

(No Model.)

C. G. WELLS.
SAND BOX.

No. 568,122.

Patented Sept. 22, 1896.

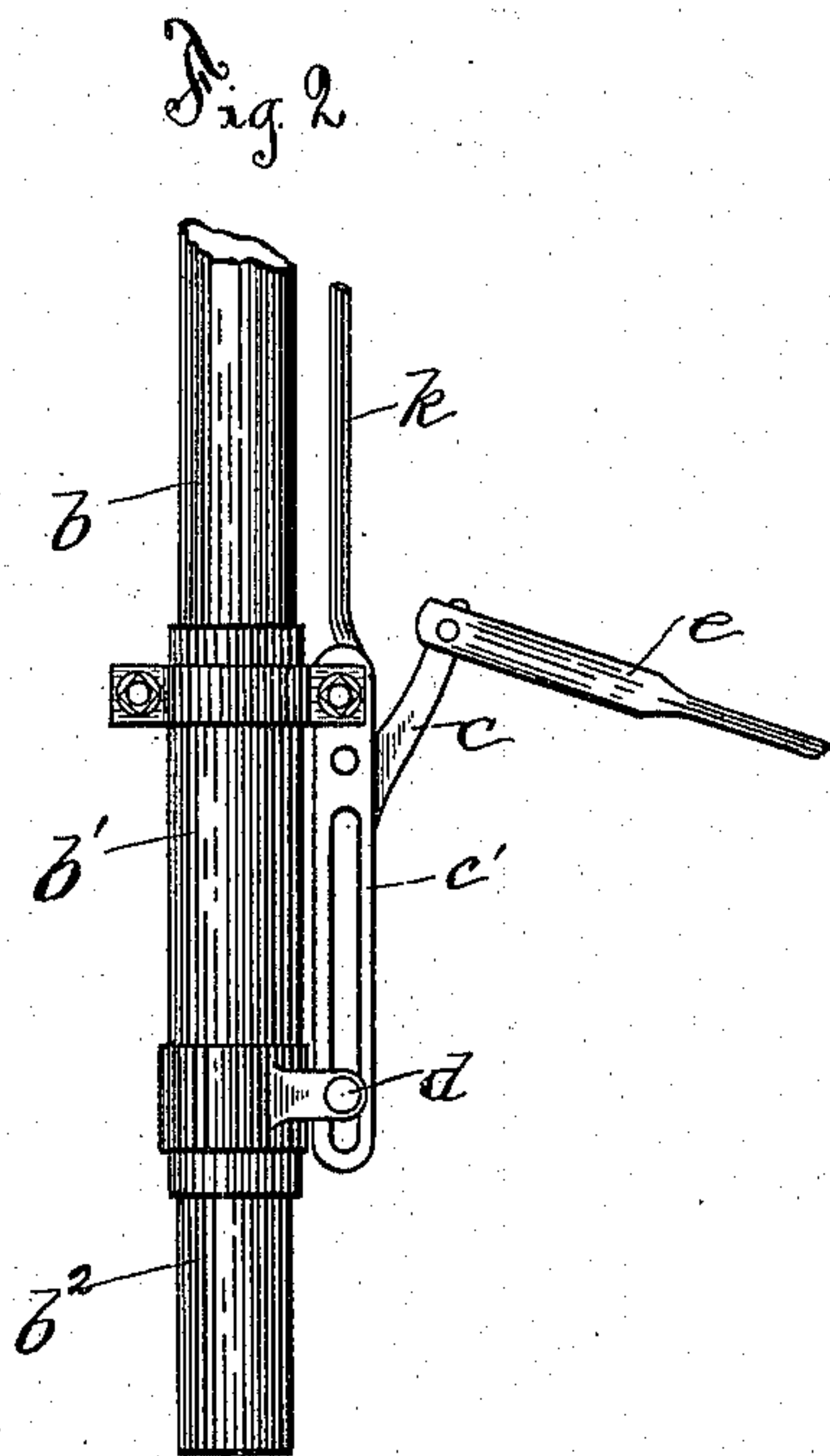
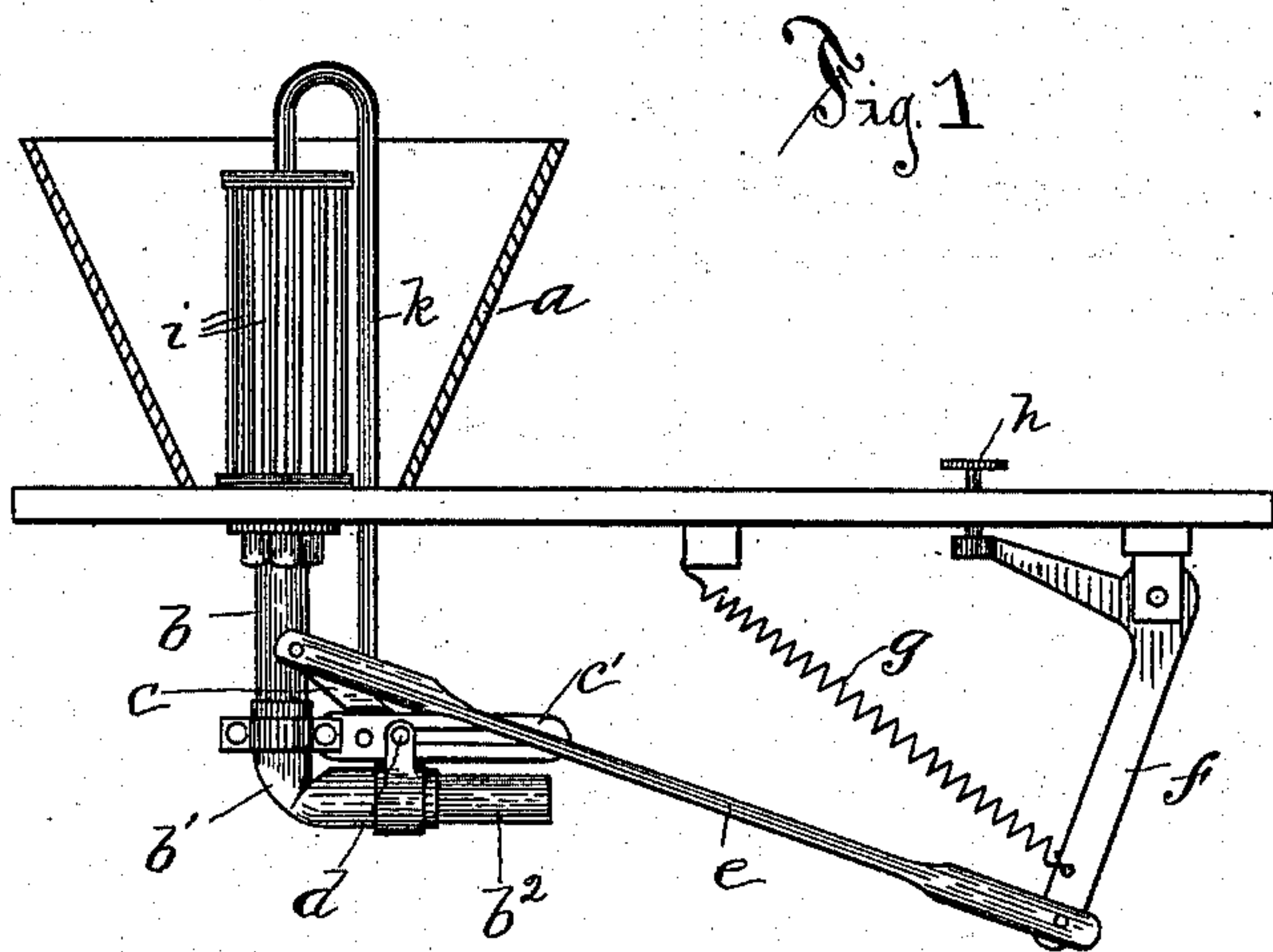
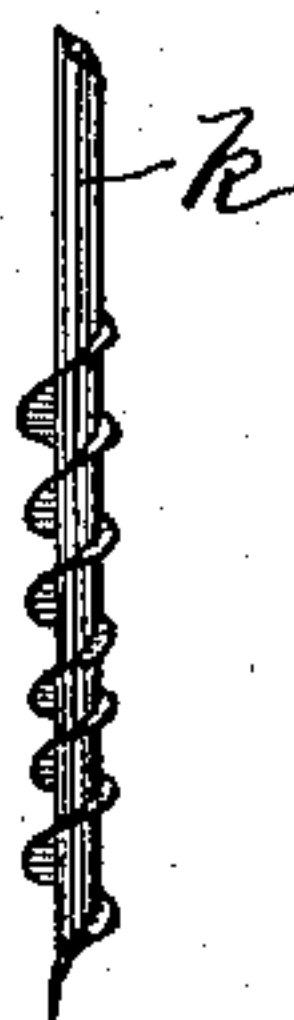


Fig. 3.



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SAND-BOX.

SPECIFICATION forming part of Letters Patent No. 568,122, dated September 22, 1896.

Application filed March 12, 1896. Serial No. 582,979. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. WELLS, a citizen of the United States of America, residing at Hartford, in the county of Hartford and State of Connecticut, have invented a certain new and useful Improvement in Sand-Boxes, specially applicable to vehicles which travel upon rails, of which the following is a description, reference being had to the accompanying drawings, wherein—

Figure 1 is in the main a side elevation view, but shows the hopper in central vertical section. Fig. 2 is a detail side view of the flexible outlet-tube in adjustment for delivering sand upon the rail. Fig. 3 is a detail view of that end of the agitator-rod which enters the outlet-tube.

The improvement pertains to an attachment for vehicles such as travel upon rails—trolley-cars, for instance. Its purpose and object are that of containing sand and, when properly operated, delivering the sand in front of a vehicle-wheel to give it frictional contact and traction.

In the accompanying drawings the letter *a* denotes the hopper for holding the sand. It has at the bottom an outlet-tube containing a flexible section, preferably of india-rubber. The letters *b*, *b'*, and *b*² denote sections of this outlet-tube, the first and last being, by preference, cast-iron, and the other, by preference, of india-rubber. The flexible section has two functions in that it operates as a hinge to allow the outlet-tube as a whole to be flexed or bent upward and when thus bent upward it also acts as a valve to shut off the flow of sand. The position of this tube when it is in adjustment for delivering the sand is shown in Fig. 2. Its position when it is flexed and the flow of sand is shut off is shown in Fig. 1.

The letters *c c'* denote the two arms of a cranked lever pivotally attached to the tube-section *b*. Its lower arm is mortised. That mortise is traversed by a pin *d*, which is attached by a suitable intermediate to the tube-section *b*². When this cranked lever is in the adjustment shown in Fig. 1, it holds the outlet-tube flexed and the flow of sand is shut off; but when it is in the adjustment shown

in Fig. 2 it throws the tube-section *b*² into a practically vertical position, so that the sand flows freely through the outlet-tube.

The letter *e* denotes a connecting-rod running from the upper arm *c* of the cranked lever to the lower end of the cranked lever *f*, which is hung on a pivotal support. The spring *g* tends to hold all the parts in the position shown in Fig. 1.

The letter *h* denotes a foot-pin bearing on the cranked lever *f*. When the operator desires that sand shall escape from the hopper, he puts his foot upon this foot-pin *h* and presses it downward. This throws the parts from the position shown in Fig. 1 to the position shown in Fig. 2, and when he removes the pressure exerted by his foot the spring *g* returns them to the position shown in Fig. 1.

The letter *i* denotes slats, in a series, located within the hopper and surrounding the mouth of the outlet-tube and extending well toward the top of the hopper. It is intended that the sand be placed within the hopper between its inner wall and this series of slats, to the end that the slats may operate to sift the sand and prevent any parts or particles which are unduly large from reaching the mouth of the outlet-tube.

The letter *k* denotes a bent agitator-rod, both ends of which are below the bottom of the hopper. One of these ends takes hold of the cranked lever-arm *c'* and the other end enters into the mouth and upper part of the outlet-tube, being there shaped as shown in Fig. 3, and it results that the agitator-rod moves up and down in consonance with the vibration of the cranked lever *c c'*, disturbing and agitating the sand and tending to make it enter and move along the inside of the outlet-tube.

I claim as my improvement—

1. In a sand-box, the combination of the hopper, the outlet-tube provided with a flexible intermediate section, and means for flexing the said section angularly, whereby it subserves the function both of a hinge in the pipe and a cut-off valve to stop the escape of sand, substantially as and for the purpose specified.

2. In combination, the hopper *a*, the outlet-tube composed of rigid sections *b b*² and

flexible section *b'*, and means for flexing the tube and retaining it flexed, all substantially as described and for the purposes set forth.

3. In a sand-box, the combination of the
5 hopper *a* provided with an outlet-tube at bottom, slatted cage *i* surrounding and protecting the outlet, and agitator-rod *k* with screw-formed terminal extending into the outlet-tube, all substantially as and for the purpose
10 specified.

4. In combination, the hopper *a* having outlet-tube at bottom, the slats *i* surrounding said outlet-tube, and the bent agitator-rod *k* having both ends below the hopper, all substantially as described and for the purposes
15 set forth.

5. In combination, the hopper *a*, the outlet-tube provided with flexible section *b'*, the cranked lever *c c'*, connecting-rod *e*, cranked lever *f*, spring *g*, and foot-pin *h*, all substantially as described and for the purposes set forth. 20

6. In combination, the hopper *a*, the outlet-tube provided with flexible section *b'*, the bent agitator-rod *k*, the cranked lever *c c'*,
25 connecting-rod *e*, cranked lever *f*, spring *g*, and foot-pin *h*, all substantially as described and for the purposes set forth.

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