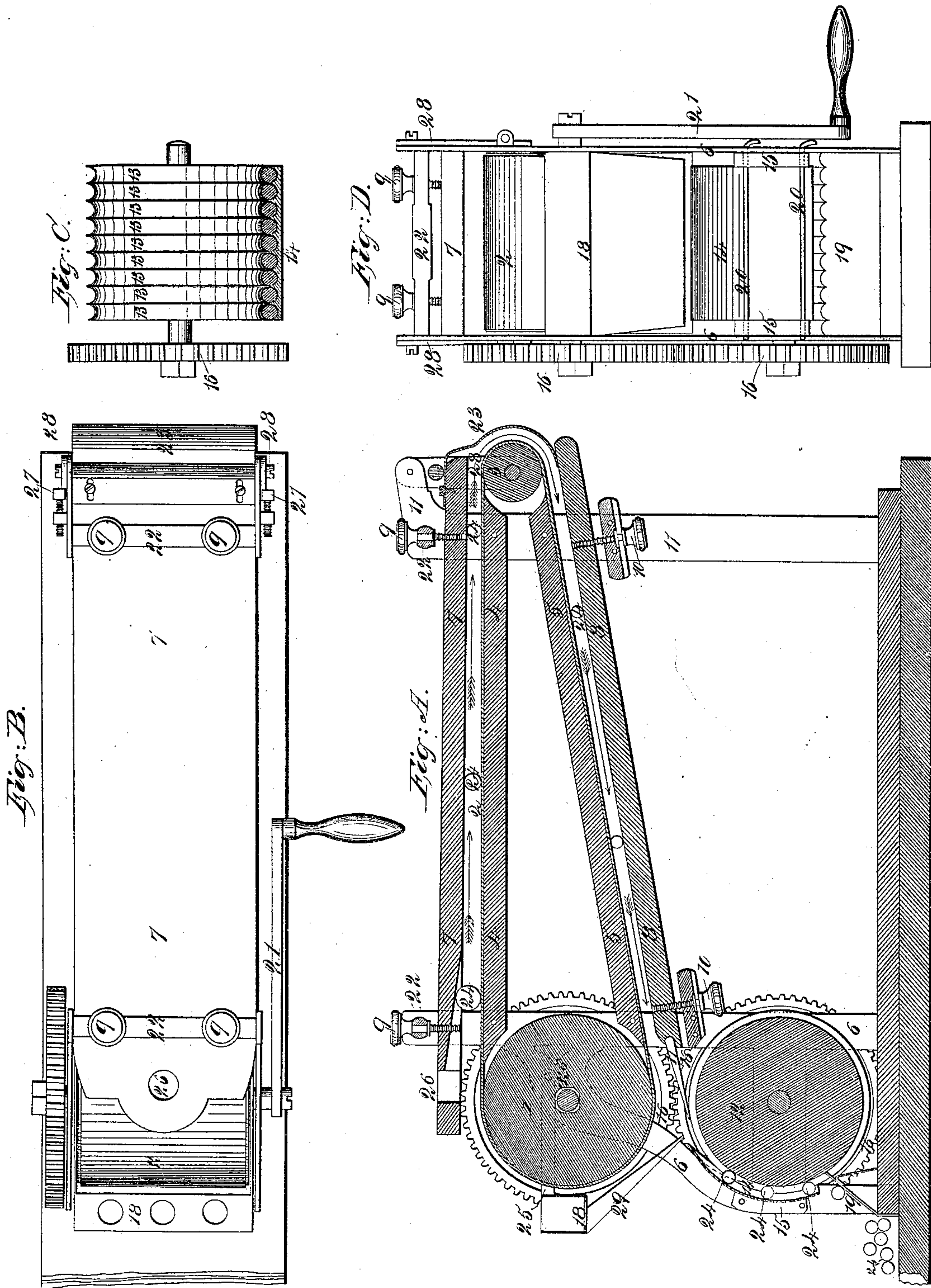


N. W. KUMLER.

Pill Machine.

No. 14,161.

Patented Jan'y 29, 1856.



UNITED STATES PATENT OFFICE.

NOAH W. KUMLER, OF CINCINNATI, OHIO.

IMPROVEMENT IN PILL-MAKING MACHINES.

Specification forming part of Letters Patent No. 14,161, dated June 29, 1856.

To all whom it may concern:

Be it known that I, NOAH W. KUMLER, of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in a Machine for Making Pills; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, and to the letters and figures of reference marked thereon, similar letters and figures referring to corresponding parts of the improvement.

The nature of my improvement consists in placing plates of wood or metal the required distance apart, and have all or part of them adjustable by means of set-screws, or otherwise, and with a pulley and belt draw the pill material between said plates and roll it out to any required size in the shape of round bars, after which it is conducted to a revolving metal roller provided with semicircular grooves cut around its circumference, and the bars of pill material are carried between the face of said roller and a segmental plate of metal furnished with semicircular grooves similar to those on the face of the roller, and the projections formed by the grooves on the roller and segmental plate cut the bars of pill material into the required sizes, when they are rolled around by the motion given to the roller until formed into balls suitable for use, after which they are discharged from the machine, ready for packing.

To enable others skilled in the art to make and use my improvement, I will proceed to describe its construction and operation, by referring to the accompanying drawings, of which—

Figure A represents a longitudinal sectional elevation of the improved machine, showing the manner of placing the pill material in the machine and the manner of rolling and forming the same into pills. Fig. B represents a top view of the machine. Fig. C represents the grooved roller drawn separate, in combination with a sectional view of the segmental grooved plate. Fig. D represents a front elevation of the machine.

1 represents the pulley, provided with a crank, 21, and belt or apron 2 2, which runs around the drum 3 at the rear end of the machine. The said drum revolves in the levers

28 28, for the purpose of tightening the belt, by forcing the drum out with the set-screws 27 27 on each side of the machine, as shown in Fig. B, in order to get sufficient power from the belt to draw the pill material through the plates 4 and 7 and 5 and 8.

24 represents the pill material, placed in the opening 26 upon the belt 2, from whence it is carried and rolled between the two upper plates to the rear end of the machine, and conducted around the drum 3 by the conducting-plate 23, and is then rolled along between the two lower plates, 5 and 8, as denoted by the darts, and discharged by the conducting-plate 17 between the grooved roller 12 and segmental plate 14, where it is cut, as before stated, into the proper-sized pieces and rolled into balls, and finally discharged from the machine at the lower part of the segmental plates 14 on the discharging-plate 19, as represented in Fig. A. The roller 12 receives its motion through the gear-wheels 16 16, one of which is placed on the axis of the pulley 1, and the other on the roller. The pulley and roller revolve in the frame 6 6, and 11 represents the rear portion of the frame to which the plates and drum 3 are attached.

9 9 represent adjusting-screws working in the cross-bars 22 22, for the purpose of adjusting the plate 7 7 to and from the belt 2, and 10 10 are similar screws for adjusting the plate 8 8. The plates 4 and 5 are made stationary by attaching them to the frame-pieces 6 and 11.

18 is what I denominate a "powder-box," which receives a vibratory vertical motion by means of the levers 25 25, which are attached to the said box and work on pivots screwed in the frame, said levers receiving their motion by the cam form of the axis of the shaft, as seen at 26 in Fig. A, at the center of the pulley. The object of this arrangement is to jar some suitable powder down the conducting-plate 29 upon the roller 12, to prevent the pill material from adhering to the roller and segmental plate 14, and also serves to give a coating to the pills.

20 20 represent rods made to pass through the framing 6 6 and flanges 15 15, for the purpose of holding the grooved segmental plate 14 at the proper relative distance from the roller 12. Said flanges are part of the segmental plate.

13 13, in Fig. C, represent the grooves cut in the roller, and 14 a sectional view of the segmental plate, which shows the manner of forming the pill when they are brought together, giving it a true spherical shape.

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

The combination of the adjustable plates 7 and 8, apron 2, pulley 1, and drum 3, and these

in combination with the grooved roller 12 and segmental plate 14, all substantially as and for the purposes set forth in the foregoing specification, and represented in the accompanying drawings.

NOAH W. KUMLER.

Witnesses:

MARTIN BENSON.

L. W. SMITH.