2 Sheets—Sheet 1.

B. HALL.
Wool-Rinsing Machine.

No. 197,548. **Patented Nov. 27, 1877.**

Fig. 1.

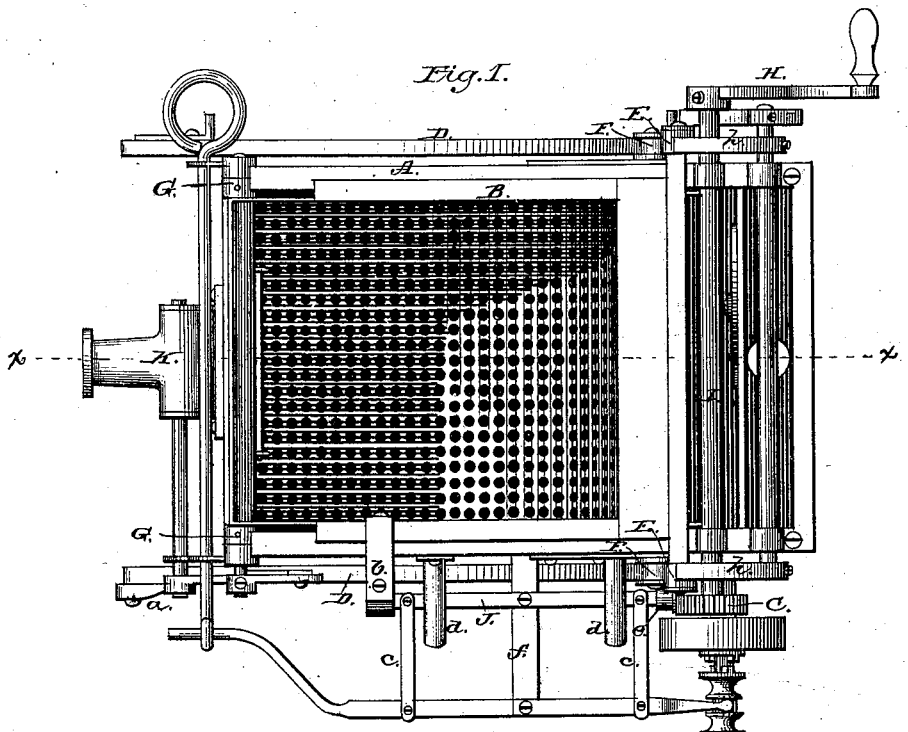
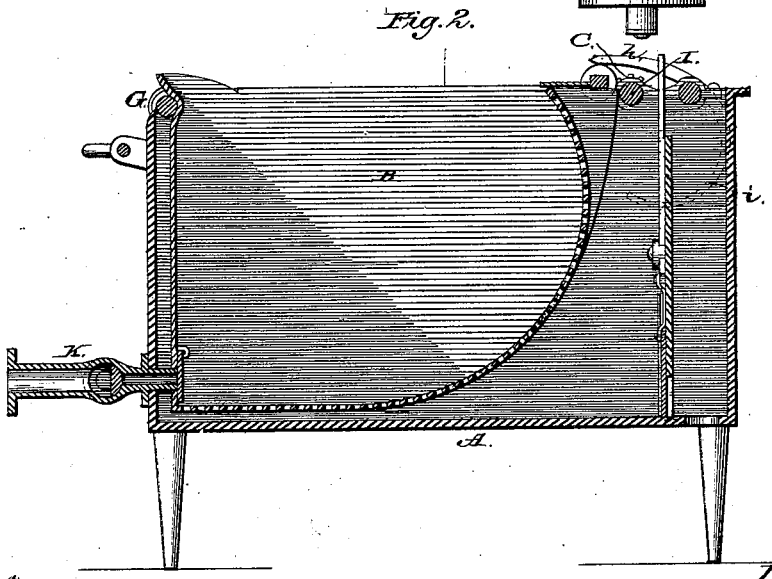


Fig. 2.



Attest:
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Inventor:
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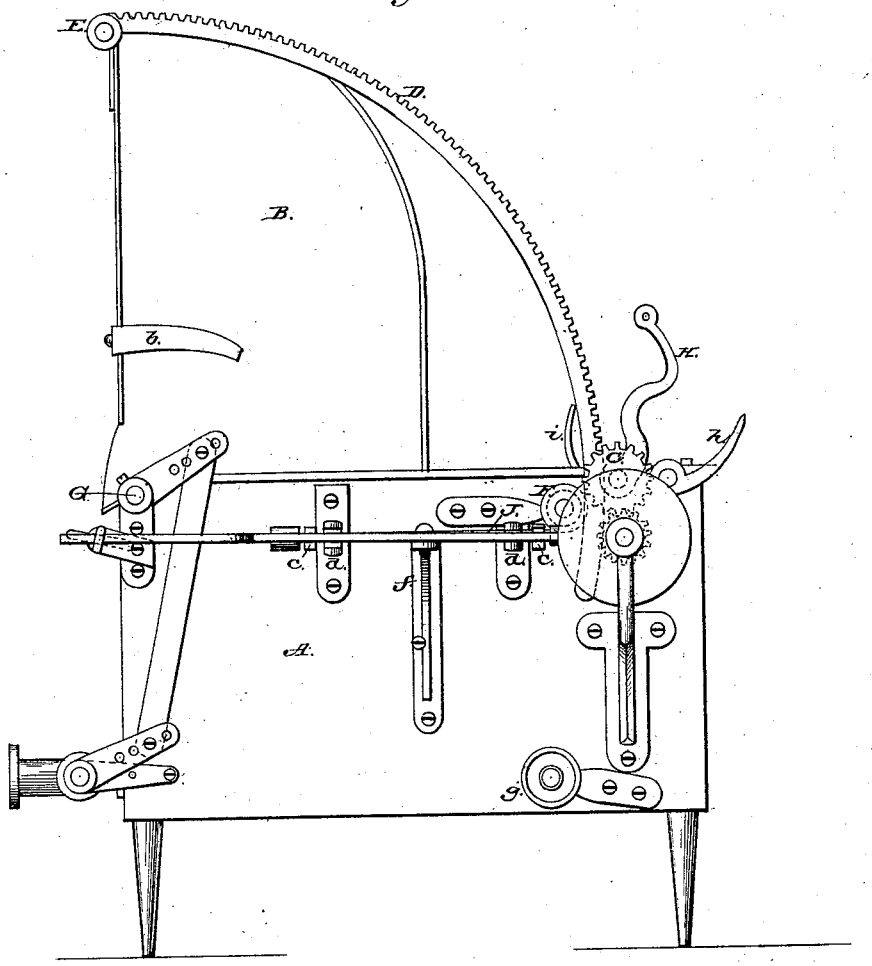
2 Sheets—Sheet 2.

B. HALL.

Wool-Rinsing Machine.

No. 197,548. **Patented Nov. 27, 1877.**

Fig. 3



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Inventor:

Benj Hall.

UNITED STATES PATENT OFFICE.

BENJAMIN HALL, OF NORWICH, CONNECTICUT.

IMPROVEMENT IN WOOL-RINSING MACHINES.

Specification forming part of Letters Patent No. **197,548**, dated November 27, 1877; application filed July 11, 1877.

To all whom it may concern:

Be it known that I, BENJAMIN HALL, of Norwich, in the county of New London and State of Connecticut, have invented a machine for rinsing wool, waste, rags, paper-stock, or any kind of dirty stock used in woolen, cotton, silk, shoddy, or paper mills, also in wool-pulling factories, of which the following is a specification:

In the old way of rinsing wool or any kind of stock the water-gates have to be shut down, the water drawn out, and the stock drained before it is light enough to throw out by hand.

With my invention the wool or stock can be taken out at once without drawing off the water, and then the rinser is discharging the dirt or grease from the next stock as soon as put in, as the tank remains full of water all of the time, and does not have to be refilled. By this process of rinsing, the stock is made much brighter and cleaner, for the sooner the dirt or grease is taken out of stock by rinsing after it comes out of the hot liquor the better will be the result.

My invention consists of a tank or box built of wood, iron, or other metal, with an inside box of metal, one end of which is rounded or curved in form, the bottom and curved end being perforated with holes of any suitable size.

This machine is similar to the one patented by me February 8, 1876, No. 173,222, and is designed to run in connection with it.

The invention is for the purpose of rinsing the dirt or grease out of the stock after the same is taken out of the hot liquor.

In the drawing, Figure 1 is a plan view of the machine. Fig. 2 is a longitudinal section through the lines *x x* of Fig. 1. Fig. 3 is a side view when the inside tank is raised for discharging stock.

A is the outer tank. B is the inside perforated one, of metal or any suitable material. C C are the pinions, together with pulleys connected with belts, for operating the racks D D, which are permanently attached to the inner tank at the points E E. F F are friction-rollers, secured to the outer tank to serve as guides to the racks D D. G is the point of attachment of the inner tank to the outer. H is the crank for rotating the pinions upon the shaft I, which operate the racks D D upon the outside of the outer tank. J is a lever attached to the shifting-rod, for operating a clutch mechanism for reversing the motion of the machine, by which the inner tank is automatically raised and lowered, being raised perpendicularly to discharge stock, and lowered to a horizontal position for receiving stock.

a is a stop-block, having an inclined face, and secured to the end of the rack for stopping the inner tank when it is raised to a perpendicular position for discharging stock and for operating the shifting-rod. *b* is another block, with an inclined face, attached to the inner tank for stopping the said tank when it reaches a horizontal position, and at the same time operating the shifting-rod in the opposite direction, for reversing the motion of the machine. *c c* are forks connecting the bar and shifting-rod, thus holding them in place. *d d* are supports attached to the outer tank for holding the shifting-bar in place. *e* is a friction-roller on the end of the shifting-bar. *f* is a stand attached to outer tank for supporting shifting bar and rod. *g g* are friction-pulleys for the racks to rest on while the inner tank is down. *h h* are pawls attached to a shaft for catching the racks connected with inner tank in case the counter-balance should break, the same being worked by studs or friction-rollers at each end of the rack. *i* is a counterbalanced lever attached to the shaft to throw the pawls in and out by the action of studs. K is a rotary water-gate attached to the outer tank, operated by levers attached to the hinge-shaft of the inner tank. It is used to shut off water when the inside tank is elevated while discharging stock.

The machine closes and opens its own gate while going up and down, and prevents any waste of water. After the wool or stock has been cleaned by rinsing, the machine lifts or raises the same out of the box or tank without drawing off the water. It takes very much less water to do the same amount of work than machines which are not provided with such a water-gate, as the box does not have to be filled every time stock is put in. It has a rotary gate, which closes itself, and thus prevents the water from running into box while the stock is being dumped. It also has a swing-gate on the inner tank, over the supply-pipe, which is

opened and closed by the force of the water going up and down, thus forming a tight box while dumping the stock, and preventing any waste of stock from the inner tank.

A boy can operate two or three machines at a time, while a man can only run one of the old style.

It has a stop-motion connected with it, so arranged as to stop the machine in raising or lowering the same when it reaches a proper point, thus preventing the breaking of the machine. It is built strong and durable, and is not a complicated machine. The inner tank is counterbalanced by a weight so constructed that much or little water can be used, as required. It has pawls attached to it which catch every tooth in the rack while the inner tank is being raised, so if the cable breaks it cannot fall back.

The gate is so constructed as to let in a small or large quantity of water, as may be required, by adjusting the connecting-rod between the two levers at a greater or less radius.

Having described my invention, I claim as follows:

An inner perforated tank, combined with an outer tank or box, having a rotary water-gate attached thereto, by means of which water is admitted, a rotary motion being given to the water by the curved end of tank, the water thus rinsing wool or other stock, and escaping by overflow, all arranged substantially as described.

BENJ. HALL.

Witnesses:
ALLEN TENNY,
WILLIAM S. CONGDON.