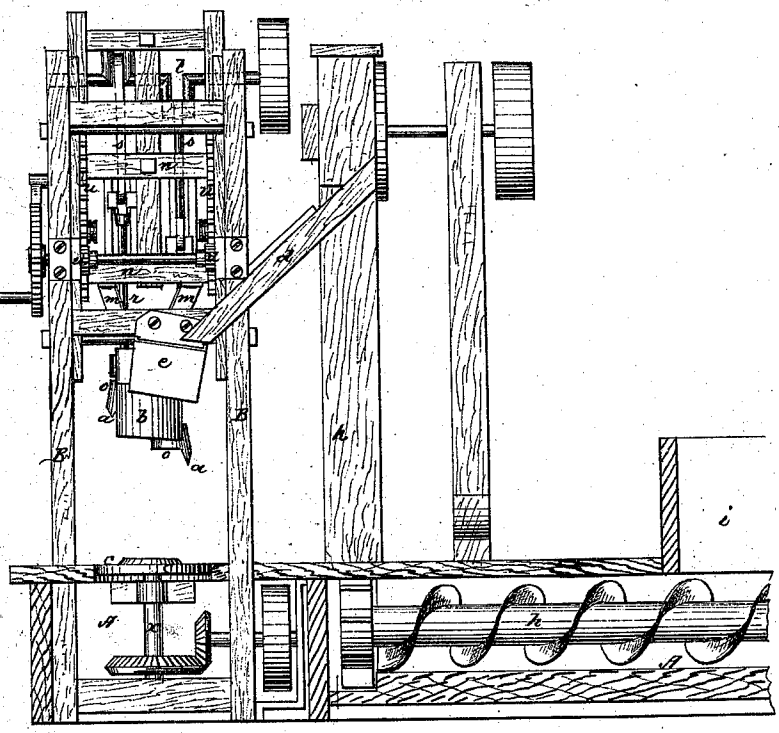
J. McGrew,

Sugar Press.

No. 105,586. Patented July 19, 1870.

fig. 1.



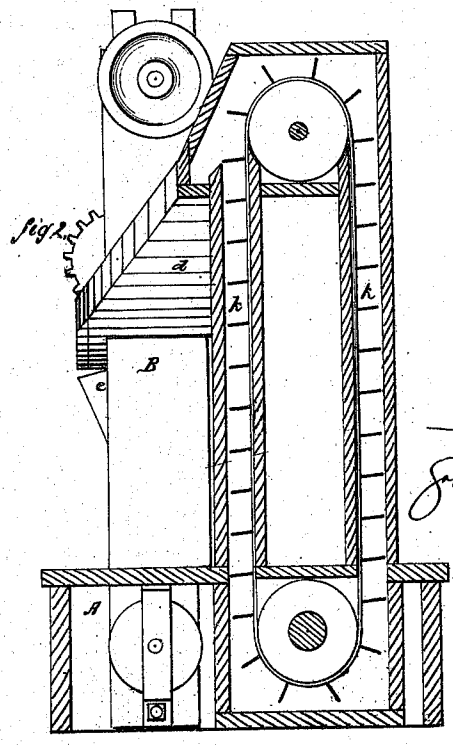
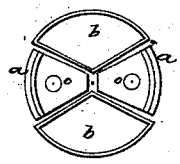


fig. 2.

fig. 3.



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JOHN McGREW, OF WEST COLUMBIA, WEST VIRGINIA.

Letters Patent No. 105,586, *dated July* 19, 1870.

IMPROVEMENT IN MACHINES FOR PACKING SALT.

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, JOHN McGREW, of West Columbia, in the county of Mason and State of West Virginia, have invented a new and improved Machine for Packing Salt; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a side elevation, with one side of the base-chamber removed;

Figure 2 is a transverse vertical section; and

Figure 3 is a plan view of the lower ends of the filling-tubes and packing-hammers.

This invention has for its object the filling of barrels with salt at the place of the manufacture of the same.

The invention consists in hammers fixed at the lower ends of vertical rods, whose upper ends are connected, by a pitman, with a horizontal crank-shaft mounted in a frame that slides in a vertical guide-way, the revolution of the crank operating the packing-hammers, and the sliding frame yielding against the pressure of the hammers upon the salt, so as to lift the hammers, and keep them always above the surface of the salt in the barrel, as the latter gradually fills.

Also, in providing the packing-hammers with wedge-shaped projections, for packing salt into the bulges of barrels.

Also, in combining, with the packing-hammers, tubes for conducting salt into the barrel, and vertically adjustable, in order that they may be set higher or lower, with reference to the salt in the barrel, according as more or less salt is to be delivered at each rise of the packing apparatus; and in combining, with the packing-hammers and filling-tubes, a rotating table for the barrel to stand on, so that the latter may be turned as it fills, in order to insure a packing of uniform density.

In the drawing—

A is a horizontal chamber.

h, a conveyer screw, which conducts salt, within the chamber, from the feeding-funnel *i* to the vertical elevator *k*.

d d are the inclined branches of a spout, which receive the salt from the elevator and conduct it to spouts *e e*, one at each side of the vertical frame-work B, by which spouts the salt is led through adjustable filling-tubes *b b* into the barrel.

The filling-tubes are attached to a head, which is rigidly connected, by stays *m*, with the frame *n*, which slides in vertical guide-ways in the frame-work B.

The filling-tubes are quadrantal in shape, and placed opposite each other, and between them slide the packing-hammers *o o*, also placed opposite each other, and affixed to the lower extremities of vertical rods *r r*, which pass through the head, and are provided with cross-heads at their upper extremities, which slide in vertical guide-ways within the frame *n*, and are connected, by pitmen *s s*, with a crank-shaft, *t*, placed horizontally of the frame *n*, passing through slots in the sides of the frame-work B, and made to revolve by the application of any suitable power, so as to impart to the hammers the reciprocating motion requisite to packing salt in the barrel.

By means of pinions *u* on horizontal shafts *v*, at the sides of the frame-work B, gearing with racks *w* on the frame *n*, the latter may be set so as to locate the filling-tubes and packing-hammers at the required height within the barrel. This need only be done at the beginning of the operation of filling a barrel, as, during the operation, the frame adjusts itself.

The filling-tubes should be placed so that the packing-hammers pass below their lower ends, and they are adjustable, for this purpose, on the head.

The barrel is placed on a table, *c*, that is let into the top of the base-chamber A, and affixed to the upper end of a vertical shaft, *x*, within the base-chamber, which receives rotation through the instrumentality of bevel-gearing, which is operated by a stem from the conveyer screw, so that the barrel turns as it is filling, and every particle of the packed salt receives a uniform pressure.

Every time one of the packing-hammers descends, and meets with resistance from the salt it compresses beneath it, it rises a little, lifting the frame *n* in its guide-way. The frame *n* carries up with it the filling-tubes.

At every elevation of the filling-tubes a fresh deposit of salt is left behind in the barrel, which, by the revolution of the latter, is speedily brought beneath one of the hammers and compressed. In this manner the hammers gradually travel upward till the barrel is full.

It is obvious that the weight of the frame *n* determines the degree of density with which the salt is packed.

The frame *n* may be loaded so as to pack with any amount of pressure. On the other hand, a counter-weight may be connected with the frame, as shown in the figure, so as, in effect, to decrease the pressure, and pack loosely.

The packing-hammers are provided with wedge-shaped flanges, *a*, projecting downward, which, as they are pressed into the salt, force it outward, so as to fill the bulges of the barrels as tightly as any other part.

Having thus described my invention,

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

1. The packing-hammer *o*, combined with the sliding head *n*, substantially in the manner described, and for the purpose of enabling the hammers to lift themselves in the barrel, while packing salt therein.

2. The packing-hammers, when provided with wedge-shaped projections *a*, at their outer and lower corners, for the purpose of forcing salt outward into the bulge of the barrel, substantially as specified.

3. In combination with the packing-hammers, the adjustable filling-tubes *b*, substantially in the manner and for the object specified.

4. In combination with the packing-hammers and filling-tubes, the rotating table *c*, substantially in the manner and for the purpose set forth.

To the above specification of my invention I have signed my hand this 25th day of March, 1870.

JOHN McGREW.

Witnesses:

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