

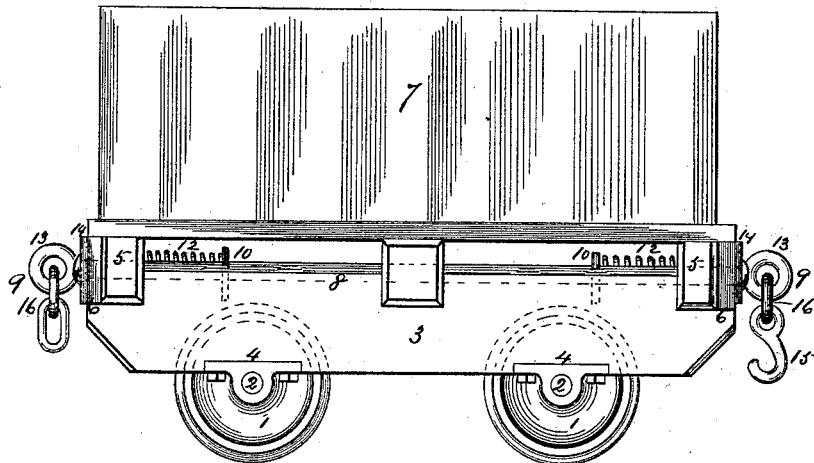
(No Model.)

J. T. TAYLOR & J. SMITH.  
DRAW BAR FOR MINING CARS.

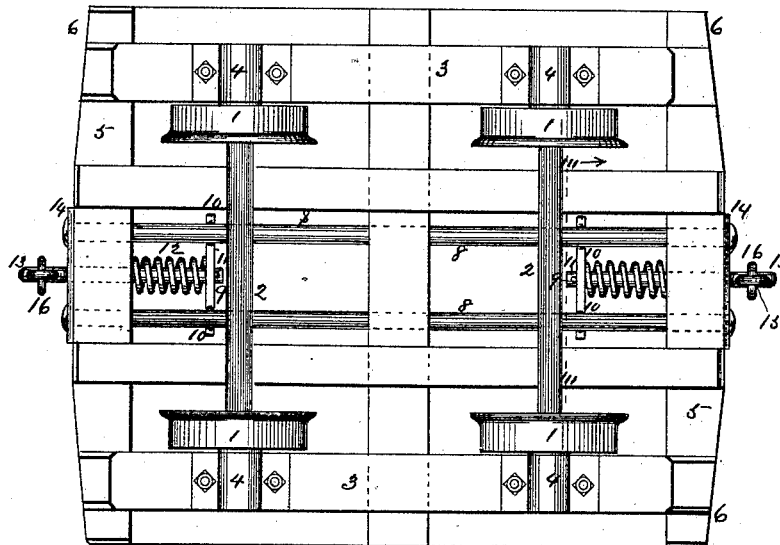
No. 419,899.

Patented Jan. 21, 1890.

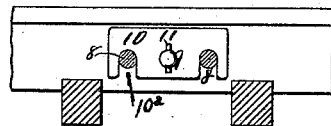
*Fig. I.*



*Fig. II.*



*Fig. III.*



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# UNITED STATES PATENT OFFICE.

JOHN T. TAYLOR AND JAMES SMITH, OF BELLEVILLE, ILLINOIS.

## DRAW-BAR FOR MINING-CARS.

SPECIFICATION forming part of Letters Patent No. 419,899, dated January 21, 1890.

Application filed October 15, 1888. Serial No. 288,083. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN T. TAYLOR and JAMES SMITH, both of Belleville, in the county of St. Clair and State of Illinois, have  
5 invented a certain new and useful Improvement in Draft Attachments for Mining-Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this  
10 this specification.

No novelty is claimed in the general construction of the cars. The improvement applies to the means of connecting the cars together in a train, the same consisting of an  
15 eye-bar at each end of the car having bearing against a spring and carrying suitable coupling-links and hooks.

Figure I is a side view of a car. Fig. II is a bottom view of the same. Fig. III is a detail cross-section at III III, Fig. II.

At 1 are seen the track-wheels, one of which is preferably fast to the axle 2, and the other made to turn loose thereon.

3 are the sills, to which the axles are connected by journal-boxes 4.

5 are the end timbers, which are convex at the outer side, so that the corners 6 will not come in contact on a curved track.

7 is the body or box.

8 are longitudinal rods connecting the end timbers together.

9 are the draw-rods extending through the middle of the end timbers and having free endwise movement in their bearings.

35 10 is a cross plate or head, through which the draw-rod passes, and to which it is fastened by a pin 11, passing through the draw-rod outside the plate. The plate is made to slide freely on the two longitudinal rods 8,  
40 and has recesses 10<sup>a</sup> that receive the rods.

12 is a spiral spring surrounding the draw-rod and bearing at its respective ends against the end timber 5 and the cross-plate. The construction is such that the spring tends to draw the rod 9 inward until its eye 13 rests  
45 against the outer side of the end timber or against a bearing-plate 14, attached to the timber.

One of the draw-rods preferably carries a hook 15, connected to the eye by means of a link 16, while upon the other draw-rod are  
50 two links 16, with either one of which the hook 15 may be engaged.

With the use of the spring-connections between the cars, it is found that an animal can  
55 draw more cars, in a train with less strain, because the cars are started one at a time, and the momentum of each car assists in the starting of all the cars behind it. The most  
60 severe strain upon the animal is in starting the train of cars, while they may be kept moving with comparative ease. It is found in practice that an animal can draw with the  
65 same ease and with less strain about one-half as many again cars with the spring-connection as it can with the usual unyielding connections.

We claim as our invention—

The combination, in a mining-car, of a draw-rod sliding in the end timber, a plate on the  
70 draw-rod having recesses, longitudinal rods fitting in said recesses and on which the plate slides, and a spring surrounding the draw-rod between the plate and end timber, substantially as set forth.

JOHN T. TAYLOR.  
JAMES SMITH.

Witnesses:

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E. E. HARDEN.