2 Sheets—Sheet 1.

J. L. MITCHELL.

CAR DUMPING APPARATUS.

No. 188,812. Patented March 27, 1877.

FIG. I.

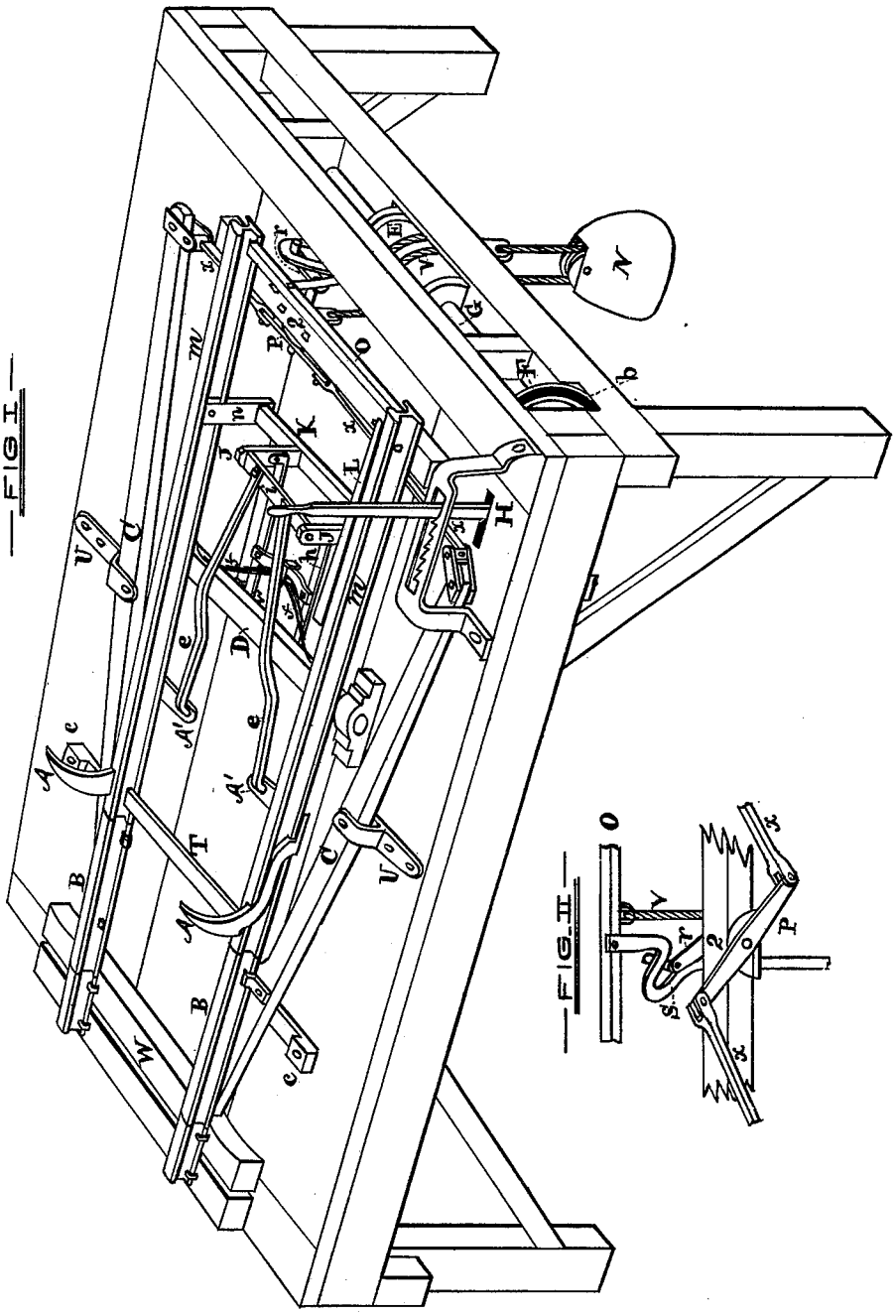


FIG. II.

WITNESSES:

E. A. Bowie

R. Rynhart

INVENTOR:

Jonas L. Mitchell

By Chas B Mann Attorney

2 Sheets—Sheet 2.

J. L. MITCHELL.

CAR DUMPING APPARATUS.

No. 188,812. Patented March 27, 1877.

FIG. III

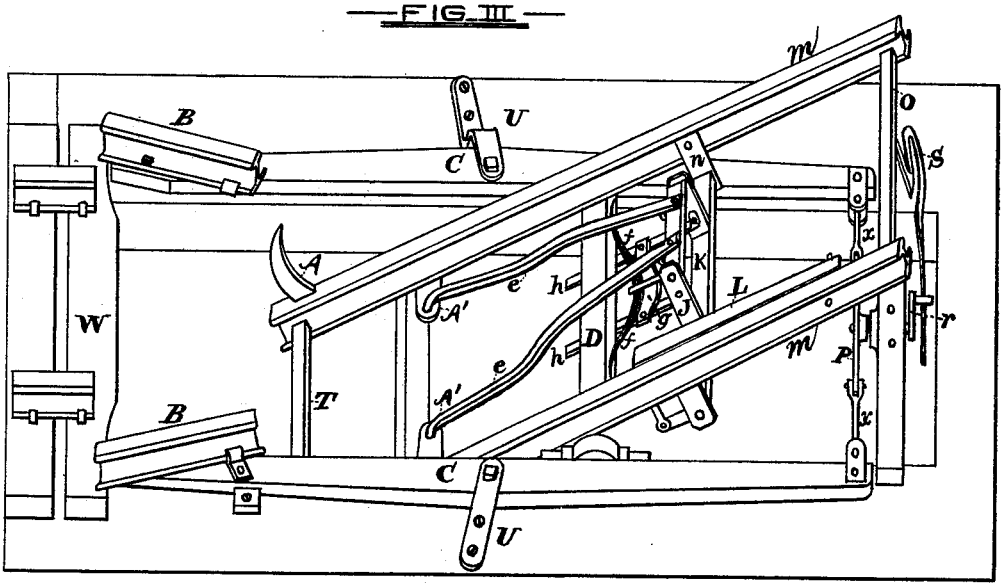
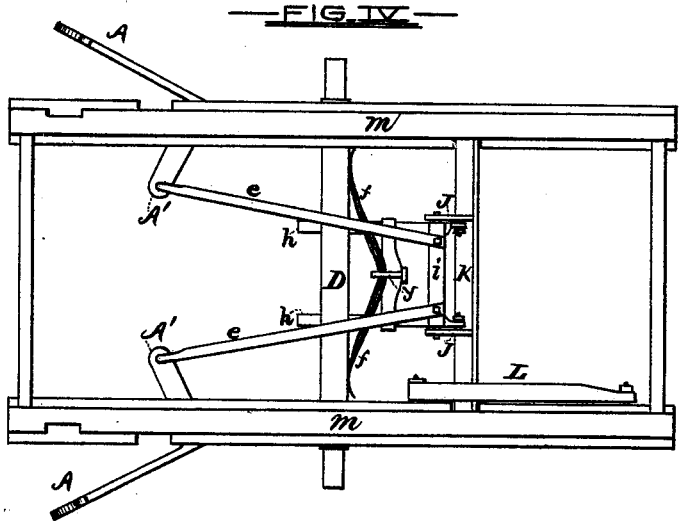


FIG. IV



WITNESSES.

E. A. Bowie

R. Rynhart

INVENTOR.

Jonas L. Mitchell

By Chas B. Mann Atty.

UNITED STATES PATENT OFFICE.

JONAS L. MITCHELL, OF NELSONVILLE, OHIO.

IMPROVEMENT IN CAR-DUMPING APPARATUS.

Specification forming part of Letters Patent No. **188,812**, dated March 27, 1877; application filed December 18, 1876.

To all whom it may concern:

Be it known that I, JONAS L. MITCHELL, of Nelsonville, in the county of Athens and State of Ohio, have invented a new and useful Improvement in Car-Dumping Apparatus, which is fully set forth in the following specification and accompanying drawings.

The object of my invention is to furnish a car-dumping apparatus for use at coal and other mines, whereby the cars, as they come loaded from the mine, may be rapidly dumped, the load discharging from the tilted end of the car, which passes between the track-rails, the empty car and dumper righting itself, the car then passing forward, while another loaded car at once takes its place on the dumper.

Referring to the drawings, Figure 1, first sheet, is a perspective view of my car-dumping apparatus. Fig. 2, same sheet, is a view of the parts that operate the track-adjusting levers. Fig. 3, second sheet, is a perspective view of the dumper tilted. Fig. 4, same sheet, is a plan view of the parts that operate the adjustable car-stops.

The track-rails *m m* are pivoted and supported on the shaft or axle D, which also supports the entire dumping portion of the apparatus. The track-rails are connected at either end by the bars O and T. The adjustable portions of the track B B are moved laterally by the levers on each side C C, which are pivoted at the clevises U U, the latter being secured to the frame-work. In moving, these levers rest on the plates or slides *c c*. The track-adjusting levers are operated by the rods *x x x x*, passing under the track-rails and connecting with the double arm or levers *p p*. (Shown in Fig. 2.) This double arm is pivoted on a short shaft working in box 2, and has attached a crank, *r*, on the pin of which is a friction-roller, that works in the slot *s* of the piece secured to the cross-bar O O. A rope, V, is also attached to this cross-bar, and then passes twice around the drum E, (see Fig. 1,) and the end may be attached to the balance-weight N, though in the present example the rope passes over a pulley-wheel in the weight, the end being secured to the frame above.

The mechanism for regulating the tip or descent of the dumper (see Fig. 1) consists of the rope V, drum E, and brake-wheel F, both the latter on the shaft G. The hand-lever H of the brake is pivoted below the floor of the frame, (not shown in the drawing,) and also below the floor, and attached to the lever in a suitable manner, are the two ends of a metallic friction-band, *b*, which passes entirely around the brake-wheel F. By pushing forward the hand-lever H the friction-band *b* is drawn tightly over the brake-wheel, and this prevents or checks the descent of the dump. The car-stops A A, with the bell-crank parts A′ A′, (see Fig. 4,) are pivoted to the under side of rails *m m*, and are connected by the rods *e e* to the roller *i* of the oscillating frame J J K. (Shown in Figs. 1, 3, and 4.) The ends of the roller or axle K are journaled and work in bearings attached to the rails, one of which is shown at *n*. A spring, *f f*, is secured by a clip, *y*, to the cross-bar *g*, which connects the two rods or carriers *h h*. The ends of the spring bear against the axle D, and serve to keep the car-stops close to the track-rails. The carriers *h h* are pivoted to the uprights J J, and slide through bearings in the axle D. To the inner side of one of the track-rails is a treadle, L, pivoted at one end, and attached at the other to an arm or crank which connects with the roller or axle K. The depression of this treadle causes the oscillating frame to move forward, whereby the car-stops are opened or spread away from the track-rail, as shown in Fig. 4. W is a cross-tie of the permanent-track rail.

To operate my improved car-dump, a loaded car is run on until the front wheels meet the stops A A. The hand-lever H of the brake meantime being pushed forward, by releasing the brake slightly the dumping part tilts, the B B part of the track spreads, permitting the forward end of the car to go down between the tracks, the load discharging through the hinged end-gate. The weight N then brings the dump with empty car back to position. The brake is again applied, and the next loaded car is run forward until the flange of the front wheel depresses the treadle L, which spreads the car-stops, and the empty car at once passes forward on the permanent track, the car-stops closing again when the rear wheel has passed the treadle.

It will be seen from the foregoing that any

number of loaded cars can be dumped in quick succession and with but little manual labor, the apparatus being in large part automatic in its operation.

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

1. The adjustable portions of track-rail B B, levers C C, rods *x x x x*, double arm *p p*, pivoted, and crank *r*, all arranged and operating substantially as described.

2. The adjustable portions of track B B, levers C C, rods *x x x x*, double arm *p p*, crank *r*, arranged as described, in combination with slotted piece *s*, secured to the dumping-track, as shown and described.

3. In a car-dumping apparatus, the supporting shaft or axle D, track-rails *m m*, having suitable car-stops attached to the down-tilting end, in combination with the rope V, passing around the drum E on shaft G and attached to weight N, and a hand-brake lever, suitably arranged relative to the friction-brake wheel F, for the purpose of regulating the descent of the dump.

4. The brake mechanism for regulating the tip of the track-rails of a car-dumping apparatus, consisting of the rope V, drum E, brake-wheel F, shaft G, hand-lever H, and friction-band *b*, arranged substantially as described.

5. In a car-dumping apparatus, the adjustable car-stops A A, pivoted to the track-rails, with the bell-crank parts A′ A′ connected by rods *e e* to an oscillating or sliding frame arranged between the track-rails, and to which a spring is attached in such a way as to keep the car-stops closed to the track-rails.

6. In a car-dumping apparatus, the adjustable car-stops A A, pivoted to the track-rails, and connected, as shown and described, to an oscillating or sliding frame arranged between the tracks, in combination with the treadle L, pivoted at one end to the inner side of the track-rail, and connected at the other end by suitable means to said movable frame, whereby, when the flange of the car-wheel depresses the treadle, the car-stops A A are spread away from the track.

J. L. MITCHELL.

Witnesses:
E. SWACKHAMER,
R. R. PATTERSON.