

**No. 700,718.**

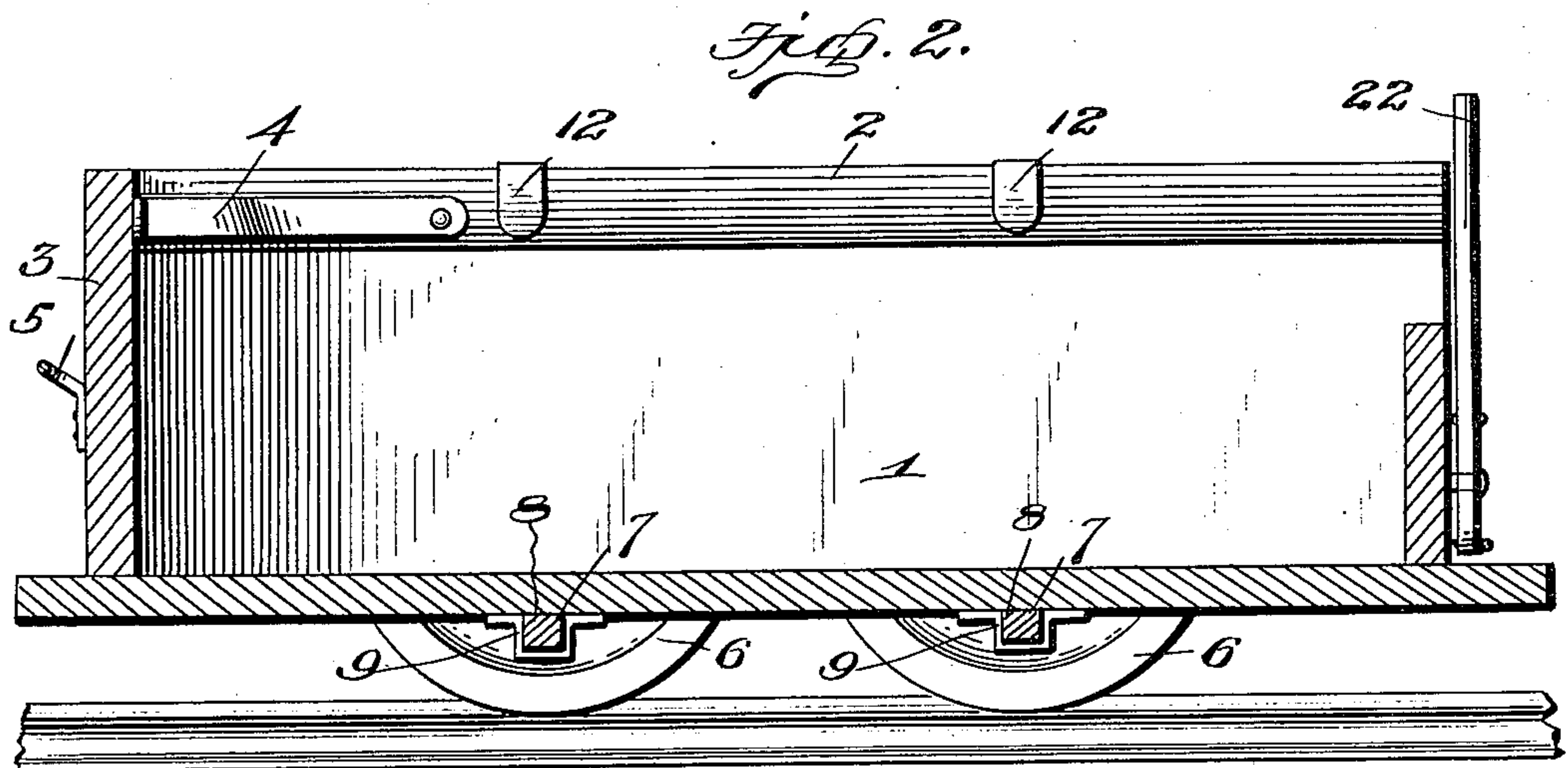
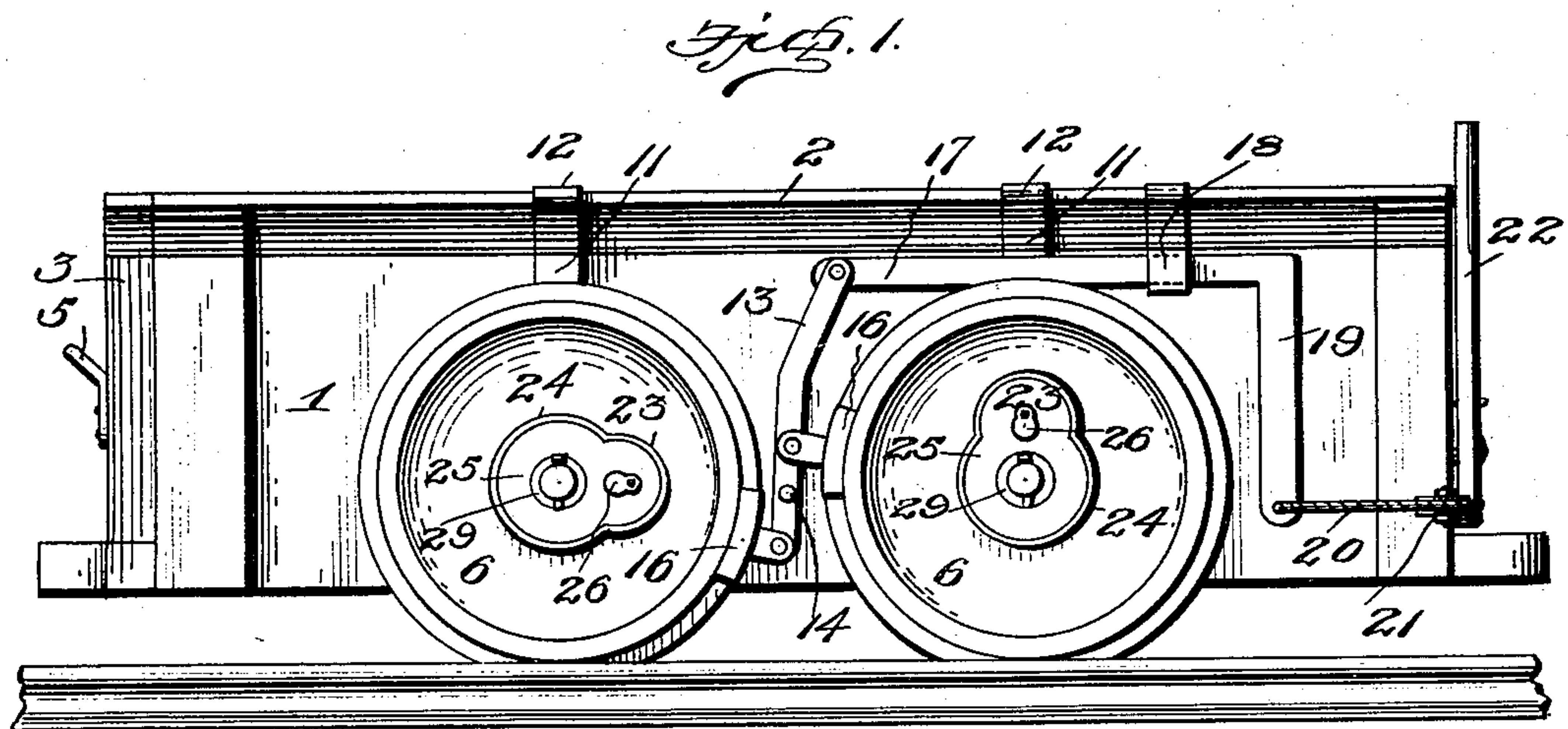
**Patented May 20, 1902.**

**D. L. BROWN.**  
**MINING CAR.**

(Application filed Aug. 12, 1901.)

(No Model.)

**2 Sheets—Sheet 1.**



Inventor

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## Attorneys

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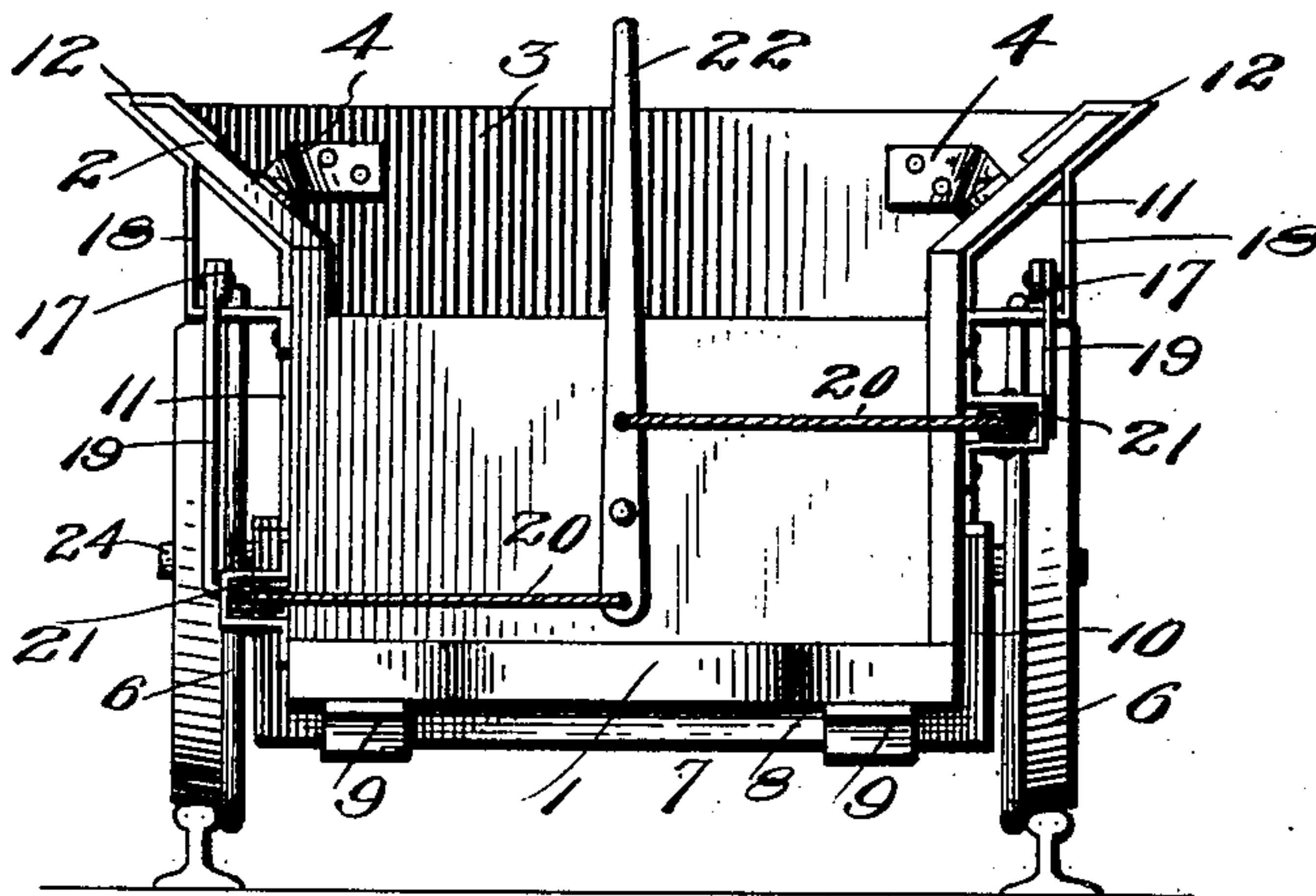
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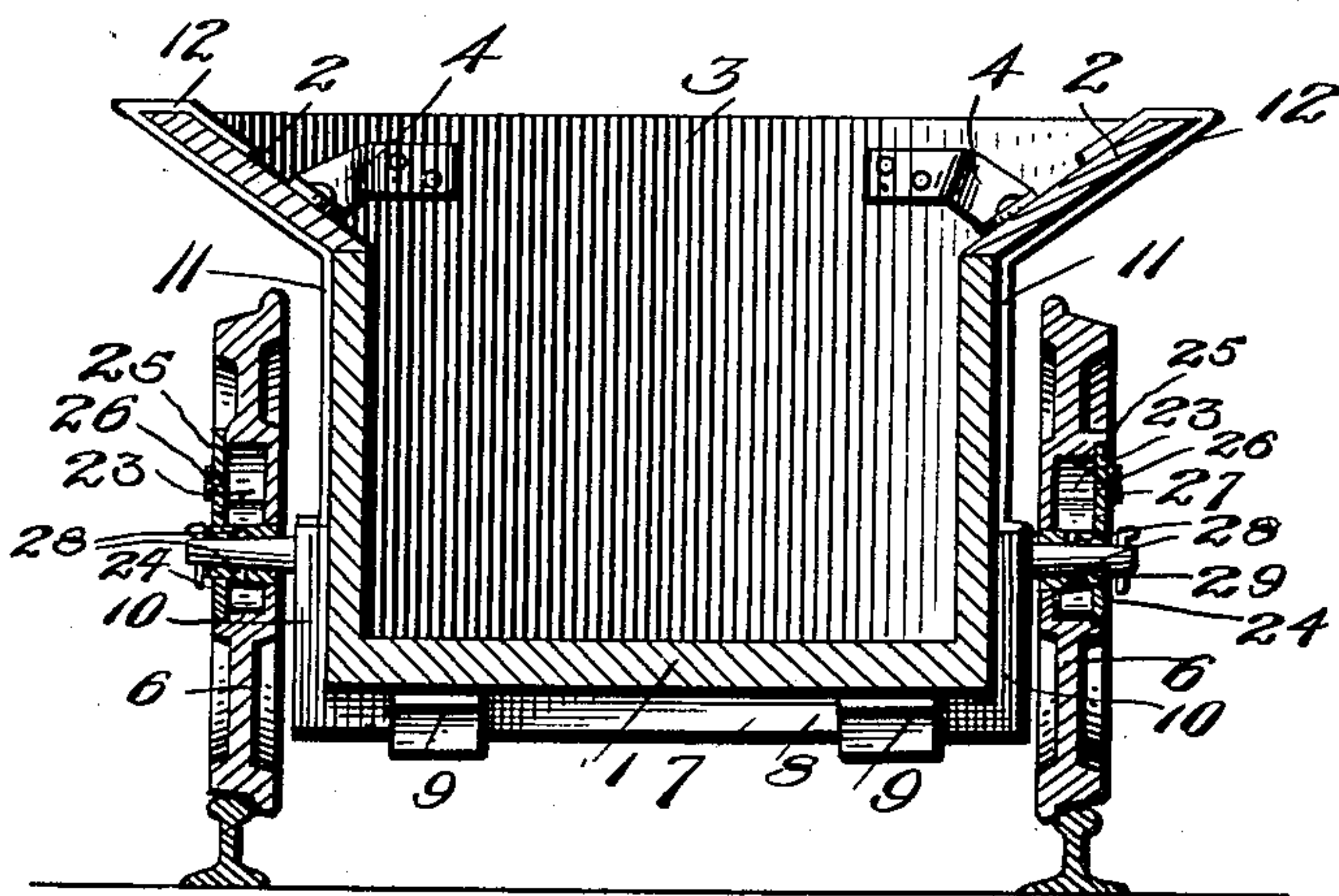
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2 Sheets—Sheet 2.

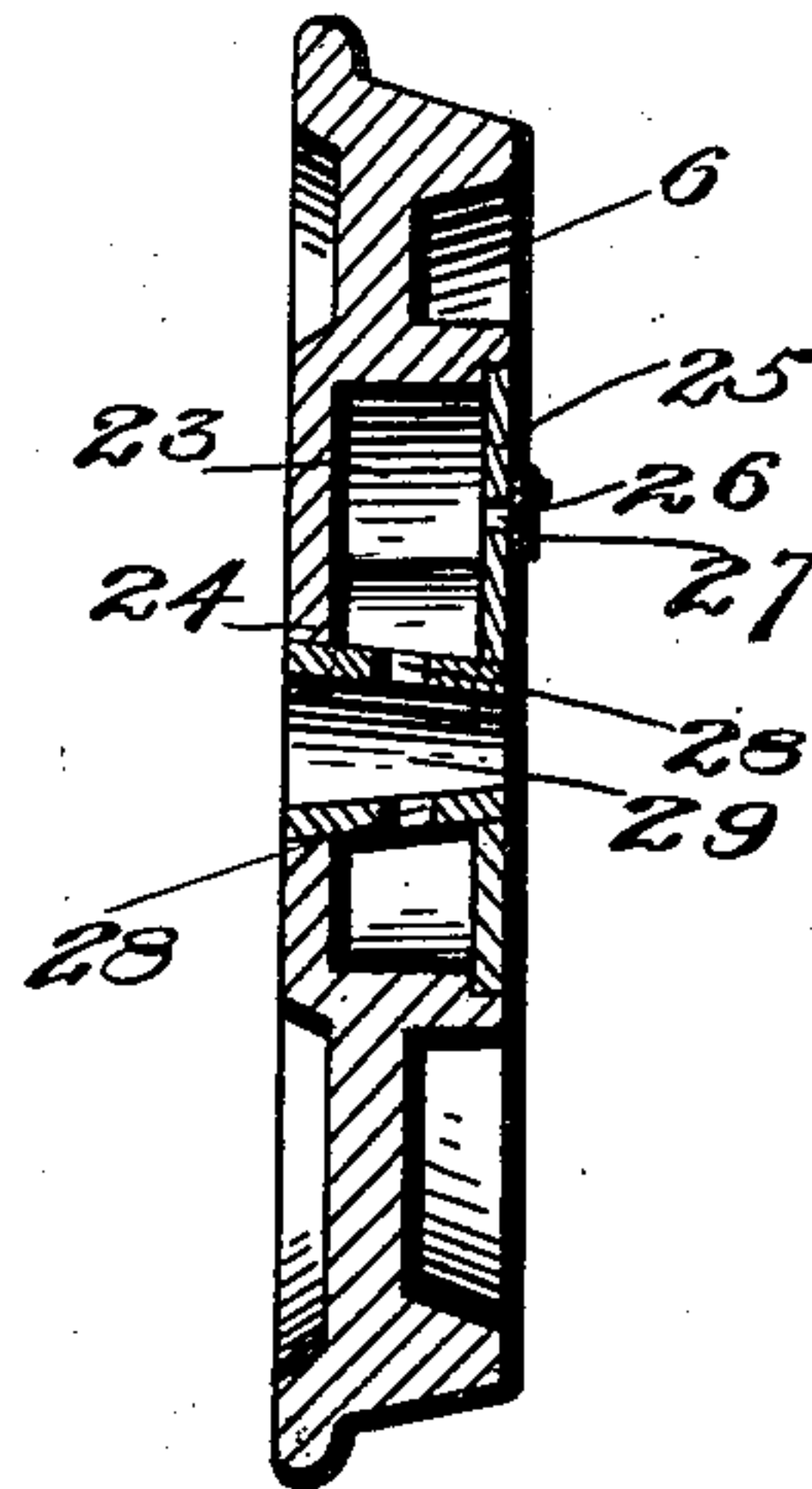
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

DANIEL L. BROWN, OF BIRMINGHAM, ALABAMA, ASSIGNOR OF ONE-HALF  
TO ARTHUR M. BROWN, OF BIRMINGHAM, ALABAMA.

## MINING-CAR.

SPECIFICATION forming part of Letters Patent No. 700,718, dated May 20, 1902.

Application filed August 12, 1901. Serial No. 71,705. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL L. BROWN, a citizen of the United States, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Mining-Cars; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in mining-cars.

The object of the invention is to provide a car of this character embodying means whereby large-sized carrying-wheels may be used without elevating the body of the car to an objectionable height.

A further object of the invention is to provide braces between the axles and body of the car so constructed as to prevent the body from swaying and binding upon the wheels.

A still further object of the invention is to provide simple and effective braking means for keeping the car under complete control, also to provide a swinging tail-gate, self-lubricating means for the carrying-wheels, and certain other improved features designed to secure safety, economy, and general efficiency.

With these and other objects in view, which will appear as the nature of the improvements is better understood, the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of a mining-car embodying my invention. Fig. 2 is a vertical longitudinal section thereof. Fig. 3 is a front end elevation. Fig. 4 is a vertical transverse section; and Fig. 5 is a section through one of the wheels, showing the oil-reservoir.

The bed or body 1 of the car may be of any approved form, size, and construction, and is provided, as usual, with the outwardly and inwardly inclined side guards or fenders 2 and at its rear end with a tail-gate 3, which is opened to allow the load to dump. This gate is attached to arms or brackets 4, hinged or pivoted to the fenders 2, so as to allow the

gate to have an upward and forward swinging movement. For convenience in operating the gate a handle or handhold 5 of any suitable type is applied thereto, so as to be readily accessible. By thus hinging the gate to swing in the manner described said gate may be readily and quickly opened to permit the load of coal to discharge.

The car-body is supported upon carrying-wheels 6, journaled upon transverse axles 7, each of which is of approximately U form and consists of an axletree 8, secured to the bottom of the car by suitable fasteners 9 and provided at its ends with upwardly-extending arms 10, carrying laterally-projecting journals, spindles, or stub-shafts for carrying the wheels 6. By this construction it will be seen that the spindles are located above the bottom of the car, and that consequently carrying-wheels of large diameter may be used without elevating the body of the car to an objectionable extent, so as to render it unnecessary to use small-sized wheels upon the car when the latter is being carried through comparatively low veins or galleries of a mine. In this respect it will be readily seen that it is far superior to axles of ordinary construction, in which the journals of the axles lie in the plane of the bottom of the car-body. To the upwardly-projecting arm of each axle is connected a spring-metal strap or brace 11, provided at its upper end with a hook 12 to engage the side guards or fenders 2 of the wagon-body. The purpose of these braces is to hold the body of the car from independent play and swinging and to prevent the same from binding against the car-wheels and obstructing the progress of the car. By using a brace of the construction described the yielding material of which the brace is composed adapts the same to readily withstand shocks and strains and to be quickly applied and removed whenever it is desired to attach or detach the axle.

In order to enable the car to be readily controlled, I provide upon each side of the car a vertically-arranged brake-beam 13, mounted upon a pivot pin or bolt 14, projecting from the side of the car and carrying hinged or pivoted brake-shoes 16 to bear upon the peripheries of the car-wheels. To



the upper end of the brake-beam is connected one end of a brake-rod 17, which moves within a guide 18 upon the car-body and is provided at its free end with a downwardly-projecting arm 19, to which is connected one end of a chain, rope, or cable 20. The chains, ropes, or cables of the brake connections upon the opposite sides of the car are passed around suitable guide-pulleys 21 and connected to an operating-lever 22, pivoted upon the front of the car, by the operation of which the brakes are simultaneously thrown into and out of action. By this construction of the brake mechanism the car may be kept under ready and complete control.

The journals or spindles of the axles are kept constantly lubricated by the automatic flow of oil from an oil chamber or reservoir 23, communicating with the annular cell or hub 24 of each wheel, said chamber and hub being closed by a cover 25, provided with a filling-opening 26, having a suitable closure 27. 28 are equidistant feed-openings formed in the axle-box 29, by means of which when the car is in motion a constant supply of oil is fed to the axle-spindles and hot boxes, dry axles, and the services of "greasers" or attendants for oiling said spindles entirely obviated. The oil chamber or reservoir when filled will contain sufficient oil to meet the capacity of one-half the circular cell or hollow hub, so that any position of the wheel will not permit an overflow of the oil even when at rest.

From the foregoing description, taken in connection with the accompanying drawings, the construction, mode of operation, and advantages of the invention will be readily understood, and it will be seen that the invention provides a mining-car embodying desir-

able and advantageous features of construction and capable of being manufactured at a comparatively low cost.

Changes in the form, proportion, and minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

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

1. In a mining-car, the combination of a body, substantially U-shaped axles secured to the body and provided with laterally-projecting spindles located above the plane of the bottom of the body, wheels mounted upon said axles, and spring-metal braces secured to the axles and provided with engaging members for detachable connection with the sides of the body, substantially as described.

2. In a mining-car, the combination of a body, axles supporting the body, wheels mounted upon said axles, and braces extending from the axles and detachably connected with the sides of the body to prevent swaying of said body, substantially as described.

3. In a mining-car, the combination of a body, axles supporting the body, wheels mounted upon said axles, and braces extending from the axles and having spring-clasps to engage the sides of the body to prevent swaying of said body, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

DANIEL L. BROWN.

Witnesses:

E. A. BROWN,

HENRY C. BRYANT.