

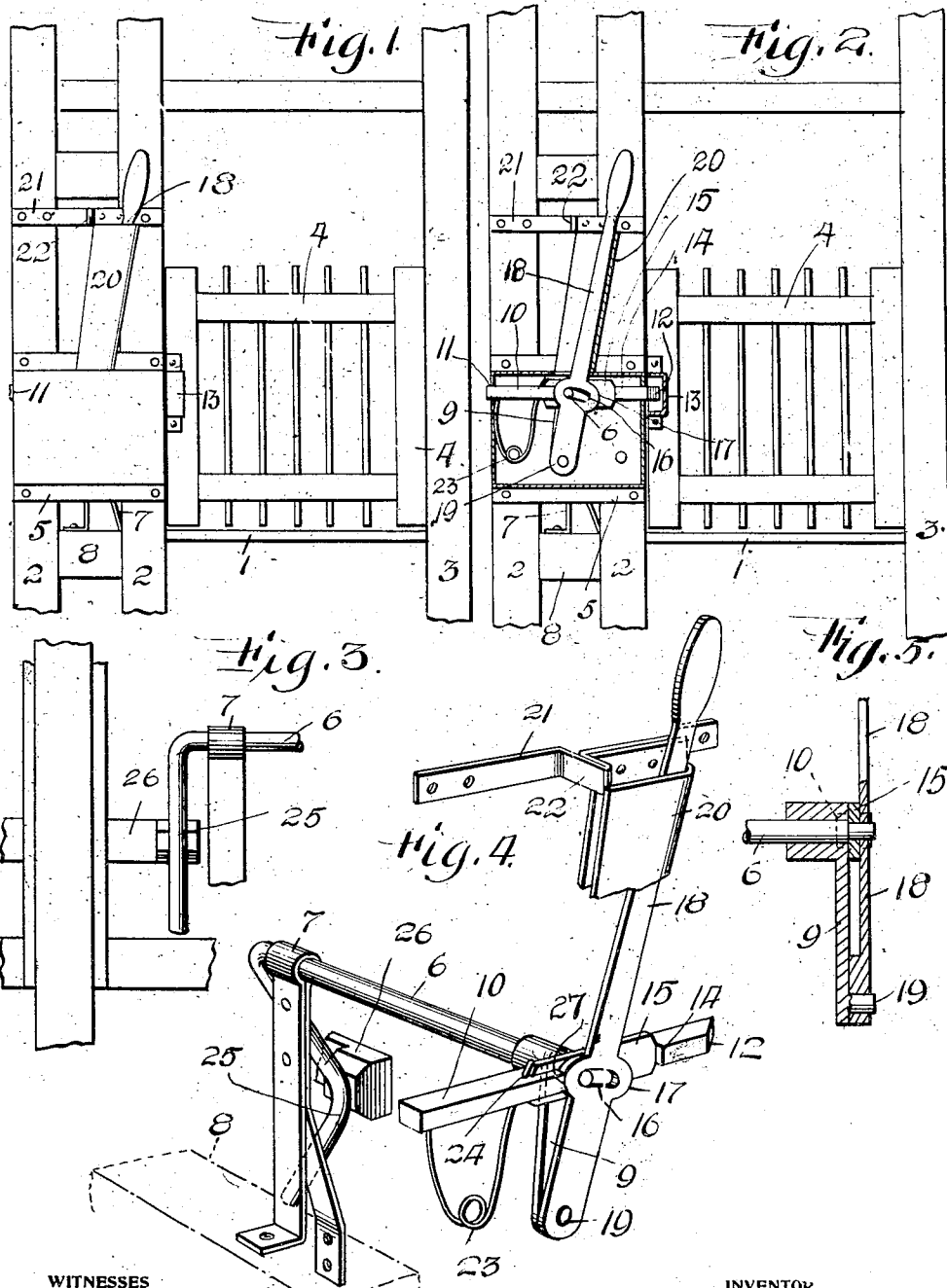
L. W. FOX.

LOCK.

APPLICATION FILED JUNE 17, 1912.

1,048,952.

Patented Dec. 31, 1912.



WITNESSES

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Specification of Letters Patent.

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Application filed June 17, 1912. Serial No. 704,201.

To all whom it may concern:

Be it known that I, LYMAN W. FOX, citizen of the United States of America, residing at Mount Pleasant, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Locks, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to locks, especially designed for the gates and doors located at the entries or shafts of a mine, quarries or other subterranean passages.

The primary object of my invention is to provide a gate lock that cannot be successfully operated unless a car or platform is in position at the head of a mine shaft to receive persons or material that passes through the gate-way.

Another object of this invention is to provide a lock of the above type consisting of comparatively few parts that are inexpensive to manufacture, easy to assemble and highly efficient for the purposes for which they are intended.

A further object of this invention is to accomplish the above results by a mechanical construction that will be hereinafter specifically described and then claimed, and reference will now be had to the drawing, wherein like numerals denote corresponding parts throughout the several views, in which:—

Figure 1 is a front elevation of the lock. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a side elevation of a trip adapted to form part of the lock. Fig. 4 is a perspective view of a portion of the lock, and Fig. 5 is a longitudinal sectional view of a portion of the lock.

The reference numeral 1 denotes a floor leading to the top of a mine shaft and 2 and 3 denote posts forming part of a fence surrounding the upper end of the mine shaft, the latter post having a hinged gate 4 adapted to close the entrance to the floor 1 between the posts 2 and 3.

Mounted upon the posts 2 is a rectangular lock casing 5 and extending into said lock casing is a reduced end of a shaft 6 that is journaled in a bearing 7, carried by a timber 8 that extends between the posts 2. The bearing 7 is in the form of a strap and is braced from one side of the timber.

Mounted upon the reduced end of the shaft 6 is a crank 9 and a latch 10. The latch 10 is slidably mounted in openings 11 provided therefor in the end walls of the lock casing 5, and one end of said latch is beveled, as at 12 to extend into a keeper 13, carried by the free edge of the gate. The latch 10 is cut away, as at 14 and a plate 15 mounted in the cut away portion of the latch. The reduced end of the shaft 6 extends through the plate 15 and into a segment shaped slot 16 formed in an enlargement 17 of a lever 18, said lever being pivotally connected by a pin 19 to the end of the crank 9. The lever 18 extends through a channel shaped guide 20, carried by the lock-casing 5 and by a transverse bar 21, carried by the posts 2. The transverse bar 21 has a stop or angle portion 22 that limits the movement of the lever 18 in the guide 20.

Located within the lock-casing 5 is a compression spring 23 that has one end thereof engaging a wall of the casing 5 and the other end thereof extending through an opening 24 provided therefor in the latch 10.

The end of the shaft 6, adjacent to the bearing 7, has an angle crank or trip 25 and this crank is adapted to be engaged by a beveled portion 26 of a car or elevator that is operated in the mine shaft.

In operation, the shaft 6 can be freely rocked when the portion 26 of an elevator car is not in engagement with the angle crank 25. In this instance the reduced end of the shaft 6 serves as a fulcrum point for the lever 18, which can be moved to rock the shaft 6, without moving the latch 10, the spring 23 retaining said latch in a closed or extended position, whereby the gate 4 will be locked.

When the portion 26 of an elevator car engages the angle crank 25, the crank 9 is then held stationary with the pin 19 as the pivot point of the lever 18. When the lever 18 is moved, the enlargement 17 thereof engages the shoulder 27 of the cut away portion 14 and shifts the latch 10 out of the keeper 13, this retracted position of the latch allowing the gate to be opened.

The lock in its entirety can be made of light and durable metal, and while in the drawing there is illustrated a preferred embodiment of the invention, it is to be understood that the structural elements can be

varied or changed, as to the size, proportion and manner of assemblage, without departing from the scope of the appended claims.

What I claim is:—

- 5 1. In a gate lock, the combination with a hinged gate, a keeper carried thereby, and a portion of a car, of a lock casing adjacent to said gate, a rock shaft extending into said lock casing, an angle crank carried by one
10 end thereof and adapted to be engaged by a portion of said car, a crank carried by the opposite end of said shaft, a lever having the lower end thereof pivotally connected to said crank, and a spring pressed latch movable in said lock casing and extending into
15 the keeper of said gate and adapted to be shifted by said lever when said crank serves as a pivot for the lower end of said lever.
2. In a gate lock, the combination with a
20 hinged gate, and a portion of a car, of a lock-casing adjacent to said gate, a rock shaft having one end thereof extending into said lock-casing, cranks carried by the ends of said shaft with one of said cranks in the
25 path of a portion of said car to be engaged thereby, a lever extending into said lock-casing and having the end thereof pivotally connected to the crank within said casing, and a latch movable in said lock-casing and
30 adapted to lock said gate in a closed position, said latch being movable with said lever when the crank within said casing is held stationary by the other crank being engaged by the portion of the car.
- 35 3. In a gate lock, a car, a hinged gate, a

rock shaft adapted to be held stationary by the portion of a car movable in proximity to said gate, a crank carried by an end of said shaft, an operating lever having the lower end thereof pivotally connected to
40 said crank, and a spring pressed latch adapted to lock said gate and adapted to be moved by said lever when said rock shaft is held stationary.

4. In a gate lock, a car, a hinged gate, a
45 rock shaft adapted to be held stationary by the portion of a car movable in proximity to said gate, a crank carried by an end of said shaft, an operating lever having the lower end thereof pivotally connected to
50 said crank, and a spring pressed latch adapted to lock said gate and adapted to be moved by said lever when said rock shaft is held stationary, and a guide for the upper end of said lever and adapted to limit the
55 movement thereof.

5. In a gate lock, a spring pressed latch, an operating lever adapted to move said latch, a movable pivot point for the lower end of said lever including a rock shaft,
60 and means in proximity to said shaft for holding said shaft stationary whereby said lever can be shifted to move said latch.

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

LYMAN W. FOX.

Witnesses:

JAMES O. EASTON,
CLIFFORD FOX.