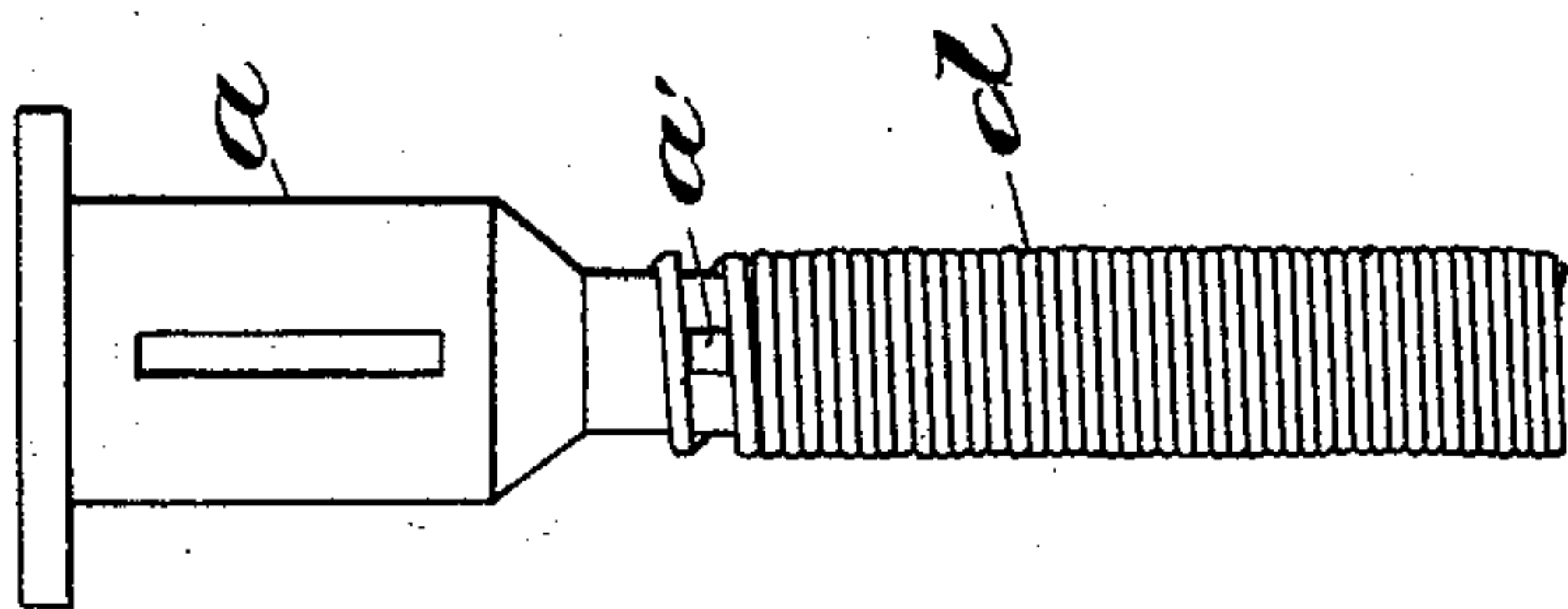
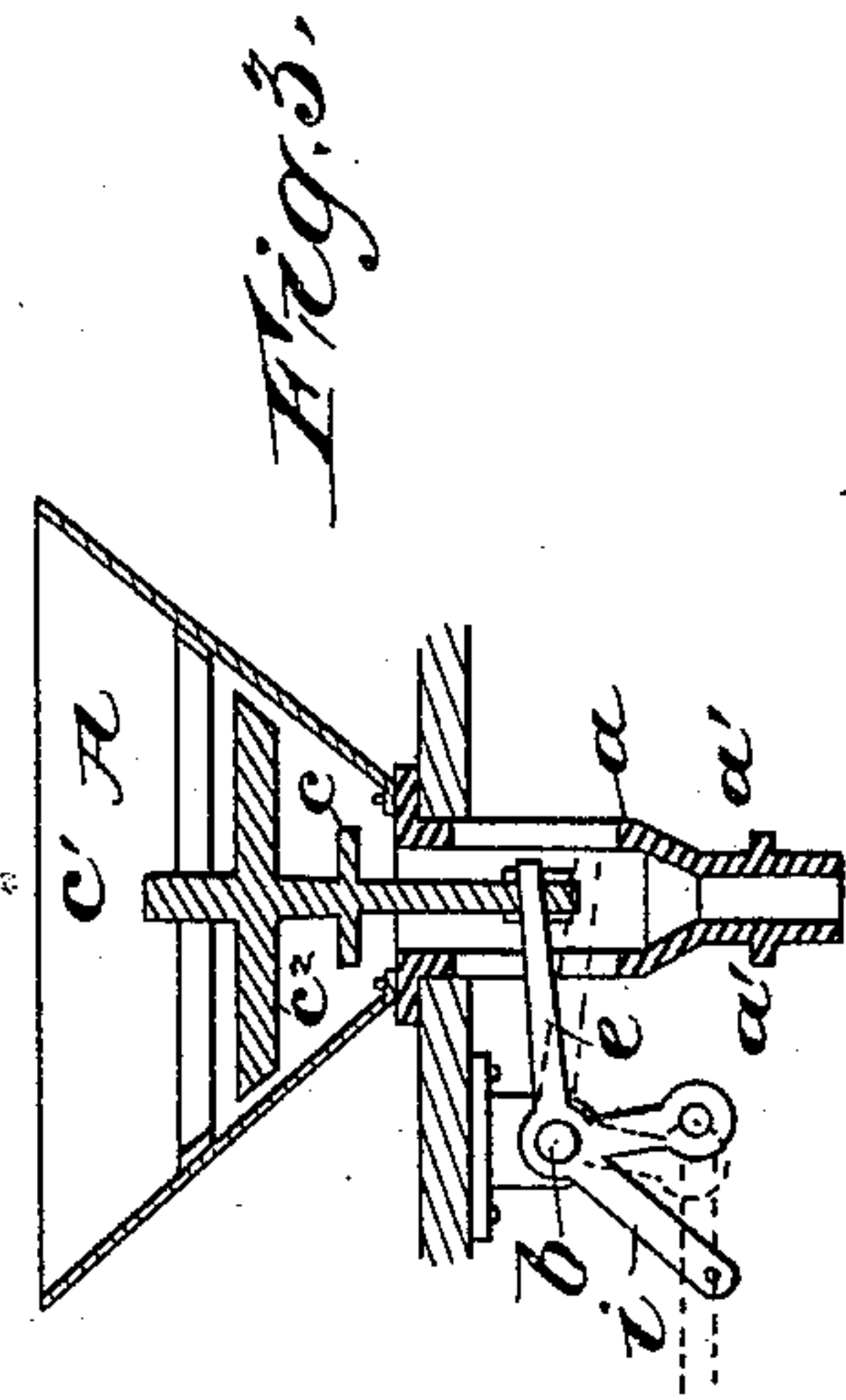
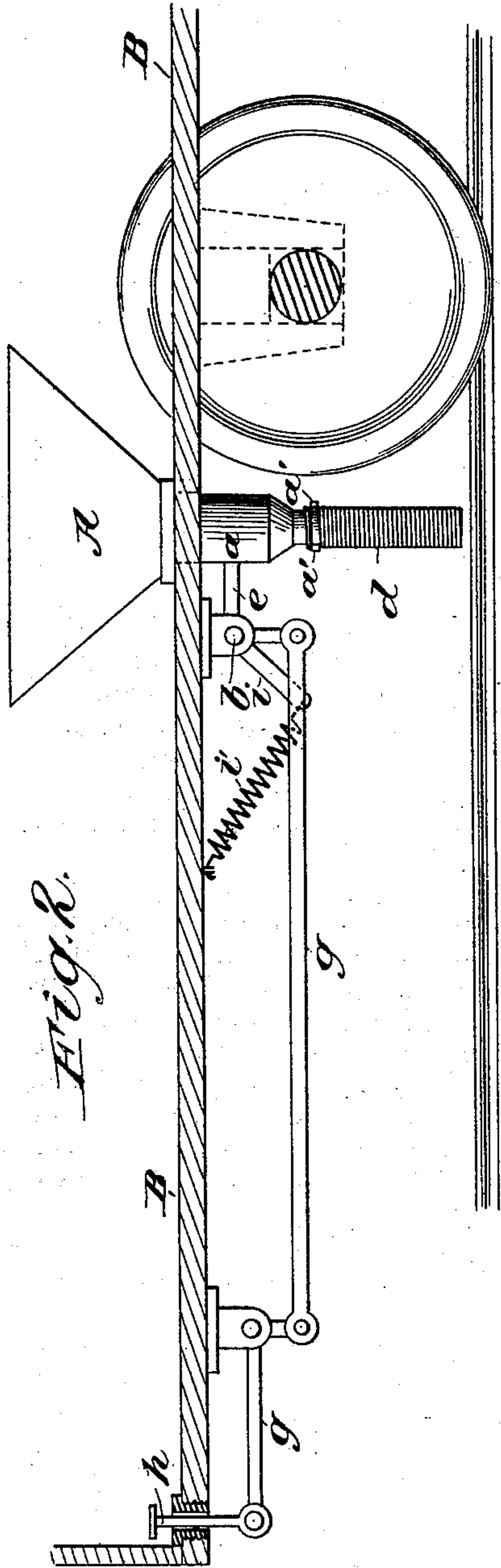


(No Model.)

H. C. NOBLE.
APPARATUS FOR SANDING RAILWAYS.

No. 424,933

Patented Apr. 1, 1890.



Attest:
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UNITED STATES PATENT OFFICE.

HENRY C. NOBLE, OF BROOKLYN, NEW YORK.

APPARATUS FOR SANDING RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 424,933, dated April 1, 1890.

Application filed December 23, 1889. Serial No. 334,722. (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 Brooklyn, county of Kings, and State of New York, have invented a certain new and useful Improvement 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 my invention is to provide a sanding apparatus having a tube for directing the sand to the rail, capable of convenient attachment and ready removal, and not liable to be broken when brought in contact with obstructions. To accomplish this object I provide a flexible tube formed of coiled wire and preferably secured to the cylinder of the sander by means of lugs, which, when the tube is twisted about the lower end of the cylinder, project between the coils, and my improvement, while capable of use with other forms of sanders, is shown in connection with an apparatus for sanding railways invented by me and for which Letters Patent of the United States No. 398,174 were granted February 19, 1889.

In the accompanying drawings, Figure 1 is an enlarged detailed view of cylinder with improved wire tube attached. Fig. 2 is a sectional view of portion of street-car, showing improved apparatus; and Fig. 3 is a sectional view of hopper and cylinder, showing lugs for securing tube.

The hopper A, for holding the sand, is attached to the upper flange or rim of the cylinder *a*, set in the car-floor B, and is shown as provided with a vertically-moving valve *c*, mounted on stem *c'*, upon which are the cross-pieces or fingers *c²*, for loosening the sand. Upon the cylinder *a* are preferably formed

two lugs *a' a'*, for securing the flexible tube *d*, which is formed of coiled wire. The cylinder *a* is further shown as provided with a slotted opening at its side for receiving the lever *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 operated through connecting-levers *g g* and foot-button *h*. Also secured to the shaft is lever-arm *i*, the free end of which is attached to the retractive spring *i'*, so that when the pressure is relieved from the button *h* the shaft is immediately turned back and the valve *c'* brought to its seat, avoiding danger of wasting the sand.

If desired, instead of the lugs on *a' a'* a groove may be formed on the surface of the cylinder *a*, or the tube *d* may be connected in any convenient manner. It is easily seen that a tube formed of a coiled wire like *d* is readily attached and removed, while not likely to become loose when in use, and being flexible will give way and bend when brought in contact with obstructions, and thus not nearly so liable to be broken as the rigid metal pipe heretofore used.

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

1. In a sanding apparatus, the combination of an outlet-cylinder for the sand and a flexible coiled-wire tube secured thereto, substantially as and for the purpose set forth.

2. In a sanding apparatus, the combination of a hopper A, cylinder *a*, secured beneath said hopper and provided with lugs *a' a'*, and a flexible tube *d*, adapted to be attached to said cylinder by means of said lugs, substantially as described.

HENRY C. NOBLE.

Witnesses:

CHARLES W. SWAN,
R. G. MONROE.