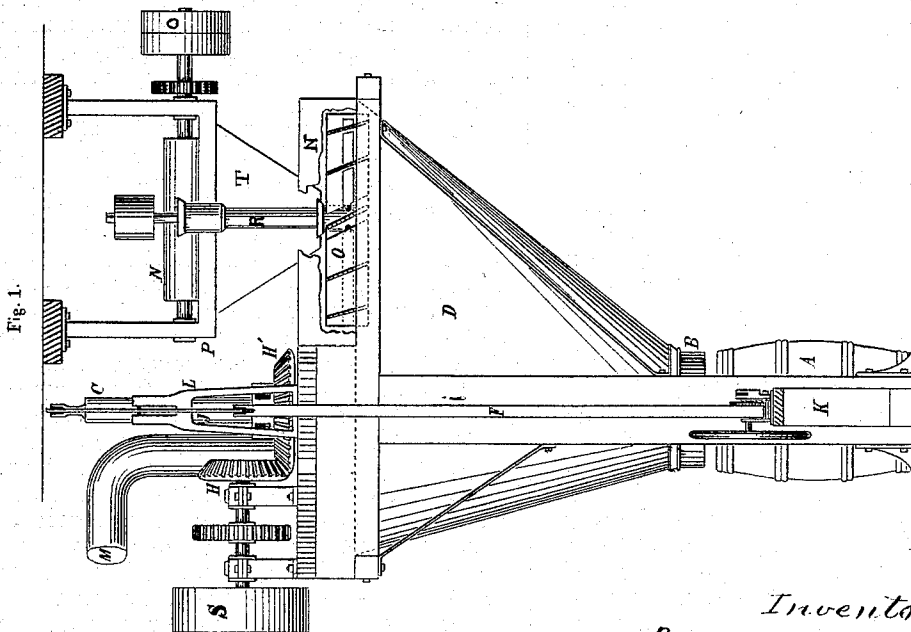
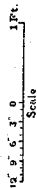
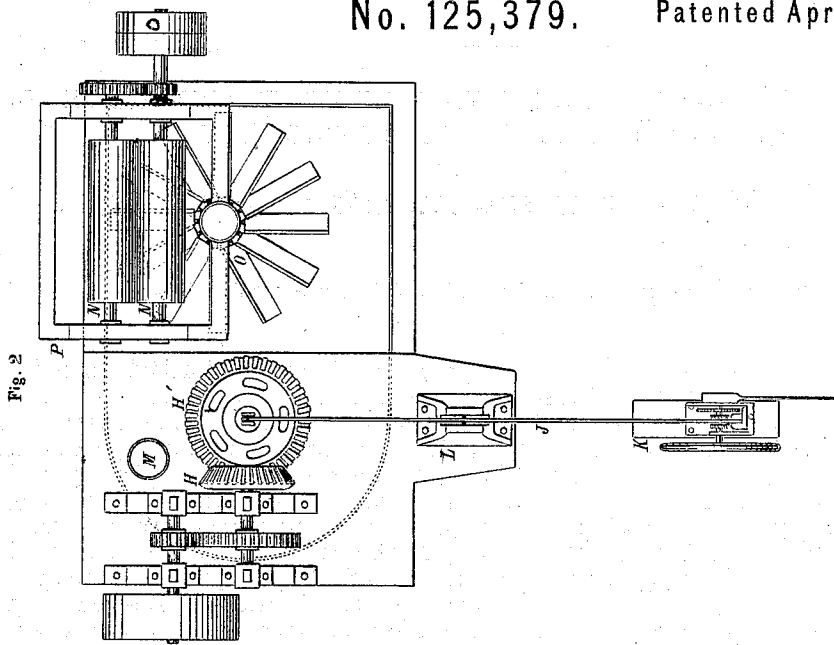


Improvement in Combined Sugar Mixer and Packer.

Patented April 9, 1872.



Witnesses
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Inventors
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UNITED STATES PATENT OFFICE.

MORTIMER C. COGSWELL, OF BROOKLYN, NEW YORK, AND MARTIN L. SENDERLING, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN COMBINED SUGAR-MIXERS AND PACKERS.

Specification forming part of Letters Patent No. 125,379, dated April 9, 1872.

To all whom it may concern:

Be it known that we, MORTIMER C. COGSWELL of the city of Brooklyn, county of Kings and State of New York, and MARTIN L. SENDERLING, of Jersey City, State of New Jersey, have made a new and useful Improvement in a Combined Sugar-Mixer and Packer, of which the following is a specification, having reference to the accompanying drawing forming part thereof

Figure 1 is an elevation of our combined sugar-mixer and packer. Fig. 2 is a top view of the same.

Our invention relates to combining together a sugar-mixer and a sugar-packer, whereby the sugar is discharged from the mixer immediately into the hopper connected with the packer, and also to furnishing the said hopper with a ventilating-pipe, through which the air that is forced into the hopper by the action of the mixer may escape, thereby obviating the forcing of the sugar down through the mouth of the hopper and past the packing apparatus when the latter is at rest. Both the mixer and the packer are old devices, that are now in use, and have both been the subjects of patents; but hitherto they have been constructed and operated separate and independent of each other, being altogether independent machines. By changing the form and structure of the hopper forming a part of the sugar-packer now in use, we have placed the mixer substantially within said hopper and caused the sugar, after undergoing the process of mixing effected by the mixer, to be discharged therefrom immediately within the hopper, thereby saving the labor and expense of conducting the sugar from the mixer to the packing-hopper either by hand or mechanical power, or spouting it from a higher to a lower loft, as have hitherto been practiced, while at the same time, by this combination and arrangement, a constant and uniform supply of sugar is furnished to the hopper of the packer. As is shown by the drawing, the several parts of our combined machine are mounted upon a suitable frame, and consist, first, of a hopper, D, which, in place of being made circular, is extended on one side sufficiently to allow the mixer to be placed over or within it. The mixer consists of a vertical shaft, R, to the

lower end of which are attached a number of radial horizontal wings, O. Above the level of these wings is placed a pair of crushing-rollers, N, below which is fixed a hopper or conductor, T, designed to conduct the sugar after it has passed the rollers down upon the wings. The packing apparatus consists of a vertical shaft, C, which is made to revolve by motion communicated from the pulley S through the gear-wheels H H'. At the lower end of the shaft C there is a worm or screw packer, which drops down to the bottom of the empty barrel A, which is placed under the mouth B of the hopper, when the sugar being discharged through the mouth B into the barrel, and the shaft C being made to revolve, the packing-worm screws its way up through the sugar, and in doing so packs the sugar into the barrel by a force due to the weight of the worm, or to such combined weight and the resistance which may be applied to it to prevent its upward movement. This resistance is applied by means of the mechanism K operating through the connecting-arm F, and the lever J, pivoted at L, and acting upon the upper end of the shaft C.

For a more particular description of the mechanism of the packer, reference is made to the Letters Patent issued to Samuel Taggart, dated August 2, 1859, and numbered 24,963, and for the mechanism of the mixer, refer to the Letters Patent reissued to Martin L. Senderling, dated August 29, 1871, numbered 4,536.

M is a ventilating-tube inserted in the top of the hopper D to permit the escape of the air that is forced into the hopper by the action of the distributing-fans O, or that may be carried into the hopper by the sugar when discharged into it through a closed pipe or conductor. When the packing-worm has forced its way upward through the sugar in the barrel A, and the barrel, being filled with packed sugar, is removed from the platform, the said worm is arrested just within the mouth B of the hopper, and prevents the escape of the sugar down through the mouth of the hopper, until another barrel is placed in position underneath and the worm is dropped down to the bottom of the barrel. It is found in practice that the pressure of the air upon the sugar in the hopper, caused by the fan-like action of the mixer when in mo-

tion, will force the sugar more or less down past the worm while standing at rest in the mouth B of the hopper, and will thus be scattered down upon the platform underneath, while the next change of barrels is taking place. The same result is in a measure produced when sugar is spouted through a closed spout downward into the hopper D of the packing-machine, when constructed and used independent of the mixer. By providing an escape for the air through the ventilating-tube M, the escape of the sugar through the worm, when at rest in the mouth B of the hopper, is obviated.

It is not our intention to limit ourselves to any special form or construction of the mixing mechanism. In place of the fans O a plain disk, with or without pins or ribs upon it, may be used, or any other device which operates by centrifugal force to mix the sugar within the curb N.

We claim—

1. The combination of the mixing mechanism and the packing mechanism described with the hopper D, substantially as and for the purpose specified.

2. The combination of the ventilating-pipe M with the hopper D and the packing and mixing mechanism described, substantially as and for the purpose specified.

3. The combination of the ventilating-pipe M with the hopper D and the packing mechanism described, substantially as and for the purpose specified.

MORTIMER C. COGSWELL.
MARTIN L. SENDERLING.

Witnesses:

J. P. FITCH,
F. K. HALSEY.