

(No Model.)

H. C. NOBLE.

APPARATUS FOR SANDING RAILWAYS.

No. 398,174.

Patented Feb. 19, 1889.

FIG - 1 -

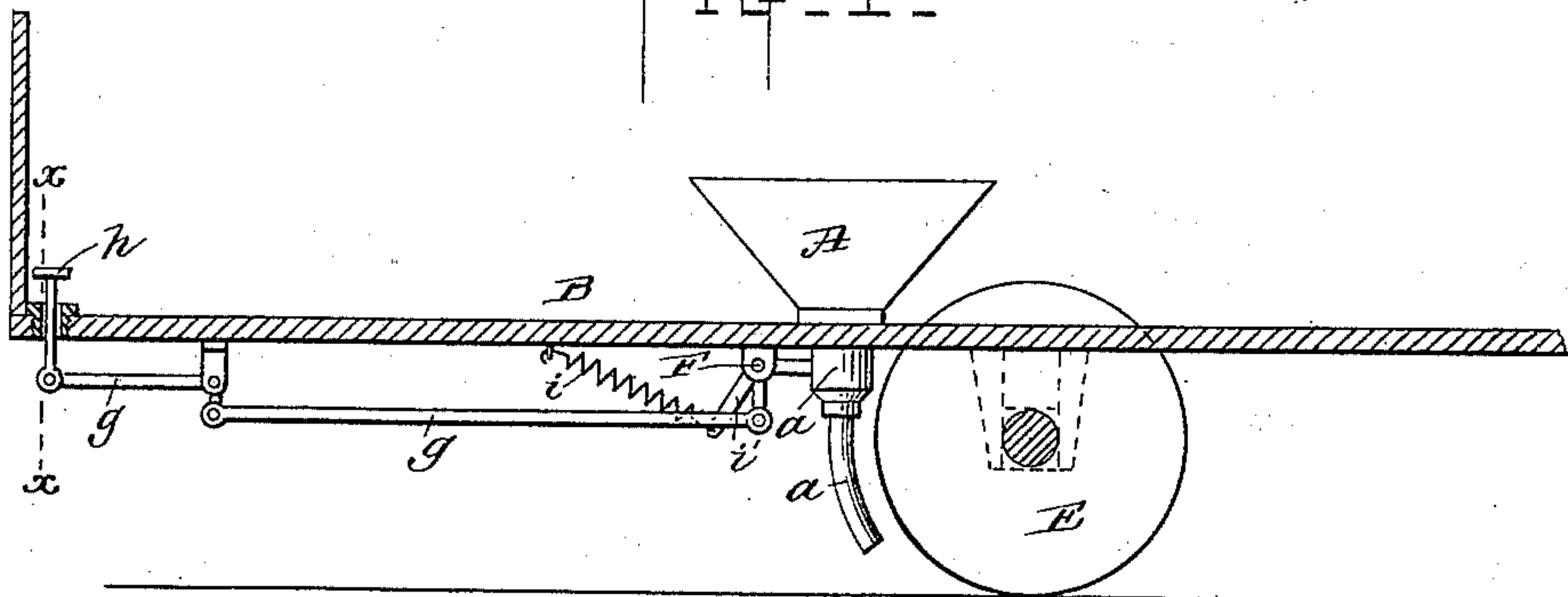


FIG - 4 -

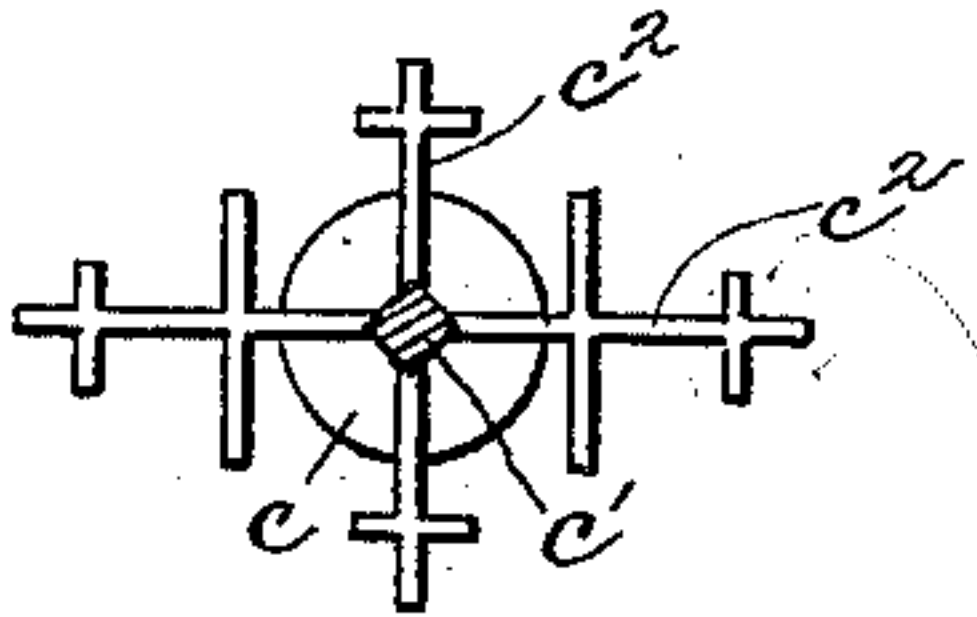


FIG - 2 -

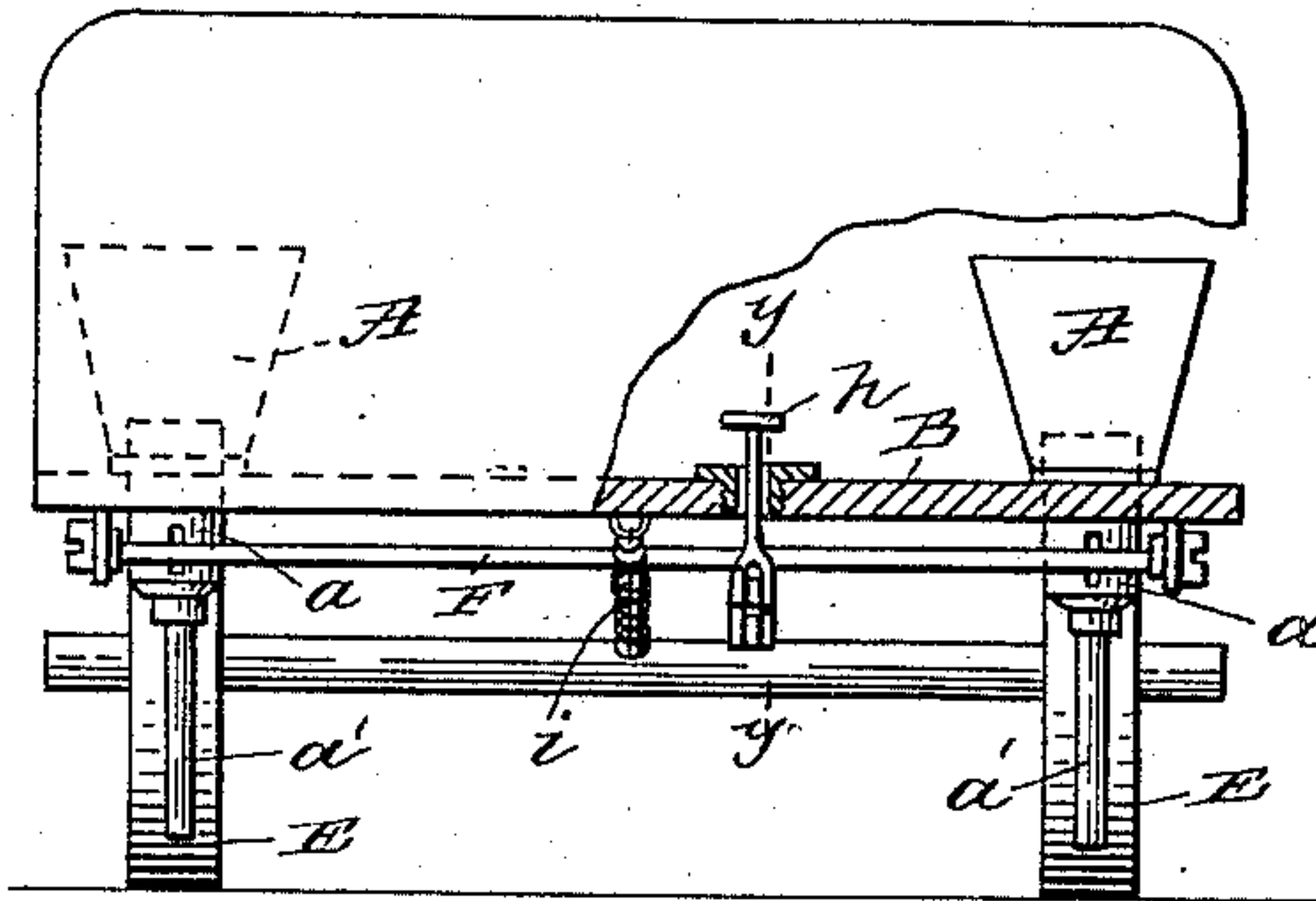


FIG - 6 -



FIG - 3 -

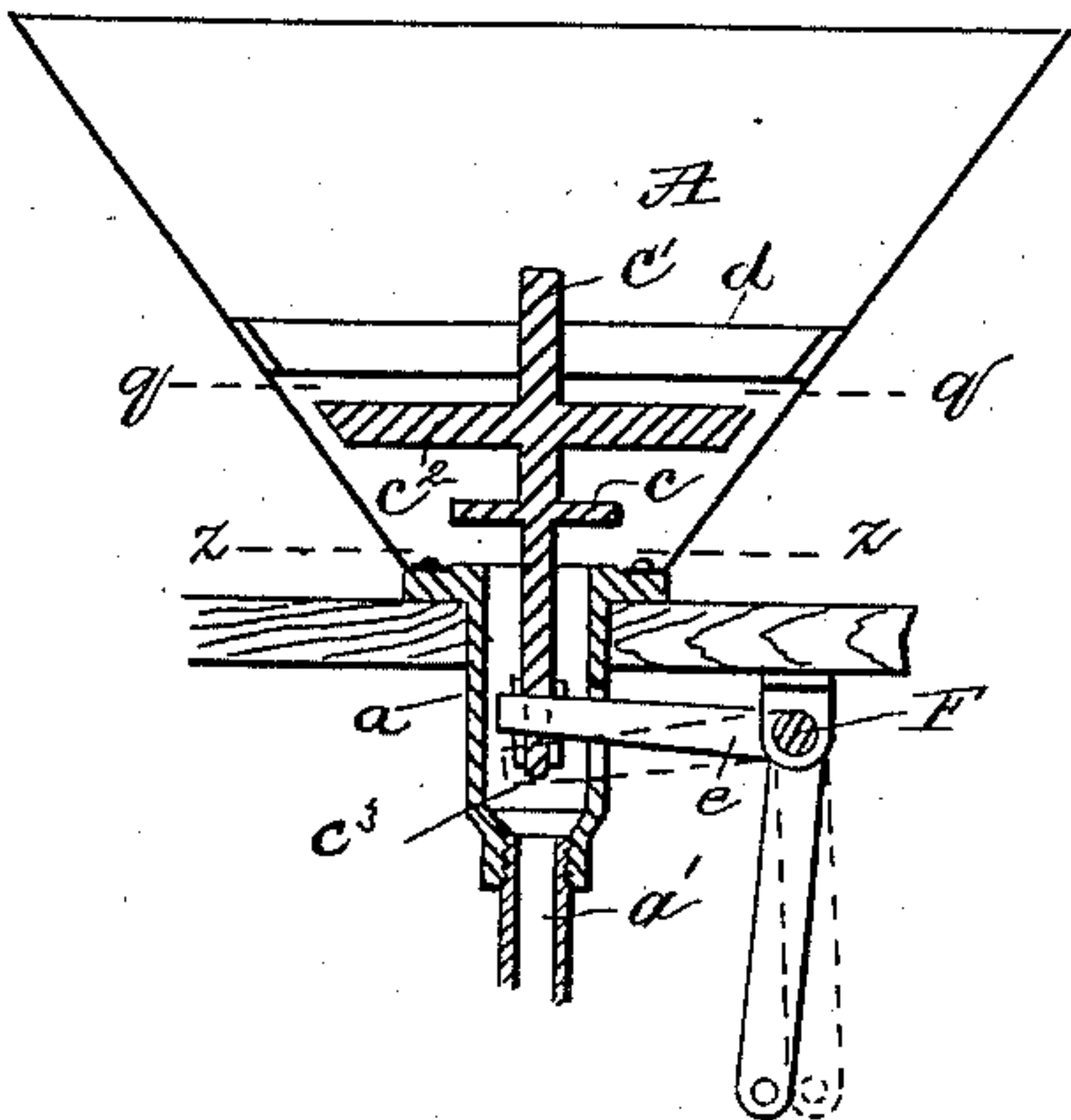
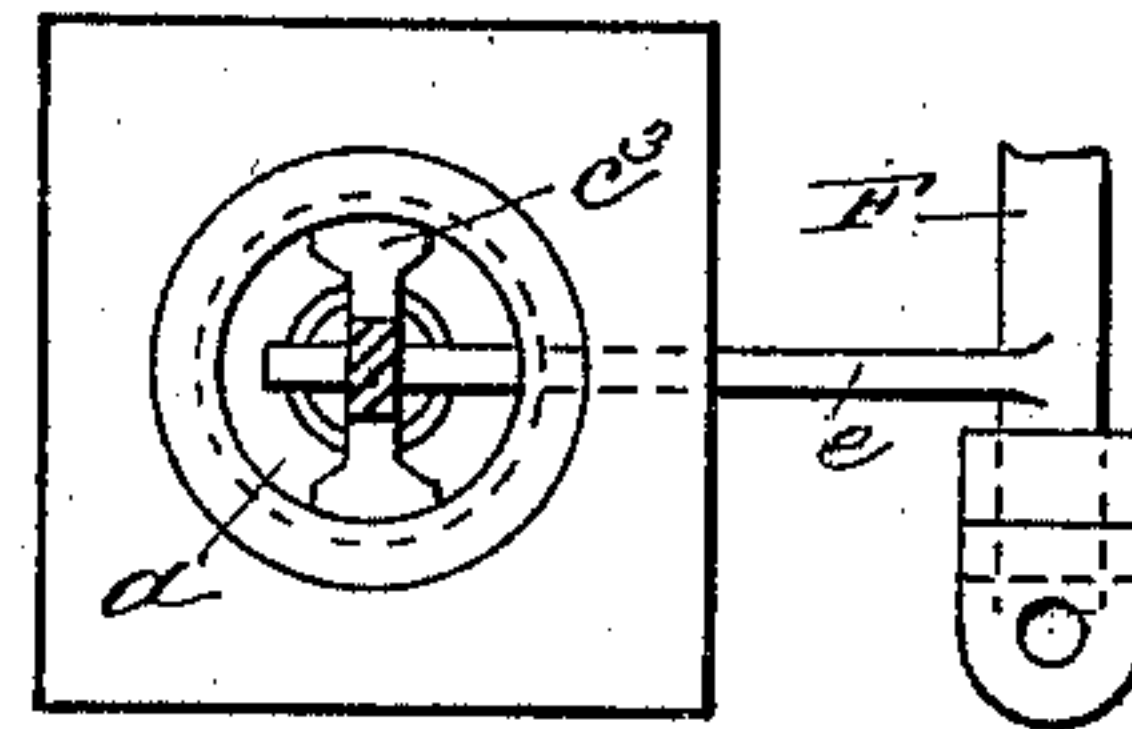


FIG - 5 -



Witnesses,

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UNITED STATES PATENT OFFICE.

HENRY C. NOBLE, OF NEW YORK, N. Y., ASSIGNOR OF TWO-THIRDS TO
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APPARATUS FOR SANDING RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 398,174, dated February 19, 1889.

Application filed February 25, 1888. Serial No. 265,323. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. NOBLE, a citizen of the United States, and a resident of the city of New York, county and State of New York, have invented certain new and useful Improvements in Apparatus for Sanding Railways, of which the following is such a full, clear, concise, and exact description as will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The object of this invention is to construct a sander for railways which will be of easy and convenient operation and not liable to become clogged or stopped by hardening or caking of the sand, but adapted to distribute the same evenly and in such quantities as desired, and which will also be self-closing, so that any accidental waste is prevented; and the invention consists in the devices and combinations of devices, as hereinafter more fully described and claimed.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of a portion of a street-car fitted with my improvement, such section being taken on the line *y y* of Fig. 2, which figure is an end view of the same with part of the dash-board broken away and portion of floor of one platform shown in section taken on the line *x x* of Fig. 1. Fig. 3 is a sectional view of one of the hoppers fitted with vertically-moving valve. Fig. 4 is a horizontal cross-section of the valve-stem, taken on the line *q q* of Fig. 3, with plan view of valve and cross-pieces or fingers for loosening the sand. Fig. 5 is a similar section of stem, but taken lower down on the line *z z*, showing an enlarged plan view of cylinder and valve-seat. Fig. 6 is a plan view of the guiding-bars for upper portion of valve-stem.

The hoppers *A*, for holding the sand, may be conveniently arranged beneath the car-seats and secured to the upper flanges or rims of the cylinders *a*, which cylinders are set in the car-floor *B*, and have at their lower ends pipes or tubes *a'*, leading downward, so as to deposit the sand in front of the wheels *E*, each hop-

per being provided with a vertically-moving valve, *c*, mounted on stem *c'*, upon which are also the cross-pieces or fingers *c²*. The upper end of the stem *c'* is preferably steadied by means of the bars *d*, secured across the hopper, and at the lower end of the stem is the guiding-piece *c³*, the extremities of which bear against the inner walls of the cylinder. The stem *c'*, with guiding-piece *c³*, valve *c*, and fingers *c²*, is preferably of metal and formed of a single casting.

Each cylinder *a* is also provided with a slotted opening at its side for receiving the lever-arm *e*, which lever projects into or through a slot or socket in the stem *c'*, the other end of the lever being secured to the shaft *F*, which shaft may be conveniently operated through the connecting-levers *g g* and foot-button *h*, preferably placed up close to the dash-board out of the way of passengers riding on the platform and within easy reach of the driver. To the shaft *F* is also preferably secured the lever-arm *i*, the free end of which is attached to the retractive spring *i'*, so that when the pressure is released from the button *h* the shaft is immediately turned back and the valve *c'* brought to its seat, avoiding danger of wasting the sand; but this retractive spring is not absolutely necessary, as the valve *c'*, having a vertical movement, not only loosens the sand by its movement up and down, but the weight of the sand on top of the valve has a tendency to bring it to its seat when the pressure is removed from the push-button.

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

1. The combination of a hopper for containing sand, a cylinder beneath said hopper and provided with a slotted opening, a valve adapted to rest upon the top of said cylinder and having a stem extending therein, a lever-arm connected with said stem and extending outwardly through said slot, a shaft to which said lever-arm is also connected, and means for turning said shaft, whereby a vertical movement is imparted to said valve, substantially as and for the purpose set forth.

2. The combination of a hopper for holding sand, a cylinder arranged beneath said hopper and provided with a slotted opening, a valve adapted to rest upon the top of said cylinder and having a stem extending downward therein and also upward into said hopper, and the upper portion of said stem being provided with fingers or cross-pieces for loosening the sand, a lever-arm connected with the lower portion of said stem and extended outwardly through the slot in said cylinder, a shaft to which said lever-arm is also connected, and means for turning said shaft, substantially as and for the purpose set forth.
3. The combination of a hopper for holding sand, a cylinder arranged beneath said hopper and provided with a slotted opening, a cylinder and having a stem extending downward therein and also upward into said hopper, the upper portion of said stem being provided with fingers or cross-pieces for loosening the sand, a lever-arm connected with the lower portion of said stem and extended outwardly through the slot in said cylinder, a shaft to which said lever-arm is also connected, means for turning said shaft, another lever also connected with said shaft, and a retractive spring having connection with the free end of said second lever, all arranged and operating substantially as and for the purpose set forth.

HENRY C. NOBLE.

Witnesses:

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