

(No Model.)

I. BARKER.
AUTOMATIC LATCH FOR DUMP CARS.

No. 485,403.

Patented Nov. 1, 1892.

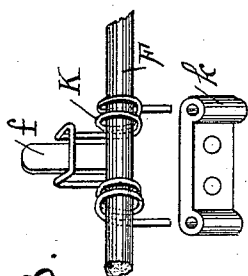
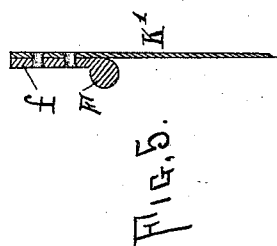
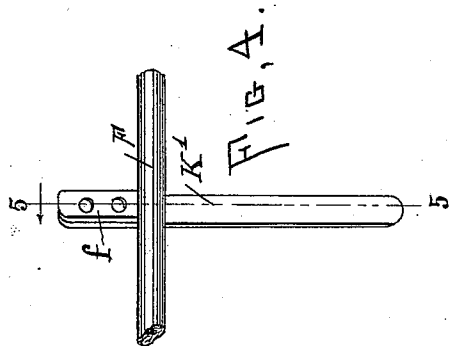


FIG. 3.

Witnesses.
Jas. A. Bailey
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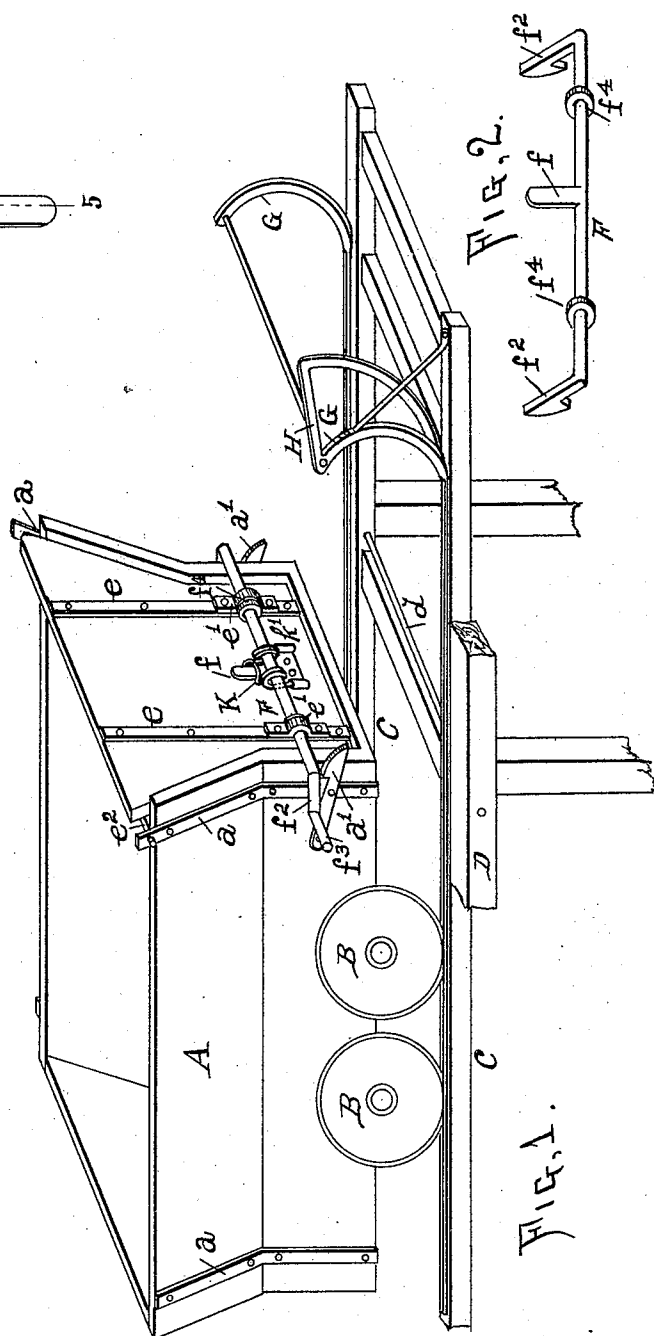


FIG. 1.

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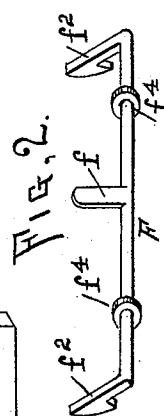


FIG. 2.

UNITED STATES PATENT OFFICE.

IRVING BARKER, OF SPRINGFIELD, ILLINOIS.

AUTOMATIC LATCH FOR DUMP-CARS.

SPECIFICATION forming part of Letters Patent No. 485,403, dated November 1, 1892.

Application filed February 2, 1892. Serial No. 420,130. (No model.)

To all whom it may concern:

Be it known that I, IRVING BARKER, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented a new and useful Automatic Latch for Dump-Cars, which is fully set forth in this specification and the annexed drawings.

My invention is especially applicable to cars of that class which are used to convey coal from the mine on a tramway and at the end of said tramway automatically dump the contents of the car into a chute, by which it is conveyed to any convenient point.

In the drawings I have shown only so much of the car and the tramway as is necessary to illustrate my invention.

My invention may be attached to any of the coal-cars in common use.

In the annexed drawings, to which reference is herein made, Figure 1 is a view of the car on the tramway, showing the latch in position on the car-door and also showing near the outer end of the tramway the trip by means of which the latch is raised. Fig. 2 is a detached view of the latch-bar. Fig. 3 is an enlarged detached view of a part of the latch-bar, showing the latch-spring in position on the bar. Fig. 4 is an enlarged detached view of part of the latch-bar, showing a flat spring secured to the integral lug on said latch-bar. Fig. 5 is a vertical section on the line 5 of Fig. 4.

The car A is of any ordinary construction and is supported on wheels B, which run on a tramway C. The projecting end of this tramway is pivoted by means of a rod *d* or in any other convenient manner on suitable supports D, forming what is known as a "tipple," which when the car arrives at the outer end of the tramway tips down, and, the door of the car being automatically opened, the contents of the car are quickly discharged. The car being then pulled back on the tramway, the tipple is restored to a horizontal position in readiness for the next car. At the outer ends of the tramway are curved guard-rods G, which serve to stop the wheels and prevent the car from running off the end of the tramway. To the upper end of one of the guard-rods G is secured an inclined trip H, with which the projecting finger of the latch engages to lift the latch, as hereinafter explained.

Secured to the sides of the car are straps *d*, which support at their upper ends a rod *e*², which is secured to the door E near its upper edge. The door is of ordinary construction and need not be particularly described. Near each end of the door are secured vertical straps *e*. Near the lower end of each of these straps is a box *e'*, which supports the latch-bar F. The latch-bar consists of a bar F, having its ends *f*² bent at right angles to the bar, said ends being provided with integral hooks *f*², as clearly shown in Fig. 2. One of these hooks is provided with a projecting pin *f*³. At the center of the bar F is an integral stop *f*, which bears against the door and prevents the bar from turning too far downward. This stop also bears against and compresses the spring K when the rod is turned upward to disengage the hooks. On the rod F are collars *f*¹, which prevent the rod from sliding in the boxes *e'*.

To each side of the car is secured in an inclined position a hook *a'*, with which the hooks *f*² engage. The points of the hooks *a'* and *f*² are inclined, so that when the door E falls after having been raised the lower edge of the part *f*² will slide on the upper edge of the part *a'* and the hooks will engage with each other.

The spring K, which I prefer to use, is clearly shown in Fig. 3, and consists of a loop of spring-wire having an upwardly-extending central part, against which the stop *f* bears. Each arm of the spring is coiled twice around the rod F, and its lower end rests in a socket *k'*, which is secured to the door.

Another form of spring which may be used consists of a single leaf of spring-steel K', secured at its upper end to the stop *f*, extending downward behind the bar F and bearing against the door E, as shown in Figs. 4 and 5.

It is obvious that with either of the springs described upward pressure on the pin *f*³ will turn the rod F and cause the stop *f* to compress the spring, and when the pressure ceases the spring will react and turn the rod, so as to hold the hooks *f*² in engagement with the hooks *a'*.

In order to impart to the finger *f*³ the upward movement necessary to turn the rod and disengage the hooks, the car is moved forward until the finger *f*³ engages with the

upper edge of the inclined trip H, and as the finger slides forward on the rod the finger is moved upward. To avoid friction, a roller on the pin f^3 may be used.

5 In practice when the car reaches the end of the tramway the hooks are disengaged by means of the inclined rod H, the tippie turns downward, the door swinging on the rod e^2 turns outward, and the load is quickly discharged. When the car is pushed backward
10 on the tramway, it resumes a horizontal position. The door by gravity swings closed, and as it does so the inclined edges of the hooks f^2 slide upward on the inclined edges of the
15 hooks a' , and the hooks $f^2 a'$ come into engagement, thereby locking the door. The spring K holds the hooks f^2 in engagement with the hooks a' , so that they are not likely to be disengaged by the jolting of the car.

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

1. A car-door adapted to swing, and a latch-bar pivotally mounted on the front of the car-door, said bar having at its ends integral
25 hooks, one of said hooks being provided with a projecting finger, and said bar also having a central stop adapted to prevent the bar from turning too far backward, in combination
30 with a stop adapted to engage with said projecting finger and hooks on the car sides, adapted to be engaged by the hooks on the latch-bar, as set forth, and for the purpose stated.

35 2. In an automatic latch for dump-cars, and a latch-bar having at its ends hooks at right angles to said bar, said hooks having inclined

lower edges, and one of said hooks being provided with a projecting pin, and said bar also having an integral stop and on each side of
40 said stop a collar, in combination with boxes secured to the car-door, a spring inclosing said bar and acted against by said stop, a socket secured to the car-door and retaining
45 the ends of said spring, and inclined hooks secured to the sides of the car, with which the hooks on said bar engage, as set forth, and for the purpose stated.

3. In an automatic latch for dump-cars, the combination of the horizontal latch-bar supported in bearings on the car-door, the hooks,
50 and the projecting finger on said latch-bar, the spring acted against by a stop on the latch-bar, the inclined hooks secured to the car, and the inclined trip supported on the
55 tippie near the end and at one side of the tramway, as set forth, and for the purpose stated.

4. The combination of the car-door hinged at its upper end, the vertical straps, the
60 spring-socket secured to the car-door, the boxes secured to the car-door and supporting the latch-bar, the latch-bar provided with collars, a projecting finger, and an integral stop, the spring acted against by the stop and re-
65 acting to engage the hooks, the hooks secured to the sides of the car, and the inclined trip engaging with the projecting finger, as set forth, and for the purpose stated.

IRVING BARKER.

Witnesses:

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