvements in the construction of the latch and its operating means; to provide means for holding the latch normally in inoperative position and to combine with the latch operating means fixed devices for automatically causing the latch and the door which carries it when opened to its fullest extent to operate by gravity to engage the latch operating means with the fixed device so as to hold the door in open position, the said invention consisting in the construction, combination and arrangement of devices hereinafter described and claimed.

In the accompanying drawings:—Figure 1 is an elevation of a door in closed position and provided with my improved latching and coacting means. Fig. 2 is a plan of the same showing the door in open position and fastened in such position, the wall having the door opening being indicated in section. Fig. 3 is a detail sectional view of the door provided with my improved latch. Fig. 4 is a detail perspective view of the fixture for attachment to the wall against which the door opens and having the latch operating cam and a detent for coacting with the latch operating element to lock the door in open position.

For the purposes of this specification, a door is indicated at *a*, the hinges at *b*, the wall against which the door opens at *c* and the side of the jamb against which the door closes at *d*. On the said jamb is a keeper 1 which comprises an inclined rod having the upper and lower ends thereof inturned and secured to the jamb as at 2, 3. On one side of the door is secured a plate 4. A latch bolt 5 is pivotally mounted on said plate, its pivot being indicated at 6. At the inner end of the latch bolt is an upturned curved arm 7 which has a curved slot 8. It will be observed that the length of the latch bolt is such that the same will drop by gravity to a horizontal position. The said latch bolt when the door is closed by engagement with

the keeper 1 fastens the door in closed position and the latch bolt is here shown as having on its under side at its outer end a notch 9 to engage the lower inturned end of the keeper.

In connection with the pivoted gravity acting latch bolt, I provide a pivotally mounted latch operating element which comprises a disk 10 on the same side of the plate 4 as the latch bolt, a pivotal axis 11 which operates in an opening in said plate and the door and an arm 12 which is detachably secured on the axis 11 as by means of a pin 13. The said disk 10 has an arm 14 which bears on the outer side of the curved inner arm 7 of the latch bolt and is provided with a pin 15 which operates in the slot 8. On the outer side of the said disk is a handle, loop or bail 16, the upper end of which is inturned and secured to the said disk and the lower end of which is inturned and secured on the arm 14 of the disk. The upper end of the said handle loop forms a detent 17 and the lower end thereof forms a tappet 18.

It will be understood that the latch operating element may be turned from either side of the door by means of the bail or handle 16 and the handle arm 12 and that when turned in one direction said latch operating element by the coaction of its pin 15 with the slot 8 of the latch bolt will turn said latch bolt to the raised position indicated in dotted lines in Fig. 1. A spring arm 19 is provided which is fastened on the door and the inner side of which is engaged by the latch bolt when the latter is thus raised so that the said spring arm serves by friction to normally hold the latch bolt in such raised position.

On the wall *c* against which the door swings when the door is fully opened is secured a fixture 20, the upper end of which is provided with a hook 21 and the lower end of which has a cam 22. Assuming the latch to be in raised position and the door to be fully opened, the lower portion 18 of the handle bail will act as a tappet, coming in contact with the cam 22 and hence cause the latch operating element to be partly turned in the direction required to release the latch bolt from the spring arm 19 and cause the detent portion 17 of said bail to engage with the hook 21 and fasten the door in open position. The action of the handle bail with its tappet and detent in connection with the cam



22 and hook 21 is facilitated by the gravitating action of the pivotally mounted latch bolt.

What is claimed is:—

- 5 The herein described construction of latches, comprising in combination with a hinged door, a pivoted gravity latch bolt upon the door, a rotatable latch bolt operating member, said operating member comprising a  
10 tappet and a detent, a keeper for the latch bolt, a spring arm adapted to contact and sustain the latch bolt when the said bolt is in its raised or open position, a fixed cam to cooperate with the tappet of the latch bolt  
15 operating member to initially move the latch

bolt to allow the same to drop free of the spring arm when the door is fully opened, a fixed hook adapted to engage the detent of the latch operating member to fasten the door in its open position, and the said operating member providing means for limiting the movement of the latch bolt in both directions.

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

VICTOR C. MIEHER.

Witnesses:

M. L. KEPLINGER,  
CHAS. D. MIEHER.

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

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