

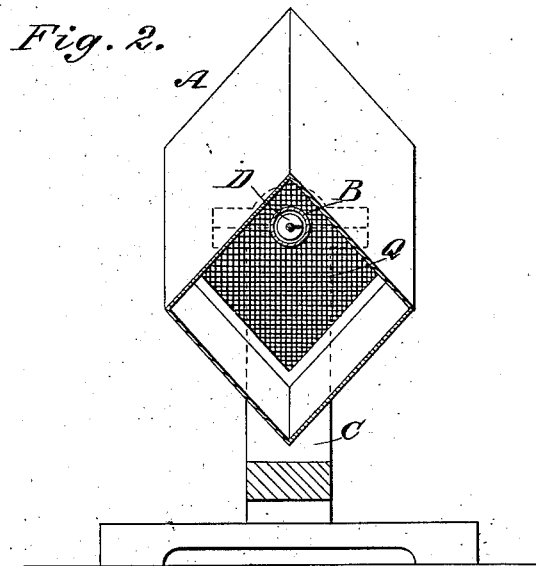
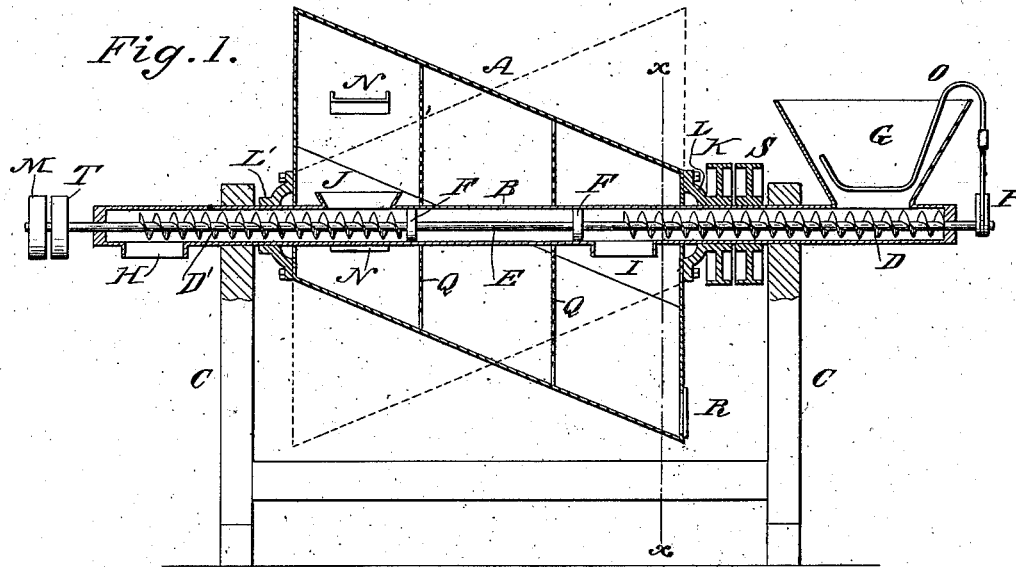
(No Model.)

J. McKEAGE & W. WELLS.

MIXING MACHINE.

No. 302,420.

Patented July 22, 1884.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN McKEAGE AND WILLIAM WELLS, OF BROOKLYN, NEW YORK.

MIXING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 302,420, dated July 22, 1884.

Application filed December 1, 1883. (No model.)

To all whom it may concern:

Be it known that we, JOHN McKEAGE and WILLIAM WELLS, of Brooklyn, Kings county, New York, have invented a new and Improved Mixing-Machine, of which the following is a full, clear, and exact description.

This invention seeks to provide an effective machine for mixing flour, grain, and similar substances; and the invention consists of the several combinations of parts, substantially as hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which the same letters of reference indicate the same or corresponding parts in both figures.

Figure 1 is a longitudinal sectional elevation of our new mixing-machine, and Fig. 2 is a transverse sectional elevation taken on the line *x x* of Fig. 1.

A represents the body of the mixing-machine. This body A is made square in cross-section, but with rhomboidal sides, the ends being slanted parallel with each other to form opposite corners, and the body is placed upon the shaft B in such manner that the shaft passes centrally through it from end to end and from opposite corners, so that the ends of the body stand at right angles to the shaft, while the sides of the body are diagonal thereto in all directions, as shown. The shaft B is hollow, and is held fast in the uprights C C, and constitutes the feed and discharge conduit of the apparatus, being provided at one end with the hopper G and formed at the other with the discharge-opening H, and formed within the body A with the outlet-opening I and hopper J, and in the hollow shaft B are placed the feeding and discharging worms D D', formed or placed upon the shaft E, which is passed through the shaft B and journaled in the closed ends thereof, and also in the plates or partitions F F, placed in the hollow shaft B, as shown in Fig. 1.

In operation the material to be mixed—two grades of flour, for example—will be fed into the hopper G. The body A will be revolved upon the shaft B by a belt coming from a suitable power passing over the pulley K, which is made fast to the body A by the casting L, and the shaft E will be revolved by a belt com-

ing from a suitable power passing over the pulley M. The revolution of the shaft E will cause worm D to convey the material from hopper G along the hollow shaft B and discharge it through opening I into the body A. In revolving, the body A, owing to its shape, has a peculiar wobbling gyratory action, and this motion of the body causes the material inside to be tumbled from side to side and end to end of the body, causing it to be thoroughly agitated and mixed. On reaching the discharge end of the body A, the material will be lifted by the buckets N, which are secured to the inner sides of the body A, and emptied from the buckets as they successively reach the point immediately above the shaft B into the hopper J, from which it will be conveyed along the hollow shaft B to and out of the opening H by the discharge-worm D' in a thoroughly mixed condition.

To prevent any clogging of the material in the hopper G, we provide the hopper with the agitator O, which is given a constant up-and-down movement from the eccentric P, secured upon the shaft E, to which eccentric the agitator is connected; and in order to break up any lumps or agglomerate masses in the material being treated we place within the body A the disintegrating-screens Q, against which the material is thrown and through which it must pass.

R is an opening, closed by a suitable cap or door, through which any material remaining in the body A may be discharged, or through which the body A may be fed or charged with material to be mixed in case the automatic feed is not used; and upon the shafts B E are placed the loose pulleys S T, to which the belts may be shipped when it is desired to stop the action of the apparatus without stopping the power.

To the end and corner of the body A opposite to that to which the casting L is secured is secured the casting L', which forms a journal for the body A on shaft B, as will be understood from Fig. 1; and suitable collars may be formed or secured upon the shaft B outside of casting L' and pulley S, to prevent all danger of endwise movement of body A upon shaft B.

Constructed in the manner described, it will be seen that the apparatus is self-feeding and

self-discharging, so that it is thus adapted for continuous operation, and it will also be seen that, owing to the shape and action of the body A, it is very effective and practical for its purposes.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In a mixing-machine, the combination, with the stationary tubular shaft and the worm-shaft, of the hollow body having the subdividing-screens, said body having near one end buckets, and said tubular shaft having a hopper outside of the body, and an outlet inside near one end of the body, and a hopper inside near the opposite end of the body, and an outlet outside of the body, substantially as and for the purpose set forth.

2. In a mixing-machine, the combination, with the right and left handed feeding or worm shaft and the stationary tubular shaft, of the hollow body having buckets on its inside near one end, and transversely subdividing screens extending from side to side of the body, said tubular shaft having a hopper outside of the body, and a discharge-opening inside of the body near one end, and a hopper inside of the body near the opposite end thereof, and a discharge-opening outside of the body, substantially as shown and described, and for the purpose set forth.

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Witnesses:

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