No. 775,778. PATENTED NOV. 22, 1904.

# W. J. NEILSON.

## MINER'S CAR.

APPLICATION FILED AUG. 31, 1904.

NO MODEL.

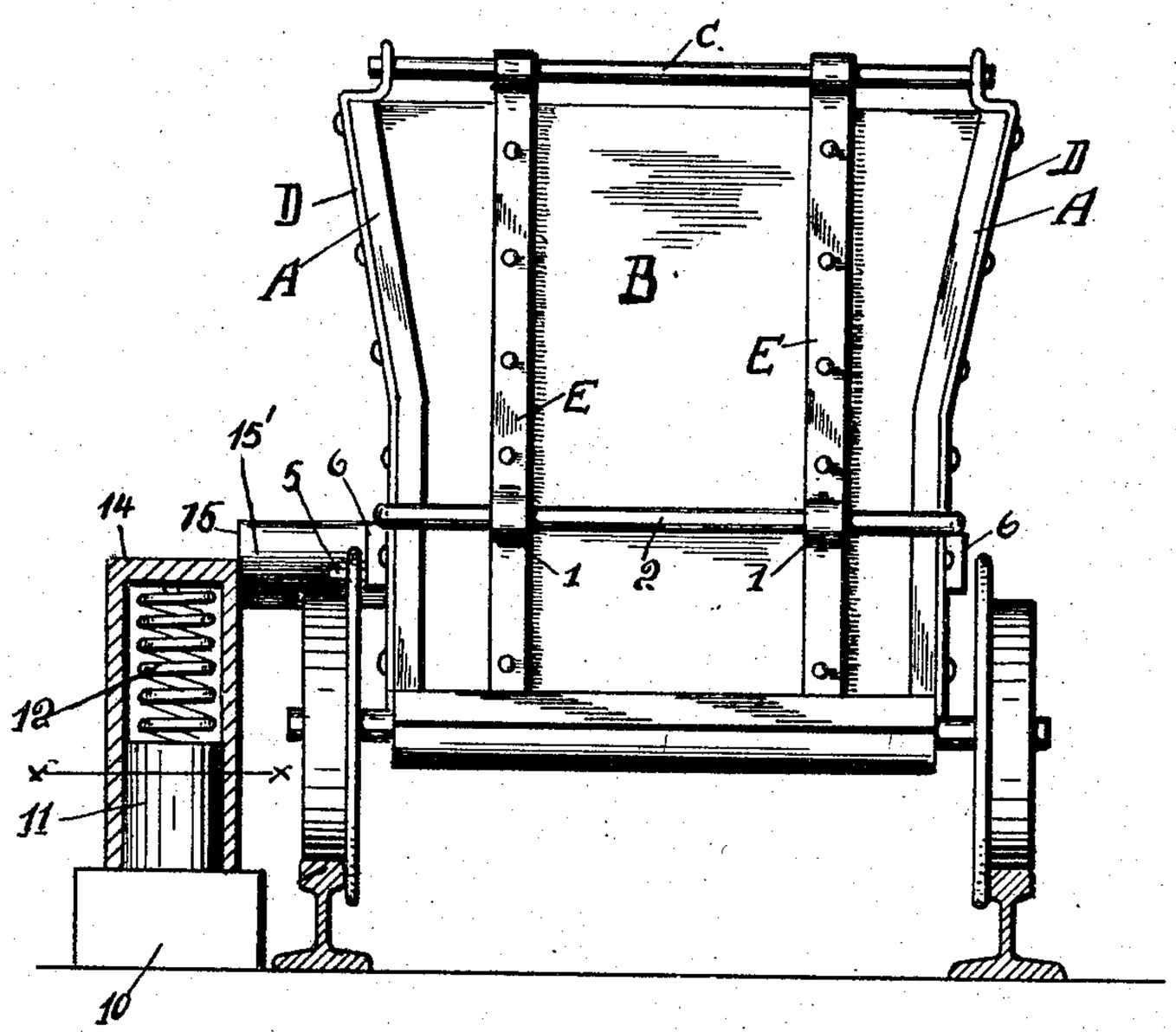


Fig. 1.

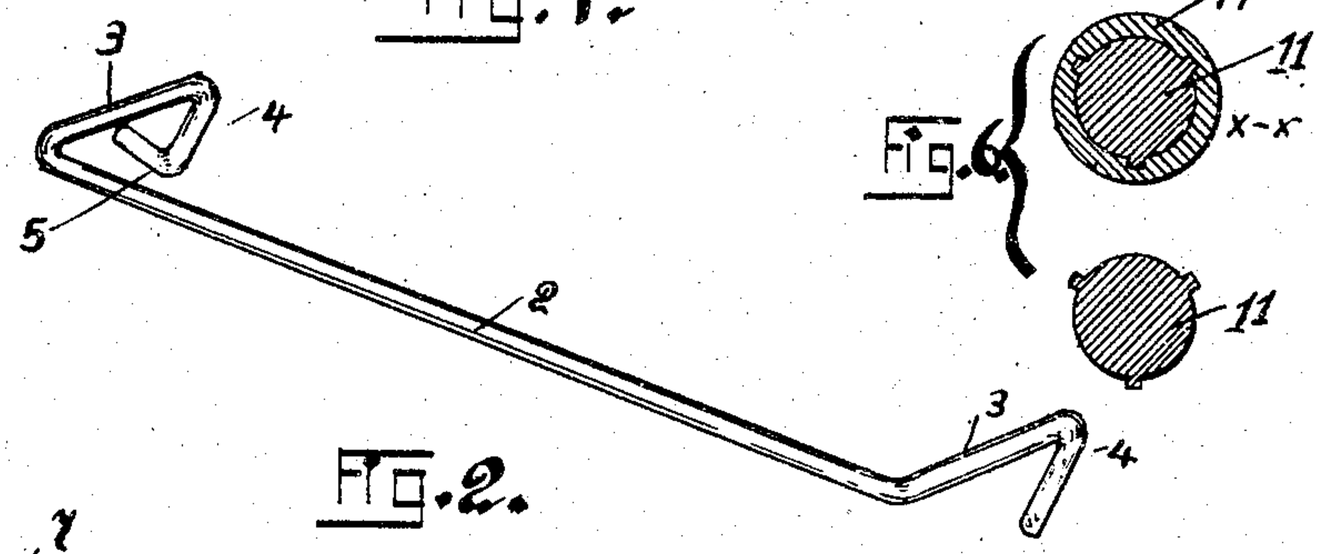


Fig. 2.




Fig. 6.

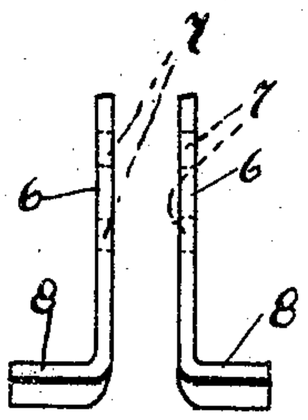


Fig. 3.

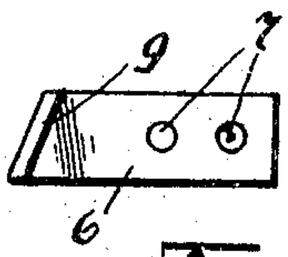


Fig. 4.

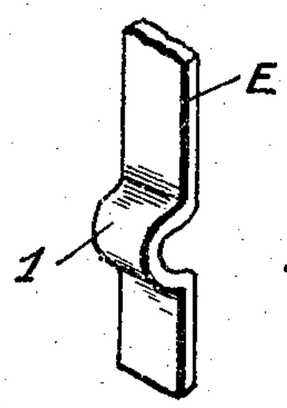


Fig. 5.

Witnesses.
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No. 775,778. Patented November 22, 1904.

# UNITED STATES PATENT OFFICE.

WILLIAM J. NEILSON, OF WILSON, PENNSYLVANIA.

## MINER'S CAR.

SPECIFICATION forming part of Letters Patent No. 775,778, dated November 22, 1904.

Application filed August 31, 1904. Serial No. 222,817. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. NEILSON, a citizen of the United States of America, residing at Wilson, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Miners' Cars, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to mining-cars, and more particularly to the fastening means of the end-gates thereof; and the object of this invention is to provide novel means for locking the end-gates of mining-cars and for automatically releasing the same when they have reached a predetermined point.

Another object of this invention is to provide a lock for the gates of mining-cars which will be extremely simple in construction, strong and durable, and comparatively inexpensive to manufacture, and a construction which will withstand the rough usages to which mining-cars are generally subjected.

Briefly described, my invention consists of rotatably mounting a bar upon the hinged end-gate of a car by bending the ends of said bar, whereby they will engage behind angle-irons or clips carried by the sides of said car and will hold the gate of the car in a closed position until the same is released. I further employ an automatic releasing means, which consists of a vertical reciprocating standard mounted adjacent to one side of the track, this standard being provided with an outwardly-extending arm which is adapted to engage one of the bent ends of the rod and trip the same, whereby the gate of the car will be permitted to swing outwardly and release the load carried therein.

The above construction will be hereinafter more fully described and then specifically pointed out in the claims.

Referring to the drawings accompanying this application, Figure 1 is an end view of a mining-car, showing my improved lock and automatic releasing means in connection therewith. Fig. 2 is a detail perspective view of the locking-rod. Fig. 3 is a top plan view of the clips or clasps employed upon the side of the car to engage the locking-rod. Fig. 4 is a side elevation of one of these clips. Fig. 5 is a detail view of a portion of the hinged strips of the gate, showing the bearing for the locking-bar; and Fig. 6 is a horizontal sectional view taken on the line $x\,x$ of Fig. 1 and showing a detail view of the standard.

Throughout the several views of the drawings accompanying this application like reference characters designate corresponding parts.

The reference character A indicates a mining-car of the ordinary and well-known construction, which is provided with a hinged gate B, this gate being hinged to a rod C, carried by the side strips D of the car.

The reference characters E E designate the hinged strips which are carried by the gate, and these hinged strips are bent to form bearings 1 1 for the locking-rod 2. This locking-rod is clearly shown in Fig. 2 of the drawings, and the ends thereof are bent rearwardly, as indicated at 3, and downwardly, as indicated at 4. The downwardly-bent portion 4 of one end of the rod is bent outwardly, forming a lug 5.

Upon the sides of the car, near the end-gate thereof, and in horizontal alinement with the locking-bar 2 are secured the clips 6 6, the one end of these clips being provided with apertures 7 7, whereby they may be secured to the sides of the car, while the other end of said clips are bent at right angles, as indicated at 8 8, and in bending these ends they are twisted to form an inclined surface 9. To lock the gate in engagement with the end of the car, the rod 2 is turned by the lug 5 until the vertical portion 4 of each end of the rod has engaged behind the inclined faces of the clips 6 6, and the gate will be firmly and securely held in a closed position until the lug 5 has been struck to release the vertical portion 4 from said clips.

The automatic releasing means for the unlocking of the gate B as contemplated by me consists of a platform 10, which is mounted at one side of the track and upon the side of the car which carries the lug 5 of the locking-rod 2. Upon this platform is secured a standard 11, to the top of which is secured the

spiral spring 12, and over said standard 11 is placed a casing 14, to the top of which the upper end of the spiral spring is attached. The casing 14 is provided with an outwardly-extending bar 15, having a curved upper face 15′, this bar being arranged in horizontal alinement with the lug 5, carried by the car, and should the lug 5 strike said bar the vertical portions 4 of said bar will be "kicked" or knocked out of engagement with the angular clips 6 6, carried by the sides of the car, and the load of the car be discharged, owing to the lock of the gate B being released.

I have provided the vertically-reciprocating casing 14, which is mounted over the standard 11, whereby the bar 15 can be raised, and the spring 12 will return the same to its normal position. In some constructions of mining-cars now used the locking means of the gate is placed lower than the top edge of the wheels which support the car, and in providing the vertical reciprocating casing 14 I have provided means whereby should the wheels of the car strike the bar 15 the same will be raised sufficiently by the wheels to permit the same to pass and then be returned for future engagement with the lug 5, carried by the car.

From the foregoing description it will be seen that when the locking-rod of the gate has been once secured behind the inclined faces 9 of the clips 6 of the gate it will be impossible for the same to become disengaged until the lug 5 has been kicked or knocked from engagement therewith, and by providing the automatic releasing means I have dispensed with the trouble of employing a lever to accomplish this end, and my improved releasing means may be readily employed at such places where it is desired to precipitate the load carried by the mining-car into suitable conveyers or the like. It will also be noted that the vertically-reciprocating casing will be prevented from turning by reason of the ribs arranged upon the standard and operating in guideways formed in the vertical reciprocating casing.

While I have herein shown the preferred manner of constructing my improved car-gate lock and automatic releasing means, I do not care to limit myself to this specific construction, but may make such changes as will be permitted by the appended claims.

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

1. The combination with a mining-car having a hinged gate, of a locking-rod, said locking-rod having bent ends, angular clips carried by the sides of said cars and adapted to engage the ends of said rod, and means for automatically releasing said rod at predetermined locations, substantially as described.

2. The combination with a mining-car having a hinged gate, of a rod rotatably mounted upon said gate, said rod having bent ends, angular clips carried by the sides of said car and adapted to engage the ends of said rod, and means for automatically releasing said rod at predetermined locations, substantially as described.

3. The combination with a mining-car having a hinged gate, of a rod rotatably mounted upon said gate, said rod having bent ends, angular clips carried by the sides of said car and adapted to engage the bent ends of said rod, and automatic means for releasing said bent ends from engagement with said clips at predetermined locations, and means for vertically reciprocating said bar, substantially as described.

4. The combination with a mining-car having a hinged gate, of a rod rotatably mounted upon said gate, clips carried by said gate and adapted to receive the ends of said rod, and means for automatically releasing the ends of said rod, substantially as described.

5. The combination with a mining-car having a hinged gate, of a rod rotatably mounted upon said gate, angular clips carried by the sides of said car and adapted to engage the ends of said rod, a vertically-reciprocating bar mounted at the side of said car and adapted to engage the end of said rod and release the same, and means whereby when said bar is raised the same will be returned to its normal position.

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

WILLIAM J. NEILSON.

Witnesses:
HELEN WOLFE,
ANDREW NEILSON.