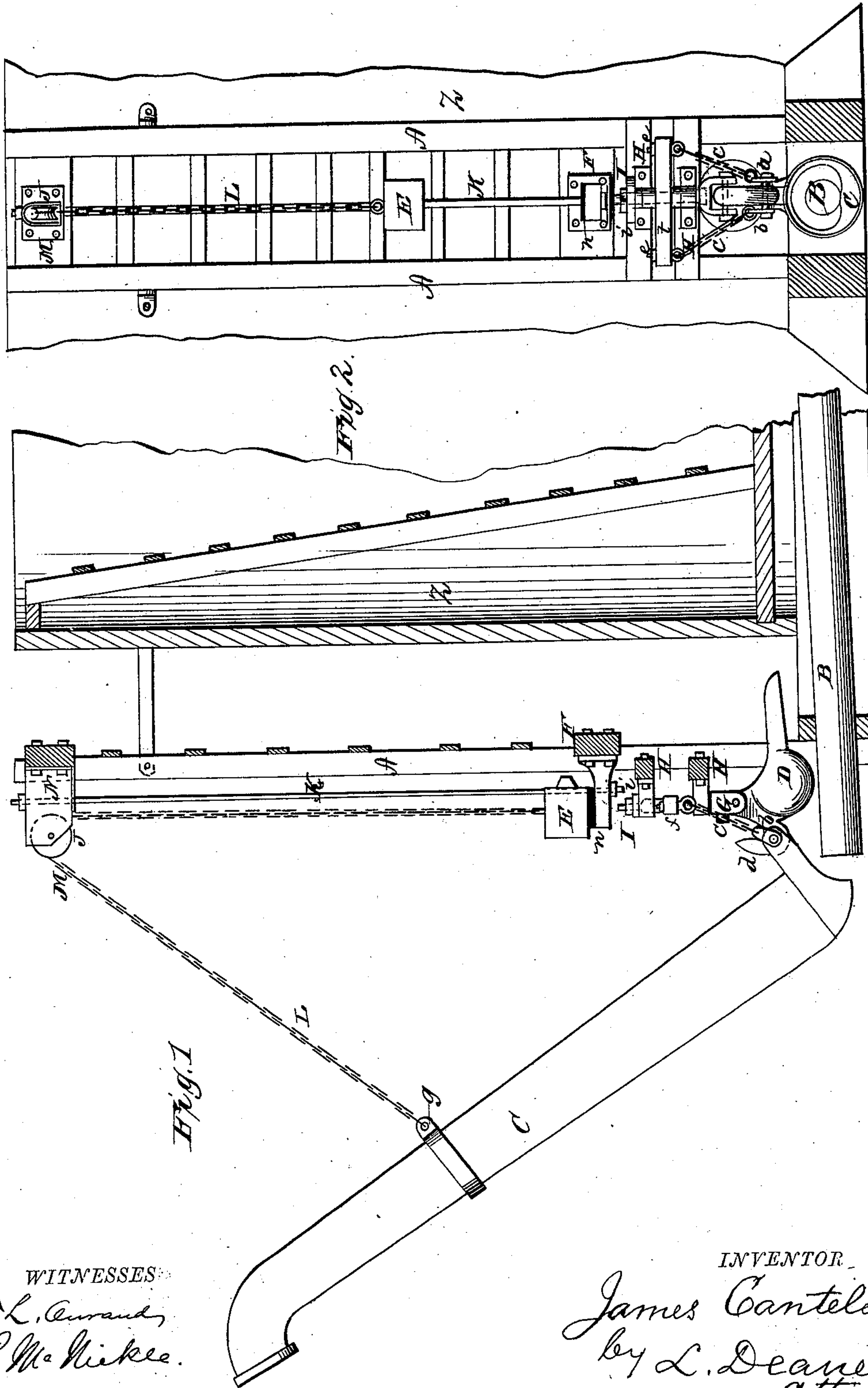


J. CANTELO.
Swing-Pipe for Water-Tanks.
No. 209,861. Patented Nov. 12, 1878.



WITNESSES

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Fig. 3.

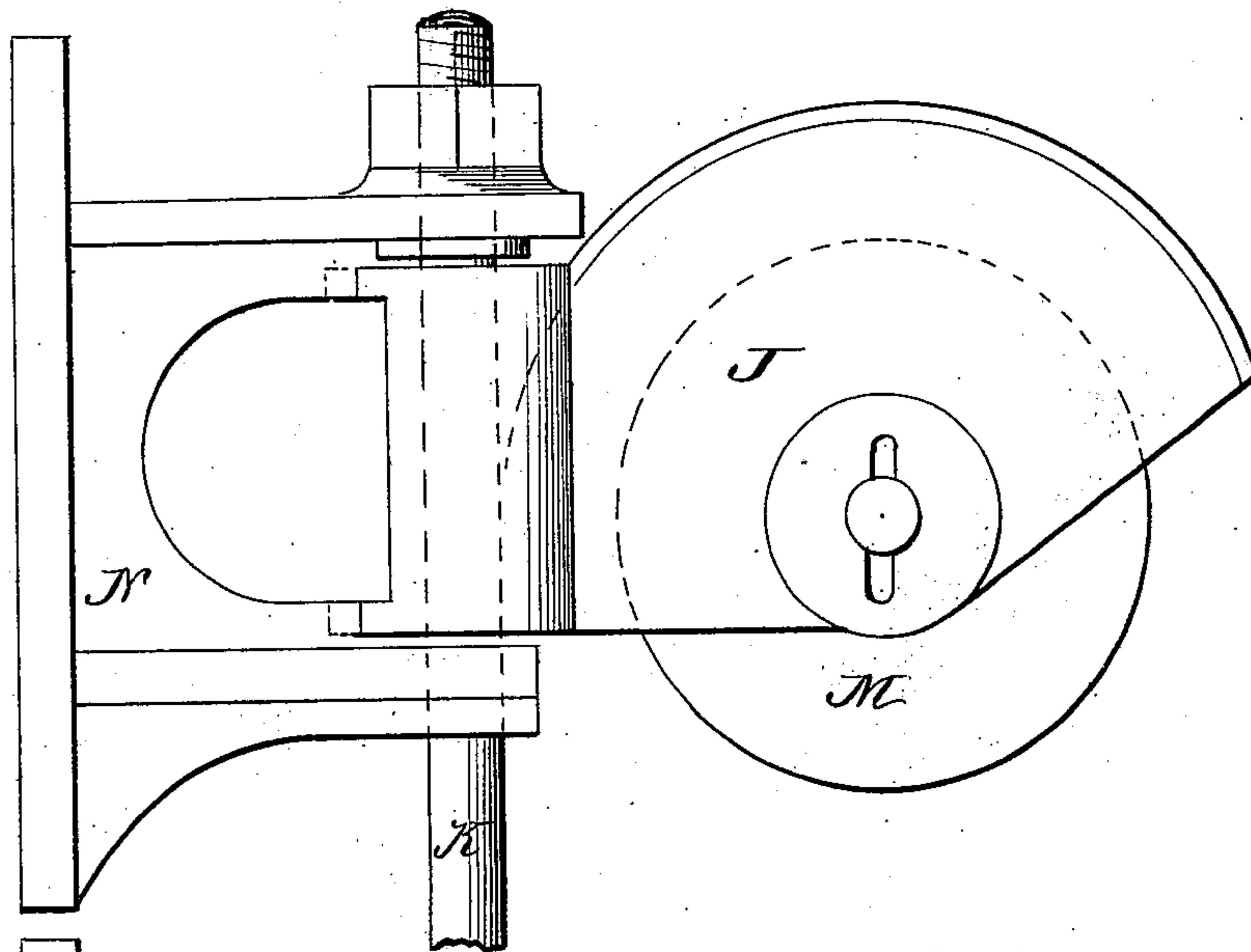


Fig. 4.

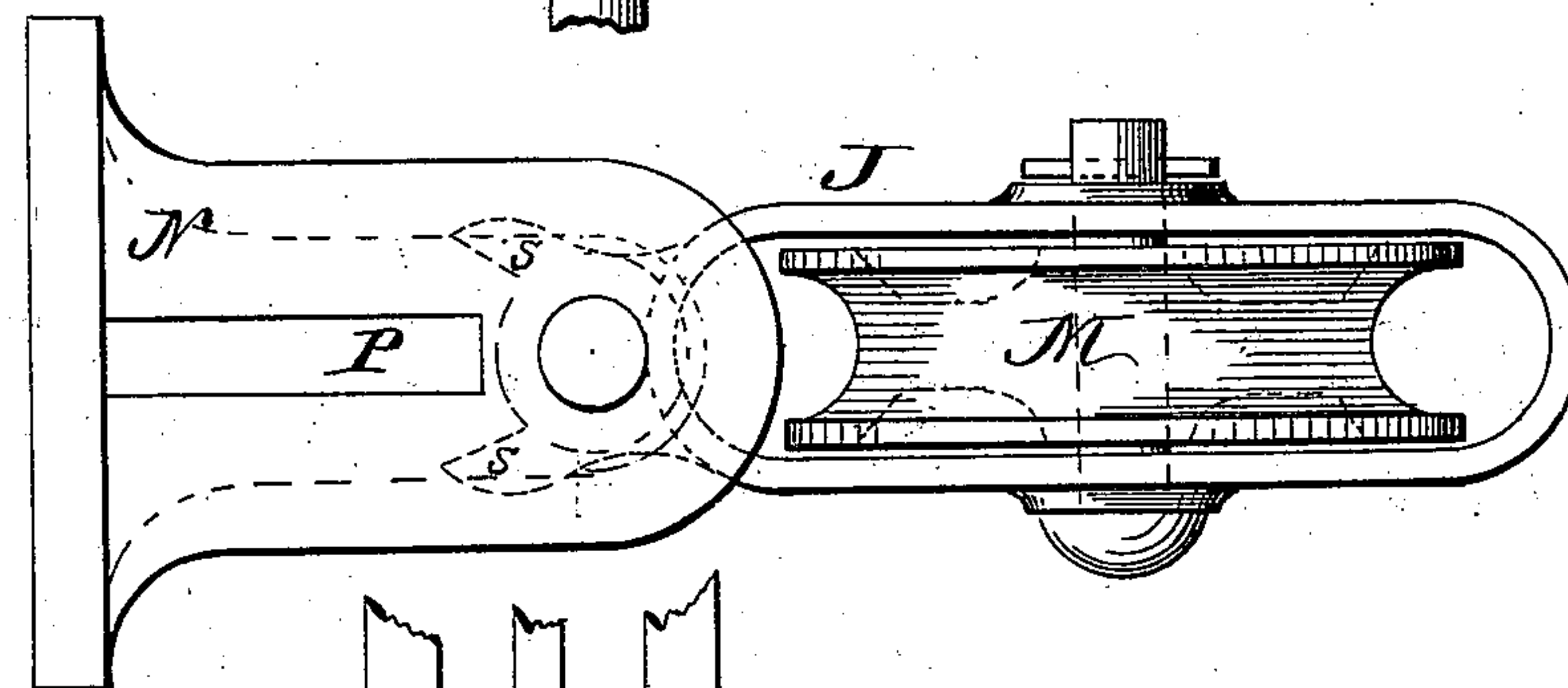
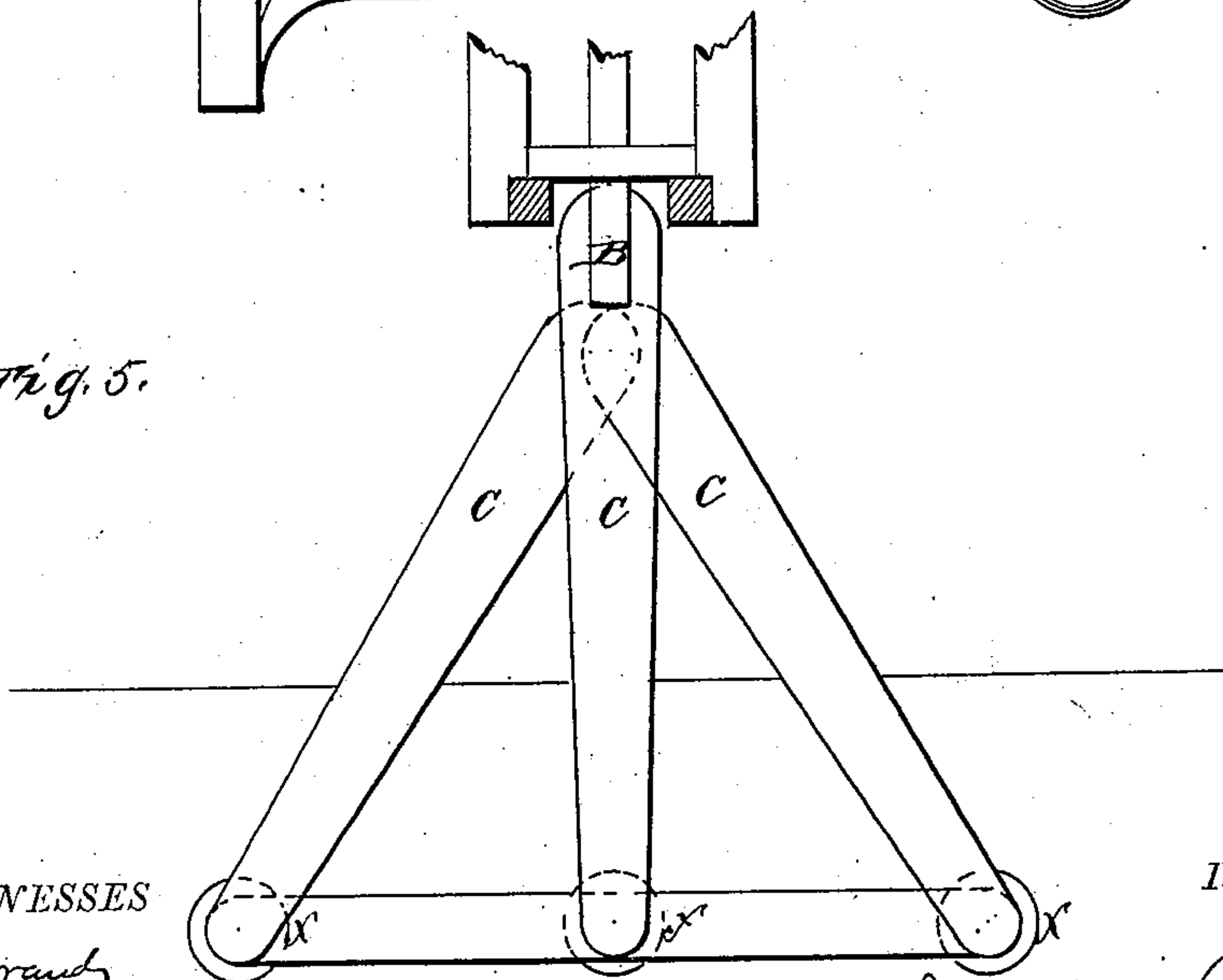


Fig. 5.



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IMPROVEMENT IN SWING-PIPES FOR WATER-TANKS.

Specification forming part of Letters Patent No. **209,861**, dated November 12, 1878; application filed October 22, 1878.

To all whom it may concern:

Be it known that I, JAMES CANTELO, of the city of Cedar Rapids, in the county of Linn and State of Iowa, have invented certain new and useful Improvements in Swing-Pipes for Water-Tanks, of which the following is a specification:

My invention relates more particularly to the arrangement of a pipe for conveying water from railroad-tanks to engines, and has for its object ease and quickness of operation, freedom from ice or other clogging substance, slight liability to get out of repair, and the peculiar advantage of allowing the nozzle of the pipe to move laterally a distance of several feet, thus accommodating itself to the difficulty of stopping the engine at a precise spot each time.

In the accompanying drawings, Figure 1 represents a side view of my invention, with a portion of the tank; Fig. 2, a front view of the same; Figs. 3 and 4, the detail of the elevating-sheave, and Fig. 5 an ideal representation of the lateral throw of the pipe.

Similar letters of reference indicate corresponding parts.

A A are two uprights, fastened at a proper distance from the tank Z, and extending from its base upward. To these uprights may be fastened strips to form a ladder, if desired. At or near the upper extremity of the said uprights is placed a sheave, M, over which a rope or chain, L, passes. One end of the rope or chain is attached to the swing-pipe C, as indicated at *g*. The other end connects with a weight, E, so adjusted as nearly to balance the pipe. A bracket, F, is placed at the limit of the weight's descent, and a cushion of rubber, *n*, in its upper face receives and modifies the shock of the weight in falling. From bracket F upward a rod, K, extends to a bracket or arm, N, at the top. This rod passes through a hole in weight E, and serves the double purpose of affording a guide for the same and a pivot for the sheave-block J.

By reference to Figs. 3 and 4 it will be seen that the sheave-block is provided with two projections, *s s*, which, extending back of the pivot-rod, strike the feather P as the sheave-block swings, and prevent the same from going too far to either side. An ordinary swivel

effects the same purpose in a degree, and may be used, if preferred.

While providing a device which permits the sheave to follow the lateral movement of the swing-pipe, it is not intended to confine the invention to the use of the one described.

Below the lower bracket above mentioned two boxes are fastened to the frame-work of the uprights, one above the other. A connecting arm or swivel, I, is made to move freely in these boxes H H, and is adjusted to the proper height by means of the nut *i* at its upper end. The thread upon which this nut operates may be cut upon the main shaft; or the same may be cored out, and a bolt of the ordinary form introduced, as indicated in Fig. 2 by broken lines. Two arms extend at right angles from this connecting arm or swivel. In their ends eyebolts *e e*, made adjustable, connect with rods or chains *c c*, and these, in turn, with links *b b*, connecting with lugs formed on the base of the swing-pipe. A further connection is made by means of a weight of peculiar form, D, the upper end of which is hinged to the swivel I, and a hook or slot, *d*, on its lower end receives the pin, which connects the links and lugs above referred to. The office of this weight is to keep the base of the swing-pipe steady and in place, and also to force it beyond the end of the conduit-pipe B, as the swing-pipe is raised in a manner that will be easily understood. The extended tail serves to add extra weight, and at the same time permits the same to move freely between the uprights A A, according as the position of the swing-pipe is changed.

To secure great latitude of movement in the swing-pipe, it is made much larger at its base than the pipe leading to the tank. The latter is allowed also to extend to a considerable distance beyond the tank, that in all the various positions of the swing-pipe it may enter the latter, as indicated in Fig. 5. The range of lateral movement thus obtained is by this means made to exceed the length of the swing-pipe; and even greater freedom of movement might be had, if desired, by increasing the length of the conduit-pipe and the size of the other.

Another advantage arising from the enlargement of the swing-pipe is the rapidity with

which it discharges the water poured into it by the other pipe—a superiority alone over many of the devices of similar character now in use.

It will be seen that the base of the swing-pipe is drawn in on the under side. The object of this is to prevent all possible back-water and insure a fluent discharge without the disagreeable leakage common to so many pipes. This slight alteration from the ordinary form permits the pipe to be swung to any possible lateral angle without choking and overflowing.

The benefit resulting from this free movement of the pipe is found in the ease with which the operator stops his engine to “water up.” With most, if not all, of the present appliances he is obliged to stop at a given point in order to insert the nozzle into the hole in the tender, while by this arrangement he need only to stop anywhere within several feet of a point opposite the center of the tank. The amount of vexation and delay thereby obviated cannot be estimated.

Another important advantage presented by my invention is its freedom from any liability to clog with ice. In all pipes of this nature the joints of which are made comparatively close there is opportunity for the water to collect therein, and, freezing, cause much annoyance and expense. The possibility of such inconvenience does not exist as regards this invention, leaving, as it does when raised, full chance for the water to escape from both pipes.

As a result of the pipe’s freedom of movement its danger from passing engines or other opposing forces is materially lessened. Where other pipes having a rigid and simply vertical motion would be broken if from any neglect in hoisting or otherwise they should be struck by a locomotive, this pipe would only be swung around, and no harm would result to it.

The ease with which this pipe is operated constitutes another important feature. By having the pipe and weight balance, it will be readily seen that little effort is required in its management.

While representing the swing-pipe suspended from the frame-work by both chains and weight, it is not intended that both shall be invariably used in connection. Either one may be dispensed with, if desired, and the effectiveness of my invention not be destroyed thereby.

The object of the chains or bail is to steady the pipe and act as a support either with or without the weight. The weight in the same manner, when used alone, suspends the pipe, and also throws its base beyond the end of the conduit-pipe as the other is raised, thus preventing any catching, as might otherwise occur. Either one alone is a complete support, and, properly constructed, may serve in a degree the office of both.

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

1. The sheave-block J, having projections *s*, in combination with feather P, weight E, and pipe C, substantially as and for the purposes described.

2. The weight D, hinged to the swivel I, and having hook *d*, and combined with pipe C, substantially in the manner set forth.

3. In combination with the swivel I, arm *t*, the chains *c c*, and swing-pipe C, substantially as described.

4. The combination of swing-pipe C, swivel I, chain or bail *c c*, weight D, and conduit-pipe B, substantially in the manner and for the purposes set forth.

5. The combination of pipe C, sheave M, cord or chain L, weight E, and cushion *n*, substantially as set forth.

6. The combination of pipe C, sheave M, weight E, and guide-rod K, substantially in the manner and for the purposes set forth.

JAMES CANTELO.

Attest:

J. M. ST. JOHN,
R. H. GILMORE.