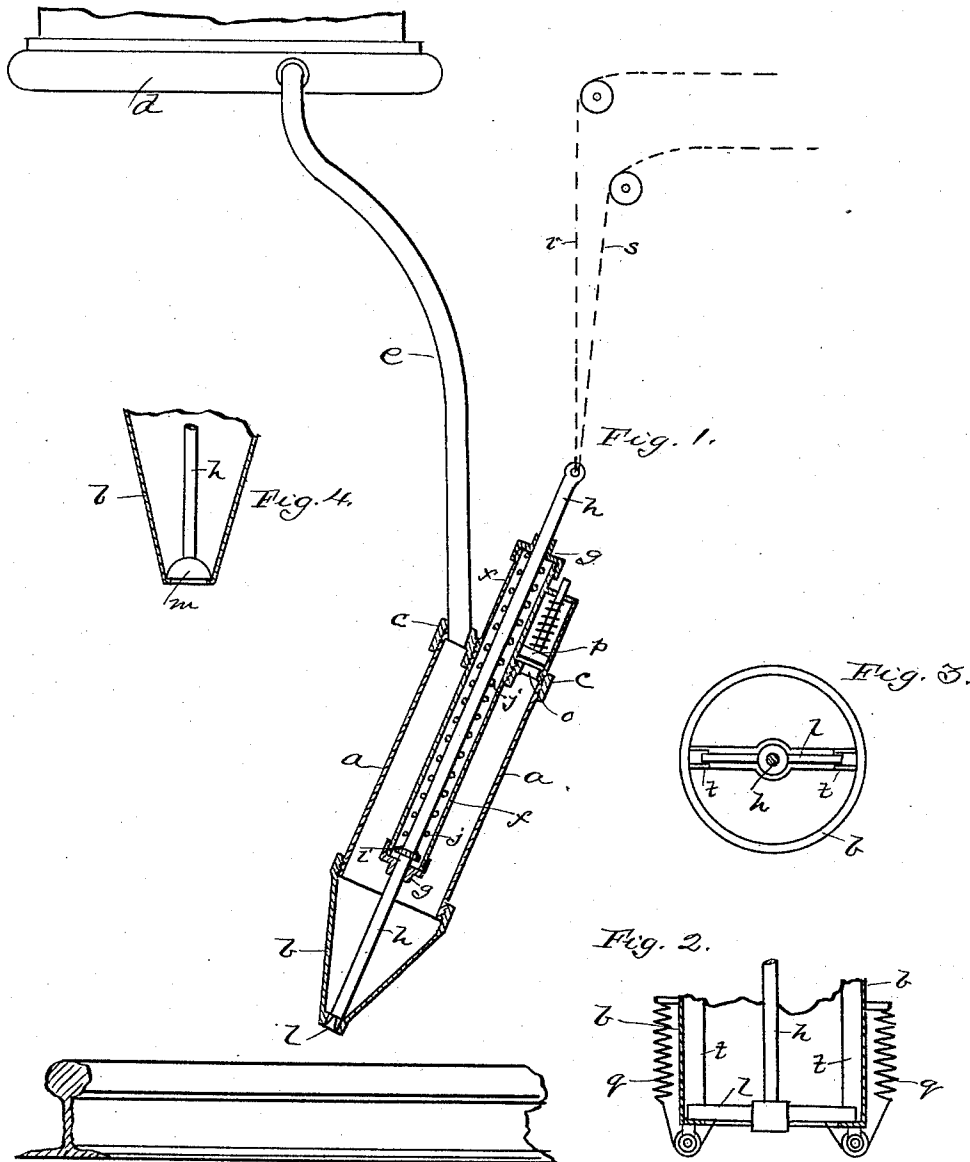


(No Model.)

W. F. McCREADY.
SANDING DEVICE FOR LOCOMOTIVES.

No. 469,263.

Patented Feb. 23, 1892.



Witnesses:

H. E. Vanison.
H. J. Lewis

Inventor.

William F. McCready
O. D. Lewis

Rev.

Attest.

UNITED STATES PATENT OFFICE.

WILLIAM F. MCCREADY, OF HOMEWOOD, PENNSYLVANIA.

SANDING DEVICE FOR LOCOMOTIVES.

SPECIFICATION forming part of Letters Patent No. 469,263, dated February 23, 1892.

Application filed July 10, 1890. Serial No. 358,331. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. MCCREADY, a citizen of the United States, residing at Homewood, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Sanding Devices for Locomotives, &c.; and I do hereby 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improved device for sanding railway-tracks; and it consists in certain details of construction and combination of parts, as will be fully set forth hereinafter.

In the accompanying drawings, Figure 1 is a sectional side elevation of an improved sanding apparatus which is constructed in accordance with my invention. Fig. 2 is an enlarged sectional elevation of a modification of the discharge or lower end of the sand-conduit. Fig. 3 is a plan view of the discharge. Fig. 4 is a sectional elevation of a modification of the discharge end or valve of my improved sander.

To construct an apparatus for locomotives, I provide a cylindrical vessel *a*, having a flat tapering lower extremity *b* and a closed top piece *c*, and attach the same to the sand-box *d* of a locomotive by means of a pipe *e*. Centrally secured within this vessel *a* is a tube *f*, closed at both ends by suitable caps *g* and having a rod *h* passing through the same in the direction of its length. This rod *h* is provided with a collar *i* and is operated by a spiral spring *j* to keep a valve *l*, attached to its lower end, seated. This valve *l* consists of a beveled bar *l*, secured at right angles to the rod *h*, and is kept in position to enter its seat by means of guide-strips *t*, formed in the lower part or tapering cap *b* of the vessel *a*. Formed in the top cap *c* of the vessel *a* is an opening *o*, covered by a water-tight casing, in which a relief-valve *p* is made to operate.

In operation two cords *r s* are attached to the top of the rod *h*, the one leading to a point within reach of the engineer and the other to the automatic brake-cord. When it is de-

sired to sand the track, one of these two cords is drawn upward, which raises the valve *l* from its seat and permits the sand to flow through the opening in the bottom of the part *b'*. The raising of the valve from its seat causes an upward movement of the body of sand within the vessel *a*, which continues until said valve has reached a point at which the sand can flow beneath it and through the opening in the part *b*, and such upward movement of the body of sand causes compression of the air, which seeks an outlet and finds it by raising the relief-valve *p*, or the direct pressure of the sand on the bottom of the valve, if the vessel is wholly filled with sand, will raise said valve, whereby the strain on the cords *r s* is relieved.

At Fig. 4 I have shown a modification of the discharge-valve in which a semispherical valve *m* is used, and at Fig. 2 I have shown a modified way of operating the valve *l* by placing or arranging the springs *q* on the outside of the vessel.

Having thus described my invention, I claim—

1. The herein-described device for sanding railway-rails, consisting of a cylindrical vessel connected to the sand-box by a suitable tube, an operating-rod extending through the same and provided with a valve *l*, secured to its lower extremity and connected by suitable cords to the brake apparatus and to a point within reach of the operator, a spring *j* for keeping the said valve *l* on its seat, and a sleeve surrounding the outer or top portion of the operating-rod, whereby the rain may be effectually prevented from entering the said vessel *a*, substantially as and for the purpose described.

2. The combination, with the conduit or vessel *a*, the endwise-movable valve therein for controlling the egress of sand, and a spring for normally forcing said valve to its seat, of an independent relief-valve arranged in the upper part of said vessel above the valve therein and operated automatically on the lifting of said valve to partially relieve the same of internal pressure or weight of the sand, substantially as described.

3. The combination, with a sand-box, of a conduit communicating with said sand-box

and having an elongated or oblong discharge-orifice to spread the sand over the surface of a rail, an endwise-movable rod provided with a valve which is arranged to arrest and permit the flow of sand through said conduit, a
5 coiled spring fitted on the said rod and impelling the same to normally seat the valve and arrest the discharge of sand, and one or more cords connected to said rod to reverse
10 the movement thereof and open the valve, substantially as described.

4. The combination, with a sand-box, of a conduit communicating with said sand-box, a valve for closing and opening said conduit, a
15 spring for normally forcing the valve to its

seat to close the conduit, means for removing the valve from its seat, and an automatic relief-valve communicating with said conduit and operating under the internal pressure within the conduit to partially relieve the
20 valve of the weight or pressure of the sand in said conduit, substantially as described.

In testimony that I claim the foregoing I hereunto affix my signature this 8th day of April, A. D. 1890.

WILLIAM F. McCREADY. [L. s.]

In presence of—
A. A. HEINER,
JOS. WEBER.