

No. 629,808.

Patented Aug. 1, 1899.

W. R. McMILLAN.

LOCK.

(Application filed June 9, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

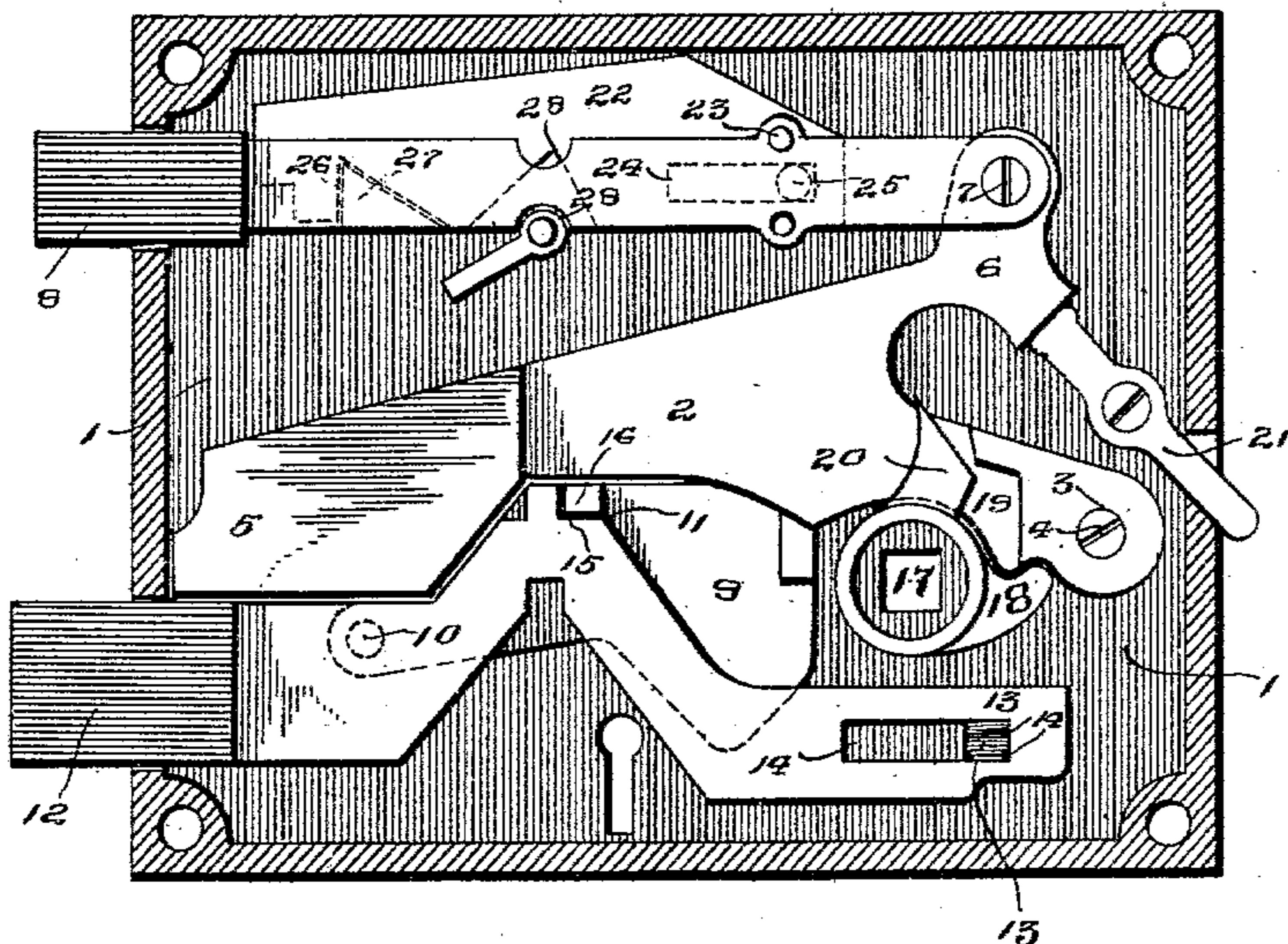


Fig. 2.

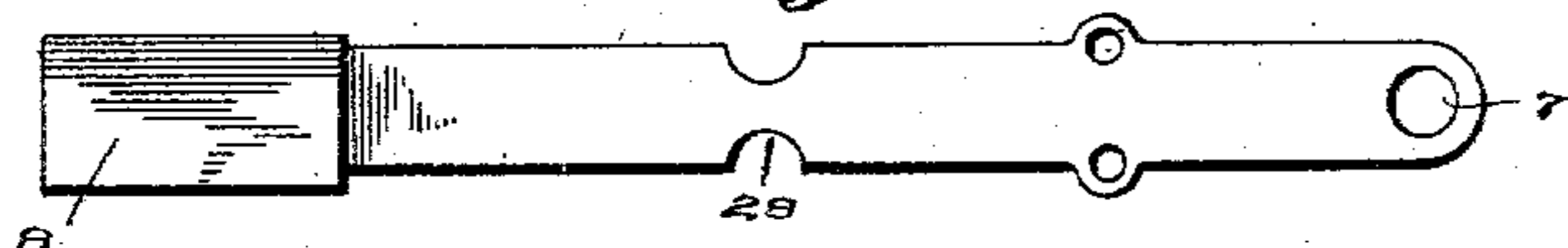


Fig. 3.

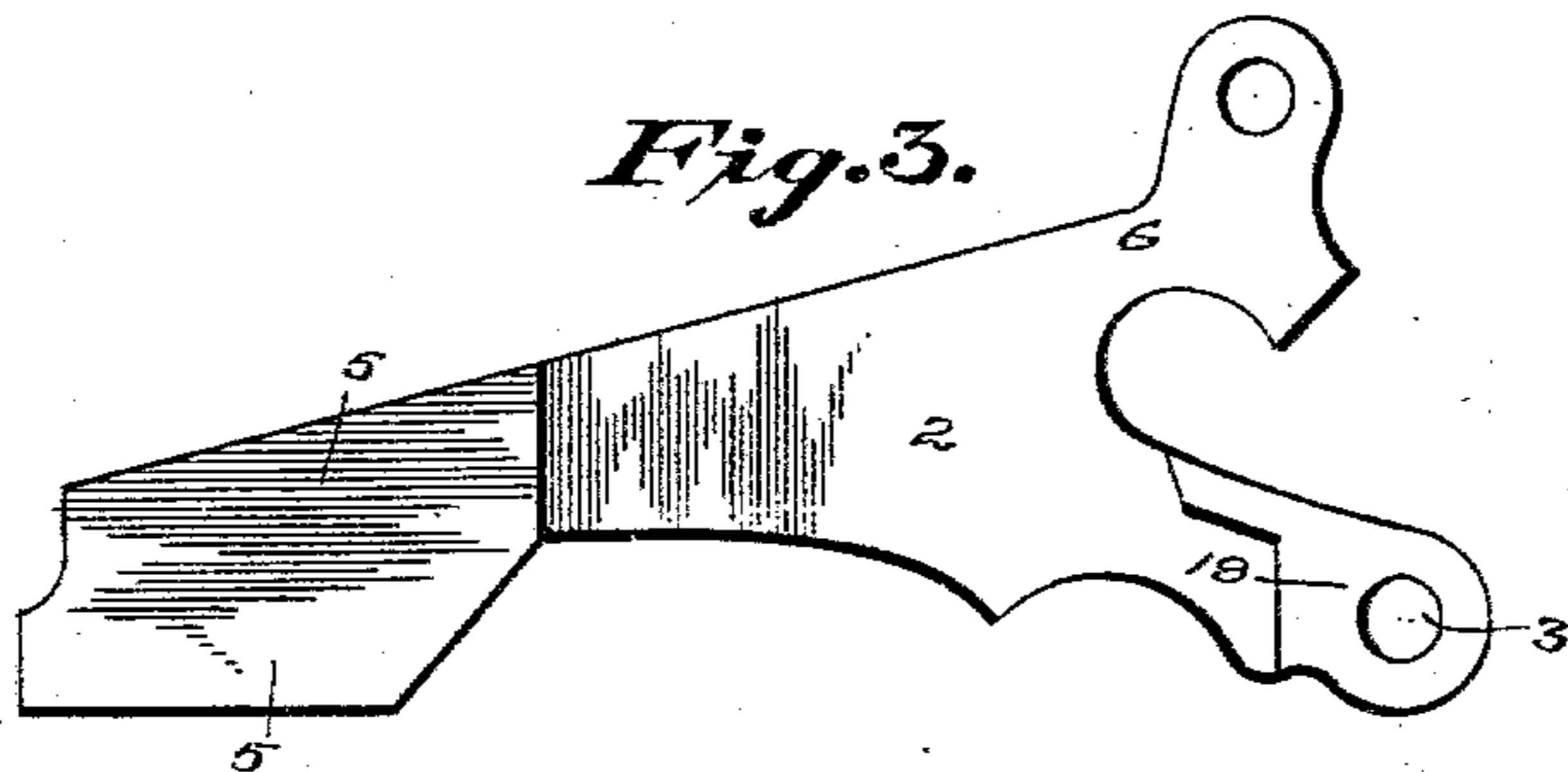
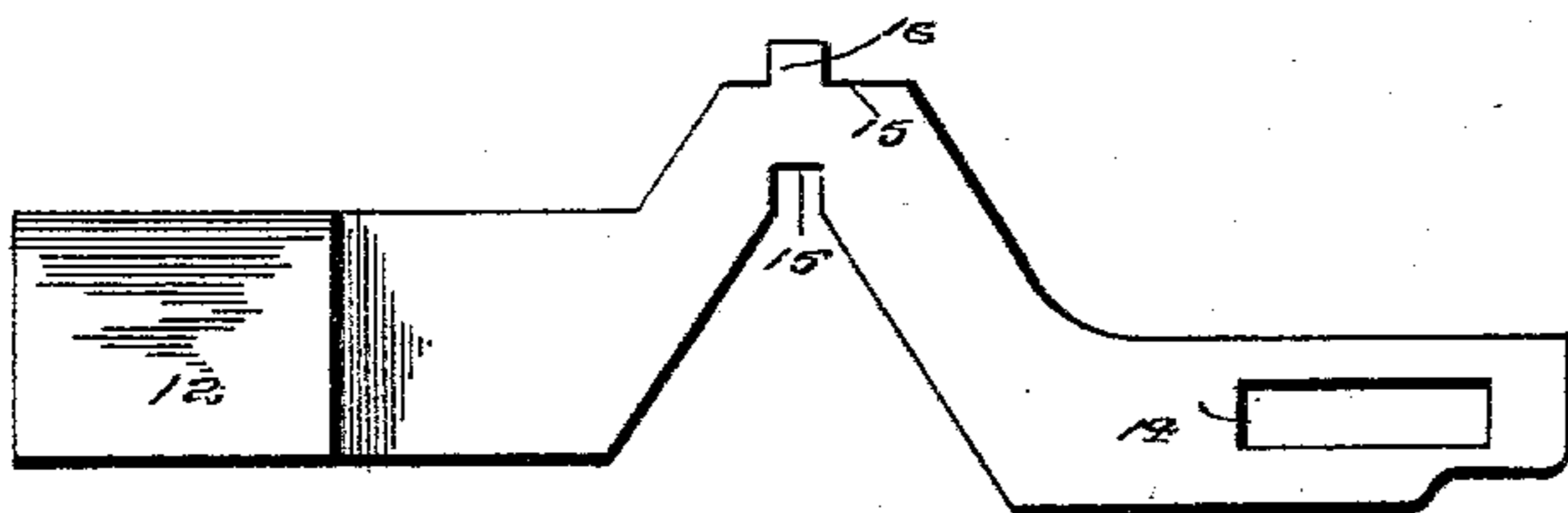


Fig. 4.



Witnesses
Jas L. Brown,
Victor J. Evans

Inventor
William R. McMillan,
By John Wedderburn
Attorney

No. 629,808.

Patented Aug. 1, 1899.

W. R. McMILLAN.
LOCK.

(Application filed June 8, 1897.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 5.

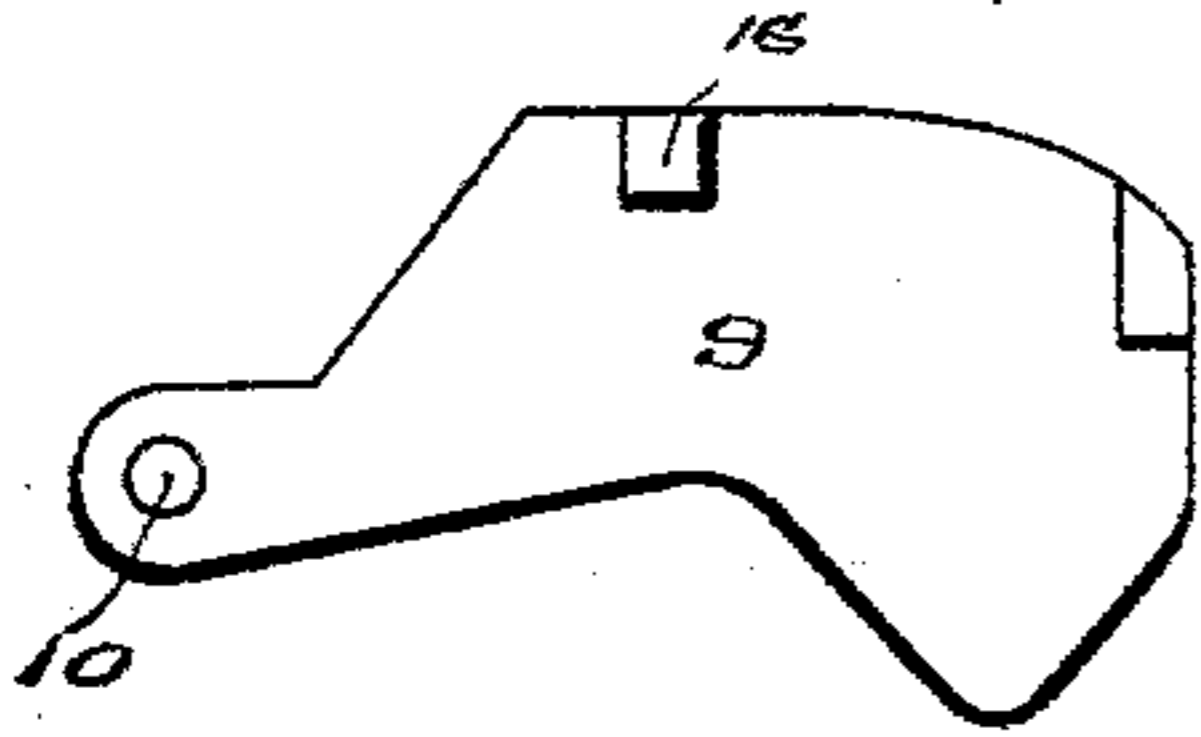


Fig. 6.

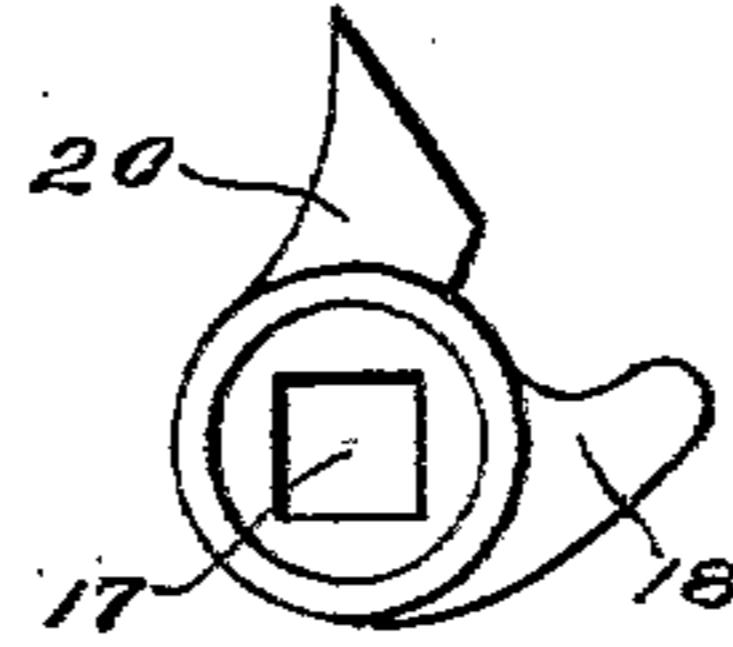


Fig. 7.

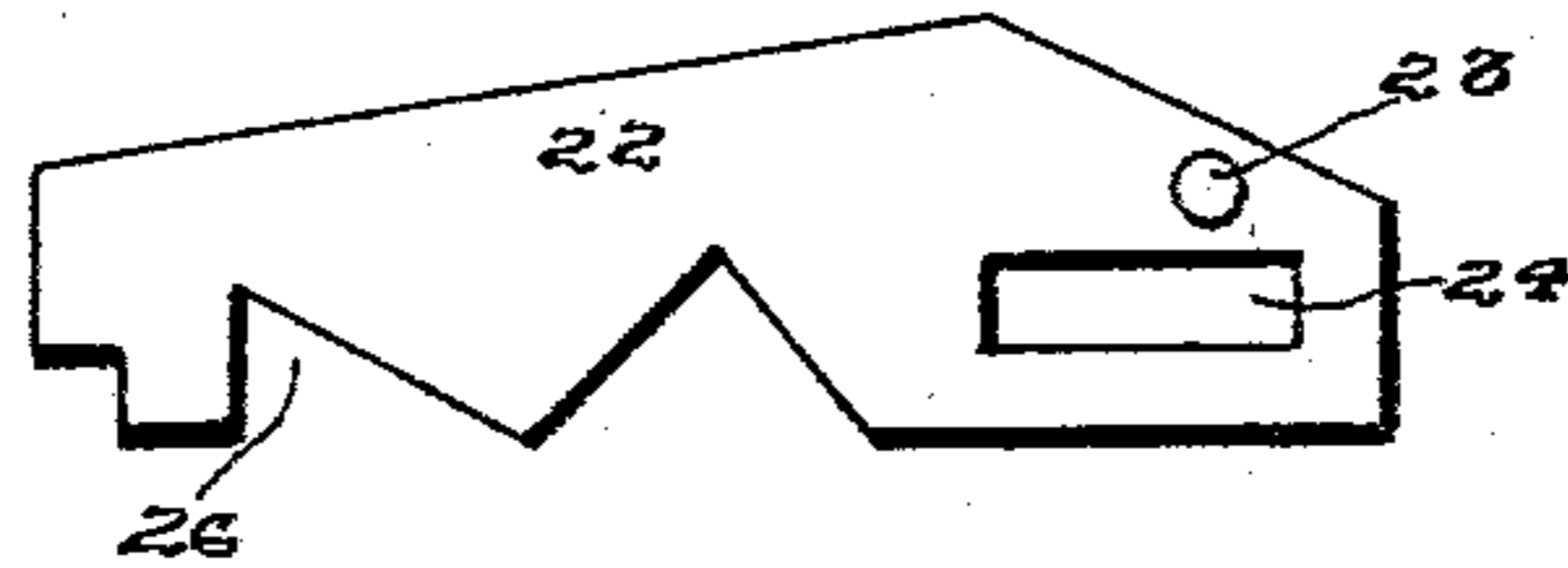
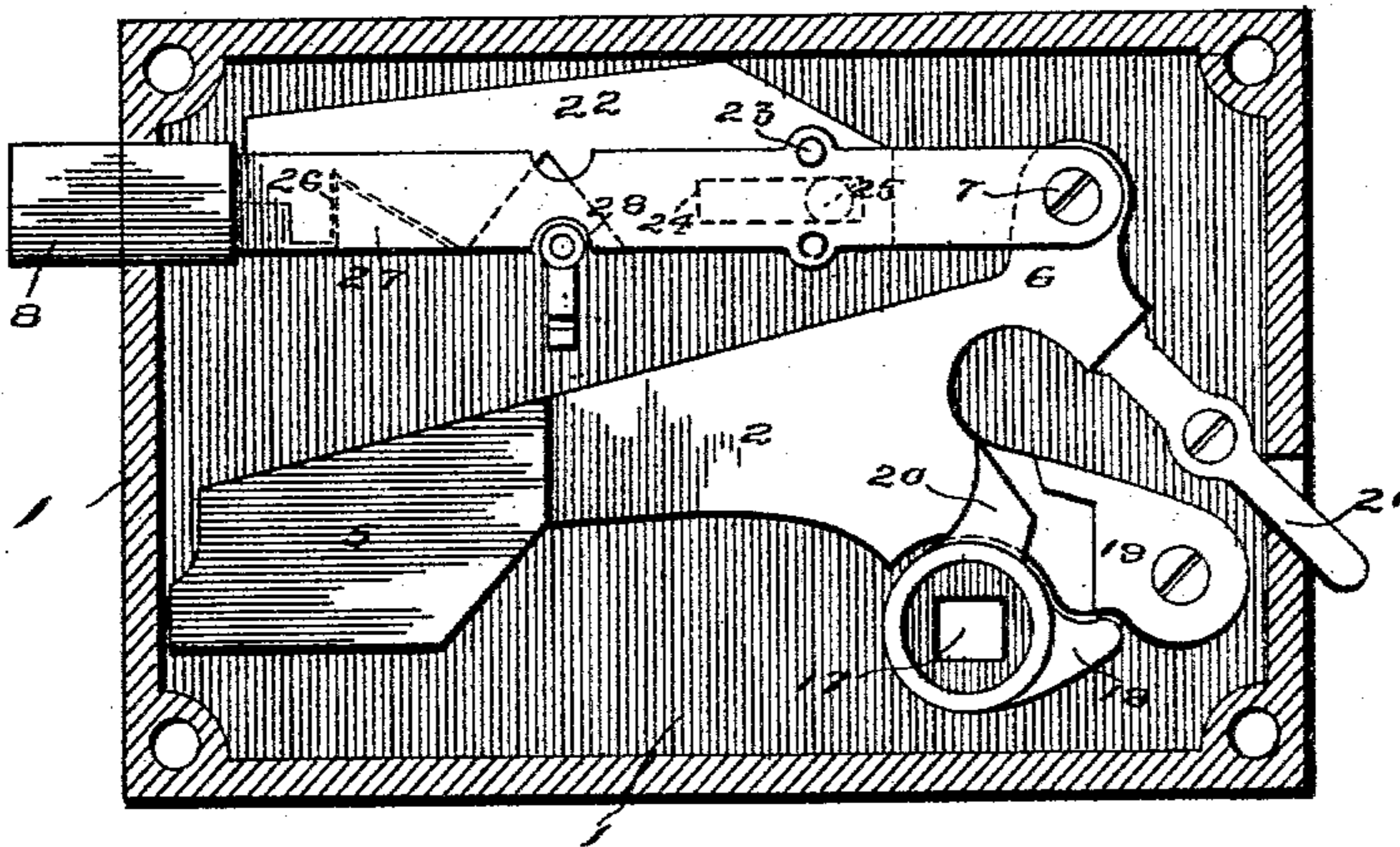


Fig. 8.



Witnesses
Jas. L. Bourne,
Victor J. Evans

Inventor
William R. McMillan
By John Weddenburn
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM R. McMILLAN, OF SALEM, MISSOURI.

LOCK.

SPECIFICATION forming part of Letters Patent No. 629,808, dated August 1, 1899.

Application filed June 9, 1897. Serial No. 640,040. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. McMILLAN, of Salem, in the county of Dent and State of Missouri, have invented certain new and useful Improvements in Door-Locks; and I do hereby 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.

10 The invention relates to an improvement in door-locks; and the object of the invention is to provide a simple, inexpensive, and durable latch-and-bolt door-lock without springs and of the class generally known as
15 "gravity-locks" and in which the parts are so located relatively to each other that both the latch and the key bolt can be securely retained in the locking position by the catch or keeper bearing against the rear end of the
20 lever and both the key-bolt and the latch-bolt can be thrown back at the same time by the key without handling the knob of the door, and at the same time the latch-bolt is made independent of the key-bolt in handling the knob.

25 The construction by which the objects referred to are attained will be understood from the following description and claims, with reference to the accompanying drawings, in which—

30 Figure 1 is a front view with the front covering-plate removed, showing a lock constructed in accordance with the invention. Fig. 2 is a front view of the latch. Fig. 3 is a front view of the weighted lever used to operate by gravity the latch-bolt of the lock. Fig. 4 is a front view of the key-bolt. Fig. 5 is a front view of the tumbler of the lock. Fig. 6 is a front view of the hub of the lock that receives
35 the spindle of the knob-handle, and Fig. 7 is a front view of the latch-bolt tumbler. Fig. 8 is a view similar to Fig. 1, showing the lock with the key-bolt omitted.

40 1 indicates the frame or case of the lock, and 2 a lever having at its rear end a cylindrical perforation 3 to receive a stud or pin 4, projecting from the frame and upon which it is pivoted. The front end of the lever 2 is preferably made thicker at 5 to add to its
50 weight for facilitating the dropping of said end by gravity on the key-bolt and its tumbler and is provided with an arm 6, perfo-

rated to receive a pin 7 to connect it with the rear end of the latch-bolt 8, the front end of which normally projects through the front 55 edge or flange of the lock-case. Under the lever 2 is placed a tumbler 9, having its front end pivoted on the stud 10, projecting from the front end of the tumbler and entering the perforation or slot at 11 in the key-bolt 60 12. The tumbler 9 also serves as a support for the front end of the lever 2, and the key-bolt 12 is placed in front of the tumbler and has its front end guided in the slot in the edge or flange of the frame 1 and its rear 65 end guided and supported by a stud 13, projecting from the frame 1 and received in the slot 14 in the key-bolt. The central portion of the bolt 12 is arched or V-shaped, the under portion thereof being adapted to 70 engage with the lock-key, and the apex of said arch is shouldered at 15 to interlock with a lug 16, projecting laterally from the top of the tumbler 9. Between the bolt 12 and the lower portion of the lever 2 is placed 75 a hub 17, which receives the spindles of the knob-handles, and said hub has its circular ends shouldered, as usual, to be received into and guided by the frame and cover of the lock. The hub has a laterally-extending 80 finger 18 adapted to engage with the under side of a shoulder 19, formed around the perforation 3 of the lever 2 for lifting the said lever and thereby retracting the latch-bolt within the frame. The hub 17 is provided 85 with a second finger 20, which also acts to raise the weighted lever 2, as does the finger 18; but the latter strikes the shoulder 19 obliquely or in a slanting position. In the rear of the upper arm 6 of the lever 2 there 90 is pivoted to the frame in a recess formed in its edge or flange a catch or keeper 21 in the form of a hinged button, the rear end or arm of which projects outside the frame 1 and constitutes a handle for adjusting it. 95 The forward end or arm is adapted to engage with the rear of the arm 6 to prevent it from swinging rearward, thus locking the latch-bolt 8. It will also lock the key-bolt if the latter has its front end projecting from the 100 lock and its lug or shoulder 15 in front of the forward lugs 16 of the tumbler 9. When the catch 21 is out of engagement with the lever 2, if the key in the lock is turned it

will not only throw the key-bolt backward, but the lifting of the tumbler by the key will lift the lever 2 and throw the latch-bolt 8 also rearwardly within the lock-case, but
 5 instantly the latch-bolt will resume its projecting position, as before, consequent upon the weighted lever acting thereon. 22 indicates a second tumbler operated in connection with the latch-bolt. It is pivoted at its
 10 rear end to the said bolt at 23 and is provided near one end with a longitudinally-extending slot 24 to receive and adapt it to slide on a pin at 25 on the lock-frame. The forward swinging end of this tumbler 22 is provided
 15 with a pendent hook 26, which at the end of the outward throw of the latch-bolt and tumbler is adapted to engage a shoulder 27 on the frame-plate and thereby lock the latch-bolt in the position last named. This tumbler 22 is notched or recessed on its lower
 20 face and is adapted to be engaged by the latch-key, the latch-lever serving to lift it out of engagement with the spur or shoulder 27, the key then acting through said tumbler, and a notch at 28 in the lower face of the latch-bolt serves to unlock the tumbler and force the tumbler and latch-bolt inwardly, overcoming the weight of the lever 2, which when the pressure of the key is
 30 withdrawn throws the bolt and tumbler out again in a manner that will be readily understood.

In the construction and arrangement of parts described it will be seen that when the
 35 bolts are not locked out by the keeper 21 the latch-bolt 8 can be readily withdrawn independent of the key-bolt and when released will be instantly thrown out again by the action of the weighted lever. When the keeper
 40 21 is employed, the hook or catch 26 on the tumbler 22 may be omitted, thereby adapting the latch-bolt to be operated either by the latch-key or by the turning of the door-knob. When the catch 26 is employed, the
 45 latch-bolt will be operated by the latch-key only, and then only when not locked out by the keeper 21.

In Fig. 8 the key-bolt is omitted and the lock is made to depend on the latch-bolt only—a
 50 construction which provides a very simple and inexpensive lock and at the same time an effective one.

In either construction the latch-bolt may be reversed or turned for adapting it to either
 55 a right or left hand lock.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination in a door-lock, of a latch-bolt, a weighted lever connected therewith for actuating it, a key-bolt, a tumbler connected with said key-bolt for releasing it and simultaneously lifting the weighted lever for operating the latch-bolt, substantially as described. 60 65

2. The combination in a door-lock, of a key-bolt and a tumbler for engaging and releasing said bolt, a latch-bolt, a weighted lever pivotally connected with said latch-bolt and interposed between said latch and key bolts and adapted to be actuated by the tumbler of the key-bolt for actuating the latch-bolt, and a tumbler operated in connection with the latch-bolt and provided with means for locking the same independently of the means
 70 75 for locking the key-bolt, substantially as described.

3. The combination in a lock, of a reversible latch-bolt, a weighted lever pivotally connected therewith, a key-bolt, a tumbler connected therewith for actuating it, said weighted lever resting upon said key-bolt tumbler to be operated thereby for actuating the latch-bolt simultaneously with the movement of the key-bolt, substantially as described. 80 85

4. The combination in a lock, of a latch-bolt, a weighted lever pivotally connected therewith, a key-bolt, a tumbler for actuating said key-bolt, the weighted lever resting upon said tumbler and being actuated thereby for actuating the latch-bolt simultaneously with the operation of the key-bolt, and a stop for engaging said lever for locking both the key and latch bolts in their shot positions, substantially as described. 90 95

5. The combination in a lock, of a latch-bolt, a weighted lever pivotally connected therewith for actuating it, the shaft of the door-knob provided with projections acting upon said weighted lever, the tumbler pivoted to and moving with the latch-bolt adapted to engage a projection on the lock-casing for locking the latch-bolt in its shot position, and a stop adapted to engage the weighted lever whereby said latch-bolt is locked in shot or
 100 105 operative position for preventing it from being operated by means of a latch-key, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses. 110

WILLIAM R. McMILLAN.

Witnesses:

THOMAS J. SCOTT,
 E. M. DURHAM.