2 Sheets--Sheet 1.

J. T. PRENDERGAST.

Steam-Brakes.

No. 161,271. Patented March 23, 1875.

Fig. 1.

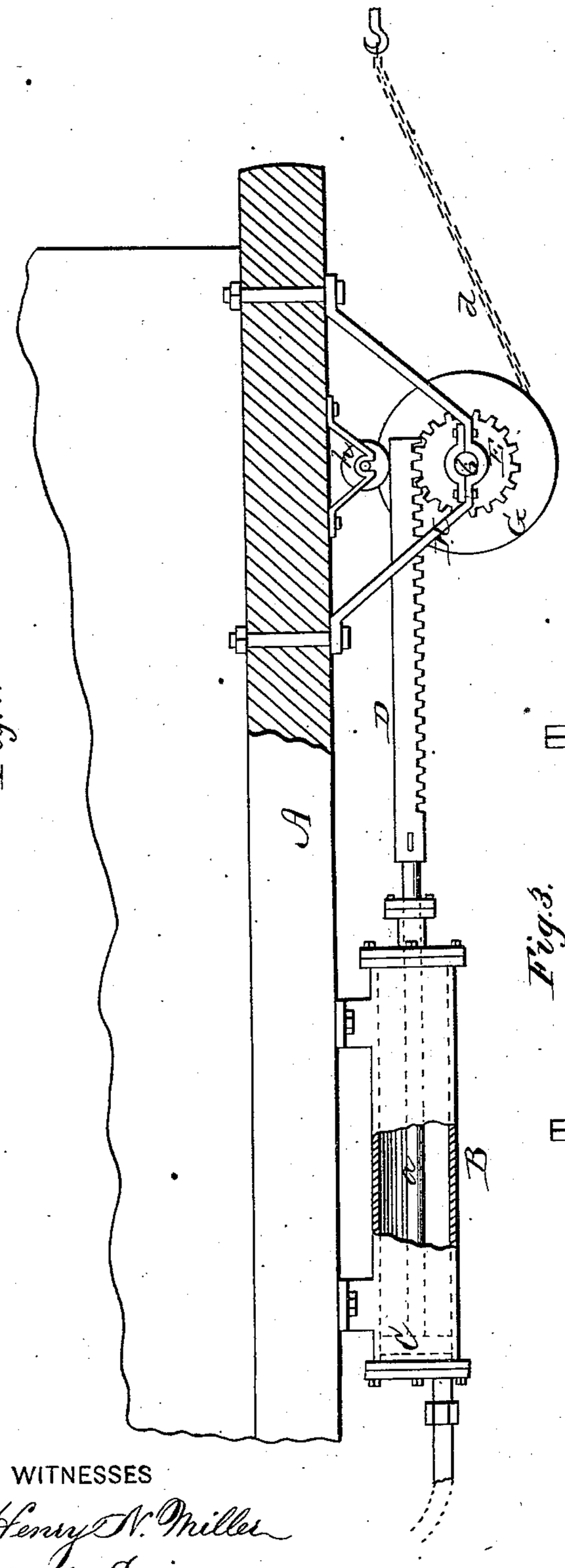


Fig. 2.

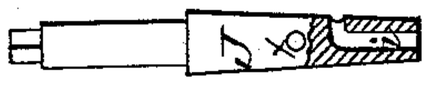
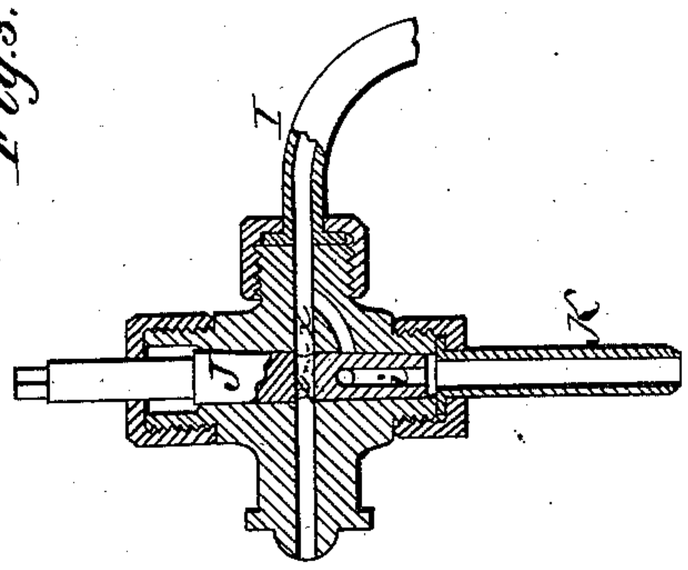


Fig. 3.



WITNESSES

Henry N. Miller

C. L. Emich.

INVENTOR

J. T. Prendergast.

per

Alexander Mason

ATTORNEYS

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

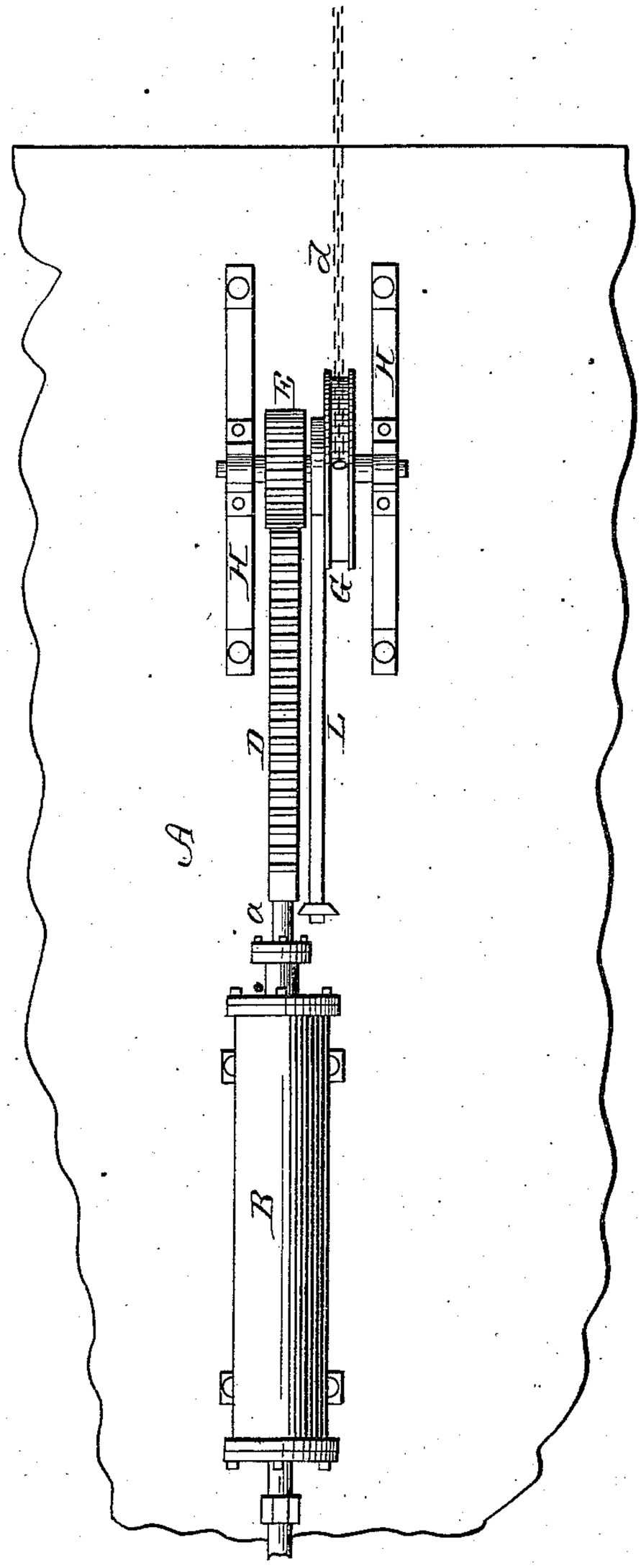
2 Sheets--Sheet 2.

J. T. PRENDERGAST.

Steam-Brakes.

No. 161,271. Patented March 23, 1875.

Fig. 2.



WITNESSES

Henry N. Miller

C. L. Emerson.

INVENTOR

J. T. Prendergast,

per

Alexander Mason

ATTORNEYS

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

JAMES T. PRENDERGAST, OF HUNTINGTON, WEST VIRGINIA.

IMPROVEMENT IN STEAM-BRAKES.

Specification forming part of Letters Patent No. **161,271**, dated March 23, 1875; application filed March 6, 1875.

To all whom it may concern:

Be it known that I, JAMES T. PRENDERGAST, of Huntington, in the county of Cabell and in the State of West Virginia, have invented certain new and useful Improvements in Steam-Brakes; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to car-brakes operated by steam; and the nature of my invention consists in the construction and arrangement of the devices for operating the brake by steam-power, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side elevation, and Fig. 2 a bottom view, of the devices for operating the brake. Fig. 3 is a section of the device for shutting off and letting on steam.

A represents the bottom or floor of a locomotive-tender, to the under side of which is secured a steam-cylinder, B. In this cylinder is an ordinary piston, C, with rod *a*, extending through a stuffing-box in the head of the cylinder. The outer end of the piston-rod *a* is attached to a rack-bar, D, which is placed upon and gears with a pinion, E, secured on a horizontal shaft, *b*. The shaft *b* is held in suitable brackets H H, attached to the under side of the tender-frame, and on said shaft is secured a drum, G, having a chain, *d*, attached to it. On top of the rack-bar D works a friction-roller, *h*, to keep all strain off of the piston-rod, and also to keep the rack in the pinion.

Steam is admitted into the cylinder B, at the front bottom end, through a pipe, I, connecting with the boiler, and discharged through the same pipe by placing a cock, J, at the head of the boiler. This stop-cock has a straight slot, *x*, through the upper part of the key, and the bottom part of the key is cored hollow, as shown at *i*, from the bottom, with hole in one side. This passage will be open to discharge steam when the steam is shut off from the cylinder.

The same brake that is in use on freight and passenger cars may be used by running a straight rod from end to end of car, and connect said rod by chains with the present brake-levers. The chain *d* is connected with the end of the rod of the first car.

When steam is admitted into the cylinder B, the piston is forced backward, and the rack-bar D turns the pinion E and the drum G, so as to wind up the chain *d*, and apply all the brakes at once. As soon as the steam is turned off, it is discharged through the pipe K, and the piston is returned to its place by means of a spring, L, arranged in any suitable manner to accomplish this object.

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

The combination of the closed piston-cylinder B, the piston C, the guide-rod *a*, extending through the cylinder, the rack-bar D, drum G, suspended under the car-body, and having gear-wheel E, and the guide-roller *h* above, and bearing upon the rack-bar, all constructed and arranged to operate substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of February, 1875.

J. T. PRENDERGAST.

Witnesses:

C. L. EVERT,

T. J. HORNER.