

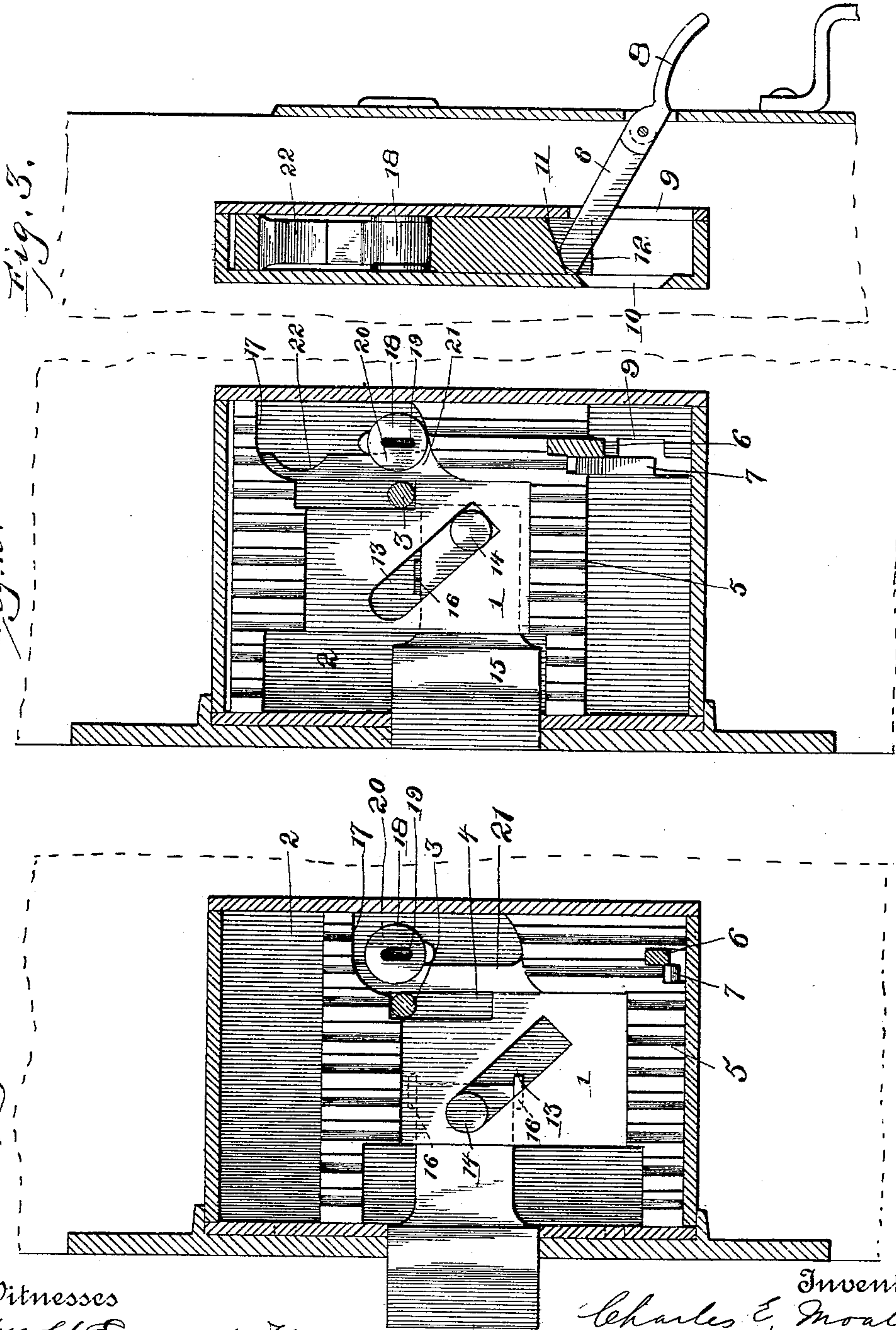
No. 616,626.

Patented Dec. 27, 1898.

C. E. MOATS.  
GRAVITY LATCH AND LOCK.

(Application filed Jan. 10, 1898.)

(No Model.)



Witnesses  
Wm. H. Edwards Jr.  
L. E. Warner.

Inventor  
Charles E. Moats  
By James G. Young  
Attorney



# UNITED STATES PATENT OFFICE.

CHARLES E. MOATS, OF KANSAS CITY, MISSOURI.

## GRAVITY LATCH AND LOCK.

SPECIFICATION forming part of Letters Patent No. 616,626, dated December 27, 1898.

Application filed January 10, 1898. Serial No. 666,235. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. MOATS, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Gravity-Latches; 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.

My invention has relation to gravity-latches; and it consists in the novel construction and arrangement of its parts, as herein-  
after described.

The object of the invention is to provide a latch adapted to throw the bolt by means of a weight located in the interior of the latch. The inner end of the bolt is provided with suitable lugs that are adapted to work in slanting recesses of the weight, and thus as the weight is moved the bolt is thrown out or drawn in, as the case may be.

The further object of the invention is to provide a suitable mechanism whereby the latch may be converted into a lock, said mechanism being operated by a key.

In the accompanying drawings, Figure 1 is a sectional view of the latch, showing the bolt extended. Fig. 2 is a sectional view of the latch, showing the bolt drawn in; and Fig. 3 is a transverse sectional view of the latch.

The weight 1 is adapted to slide perpendicularly within the sides of the latch-casing 2, said weight being guided by the sides of the casing and also by the pin 3, said pin extending through the elongated perforation 4, said perforation 4 being perpendicular and the ends of the pin 3 being in the opposite sides of the latch-casing 2. The front and rear faces of the weight 1 are serrated or corrugated, as at 5, in order to reduce the friction between said weight and the sides of the casing 2 as the said weight 1 is moved perpendicularly. The levers 6 and 7 are suitably fulcrumed on opposite sides of the door, said levers being provided with suitable thumb-rests 8, as shown in Fig. 3. The lever 6 passes through the perforation 9 in the side of the latch, and the lever 7 passes through the perforation 10 in the opposite side of the latch. The inner ends of the le-

vers are adapted to come in contact with the surfaces 11 and 12, respectively, the said surfaces being located at the lower edge of the weight 1.

The weight 1 is provided at or near its middle with the diagonally-extending slot or opening 13, said opening being adapted to receive the lug 14, the lug 14 in turn being fixed to the inner end of the bolt 15. The bolt 15 is adapted to shift in or out and is guided at its inner end by the guides 16 16, said guides being attached to one of the sides of the casing 2. The rear edge of the weight 1 is cut away and forms the recess 17, said recess being adapted to receive the turning-plug 18, said plug 18 being journaled at its ends in opposite sides of the casing 2, the said plug also being provided at its ends with perforations 19, adapted to receive a key. Said plug 18 is cylindrical in its shape and is provided in one side with a transverse recess 20. (Indicated by the dotted line in Fig. 1.) The edge 21 of the weight 1 is adapted to pass through the recess 20 of the plug 18 when the plug is in the position as shown in Fig. 2. The upper portion of the edge 20 is provided with the semicircular recess 22, the said recess 22 being adapted to receive the cylindrical surface of the plug 18 when the plug is turned in the position as shown in Fig. 1. Thus it will be seen that the weight 1 cannot be moved, and consequently the bolt 15 will be firmly held in its extended position, as shown in Fig. 1, thus forming the lock. As above stated, the plug 18 is operated by a suitable key adapted to enter either of the perforations 19.

In operation the device works as follows: The operator approaching the door presses one of the thumb-pieces 8 and the inner end of the lever elevates the weight 1. The perpendicular movement of the weight 1 and the inclination of the slot 13, receiving the lug 14, cause the bolt 15 to pass in and assume the position as shown in Fig. 2. Thus the door is unlatched and opened, relieving the pressure at the thumb-rest 8, the weight 1 by gravity falls, and the inclination of the slot 13, receiving the lug 14, causes the bolt 15 to extend out, as shown in Fig. 1. When the door is slammed to, the beveled end of the bolt 15 strikes the keeper, and thus the bolt 15 is pushed in, and the lug 14, engaging the



edge of the inclined slot 13, causes the weight 1 to rise, and when the outer edge of the bolt 15 is opposite the recess of the keeper the weight 1 descends and forces the bolt 15 into the keeper. When the door is shut, should it be desired to lock the same the key is inserted in one of the perforations 19, the perforations 19 being located at each end of the cylindrical plug 18, and by giving the key a turn the cylindrical surface of the plug 18 is turned into the recess 22, and thus it will be seen that the bolt 15 cannot be withdrawn until the plug 18 is turned into the position as shown in Fig. 2.

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

1. A latch consisting of a casing, a bolt adapted to move horizontally in said casing, a weight adapted to move perpendicularly in said casing, the bolt and weight moving ab-

solutely at right angles to each other, a means for elevating said weight, and a connection between the weight and the bolt adapted to move the bolt horizontally when the weight is moved perpendicularly.

2. A latch consisting of a casing, a bolt adapted to move horizontally in said casing, a weight adapted to move perpendicularly in said casing, the bolt and the weight moving absolutely at right angles to each other, the weight having a diagonal slot, a lug attached to the bolt and entering the diagonal slot of the weight, and a means for elevating the weight.

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

CHARLES E. MOATS.

Witnesses:

JOHN B. MAYES,  
KITTIE REES.