

(No Model.)

T. F. O'FRIEL.
SAND BOX FOR LOCOMOTIVES.

No. 504,609.

Patented Sept. 5, 1893.

Fig. 1.

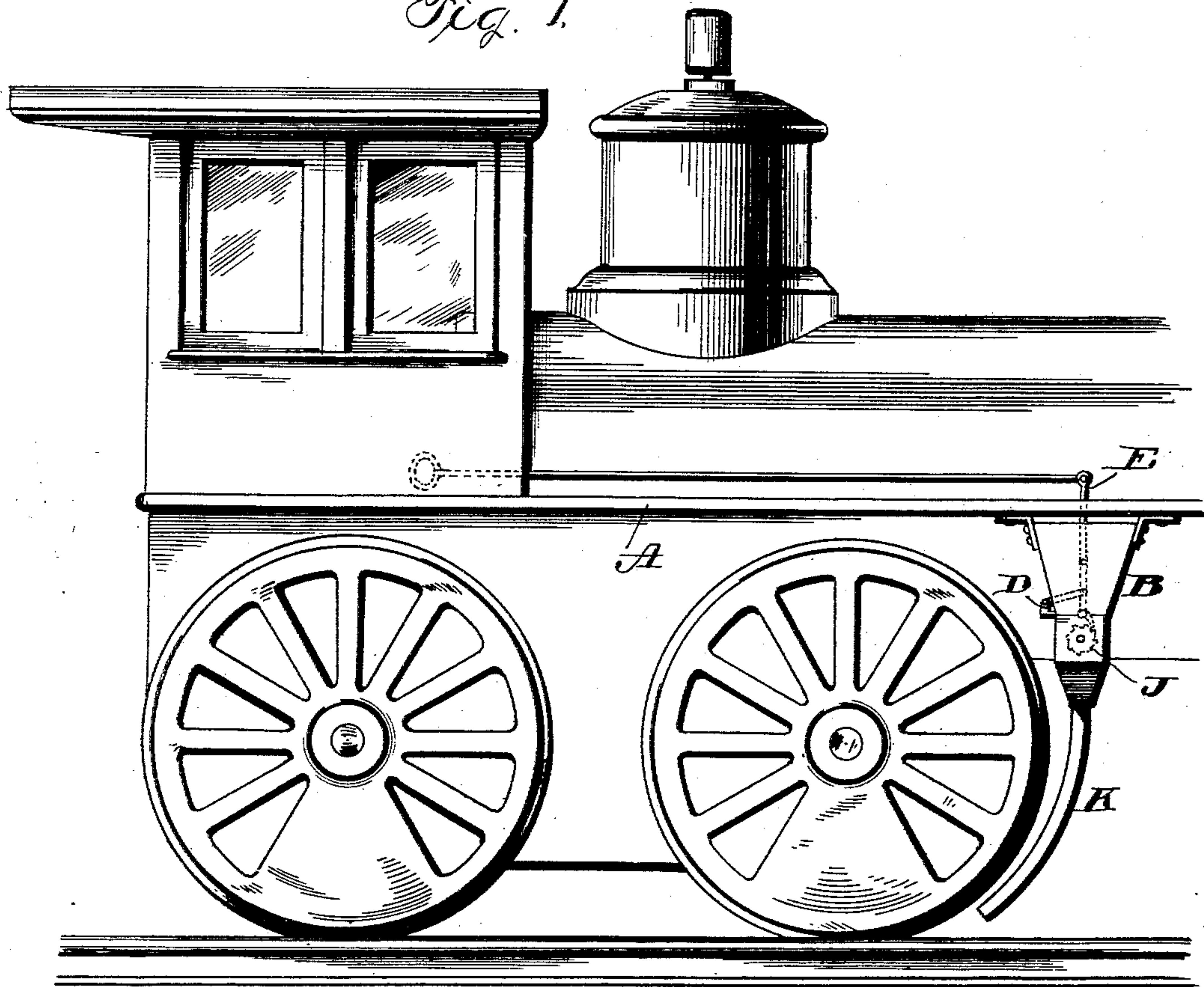
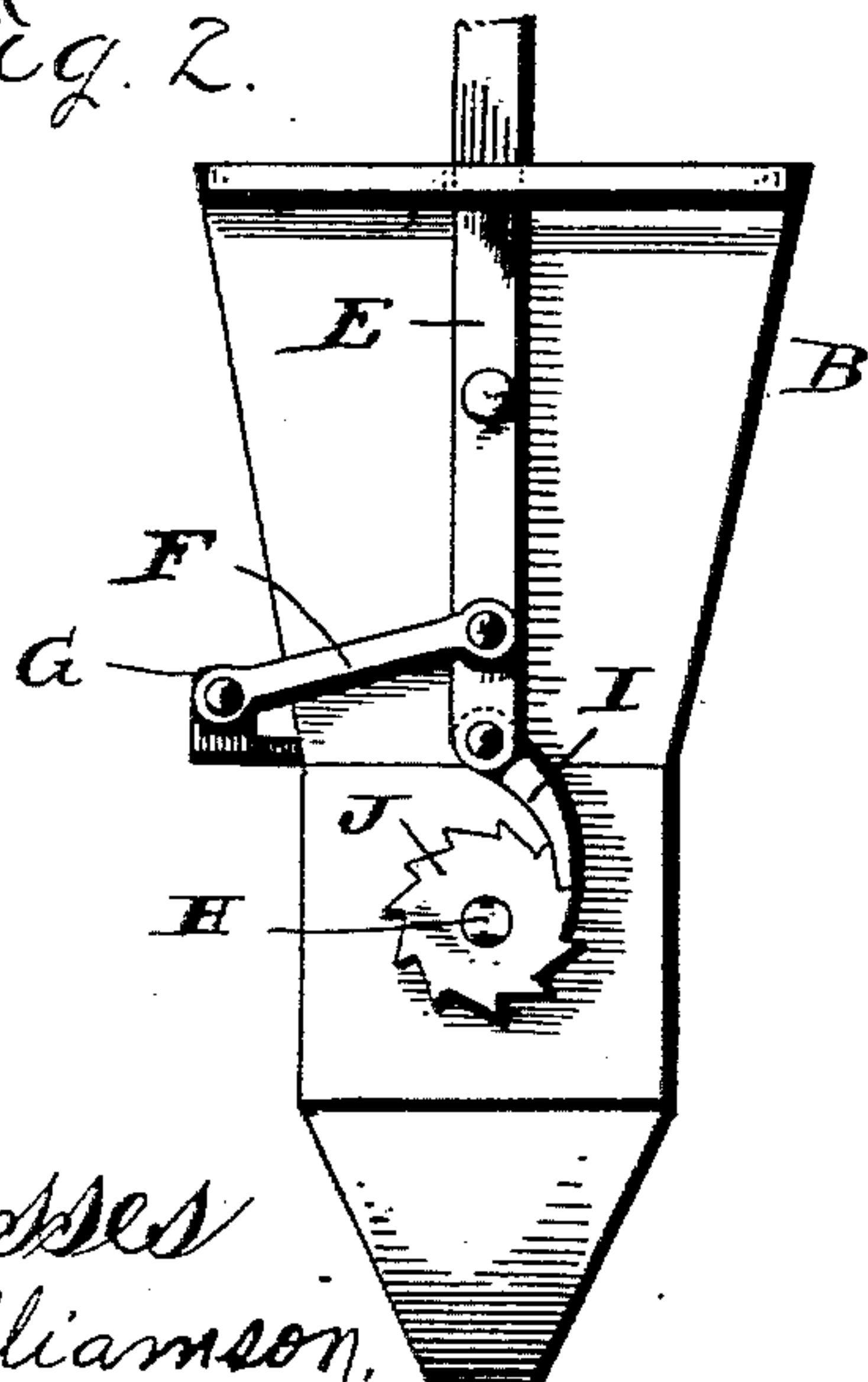
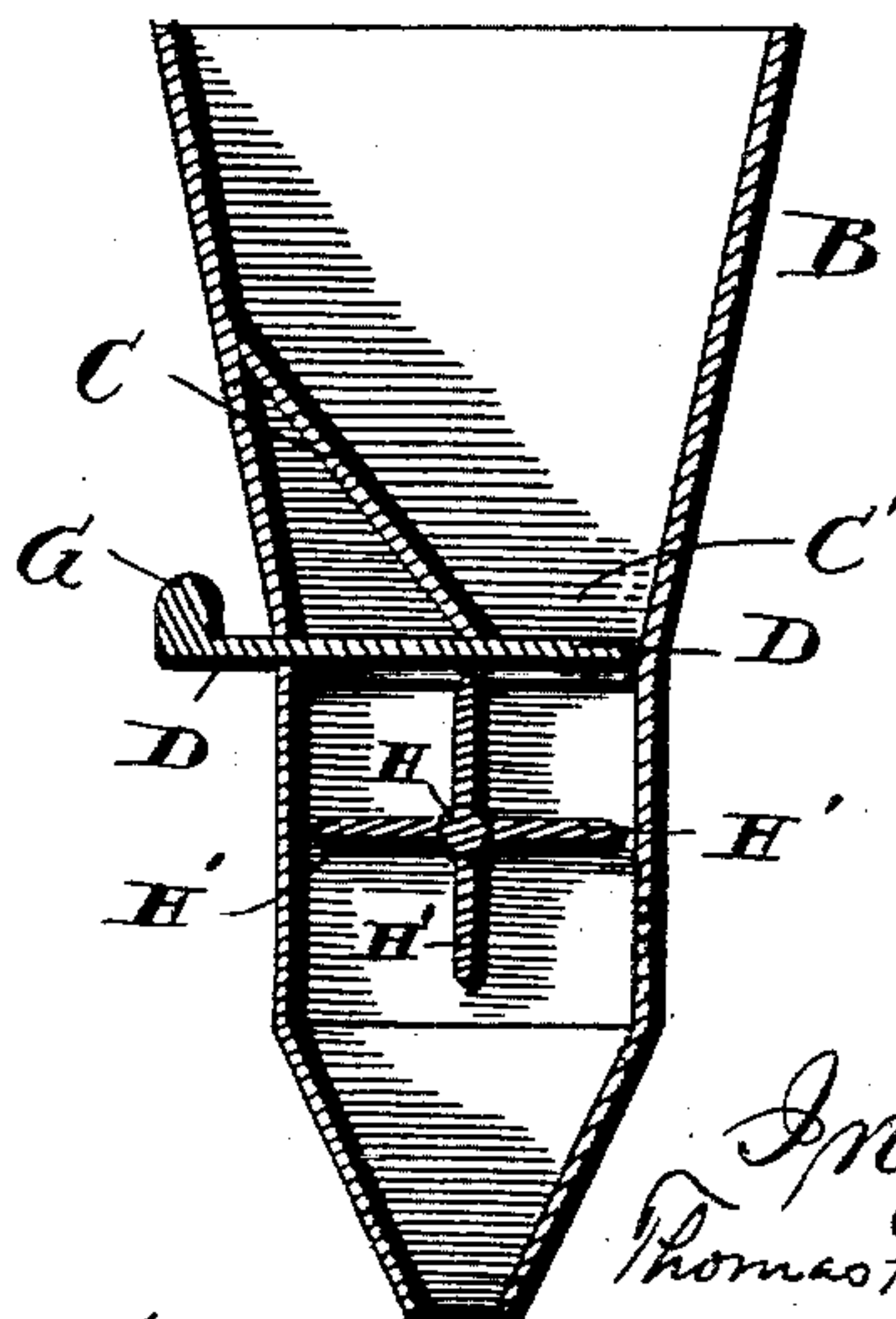


Fig. 2.



Witnesses
J. Williamson,
Clerk Court

Fig. 3.



Indentor
Thomas F. O'Neil,
by Franklin W. Hong, Esq.,
his Atty.

UNITED STATES PATENT OFFICE.

THOMAS F. O'FRIEL, OF ALTOONA, PENNSYLVANIA.

SAND-BOX FOR LOCOMOTIVES.

SPECIFICATION forming part of Letters Patent No. 504,609, dated September 5, 1893.

Application filed February 16, 1893. Serial No. 462,541. (No model.)

To all whom it may concern:

Be it known that I, THOMAS F. O'FRIEL, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Sand-Boxes for Locomotives; 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in means for distributing sand upon the rails in proximity to and immediately in advance of the driving wheels of locomotives.

The invention has for its object to provide a new and cheaply constructed form of sand box, and in the mechanism connected therewith, whereby by the simple manipulation of a lever within the engine cab sand may be distributed upon the rails as desired.

A further object of the invention consists in the providing of mechanism in connection with the sand box whereby an even flow of sand will at all times be insured, and the possibility of the flow of sand being interrupted by reason of the clogging or imperfect working of the valve within the outlet of the box, will be entirely obviated.

To these ends and to such others as the invention may pertain, the same consists in the peculiar construction and in the novel combination, arrangement and adaptation of parts, all as more fully hereinafter described, shown in the accompanying drawings, and then specifically defined in the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, like letters of reference indicating the same parts throughout the several views, and in which drawings—

Figure 1, is a side view of a portion of a locomotive, with my improvement applied thereto. Fig. 2, is a side view of my sand-box. Fig. 3 is a vertical section through the sand-box, upon an enlarged scale.

Reference now being had to the details of the drawings by letter A designates what is termed the "running board" of the engine, and B designates one of my sand-boxes which is secured directly beneath the said running-board. It is my purpose to employ two of these sand-boxes upon the engine, one being placed upon each side, but, as these boxes are precisely alike both in construction and operation, the description of one of the boxes will suffice.

The box is hopper shaped, as shown and is provided with an inclined chute or partition C, which serves to direct the sand to the narrow space C', which space is controlled by the slide-valve D, which passes through the side wall of the box, as shown, and is adapted to be moved in and out, to open and close the opening, as desired, by means of an operating lever E, which is pivoted to the side of the box and has its lower end connected with the slide-valve by means of a link or lever F one end of which link is attached to the outer end of the bar G attached to the slide. The upper end of the lever E is extended upward into the engine cab where it will be within convenient reach of the operator.

In order to prevent the sand, after it has passed the slide valve, from clogging in the contracted space below the slide, as is frequently the case where the sand is damp or moist, I provide within said space beneath the valve a shaft H which extends transversely across the lower end of the box a short distance below the valve-controlled outlet, and provide this shaft with a series of flat blades H', H', which blades, when the shaft is rotated cross the path of the sand in its discharge from the box; thus agitating the sand and preventing the possibility of its clogging. The shaft H is automatically rotated upon the movement of the slide-valve, by the gravity pawl I which at one of its ends is pivotally attached to the lower end of the lever E, while the opposite or free end of the pawl engages the notches upon the pinion J carried upon the outer end of the shaft H upon the outside of the sand-box. The sand is conveyed to the rail in advance of and in proximity to the drive wheel, by means of a tube K.

Having thus described my invention, what

I claim to be new, and desire to secure by Letters Patent, is—

The herein described device for supplying sand to rail-way rails, the same comprising in
5 combination, the sand box, the inclined partition or chute therein, the slide-valve, lever mechanism adapted to move the said valve transversely across the sand outlet, the shaft
H below the valve and having blades as de-
10 scribed, the pinion upon the end of the shaft H, and the gravity pawl having one of its

ends pivoted to the lower end of the valve operating lever and its free end adapted to engage the teeth of the pinion, substantially as shown and described.

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

THOMAS F. O'FRIEL.

Witnesses:

CHARLES HEISLER,
HARRY G. HEISLER.