No. 883,637. PATENTED MAR. 31, 1908.

J. E. FROST.

AUTOMATIC BRAKE.

APPLICATION FILED JULY 8, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

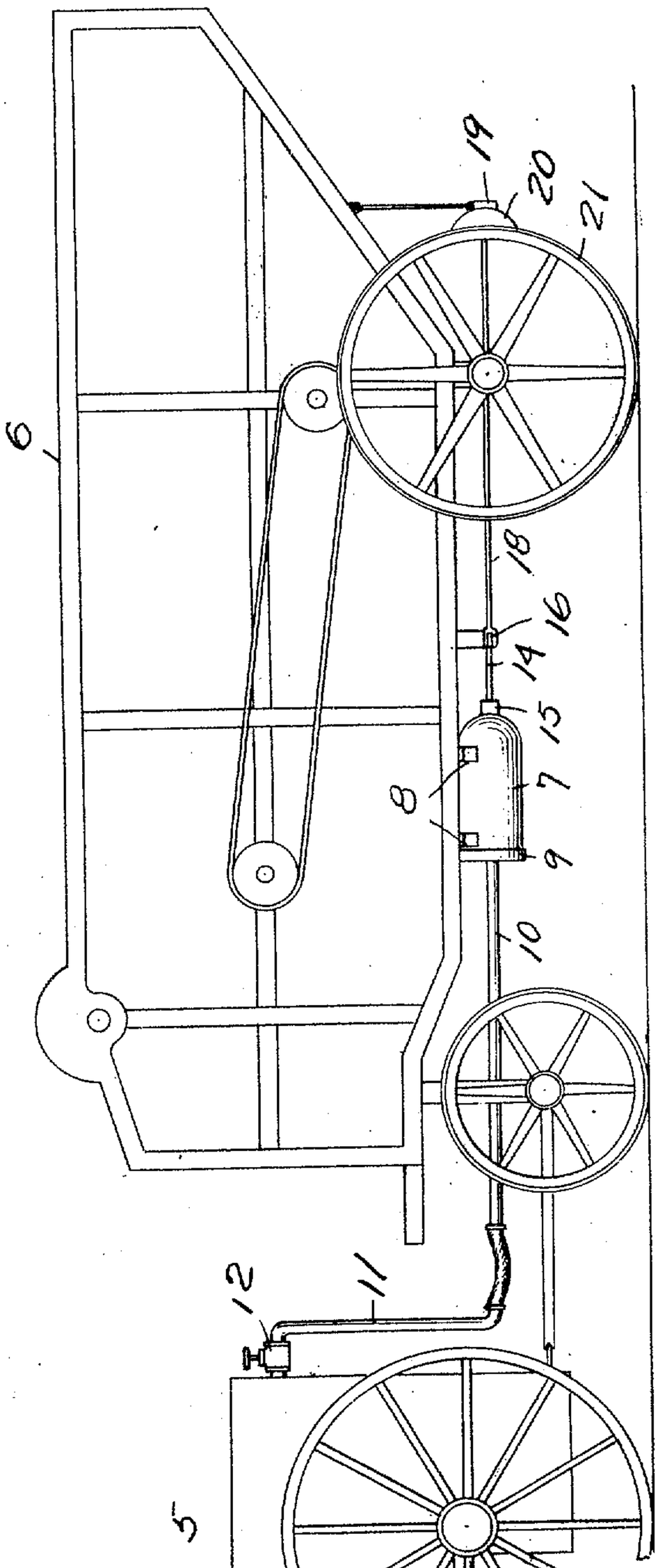
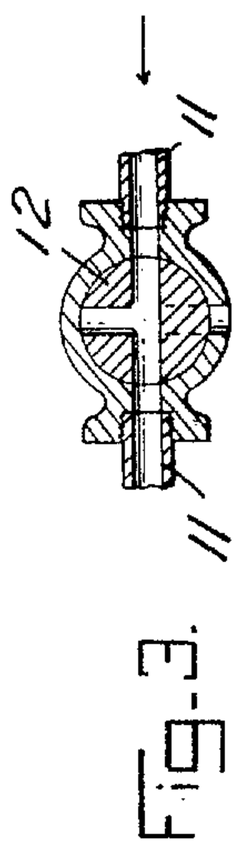



Fig. 3.




Witnesses

C. R. Thomas

H. C. Hazelton

Inventor

J. E. Frost

By Munn & Langner

Attorneys

No. 883,637. PATENTED MAR. 31, 1908.

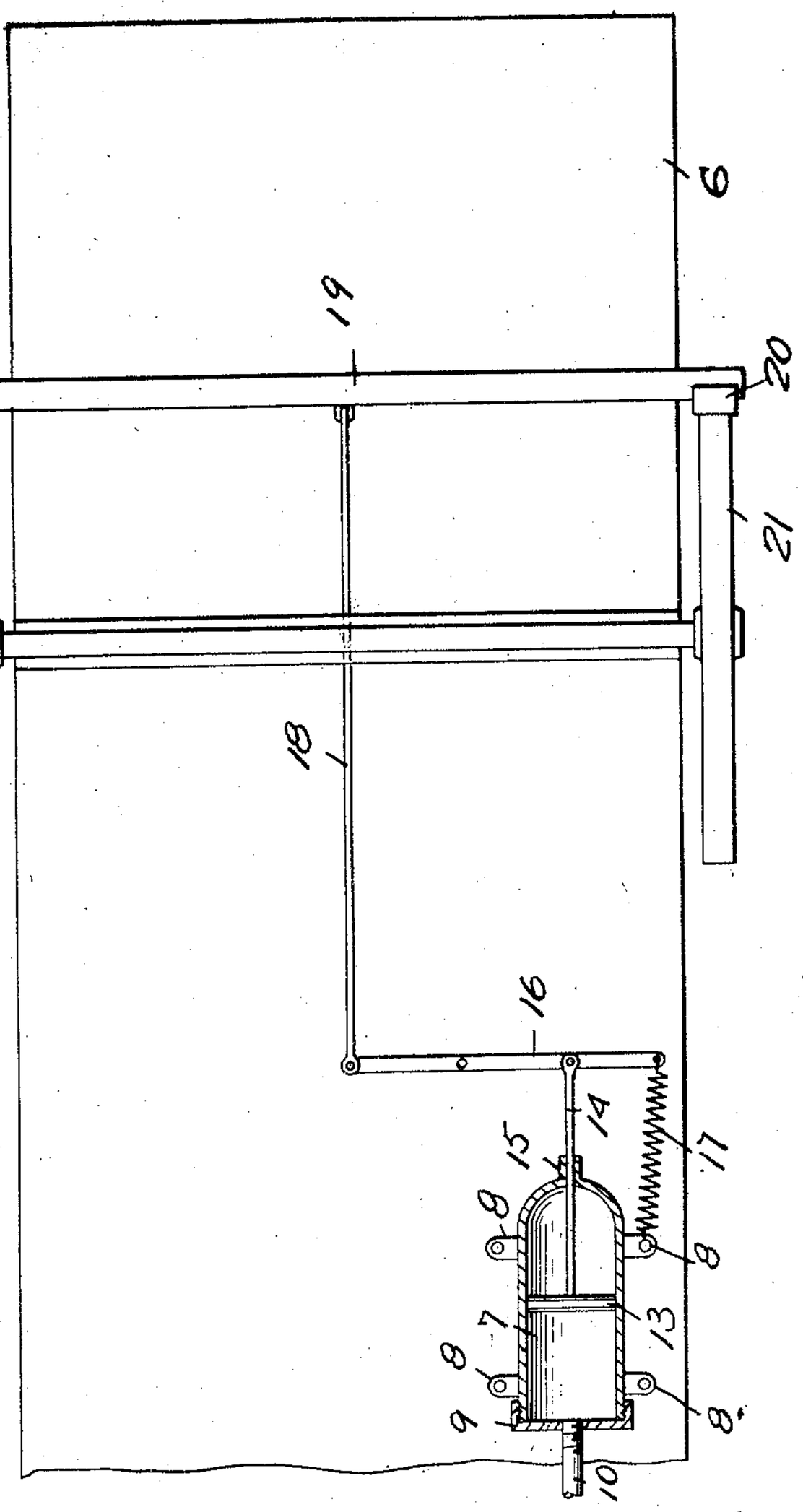
J. E. FROST.

AUTOMATIC BRAKE.

APPLICATION FILED JULY 8, 1907.

2 SHEETS—SHEET 2.

Fig. 2.




Witnesses

G. R. Thomas

H. McCluney

Inventor

J. E. Frost

By Munn & Munn

Attorneys

# UNITED STATES PATENT OFFICE.

JOSEPH E. FROST, OF NEWMAN GROVE, NEBRASKA.

## AUTOMATIC BRAKE.

No. 883,637. Specification of Letters Patent. Patented March 31, 1908.

Application filed July 8, 1907. Serial No. 382,671.

*To all whom it may concern:*

Be it known that I, JOSEPH E. FROST, a citizen of the United States, residing at Newman Grove, in the county of Madison, State of Nebraska, have invented certain new and useful Improvements in Automatic Brakes; and I do hereby 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.

The present invention has reference to improvements in automatic brakes, and its object consists in the provision of an exceedingly simple, as well as, inexpensive device, for effectively controlling the brakes upon threshing or similar machines, propelled by a traction engine.

To this end the invention resides in the particular construction, combination, and arrangement of parts, all as hereinafter fully described, specifically claimed, and illustrated in the accompanying drawings, in which like parts are designated by corresponding reference characters throughout the several views.

Of the said drawings, Figure 1 is a side elevation of an engine-drawn threshing machine equipped with the present invention, Fig. 2 is a bottom plan view thereof, and, Fig. 3 is an enlarged detail view of the three-way valve. In Fig. 2 the piston cylinder is shown in section.

Referring more particularly to the drawings the numeral 5 designates generally the traction engine, while the numeral 6 indicates in a similar manner the threshing machine, which latter carries a cylinder 7, attached thereto by bolts which pass through perforated brackets 8, disposed upon opposite sides of the cylinder in whose forward head 9 is formed an inlet port in which one end of a section of hose 10 is fitted, the opposite end of which is connected to a pipe 11, for conveying steam or other fluid from the engine, said pipe being provided with a three-way valve 12, of conventional type.

Disposed within the cylinder is a piston 13 whose stem 14 projects through a bearing 15 formed in the rear end of the cylinder and is pivoted to a horizontal lever 16 fulcrumed intermediate its ends upon the threshing machine, the outer extremity of said lever being connected to the adjacent bracket 8, by a retractile coil-spring 17. The inner end of the said lever is pivoted to the forward end of a horizontal link 18, the rear end of which latter is secured to a cross-bar 19 provided at each end with a brake shoe 20 adapted to bear against the adjacent wheel 21 of the threshing machine.

From the foregoing description it will be apparent that when the valve 12 is set so as to admit the steam or other fluid into the cylinder, the piston will be forced rearwardly thereby, against the action of the coil-spring, thus rocking the lever 16 upon its fulcrum and advancing the link 18, such movement of the latter applying the brakes, as is obvious. In releasing the brakes it is only necessary to reverse the position of the valve, whereupon the piston will be advanced within the cylinder, by reason of the pressure of the coil-spring, thus swinging the lever 16 in the opposite direction and moving the brake-shoes out of engagement with the wheels. It is thus possible for the engineer to operate the brakes from the engine, thus rendering it unnecessary for him to stop the engine, dismount therefrom, and set the brakes by hand.

While the invention has been shown and described in connection with a threshing machine, it is obvious that it may be applied with equal facility to any machine of a similar nature which is adapted to be propelled by a traction engine.

What is claimed, is,

The combination, with a traction engine and a wheeled machine propelled thereby, of a horizontally disposed cylinder supported upon a front and a rear pair of brackets disposed upon opposite sides thereof and, secured to the machine, the forward head of the cylinder having an inlet port and the rear head thereof a bearing formed therein; a hose section having one end fitted in said port, and its opposite end connected to a valved pipe carried by the engine and communicating with a source of fluid under pressure for admitting the fluid into the interior of the cylinder when the valve is in one position; a piston slidable within the cylinder and adapted to be forced rearward with respect to the machine, upon the admission of the fluid into the cylinder, the stem of the piston projecting through the bearing in the rear head of the cylinder; a horizontally-disposed lever pivoted intermediate its ends to the machine and towards its outer end to the projecting end of the piston stem; a link pivoted at its forward end to the inner end of said horizontal lever; a brake-beam secured

to the rear end of the link and provided at each end with a brake-shoe adapted to be forced into engagement with the adjacent wheel of the machine when the piston is moved rearwardly in the cylinder; and a retractile coil-spring secured at one end to the outer end of said horizontal lever, and at the other end to the adjacent rear bracket, to force the piston forwardly of the machine when the valve is in its second position, to release the brake shoes from engagement with the wheel.

In testimony whereof, I affix my signature, in presence of two witnesses.

JOSEPH E. FROST.

Witnesses:

ANTON ROSENBERG,

ROBERT P. PEARSON.