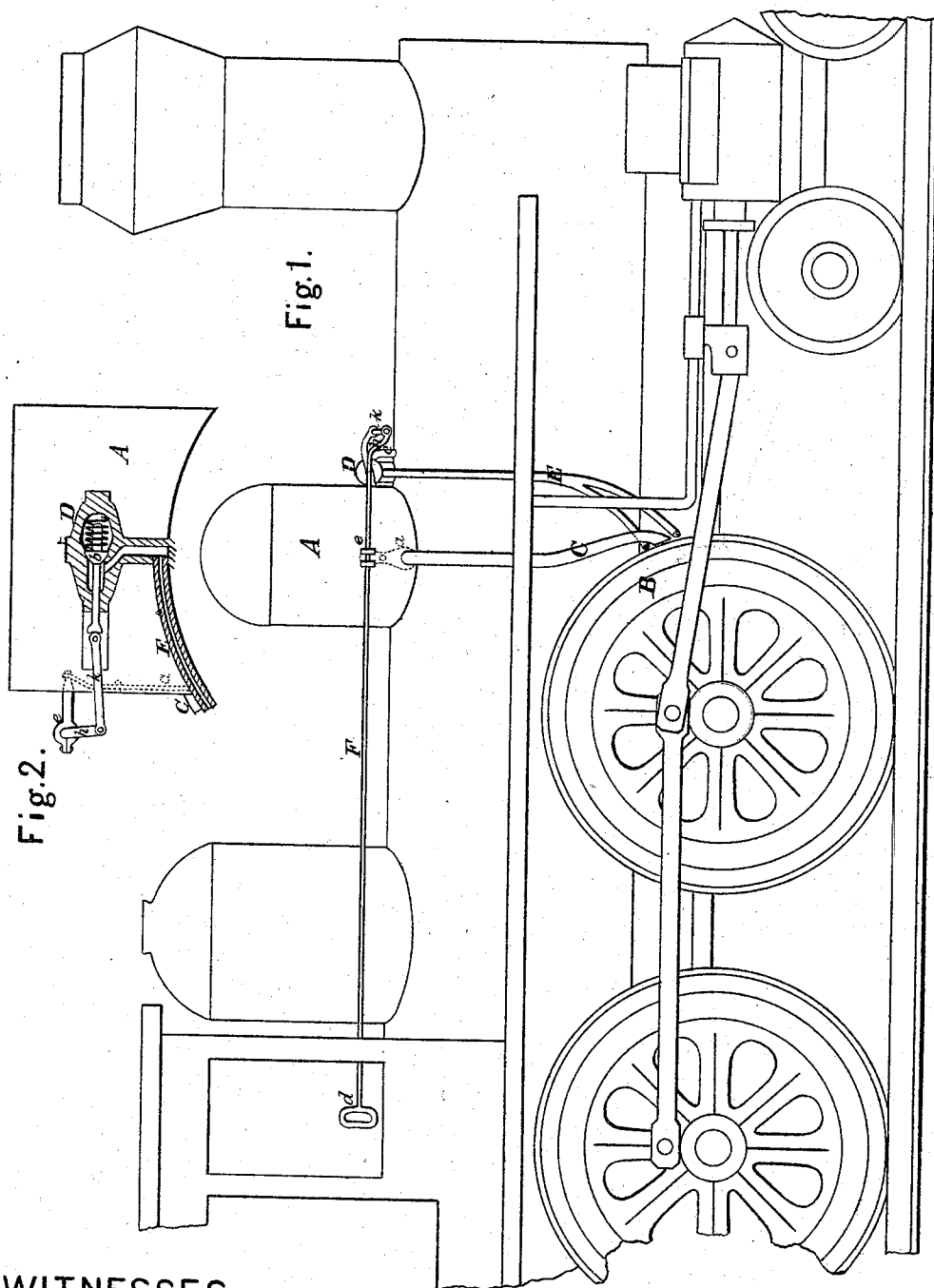


M. V. NOBLES.

Sanding Devices for Locomotives.

No. 137,472.

Patented April 1, 1873.



WITNESSES.

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UNITED STATES PATENT OFFICE.

MILTON V. NOBLES, OF ELMIRA, NEW YORK.

IMPROVEMENT IN SANDING DEVICES FOR LOCOMOTIVES.

Specification forming part of Letters Patent No. **137,472**, dated April 1, 1873; application filed January 11, 1873.

To all whom it may concern:

Be it known that I, MILTON V. NOBLES, of Elmira, in the county of Chemung and State of New York, have invented a new and valuable Improvement in Sanding Devices for Locomotives; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a locomotive with my sanding device attached. Fig. 2 is a partial section of steam valve and pipe.

This invention has relation to means for sanding the driving-wheels of locomotives; and it consists in the construction and novel arrangement of devices whereby the sand is dampened upon the wheels, causing it to adhere thereto sufficiently to prevent it from falling off during the revolution of the wheels, and thus insuring an effective frictional surface at every point of the tread. The object of the invention is to cause the sand to adhere to the wheel; and while this may be accomplished by means of a suitably-arranged water-jet, I have preferred to illustrate and describe the application of steam, which will condense upon the wheel in sufficient quantity to dampen and fix the sand effectually.

In the accompanying drawing I have represented a locomotive provided with a sand-box, A, located upon the boiler, and about as far forward as the front edges of the forward driving-wheels B. From this sand-box a tube, C, conducts the sand to the tread of the wheel, when the outlet-valve *a* is opened. D represents an ordinary valve-box, provided with a spring-valve, *b*, and designed to communicate with the boiler by means of the pipe *c*, which serves to admit the steam to the valve-box, whence it escapes, when the valve *b* is opened, through the pipe E, to the tread of the wheel at about the same point,

or a little in rear of the point, at which the sand-tube C discharges. F indicates the operating-rod, provided with a transverse handle, *d*, and extending from the cab along the boiler. At the point *e* it is connected with the arm by which the sand-valve is opened, and is arranged to operate this valve by a longitudinal or pulling movement. At its end the rod is bent in such a manner as to form a crank-arm, *h*, which, through a connecting-rod, *k*, serves to operate the valve in the steam-box D when the rod F is rotated upon its axis.

It is thus apparent that the steam-jet and the sand-flow may be regulated independently of each other by means of the rod F.

When it becomes necessary to sand the wheels, it is designed that the engineer shall first turn this rod to open the valve *b* and let the steam upon the tread of the wheel, when it will at once condense. Then, while the steam is flowing, the rod is pulled, opening the sand-valve, and allowing the sand to be discharged upon the wheel, which should be now slowly set in motion. A ribbon of sand will thus be formed entirely around the tread, forming an effective frictional surface, and enabling the wheel to take the track at any point of its periphery.

The devices shown and described for carrying into effect my invention may be varied in many ways well known to those skilled in the art. I do not, therefore, desire to confine myself to any particular mechanism or apparatus.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with the wheel or wheels of a locomotive, of the sand-discharge and moistening-jet, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

MILTON V. NOBLES.

Witnesses:

PHIL. C. MAST,
GEORGE E. UPHAM.