

No. 769,929.

PATENTED SEPT. 13, 1904.

C. ALLENBACH.
RAILWAY SANDING DEVICE.
APPLICATION FILED JULY 5, 1904.

NO MODEL.

Fig. 1.

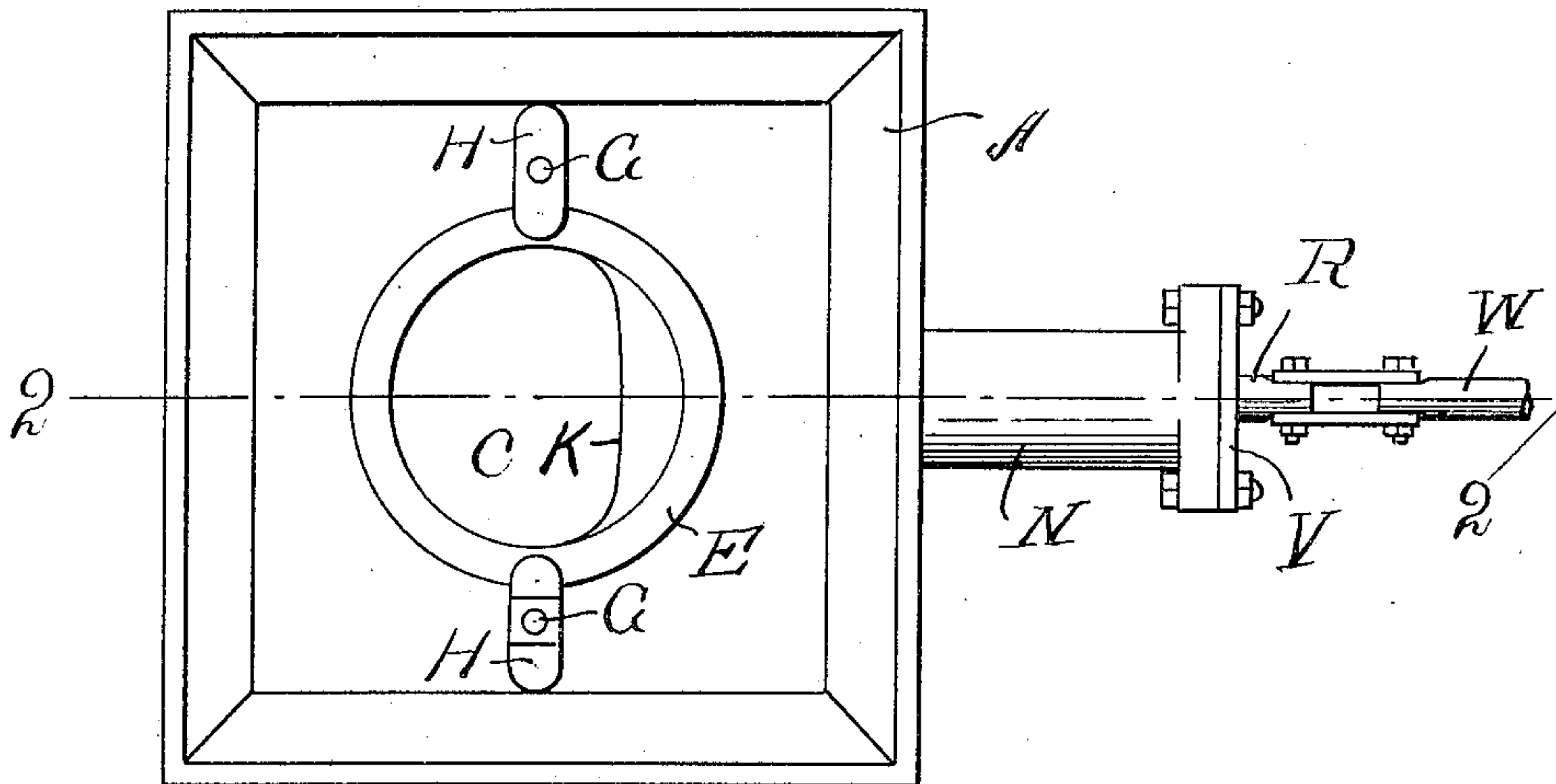


Fig. 2.

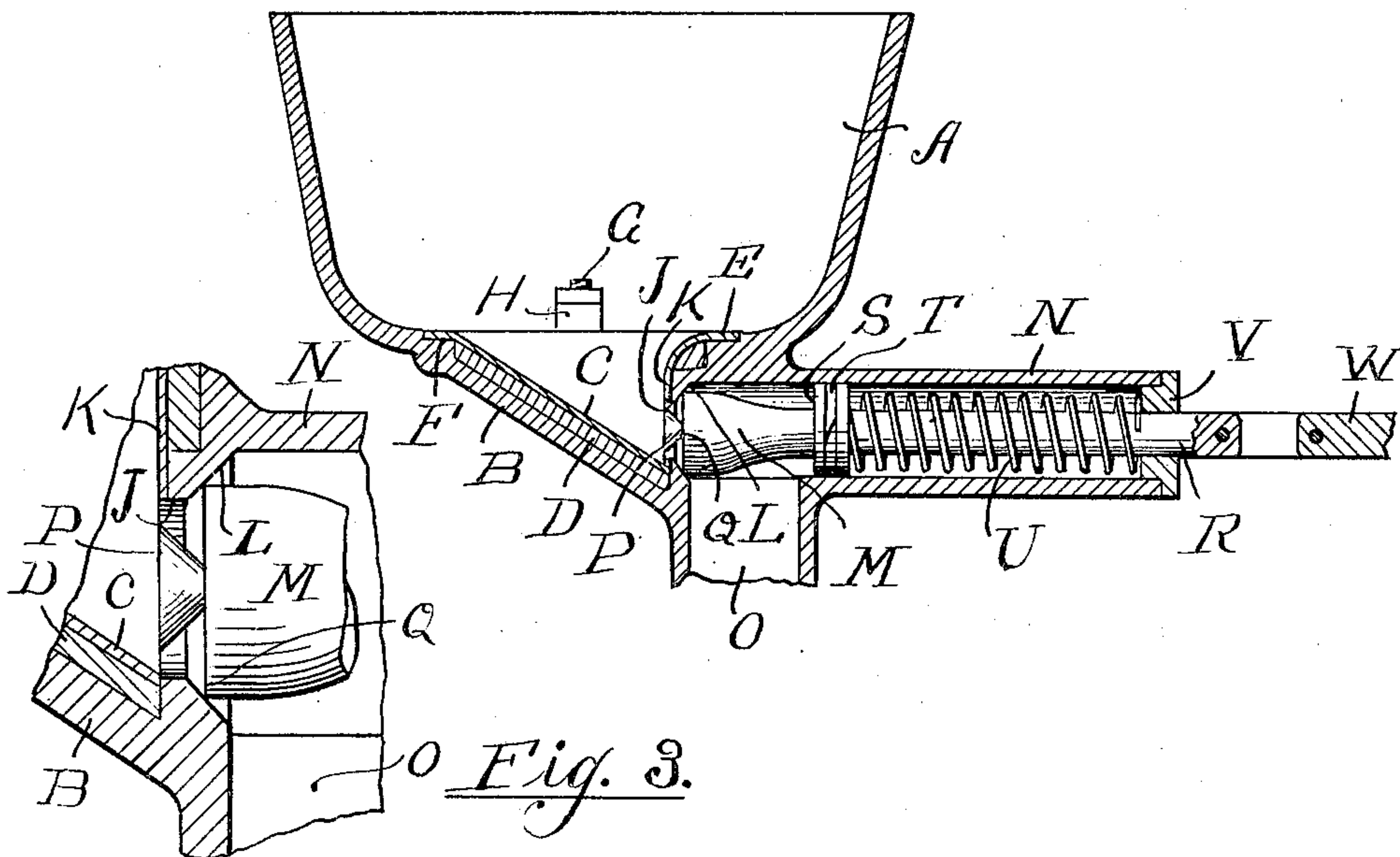


Fig. 3.

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UNITED STATES PATENT OFFICE.

CHRISTIAN ALLENBACH, OF CHICAGO, ILLINOIS.

RAILWAY-SANDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 769,929, dated September 13, 1904.

Application filed July 5, 1904. Serial No. 215,338. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN ALLENBACH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Sanding Devices; 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 appertains to make and use the same.

My invention relates to a novel construction in a sanding device, the object being to provide a device of this character in which the possible adhesion of the sand to the walls of the hopper, and consequently clogging of the latter and likewise leakage therefrom, are prevented and which is generally efficient and durable; and it consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a top plan view of a sanding device constructed in accordance with my invention. Fig. 2 is a central vertical longitudinal section of the same on the line 2 2 of Fig. 1. Fig. 3 is a fragmentary detail section corresponding with Fig. 2 and showing the valve and adjacent parts on an enlarged scale.

In the sanding devices now most generally employed on railways a great deal of difficulty is experienced, particularly in cold weather, by reason of the fact that the walls of the hoppers or boxes containing the sand become exceedingly cold, and by the adhesion of moisture thereto, particularly during the filling operation, cause the sand to adhere to said walls, particularly adjacent the outlet end of said hopper, and thereby cause the latter to become clogged and, furthermore, to interfere with the movements and operation of the valve controlling the flow of sand. To overcome this and other difficulties, I provide a hopper A, in the lower contracted portion B of which I insert what may be termed a "false" bottom C, corresponding in shape with but smaller than said portion B of said hopper, and between the walls of said portions B and

C, I insert a packing D of any suitable non-conductor of heat. The said member C is provided with an annular flange E, which is adapted to fit an annular groove F, provided therefor and held securely in place by means of bolts G and washers H. The outlet from said hopper consists of an opening J in the vertical wall K in the lower end portion of said hopper, the walls of said opening being tapered to provide a valve-seat L for the valve M, the latter being movable in a tubular casing N, which is preferably cast integral with said hopper A and communicates adjacent the outlet from the latter with a pipe O leading to the rails. The said valve M is provided at its forward end with a projection P, the outer end of which is of greater diameter than the inner end, the edge Q of said valve being adapted to bear upon the said valve-seat L, such edge or corner being sharp and adapted to prevent said valve from being held against closing by sand which may be caught between the valve and the seat during the closing movement of said valve, and thereby leakage from said hopper is entirely prevented. The sand passing from said hopper through said opening J passes into the tubular casing N and thence almost directly into pipe O; but it frequently happens that a part of such sand remains in the valve-casing and in time completely fills the same, and thus prevents proper operation of the valve. In order to prevent this, I provide on the stem R of said valve a collar S, which is provided with an annular groove to receive the split spring-ring T, which latter is adapted to extend in said tube N and form a tight joint between the same and said collar which will prevent the passage of sand behind the latter. Bearing at one end against said collar S is a spring U, which is coiled around the said stem R and at its other end bears against a cap V, mounted in the other end of said tubular casing N, said cap V being held in place by suitable bolts and serving also as a means for regulating the pressure of said spring U on said collar S. The said stem R may be connected with any suitable operating means by means of the rod W, pivotally connected with said stem R, and

said valve being operated in an obvious manner by pulling on said rod W to open said valve.

The packing D, interposed between the portion B of the hopper and the member C, serves to prevent said contracted portion of the hopper from becoming unduly cold, and therefore moist, and thus entirely prevents the said portion from becoming clogged, while the sharp corner or edge of said valve M will prevent sand from becoming caught between said valve and its seat, and thus hold said valve partially open and permit leakage. The projection P of said valve has the effect of loosening the sand at the outlet from the hopper, by reason of the fact that when the valve closes the sand will obviously fill the annular space around said projection, and in the event of any packing taking place at said outlet the action of said projection will be to break the sand as the valve opens, and thus cause same to run freely.

My said device is exceedingly simple, durable, and efficient.

I claim as my invention—

1. A sanding device comprising a hopper provided in its lower contracted portion with a false bottom, packing interposed between said false bottom and the adjacent walls of the hopper, said hopper and said false bottom being provided with registering outlet-openings, a valve-seat surrounding said opening in said hopper, a spring-actuated valve controlling said opening and having a sharp annular edge bearing on said valve-seat and adapted to cut its way through the flowing sand to become seated and thereby prevent leakage.

2. A sanding device comprising a hopper provided in its lower contracted portion with a false bottom, packing interposed between said false bottom and the adjacent walls of the hopper, said hopper and said false bottom being provided with registering outlet-openings, a valve-seat surrounding said opening in said hopper, a spring-actuated valve controlling said opening and having a sharp annular edge bearing on said valve-seat and adapted to cut its way through the flowing sand to become seated and thereby prevent leakage, a tubular horizontally-disposed casing in which said valve is movable, a collar on said valve having an annular groove, packing interposed in said annular groove to provide a sand-tight joint between said collar and said casing, a cap closing the other end of

said tubular casing and having an opening for the passage of the stem of said valve, a spring interposed between said cap and said collar, and means for adjusting the position of said cap to regulate the pressure of said spring on said collar, substantially as described.

3. A sanding device comprising a hopper provided in its lower contracted portion with a false bottom, packing interposed between said false bottom and the adjacent walls of the hopper, said hopper and said false bottom being provided with registering outlet-openings, a valve-seat surrounding said opening in said hopper, a spring-actuated valve controlling said opening and having a sharp annular edge bearing on said valve-seat and adapted to cut its way through the flowing sand to become seated and thereby prevent leakage, a tubular horizontally-disposed casing in which said valve is movable, a collar on said valve having an annular groove, packing interposed in said annular groove to provide a sand-tight joint between said collar and said casing, a cap closing the other end of said tubular casing and having an opening for the passage of the stem of said valve, a spring interposed between said cap and said collar, and means for adjusting the position of said cap to regulate the pressure of said spring on said collar, and a vertically-disposed pipe communicating with said tubular casing at the innermost end of the latter adjacent said valve-seat adapted to receive sand from said hopper and feed same upon the rail.

4. A sanding device comprising a hopper provided in its lower contracted portion with a false bottom, packing interposed between said false bottom and the adjacent walls of the hopper, said hopper and said false bottom being provided with registering outlet-openings, a valve-seat surrounding said opening in said hopper, a spring-actuated valve controlling said opening and having a sharp annular edge bearing on said valve-seat and adapted to cut its way through the flowing sand to become seated and thereby prevent leakage, and a projection on the inner end of said valve enlarged at its free end and projecting into the outlet-opening of the hopper to loosen the sand as said valve is opened.

In testimony whereof I have signed my name in presence of two subscribing witnesses.

CHRISTIAN ALLENBACH.

Witnesses:

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