

No. 772,268.

PATENTED OCT. 11, 1904.

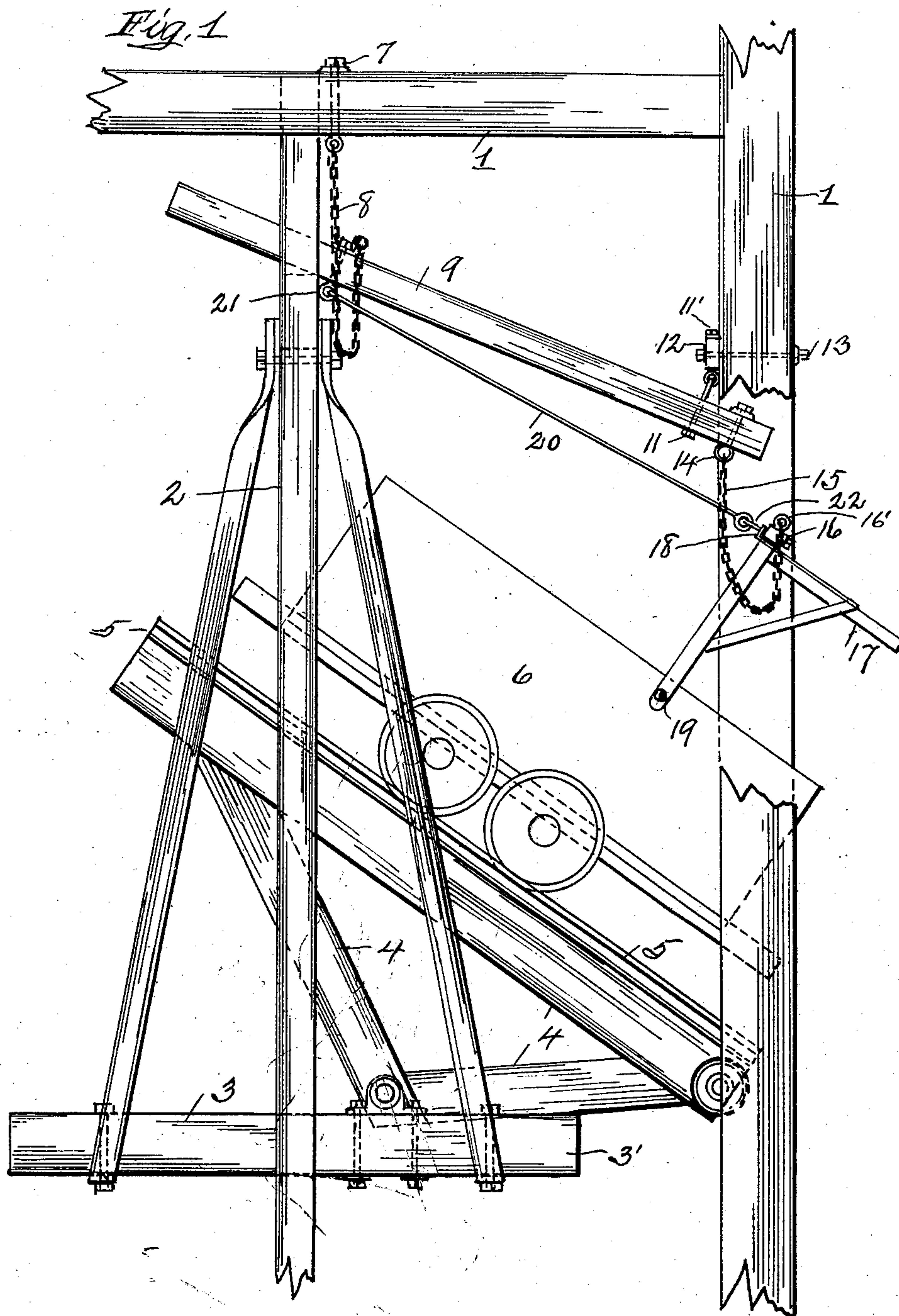
S. W. AULT & P. K. REED.

DEVICE FOR OPENING THE END GATES OF MINE CARS.

APPLICATION FILED NOV. 18, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:  
M Hunter  
R R Lowry

Inventors:  
S W Ault  
P K Reed  
O D Lewis  
Attorney

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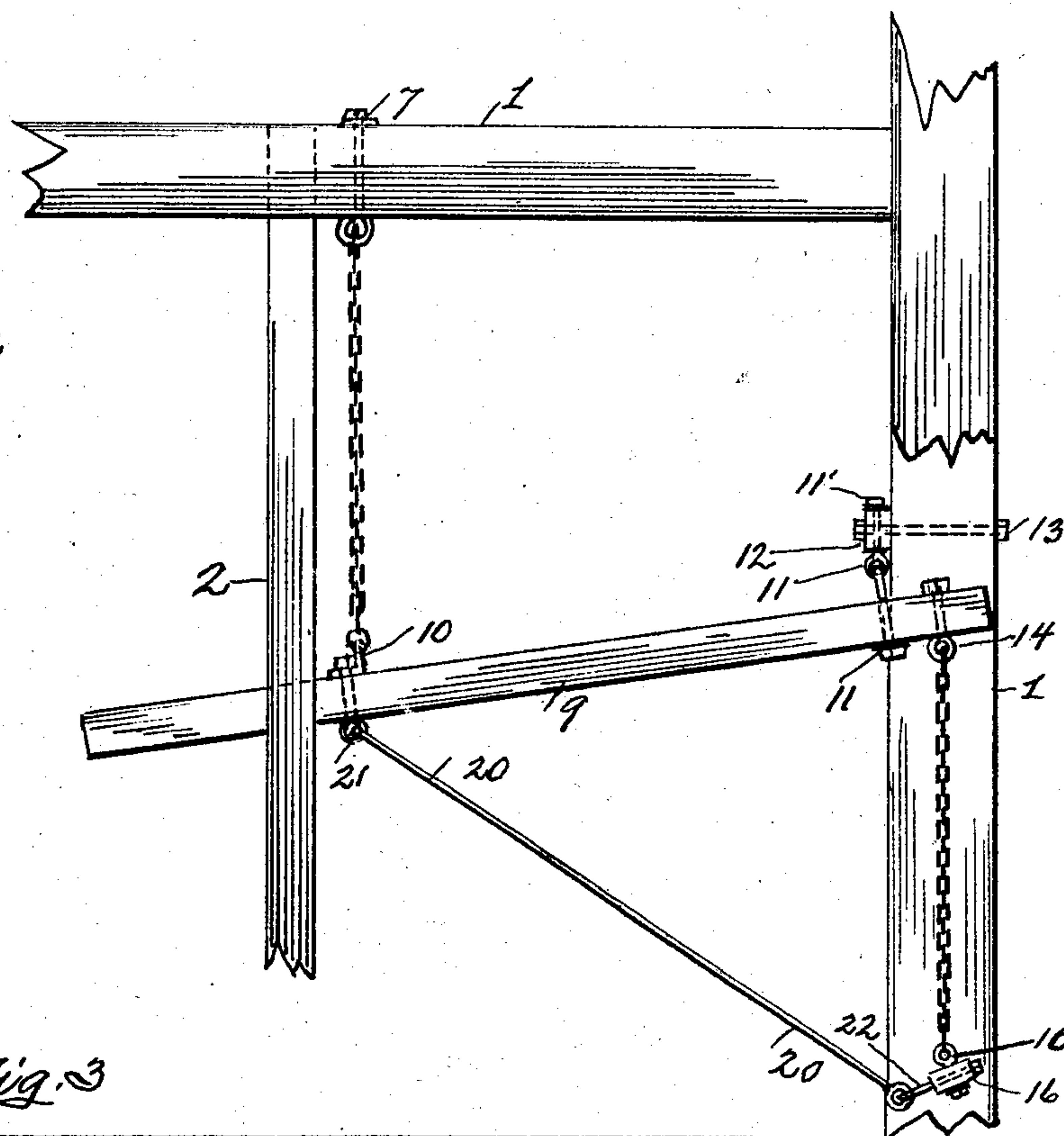
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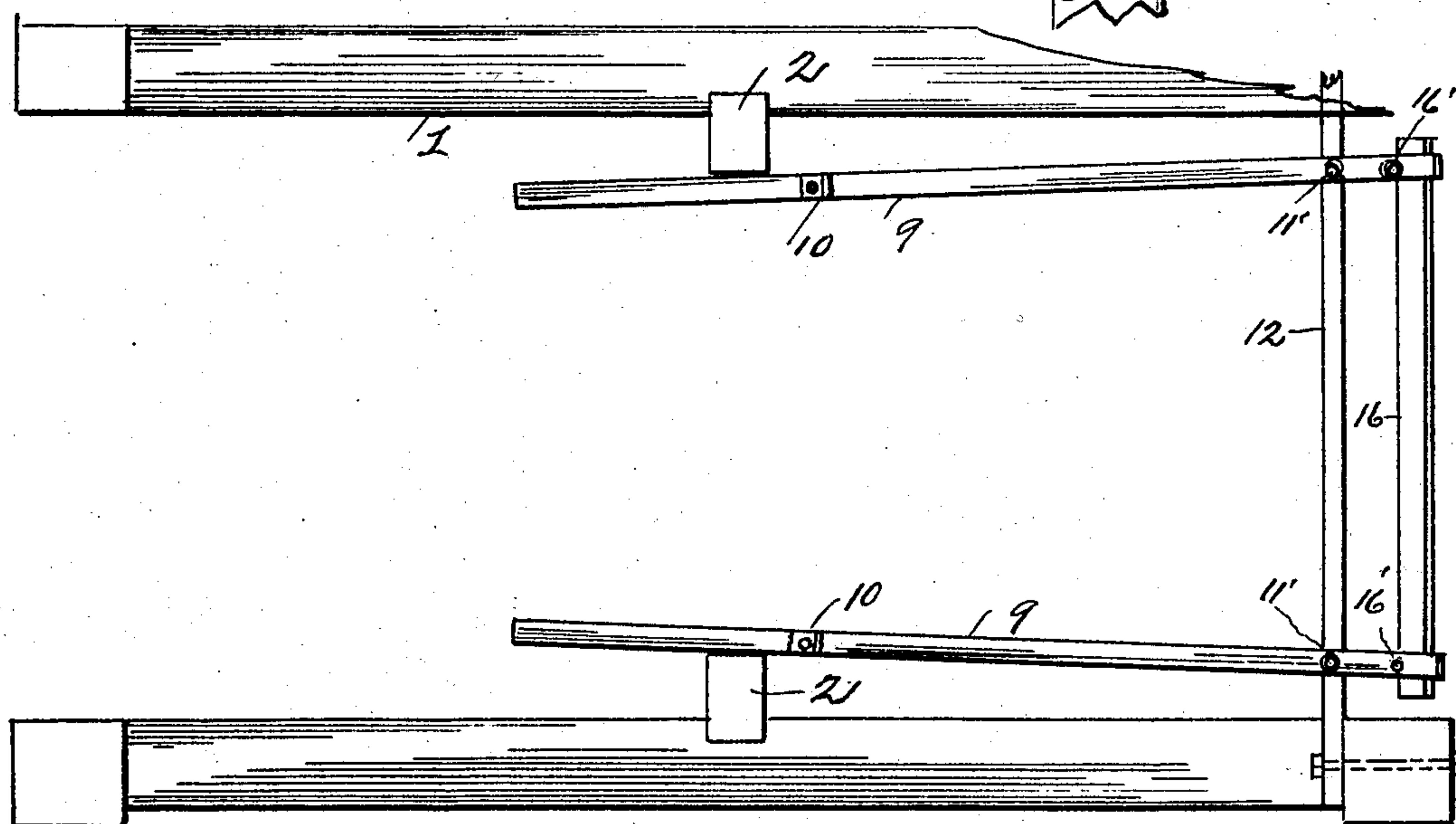
NO MODEL.

2 SHEETS—SHEET 2.

*Fig. 2*



*Fig. 3*



Witnesses:

*M. Hunter*  
*A. R. Lowry*

Inventors:

*S. W. Ault*  
*+ P. K. Reed*  
*C. D. Lewis atty.*



# UNITED STATES PATENT OFFICE.

SEYMOUR W. AULT, OF GLENCOE, AND PAUL K. REED, OF WARNOCK,  
OHIO.

## DEVICE FOR OPENING THE END-GATES OF MINE-CARS.

SPECIFICATION forming part of Letters Patent No. 772,268, dated October 11, 1904.

Application filed November 18, 1903. Serial No. 181,593. (No model.)

*To all whom it may concern:*

Be it known that we, SEYMOUR W. AULT, residing at Glencoe, and PAUL K. REED, residing at Warnock, in the county of Belmont and State of Ohio, citizens of the United States, have invented a new and useful Improvement in Devices for Opening the End-Gates of Mine-Cars, of which improvement the following is a specification.

This invention relates to an improved device for opening the end-gates of mine-cars, and more particularly to that class of cars that are automatic in the operation of dumping when brought to a certain point above the shaft of the mine; and the invention consists in the certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is a side elevation of a portion of the frame of a tippie, showing the lifting-cage and our improved automatic operating device for opening the end-gates of the car, the said device being constructed and arranged in accordance with our invention. Fig. 2 is a side elevation of the same, showing the altered position of the parts, the car and cage being removed therefrom. Fig. 3 is a plan view of the device.

To construct a device for automatically opening the end-gates of mine-cars and arrange the same in connection with the shaft-tippie, consisting of a suitable frame 1, arranged over the mouth of the shaft, the vertically-arranged guide-strips 2, and the cage 3, the said cage being provided with an automatic dumping device 4 of any desired construction, we attach, by means of eyebolts 7, to the top of the frame 1 chains 8, the other ends of which are connected by angle-irons 10 to similar bolts 21, passed through and secured to two beams 9. The forward ends of these beams 9 are hinged, by means of eyebolts 11 and 11', to a cross-beam 12, which by bolts 13 is attached to frame 1. Attached to each forward end of the beams are eyebolts 14, to which chains 15 are connected, the other ends being con-

nected by bolts 16' to a cross-beam 16, and this beam 16 is further supported by tie bars or braces 20, each of the ends being fitted with bolts 21 and 22, the latter to the beam 16 and the former to the beams 9 at points a short distance from the rear ends of said beams 9.

The door 17 of the mine-car 6 is pivoted or hinged (19) at either side of said car and is fitted with an angular piece 18, adapted to engage with the beam 16 when the car 6 is moving upward and to be released upon the descent of the same.

In operation the car ascending from the mouth of the shaft upon the cage or elevator 3 is automatically dumped or tilted, the end-gate being first opened by the beam 16 engaging with the angular projections 18 on the top of said gate. The upward movement of the cage 3 will bring the same in contact with the beams 9, elevating the same to the position shown at Fig. 1 of the drawings. This upward movement of the beams 9 will by their connecting-bars 20 open the end-gate, and by the peculiar construction of the said gate no latch is required.

Various slight modifications and changes may be made in the details of construction without departing from the spirit of the invention. Therefore we do not wish to confine ourselves to that shown and described.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A device for automatically opening the end-gates of mine-cars, the combination consisting of the self-dumping car provided with a hinged end-gate, the beams 9 hinged to the frame above and means for supporting the same, the beam 16, loosely connected to said beams 9, the connecting-rods 20, the ends of which are attached to the beams 9 and cross-beam 16, in a manner that, when the rear ends of the beams 9 are elevated by contact with the ascending cage the end-gate of the car will be opened.

2. A device for opening end-gates of mine-

cars, consisting of the beams 9, the cross-beam 16 loosely connected therewith, the connecting-rods 20, attached to the beams 9 and cross-bar 16 and a means to engage said cross-bar 5 with the end-gate during the upward movement of the car.

In testimony whereof we have hereunto

signed our names in the presence of two subscribing witnesses.

SEYMOUR W. AULT.  
PAUL K. REED.

In presence of—

R. L. WARNOCK,  
LUCY FULTON.