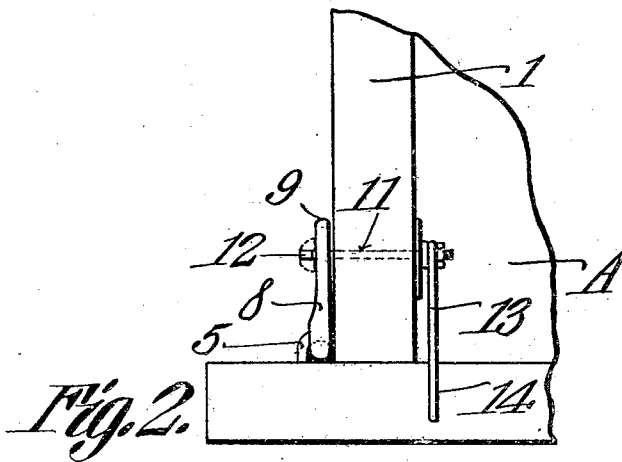
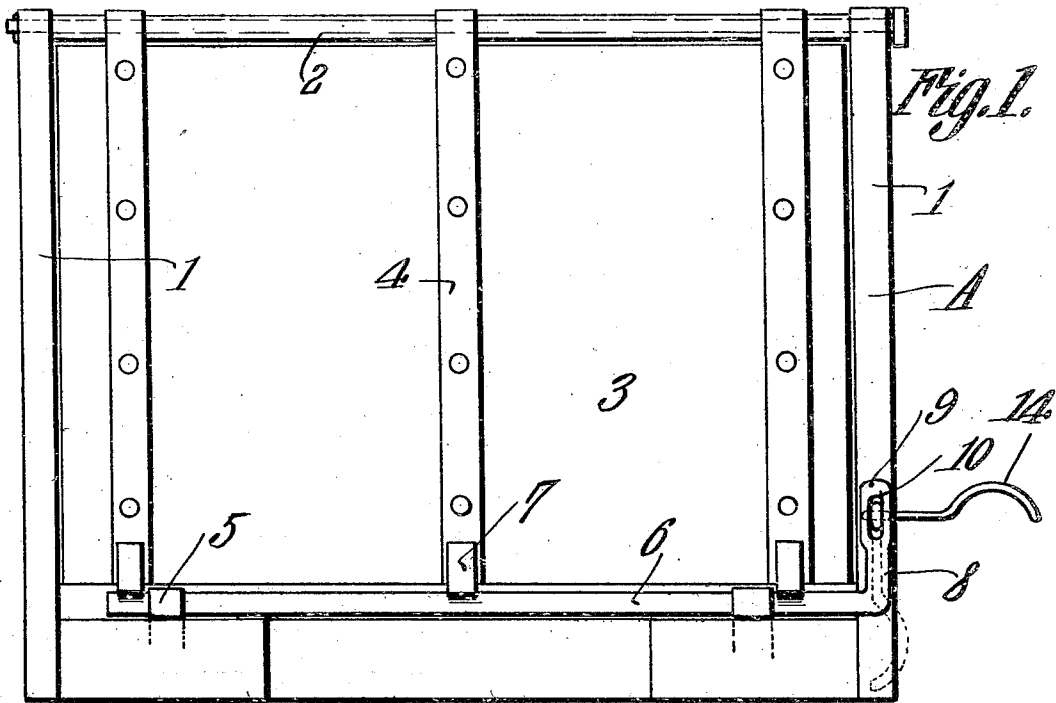


I. K. BEAVER.
LATCH FOR END GATES OF MINING CARS.
APPLICATION FILED MAY 17, 1909.

958,075.

Patented May 17, 1910.



Witnesses.

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LATCH FOR END-GATES OF MINING-CARS.

958,075.

Specification of Letters Patent.

Patented May 17, 1910.

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To all whom it may concern:

Be it known that I, ISAAC K. BEAVER, a citizen of the United States, residing at Wilburton, in the county of Columbia and State of Pennsylvania, have invented a new and useful Latch for End-Gates of Mining-Cars and the Like, of which the following is a specification.

This invention relates to latches of that type particularly designed for holding the end gates of mine cars so that they cannot be inadvertently opened.

The object of the invention is to provide a latch which will securely and positively hold the end gates in closed position, it being unnecessary to utilize a bar, hammer or other tool for the purpose of actuating the latch to release the gate.

A further object is to provide a latch which will securely hold the gate in place while the car is traveling over an incline and which will not become unlocked as a result of jolting and the like.

A further object is to provide a latch which is entirely separate from the end gate, thus permitting the said gate to swing freely without in any wise interfering with the latch, there being no portion of the latch projecting beyond the car where it is liable to injure men or beasts employed in loading or operating the car.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings, Figure 1 is a rear elevation of a portion of a car having the present improvement applied thereto. Fig. 2 is a side elevation of the latch and the adjoining portion of the car body. Fig. 3 is a perspective view of the locking head of the latch and of a portion of the stem extending therefrom.

Referring to the figures by characters of reference A designates a car body open at the rear end and having corner posts 1, 1, which are connected at their upper ends by a cross bar 2 from which the end gate 3 is suspended, said end gate being provided with reinforcing straps 4 preferably merging at their upper ends into eyes through which the rod 2 extends. Brackets 5 extend

upwardly from the bottom of the body A and constitute bearings for the tumbler rod 6 which extends transversely of the car bottom and has spaced retaining fingers 7 extending therefrom and so arranged as to swing against the straps 4 when the end gate is in closed position. An arm 8 extends at right angles from one end of the tumbler rod and the terminal portion of this arm is enlarged to form a head 9 in which is located a longitudinally extending slot 10. This arm and its head are designed to swing against one of the corner posts 1 and a locking bolt 11 is mounted for rotation within said post and has a retaining head or button 12 at one end which is preferably substantially triangular as indicated in Figs. 2 and 3. A lever 13 is secured in any suitable manner to the other end of the locking bolt and the free end of this lever is preferably bowed as indicated at 14 so as to constitute a handle which can be conveniently grasped for the purpose of partly rotating the locking bolt. Said lever is preferably disposed perpendicularly to the plane occupied by the head 12 and it will therefore be apparent that when the lever 13 is swung against the side of the car body and back of the corner post 1, the head or button 12 will assume a position across the slot 10 and thus prevent the arm 8 from swinging away from the post 1.

When it is desired to secure the gate in closed position the arm 8 is released by turning the bolt 11 so as to bring the button 12 into position to permit the head 9 to move therefrom. The retaining fingers 7 thus assume positions below the path of the end gate 3 and said gate can be swung closed. The tumbler rod 6 can then be again shifted by swinging the arm 8 against the post 1 and causing the head 9 to assume a position around the stem or bolt 11 and back of the head 12. This will bring the fingers 7 into contact with the straps 4. The lever 13 can then be swung downwardly back of the corner post 1 and the butt or head 12 will therefore be partly rotated so as to extend transversely of the slot 10 and thus prevent the arm 8 from swinging away from the post. It will thus be seen that the end gate will be held positively in closed position, no matter in what position the car may be with relation to the horizontal. When it is desired to release the end gate it is merely necessary to

stand at one side of the car and to pull outwardly upon the bowed portion 14 of the lever 13. This will cause the locking bolt 11 to partly rotate so as to bring the
5 head 12 into position longitudinally of the slot 10 and the pressure of the material within the car will be such as to cause the end gate to push against the fingers 7 and swing them downwardly out of the path of
10 the gate. This movement is of course permitted in view of the fact that the arm 8 is free to swing off of the head 12. It will be seen that it is unnecessary to utilize a bar, hammer, or other tool for the purpose of releasing the gate and there are no projecting
15 parts liable to strike persons or animals in the vicinity of the car.

While the latch herein described is particularly desirable for use in connection with
20 the end gates of mine cars it is to be understood that it can be employed in connection with other forms of gates, doors, or the like. It is also to be understood that various changes may be made in the construction
25 and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:—

The combination with posts and a cross bar connecting the same, of a gate pivotally
30 suspended from the bar, reinforcing straps extending longitudinally of the gate and constituting hinge members engaging the cross bar, a tumbler rod mounted for partial
35 rotation below the gate, fingers extending from the rod, a slotted arm upon one end of the rod, a locking bolt mounted for rotation on one of the posts, an arrow head thereon,
40 the slotted arm being movable onto the head, and a bowed arm extending from the bolt for rotating the bolt and head to lock the arm and rod against movement and the fingers in the path of and in contact with the reinforcing straps, the bowed portion of said
45 arm being extended at all times beyond the post.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ISAAC K. BEAVER.

Witnesses:

E. E. STRAUB,
WILLIAM STRAUB.