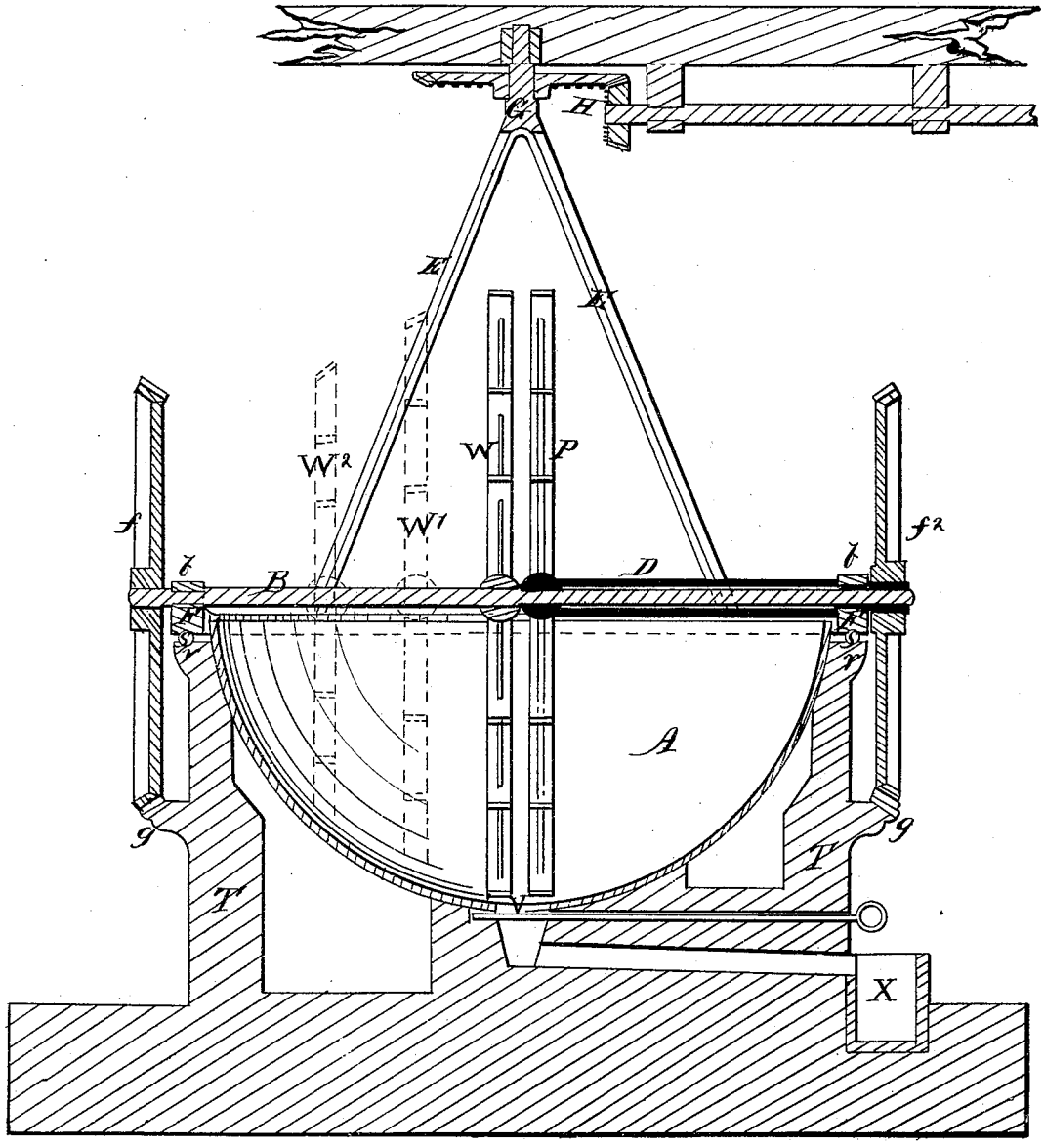
Stainthorp & Cole.

Soap and Paint Mixer.

No. 102,330. Patented Apr. 26, 1870.



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JOHN STAINTHORP AND ISAAC COLE, OF NEW YORK, N. Y., ASSIGNORS TO JOHN STAINTHORP.

Letters Patent No. 102,330, *dated April* 26, 1870.

IMPROVED MACHINE FOR MIXING PAINT, SOAP, AND OTHER MATERIALS.

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

We, JOHN STAINTHORP and ISAAC COLE, both of New York city, county of New York, and State of New York, have invented certain Improvements in Mixing-Machines for Mixing Soap, Paste, Paint, Mortar, &c., and any other liquid and solid substances, and the following is a specification thereof.

Nature and Object of the Invention.

This invention relates to a mixing-machine for mixing paint, soap, paste, &c., of that class where one or more stirring-wheels, provided with any kind of blades, fangs, or dashers, are made to revolve in a vertical plane upon a horizontal shaft or arbor located over the kettle, tank, or vessel, where the mixture is to be made; and

The improvement consists in causing the arbor or shaft aforesaid to assume a rotary or pivoted motion upon itself, and in a horizontal plane, whereby the mixing-wheels have a duplex movement, and are brought more effectually in contact with every part of the substances to be mixed in the machine than is the case when the horizontal shaft moves in stationary journals.

In order to clearly illustrate the dupex motion we allude to, we will describe one of our improved mixing-machines, but we do not claim any novelty in the details of construction of the same, nor do we restrict ourselves to the specified construction, as the machine may be built entirely different and yet retain our principle of duplex-motion stirring-wheels.

Description.

Our drawing represents one of our improved mixing-machines in vertical section through its center.

A is a kettle, tank, or vessel of any kind and shape, made for some purpose to approximate a half sphere, whilst in others that of an oblong box, a cubic box, &c.

This vessel A is stationary, and in our illustration is mounted upon the brick-work T.

V is a valve to draw off the contents of the kettle A through the spout and trough X.

r r is a circular groove at the top of the stand of the kettle A, serving as a way for a number of small balls *s s*, &c.

F is an annular frame, having on its under side a circular groove corresponding to the groove *r r*, so that when the frame F is laid upon the balls *s s s* it will turn freely in a horizontal plane.

E E are four arms fastened to the frame F at bottom, and to the vertical arbor G at top, to communicate, with the aid of gearings H, movement to the said frame F.

B is a horizontal shaft or arbor mounted upon suitable pillow-blocks *b b*, fastened upon the frame F.

f, gear-wheel, fast upon the shaft B, and cogging in the circular rack or rim of wheel *g*, which encircles the brick-work T.

W, stirring-wheel, composed of any number of spokes and rims, with dashers, oars, fangs, or wings, if required to suit the materials to be mixed in the machine.

This wheel W is fast upon the shaft B, and, when desired, extra wheels W^1 W^2 may be placed to the right or to the left thereof, to suit the work to be done.

D hollow shaft, mounted and playing freely upon the shaft B, used when it is desired that some of the stirring-wheels, as P, are to receive a contrary or opposite motion to one of the wheels W W^1 W^2, which is accomplished by the gear-wheel f^2.

All these details may be altered or the mechanical means entirely different; by example, the wheel P and W might be worked from the top and pivoted upon a forked hanging shaft instead of using the frame F, and yet the result would be the same as regards their duplex motion.

Operation.

When power is applied to revolve the frame F, the shaft B is carried along, and by pivoting upon the centre of the machine will cause the stirring-wheels to have a sweeping movement in the kettle A, but the wheels *f* and f^2 being cogged with the stationary wheel *g*, will, in turn, communicate a rotary motion, in a vertical direction, to the wheels W and P, and from the result of this mechanical arrangement we have the duplex motion of the stirring-wheels, which we have found to be so excellent for a mixing-machine.

We do not claim the construction of the machine illustrated, the shape of the parts, vessel-wheels, &c., nor do we restrict ourselves to the exact speed imparted to the different wheels or to the frame F relatively; but

What we do claim as our invention is—

The improved mixing-machine composed of a stationary vessel, A, in combination with a stirring-wheel, W, or stirring-wheels W W^1 W^2 P^1, &c., having the duplex movement horizontal and vertical around the same center of motion, substantially in the manner and for the purpose herein set forth.

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