

No. 647,763.

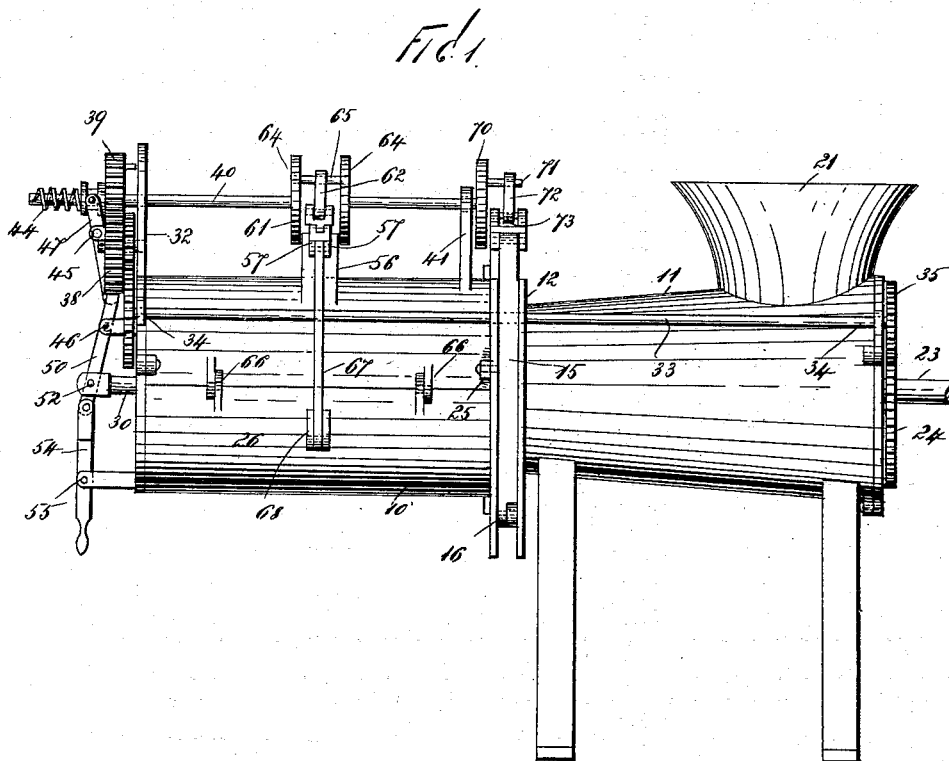
Patented Apr. 17, 1900.

J. SCHAEFFER.  
BUTTER PRINTING AND GAGING MACHINE.

(Application filed Aug. 15, 1899.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES

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Fig. 2.

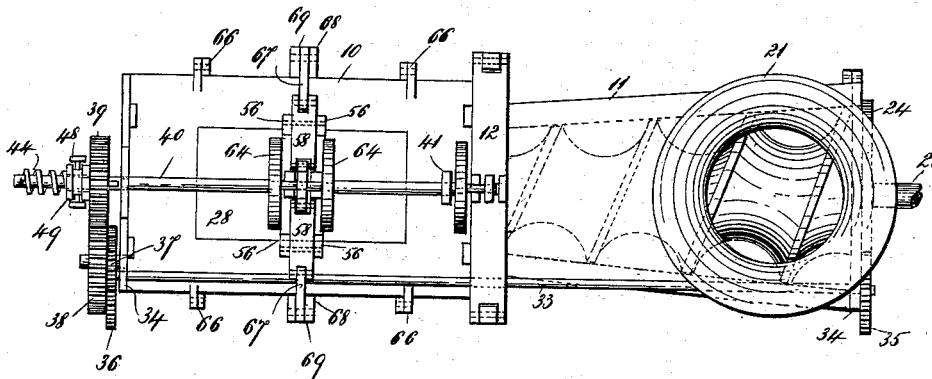


Fig. 3.

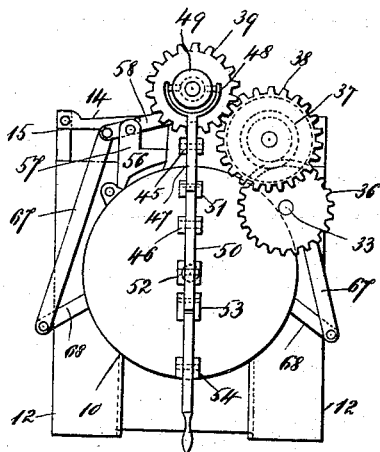
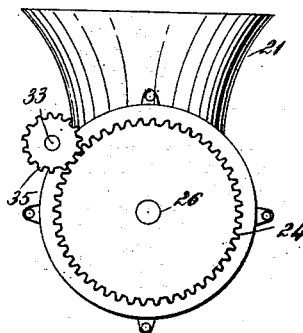


Fig. 4.



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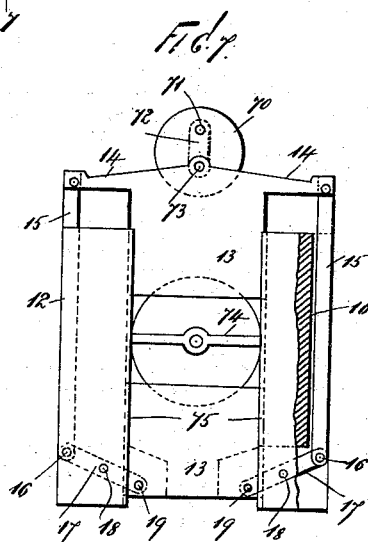
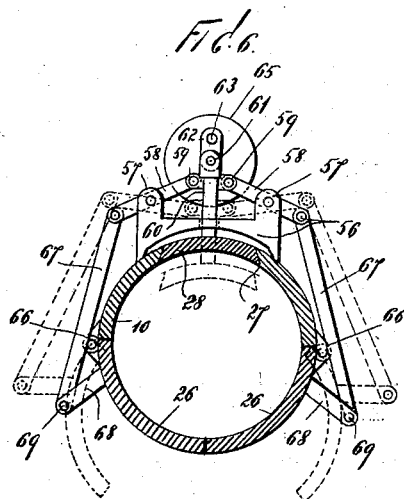
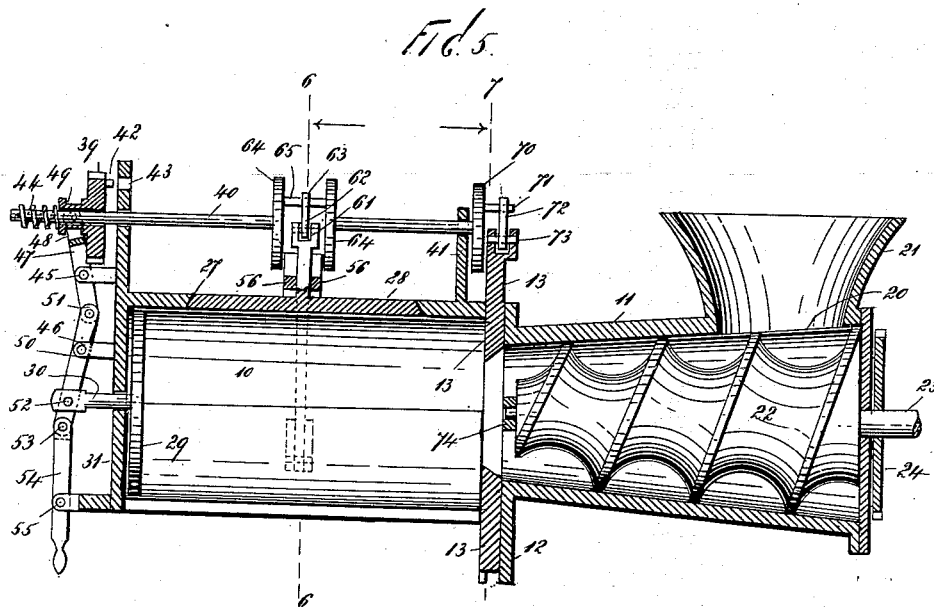
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# UNITED STATES PATENT OFFICE.

JESSEE SCHAEFFER, OF BERLINSVILLE, PENNSYLVANIA.

## BUTTER PRINTING AND GAGING MACHINE.

SPECIFICATION forming part of Letters Patent No. 647,763, dated April 17, 1900.

Application filed August 15, 1899. Serial No. 727,262. (No model.)

*To all whom it may concern:*

Be it known that I, JESSEE SCHAEFFER, a citizen of the United States, residing at Berlinsville, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Butter Printing and Gaging Machines, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to machines for pressing, printing, and gaging or measuring butter; and the object thereof is to provide an improved machine of this class which is simple in construction and operation and by means of which butter may be quickly and easily pressed, printed, and gaged or measured.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by the same numerals of reference in each of the views, and in which—

Figure 1 is a side view of my improved machine; Fig. 2, a plan view thereof; Fig. 3, a rear end view; Fig. 4, a front end view; Fig. 5, a central longitudinal vertical section; Fig. 6, a transverse vertical section on the line 6 6 of Fig. 5, and Fig. 7 a section on the line 7 7 of Fig. 5.

In the practice of my invention I provide a cylindrical casing 10, to the front end of which is secured a conical casing 11, the larger end of which is directed outwardly, and the conical casing 11 is provided at its smaller or inner end with a rectangular frame 12, as shown in Figs. 1, 2, 5, and 7, in which are mounted vertically-movable knives 13, said knives being arranged one above the other, as shown in Fig. 5, and the top knife 13 is provided with projecting side arms 14 at the top thereof, to which are pivoted rods or bars 15, which move in vertical side grooves 16, formed in the sides of the frame 12 and the lower ends of which are pivotally connected at 16 with links 17, which are pivoted in the frame 12 at 18 and which are also pivotally connected at 19 near the bottom portion of the bottom blade 13, this construction being best shown in Fig. 7.

The conical casing 11 is provided at its outer end and in the top thereof with an opening

20, around which is formed an upwardly-directed funnel-shaped receiver 21, and mounted in the casing 11 is a conical-shaped conveyer 22, having a spiral groove running around the same from one end to the other, and said conveyer is provided at its lower end with a shaft 23, which projects through the larger end of the casing 11 and on which is mounted or to which is secured a gear-wheel 24.

The drum or casing 10 is connected with the frame 12 by lugs or projections 25, which are formed on the upper portion of said drum or casing and riveted to said frame, and the lower portion of said drum or casing consists of two hinged doors 26, which are adapted to open downwardly, as shown in Fig. 6, and said drum or casing is provided in the top thereof with a longitudinal opening 27, which is closed by a vertically-movable plunger 28.

Mounted in the drum or casing 10 is a plunger 29, which closely fits and is longitudinally movable in said drum or casing and which is provided with a stem 30, which passes centrally through the rear end or head 31 of the drum or casing 10 opposite the casing 11, and said drum or casing is provided at its rear end with an upwardly-directed standard or support 32.

A shaft 33 is mounted in the top of the frame 12 at one side of the machine, and the front and rear ends thereof are provided with suitable bearings or supports 34, and the front end of said shaft is provided with a pinion 35, which operates in connection with the gear-wheel 24 on the shaft 23, and the rear end of the shaft 33 is provided with a gear-wheel 36, which operates in connection with a pinion 37, with which is connected a gear-wheel 38, which operates in connection with a gear-wheel 39, mounted on a crank-shaft 40, supported in the standard or support 32 and the corresponding standard or support 41 at the front end of the drum or casing 10.

The gear-wheel 39 is adapted to slide on the shaft 40 and is provided with a pin 42, adapted to enter a corresponding hole or opening in the upper end of the standard or support 32, and mounted on the outer end of the shaft 40 is a spring 44, which operates to force the wheel 39 inwardly and to cause it to engage with the standard or support 32.

Below the outer end of the shaft 40 and arranged in vertical line are projecting supports 45 and 46, and pivotally connected with the projecting support 45 is a link 47, the upper 5 end of which is provided with a yoke 48, which is pivotally connected with a grooved collar 49, formed on the gear-wheel 39, and a link 50 is pivotally connected with the support 46 and also with the lower end of the link 47, 10 as shown at 51.

The link 50 is pivotally connected with the stem 30 of the plunger 29, as shown at 52, and the lower end of said link is pivotally connected at 53 with the lever 54, which is pivoted to a support 55, connected with the bottom of the drum or casing 10.

The vertically-movable plunger 28 in the top of the drum or casing 10 is provided with upwardly-directed supports 56, (see Figs. 5 20 and 6,) which are arranged transversely of said plunger, and these supports are provided at their opposite ends with upwardly-directed extensions 57, in each of which is pivoted a link 58, and the inner ends of these links are 25 pivotally connected at 59 with the upper end of a standard 60, formed on or secured to the central portion of the plunger 28, and said standard is pivotally connected at 61 with a link 62, which is connected with the crank-shaft 40 eccentrically of the longitudinal center thereof, as shown at 63, and the crank-shaft 40 is preferably composed of two sections, the adjacent ends of which are provided with heads 64, which are connected by a crank-pin 65, with which the link 63 is connected, 30 all this construction being best shown in Figs. 5 and 6.

The doors 26, which form the bottom portion of the drum or casing 10 and which open 40 downwardly, are hinged at 66, and pivotally connected with the outer ends of the links 58 are rods or bars 67, which are pivotally connected with downwardly and outwardly directed arms 68, as shown at 69, and the operation of the crank-rod 40 through the agency of the links 58 and the rods or bars 67 opens 45 and closes the doors 26, as hereinafter described.

The front end of the crank-shaft 40 is also 50 provided with a disk 70, provided with a crank-pin 71, with which is connected a link 72, which is pivotally connected at 73 with the upper blade 13 at the front end of the drum or casing, and the crank-shaft 44, through the 55 agency of the link 42, the rods or bars 15, and the links 17, also operates the knives 13, as hereinafter described.

At the inner end of the conical casing 11 is a transverse bar 74, in which the inner end 60 of the conveyer 22 is mounted, and the blades 13 fill the space between the side bars 75 of the frame 12, in which they are mounted, and the wheel 39 is free to slide on the shaft 44, but cannot turn thereon.

65 The operation will be readily understood from the foregoing description when taken in

connection with the accompanying drawings and the following statement thereof.

The butter is fed into the casing 11 through the receiver 21, and the conveyer 20 is turned 70 by the shaft 23 by means of a crank or by any suitable power. In this operation the butter is gradually forced into the casing or drum 12, it being understood that the doors 26 are closed, as shown in Fig. 6, and the 75 plunger 29 is in its innermost position. As the casing or drum 10 is gradually filled with butter it is packed against the plunger 29, and said plunger 29 is gradually moved outwardly into the position shown in Fig. 6, and 80 when said plunger is in this position the drum or casing 10 is packed full of butter, and at this time the links 47 and 50 are operated by the stem 30 of the plunger 29, and the wheel 39 is moved out into the position 85 shown in Fig. 5, in which position it is in engagement with the main gear-wheel 38, which is operated all the time that the conveyer is in operation by means of the shaft 33; the gear-wheel 36, and the pinion 37. When the 90 wheel 39 is thrown out into the position shown in Fig. 5, the shaft 40 is at once turned thereby, and at the end of one-half a revolution of said shaft the links 58 and rods or bars 67 are operated and thrown into the position shown in 95 dotted lines in Fig. 6, and this operation opens the doors 26, and at the same time the plunger 28 is depressed and the butter drops out of the drum or casing 10 into a suitable receptacle prepared therefor. As the shaft 44 100 continues its revolution the doors 26 are closed and the plunger 28 returned to the position shown in Figs. 5 and 6. At this time the lever 54 is operated or pulled outwardly by grasping the lower end thereof, the plunger 105 29 is moved backwardly into the drum or casing 10, and the wheel 39 is thrown into connection with the standard or support 32, and the butter is again fed into the receiver 21, the conveyer 22 is turned, and the above-described operation is repeated. 110

The face of the plunger 29 may be provided with any suitable marks, characters, or stamps, which will be imprinted on the paper in the usual manner, and the drum or casing 115 10 may be of any desired size and may be so regulated as to print and measure or gage any desired amount of butter at a time or from one pound upward.

My improved apparatus is simple in construction and operation and is perfectly adapted to accomplish the result for which it is intended, and it will be apparent that changes in and modifications of the construction herein described may be made without departing 125 from the spirit of my invention or sacrificing its advantages.

Having fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A machine for printing and measuring or 130 gaging butter, comprising a main casing, the

bottom portion of which consists of hinged doors, and the top portion of which is provided with a vertically-movable plunger, another casing at one end thereof, provided with a conveyer mounted on a shaft, a hopper above the conveyer, and devices in operative connection with the shaft of the conveyer for opening said doors, and for moving said plunger, substantially as shown and described.

2. A machine of the class described, comprising a main casing provided with bottom doors, and in the top thereof with a vertically-movable plunger, and another plunger in one end of said casing, a conveyer-casing connected with the opposite end thereof, a conveyer mounted on a shaft therein for forcing the butter into the main casing, a hopper above the conveyer and devices in operative connection with the shaft of the conveyer and with both of said plungers, and said doors whereby when the main casing is filled, the door will be opened and the vertically-movable plunger operated, substantially as shown and described.

3. A machine of the class described, comprising a main casing cylindrical in form, and the bottom of which consists of hinged doors, said casing being also provided in one end thereof with a longitudinally-movable plunger, the stem of which projects through the end of the casing, and in the top thereof with a vertically-movable plunger and a conveyer-casing secured to the end of the main casing opposite the plunger mounted therein and provided with a conveyer which is mounted on a shaft and adapted to force butter into the main casing and devices in operative connection with the shaft of the conveyer and with the doors and plungers of the main casing for operating said doors and plungers, substantially as shown and described.

4. A machine of the class described, comprising a main casing the bottom of which is composed of hinged doors, and the top of which is provided with a vertically-movable plunger, a plunger mounted in one end of said casing and provided with a stem which passes through said end, a conveyer-casing at the opposite end of said main casing and in communication therewith, a conveyer mounted on a shaft in said conveyer-casing, vertically-movable knives mounted between the main casing and the conveyer-casing, and devices in operative connection with the shaft of the conveyer, and with the doors and plungers of the main casing, and the knives between the main and the conveyer casing for operating said parts, substantially as shown and described.

5. A machine of the class described, comprising a main cylindrical casing, the bottom portion of which is composed of hinged doors and the top portion of which is provided with a vertically-movable plunger, said casing being also provided in one end thereof with a longitudinally-movable plunger, the stem of which passes through said end, and at the op-

posite end with a conveyer-casing in communication therewith, and provided with a conveyer mounted on a shaft, a hopper above the conveyer, vertically-movable knives mounted between the main casing and the conveyer-casing, a shaft outside of said main casing, and geared to the conveyer-shaft, a crank-shaft mounted above the main casing, and connected with the plunger in the top thereof, and also with said knives, said shaft being provided with a longitudinally-movable gear-wheel splined thereon and said first-named shaft being geared therewith, substantially as shown and described.

6. A machine of the class described, comprising a main cylindrical casing, the bottom portion of which is composed of hinged doors, and the top portion of which is provided with a vertically-movable plunger, said casing being also provided in one end thereof with a longitudinally-movable plunger, the stem of which passes through said end, and at the opposite end with a conveyer-casing in communication therewith, and provided with a conveyer mounted on a shaft, a hopper thereover, vertically-movable knives mounted between the main casing and the conveyer-casing, a shaft outside of said main casing and geared with the conveyer-shaft, a crank-shaft mounted above the main casing, and geared with the plunger in the top thereof, and also with said knives, said shaft being provided with a longitudinally-movable gear-wheel and said first-named shaft being geared therewith, and the stem of the plunger in the end of the main casing being connected with the longitudinally-movable gear-wheel on the crank-shaft by pivoted levers, substantially as shown and described.

7. In a machine of the class described, a main casing 10, the bottom portion of which is composed of hinged doors, said casing being also provided in one end thereof with a longitudinally-movable plunger 29, and in the top thereof with a vertically-movable plunger 28, said longitudinally-movable plunger being provided with a stem 30 which passes through the end of the casing, said main casing being also provided at one end with a conveyer-casing 11 in communication therewith, a conveyer 22 mounted on a shaft in said conveyer-casing, vertically-movable doors 13 mounted between the main casing and the conveyer-casing, a shaft 33 geared with the shaft of the conveyer, and with a longitudinally-movable gear-wheel 39 mounted on a shaft 40, supported above the main casing, said shaft 40 being in operative connection with said knives, and with the doors of the main casing, and the wheel 39 being in operative connection with the stem 30 of the plunger 29, and a lever 54 which is also in operative connection with said wheel, substantially as shown and described.

8. In a machine of the class described, a main casing or drum, the bottom portion of which is composed of hinged doors which open

outwardly and downwardly, and the top of which is provided with a vertically-movable plunger, means for forcing butter into one end of the casing a longitudinally-movable plunger in the opposite end thereof, and means connected to the plunger in the top of said casing and to said doors for operating the same, and a clutch connection between said means and the longitudinally-movable plunger, substantially as shown and described.

9. In a machine of the class described, a casing or drum, the bottom portion of which is composed of hinged doors, and the top of which is provided with a vertically-movable plunger, a longitudinally-movable plunger mounted in one end of said casing or drum and provided with a stem which passes through said end, means for feeding butter into the opposite end of said drum or casing, and devices for operating said doors and vertically-movable plunger and a clutch connection between said means and the longitudinally-movable plunger, substantially as shown and described.

10. A machine of the class described, comprising a drum or casing, the bottom of which is composed of hinged doors, and the top portion of which is provided with a vertically-movable plunger, a longitudinally-movable plunger mounted in one end of said drum or casing and provided with a stem which passes through said end, means for forcing butter into the opposite end of said drum or casing, vertically-movable knives mounted in said end of said drum or casing, means connected to the plunger and to said doors and knives for operating the same, and a clutch connection between said means and the longitudinally-movable plunger, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 5th day of August, 1899.

JESSEE SCHAEFFER.

Witnesses:

DAVID McKENNA,  
JOHN J. AUER.