

T. H. Hutchinson,

Water Elevator.

No. 109622.

Patented Nov. 29. 1870.

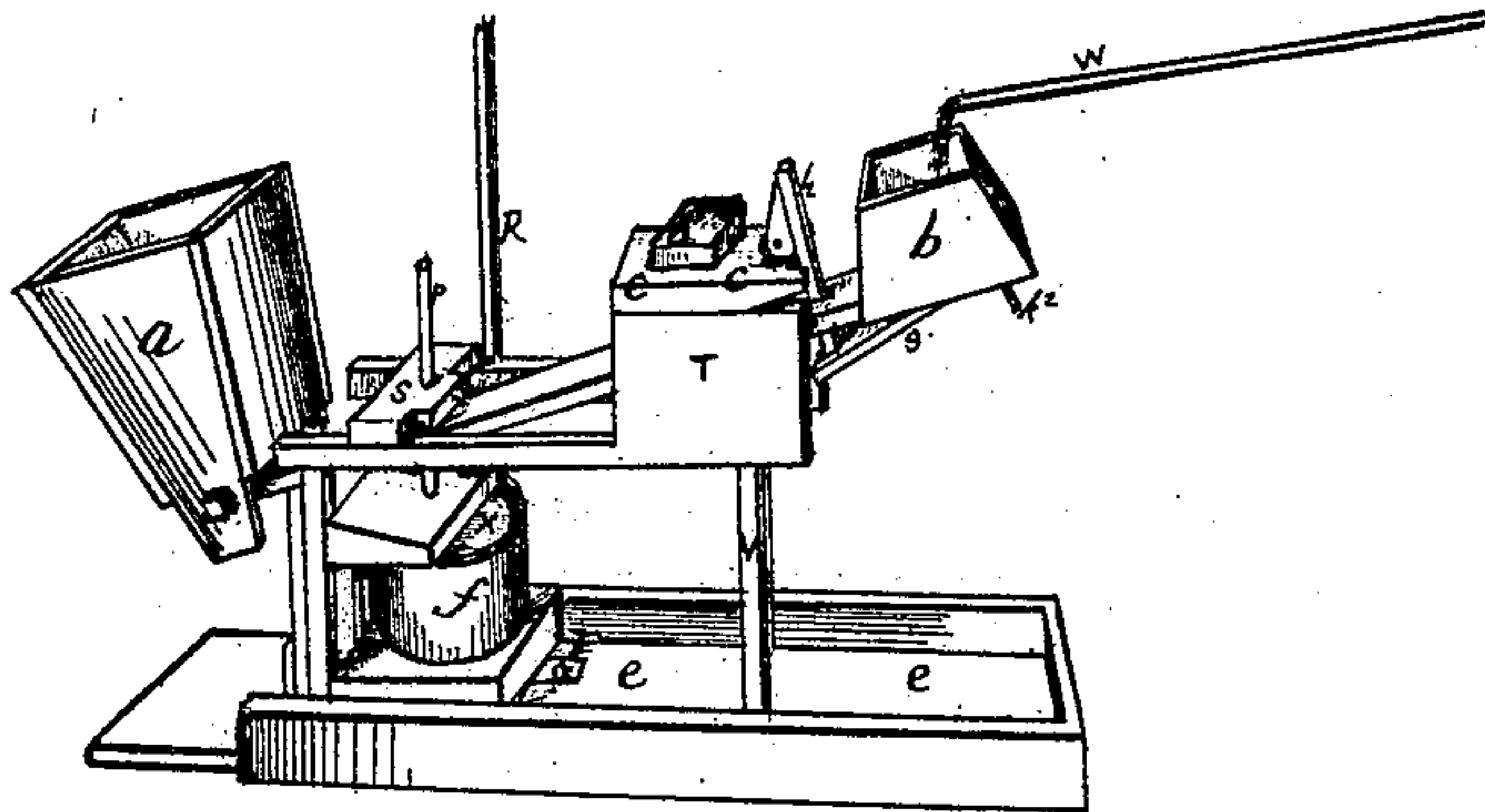


Fig. 1

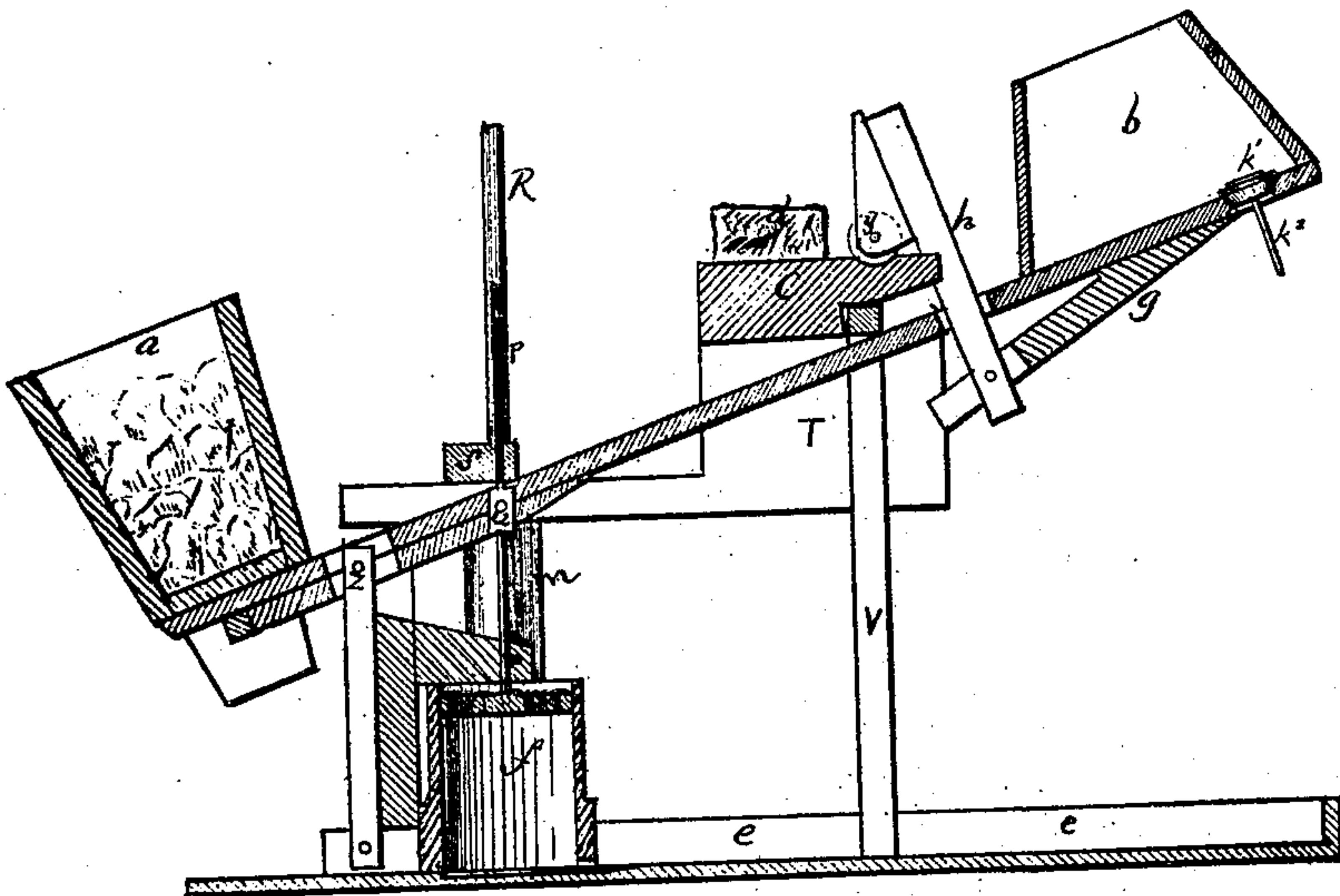


Fig. 2.

Witnesses.

D. W. Shorey
J. T. Cowman

Inventor.

Timothy H. Hutchinson
By *B. W. Williams* atty

United States Patent Office.

TIMOTHY H. HUTCHINSON, OF GORHAM, NEW HAMPSHIRE.

Letters Patent No. 109,622, dated November 29, 1870.

IMPROVEMENT IN WATER-ELEVATORS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, TIMOTHY H. HUTCHINSON, of Gorham, in the county of Coos and State of New Hampshire, have invented a certain Improvement in Hydraulic-Rams, of which the following, when taken in connection with the drawing, is a full and exact specification:

My invention consists in the combination of a weighted bucket at one, and another bucket at the other, end of a lever, (the last named being for the reception of water,) with the peculiar arrangement, described below, for the filling and discharging of the water-bucket, the motion of the lever at the same time working a pump, which serves to propel the water in any direction.

The main objects of my invention are—

First, to make a hydraulic-ram that will throw a greater volume of water, or that will throw an equal body with more force than the ordinary hydraulic-ram.

Second, to make a ram that will work as well and as perfectly with a small stream of water as with a large one; a quality never before attained, to my knowledge.

In the accompanying drawing—

Figure 1 is a full view of a machine embodying my invention.

Figure 2 is a sectional view of the same.

a is a weighted bucket.

b is a water-bucket or tank.

These two buckets, *a* and *b*, are placed at two arms of a lever, *a* at the shorter, and *b* at the longer, the fulcrum of which is at the point *z*.

c is a trencher, with a weight, *d*, upon it, and fastened on the under side to the side-plank *T* by a strap or other contrivance.

e is a trough, into which the water drops, and by means of which it is conducted to the pump *f*.

g is the rod or bar, extending from the bottom of the tank *b*, in which is placed the upright piece *h*, which, while in the position represented in the drawing, holds up the bucket or tank *b*.

y is a wheel, placed in the upright piece *h*, so that it may slip more easily on and off the trencher *c*.

k¹ k² form a valve in the bucket *b*.

o is a small inclined trough or passage-way from the trough *e* to the pump *f*.

p is the piston-rod, and

r, the piston of the pump *f*.

R is the outlet of the water.

S is the cross-bar, connecting the frame-work of the machine, and through which the piston-rod passes.

T is that part of the frame-work upon which the trencher *c* rests.

u shows the shape of the piston-rod *p* at that point at which it is joined to the lever.

v is a standard, which is part of the frame-work, and helps to support the weight of the trencher *c*.

w is a pipe, through which water is brought to the machine.

The practical working of my machine is as follows:

The natural position of my machine is as represented in the accompanying drawing.

As soon as the water from the pipe *w* fills the bucket *b* sufficiently, it overbalances the weight of the bucket *a*, and drops to the bottom of the trough *e*. As it strikes the trough *e*, the valve *k¹ k²* is knocked up, and the water escapes into the trough *e*; thence through the passage *o*, it runs under the pump *f*. The pump *f* (its piston-rod being attached to the lever) carries the water into the large pipe *m*, thence upward, or in any direction, through the small pipe *R*.

As the bucket *b* rises, the upright piece *h* lies against the bucket *b* until it is nearly up, when it falls forward and drops into an incision or hollow place in the trencher *c*. Once there, it remains until the bucket *b* is full enough to overbalance the bucket *a* and the weight *d* on the trencher *c*. Then the upright piece *h* rolls off by means of the wheel *y*, and allows the bucket *b* to drop.

This weight *d* may be pushed forward or back, as may seem advisable, or be increased at will.

The pipe *w*, which supplies the machine, may easily be supplied with a valve, which shall close when the bucket *b* drops, and open when it rises, so that there shall be no waste of water.

I may place an air-chamber in the large pipe *m*, or in some other place, or dispense with one, as may seem best.

I shall probably use some measures to ease the force of the blow of the bucket *b* upon the trough *e*, such as the application of rubber or other substance.

It will be understood that my machine will be used principally for the same purposes as the ordinary hydraulic-ram conveying water up hill, &c.

Having thus fully described my invention,

What I claim, and desire to secure by Letters Patent, is—

The combination and arrangement of the weighted bucket *a* and the water-tank *b*, when combined with the trencher *c* and device *g h y*, troughs *e o*, and pump *f*, arranged and constructed substantially as described, and for the purposes hereinbefore set forth.

TIMOTHY H. HUTCHINSON.

Witnesses:

JOHN E. WILLIS,

LAURENTIA WILLIS.