N. Kinman,

Flour Packer,

No. 8,826. Patented Mar. 23, 1852.

Fig. 3.

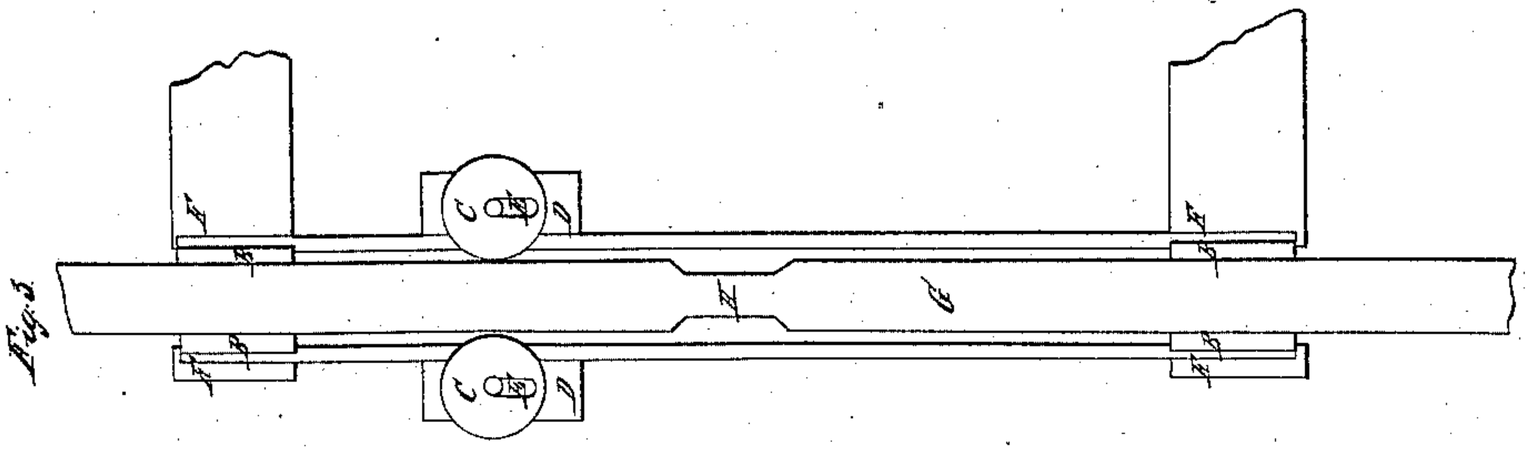


Fig. 4.

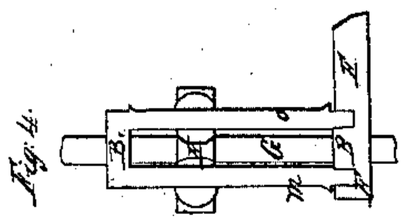


Fig. 2.

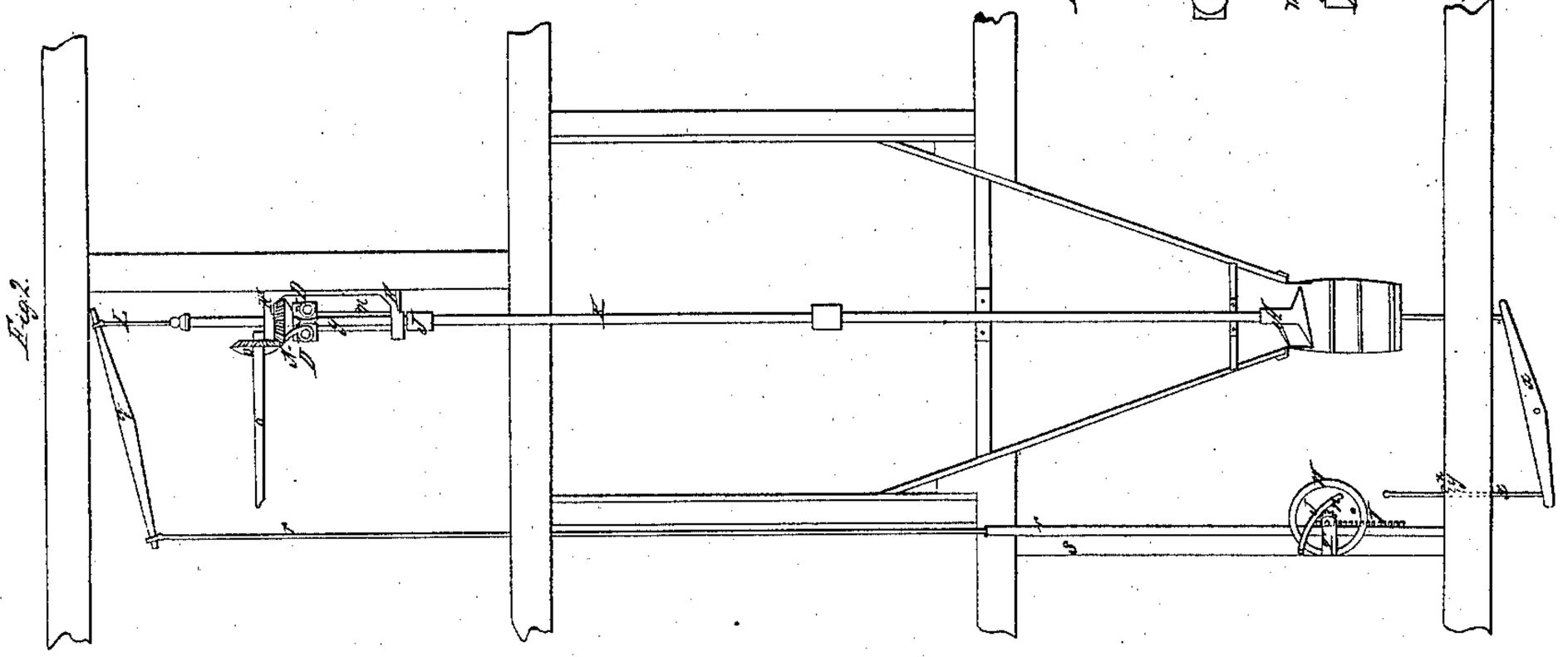
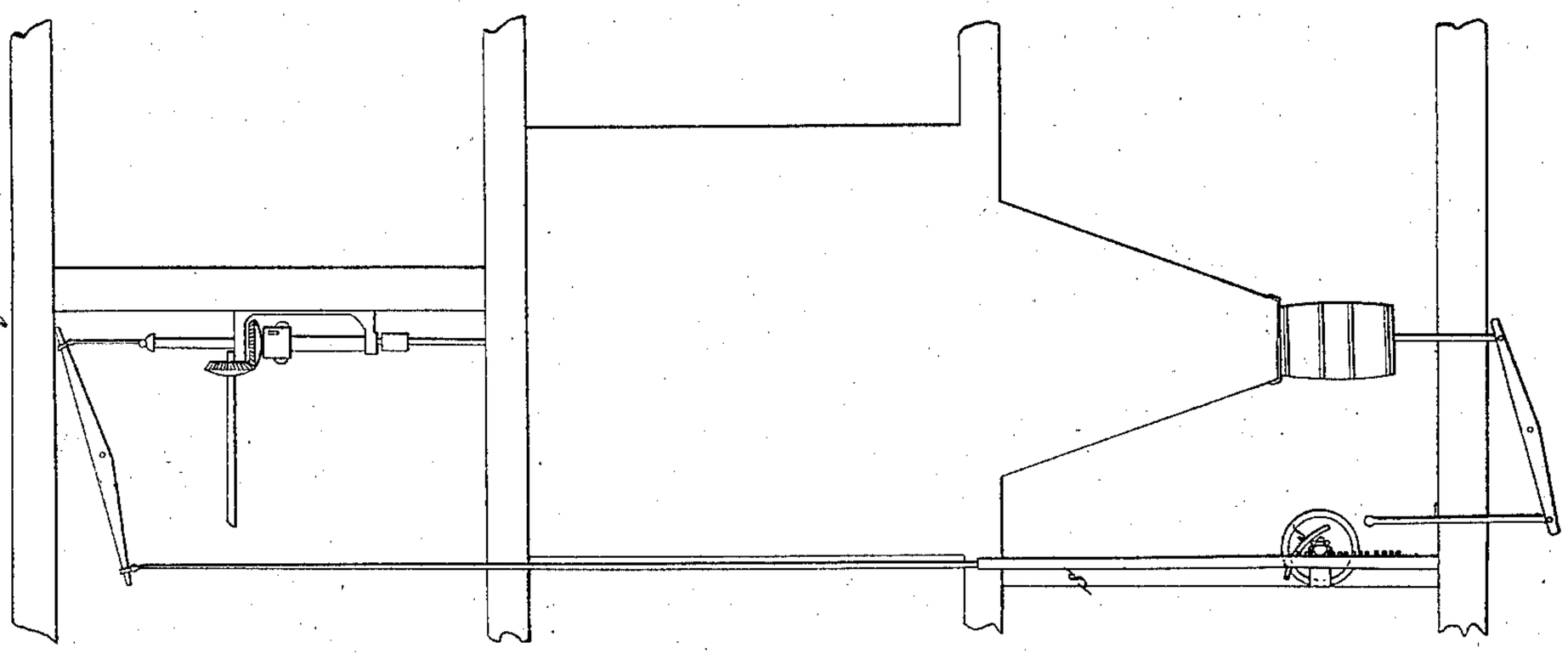


Fig. 1.



A.M. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

NATHAN KINMAN, OF LEWISTON, NEW YORK.

FLOUR-PACKER.

Specification of Letters Patent No. 8,826, dated March 23, 1852.

To all whom it may concern:

Be it known that I, NATHAN KINMAN, of the town of Lewiston, in the county of Niagara and State of New York, have invented a new and useful Improvement in Flour-Packers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, in which—

Figure 1 is a perspective view, Fig. 2 a longitudinal elevation, Fig. 3 a transverse section.

Letter A is a spiral cone plate, B B round collars with square holes through them, C C friction rollers, D D wings on hollow shaft, E E slots in wings on hollow shaft, F F bearings for hollow shaft to run in, G square shaft, H part of square shaft turned round, I rack and pinion and hand wheel ratchet iron and bearings formed of iron plates fastened to a post.

The nature of my invention consists of a machine so constructed as to pack flour and give to it an equal density throughout the barrel. This is a point that is indispensably necessary and has long been sought after but not accomplished, as the machines heretofore in use pack the flour so that the outside of the barrel is packed very hard and the center left almost without packing. Besides some or most machines pack the flour harder in one end than in the other. Flour packed with an equal density keeps much better and comes out of the barrel freer of lumps.

I will now proceed to describe the construction and operation of the machine.

In the first place I construct a flour chest of any of the well known forms and provide it with a flange for receiving the barrel and discharging the flour into the barrel with a shaft running through the center of it and provide it with an apparatus for raising the barrel so as to receive the flange and hold the barrel while packing and besides retaining all the well-known and useful principles in packing flour. Now in order to obviate the difficulty of uneven packing I construct a spiral cone plate of a sufficient size to enter the barrel and the diameter should correspond with the size of the flange that receives the barrel, so that the spiral cone plate will just about fill the flange when the barrel is packed. This plate has an elevation or spiral curve around the shaft of about six inches and also has a declination of three inches from the center of the plate to the outside—that is to say, the periphery of the plate is three inches lower than the center, which gives it some the appearance of a cone. This plate is attached to the lower end of packing shaft and to further facilitate the perfect operation of equalization of the flour and operation of the machine I construct a friction roller clutch to work in combination with the spiral cone plate or packing apparatus. This clutch consists of a round place turned on the square shaft *g* and that part of it marked on drawings H. This shaft forms the top part of the packing shaft. This shaft works through two round collars with square holes through them to allow the shaft to work up and down. These collars have their bearings one in each end of a hollow shaft. This hollow shaft has a miter wheel near the top and is connected with the driving wheel. This shaft has bearings in a frame and also has wings cast two on each side of it forming chambers to receive friction rollers. The chambers open into the shaft, so that the friction rollers fit against each side of the square shaft in the center of the hollow shaft—that is to say, on two sides of the square shaft, one opposite the other. The pins on axles of the friction rollers pass through the wings and through the rollers in a slot marked on drawings E E. The square shaft is connected with the shaft that runs through the flour chest below by means of a coupling, so that it forms the top part of packing shaft. The top of this shaft is connected with an ordinary lever on one end of a walking beam. The other end of this beam is connected with the rack and pinion by means of a rod the lower part of which is wood three inches square which has the rack attached to it. This part of the rod works against a post 4 inches square which has the bearing attached to it for the pinion and hand wheel for the purpose of lowering packer into the barrel and is also provided with a catch to act on the pinion and hold the packer up and out of gear while the barrel is being removed.

The operation of packing is placing a barrel on the platform and raising it up by leaning on the handle of the lever till it receives the flange. The handle is now made fast by a catch, the chest being previously

filled with flour. One hand is next placed on the hand wheel and the other is placed on the handle of the catch that holds the pinion and wheel and sifter, and the packing shaft runs down and commences to turn, at the same time the flour follows it down and the packing plate works up through it until the plate enters the flange and the lower lip of it comes even with the lower side of the flange. At this point the square shaft at top arrives at the point where the friction rollers run off on the round part of the shaft, the friction rollers having by the friction caused by the packing operation been elevated to the top of slot where they roll on the round part drop down till their axles rest at the lower end of the slot. The square shaft then with the whole line of shaft downward through the flour chest with the square cone plate ceases to move and the packing plate at the same time holding up the flour in the same manner that a slide or gate would without condensing any flour as the flour above the plate is all loose and all below packed and goes into the barrel and the hollow shaft and friction rollers and wheel continue their motion and also at the same time the shaft and packer stop the ratchet catch acting on the pinion that has the hand wheel attached to it has its hold and keeps the packing shaft up and out of gear while the barrel is being removed and another is being replaced and the operation continued until the flour chest above is emptied.

Having thus fully described my improvement with the mode of construction and operation, what I claim and desire to secure by Letters Patent is—

The spiral cone plate I do not claim, the spiral plate separately, but claim it in combination with the cone shape of the same. I also claim the friction roller clutch and also the hand wheel and rack and pinion and catch in combination with the clutch for the purpose above set forth.

NATHAN KINMAN.

In the presence of—
P. B. AIKEN,
I. L. DAVISON.