(No Model.)

H. ATWOOD.

MACHINE FOR PRINTING BUTTER.

No. 536,120. Patented Mar. 19, 1895.

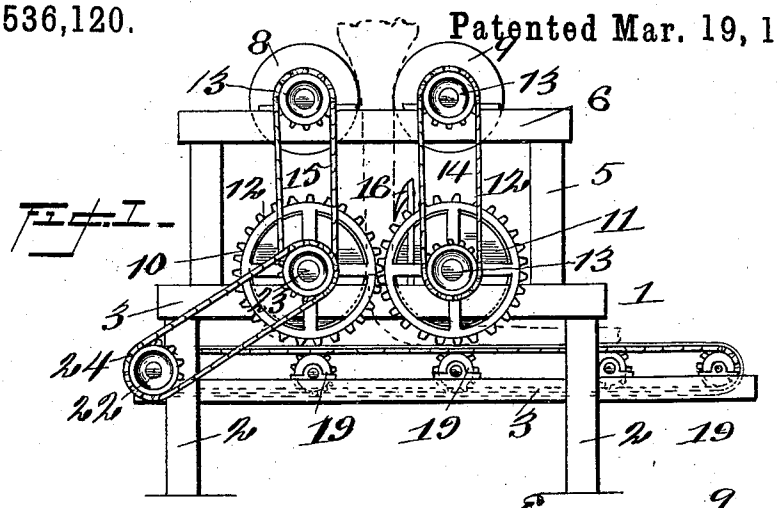

Fig. 1.

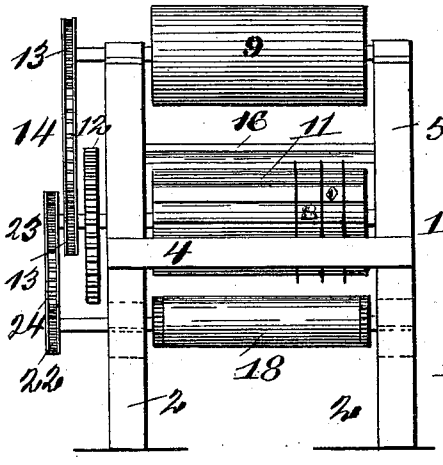

Fig. 2.

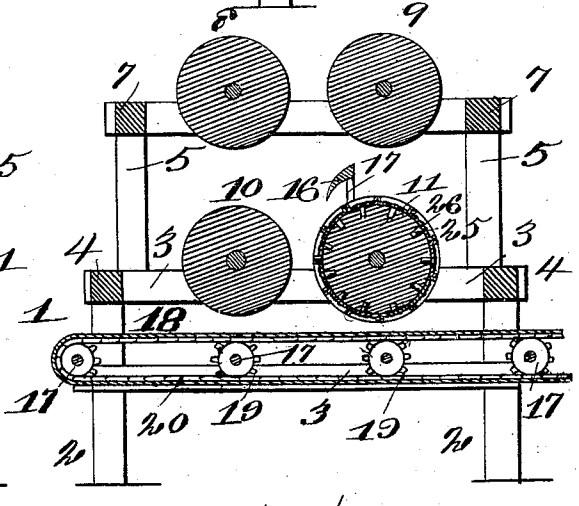

Fig. 3.

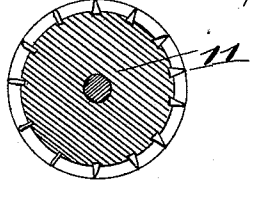

Fig. 4.

WITNESSES:

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UNITED STATES PATENT OFFICE.

HORACE ATWOOD, OF EAST GENOA, NEW YORK, ASSIGNOR OF ONE-HALF TO O. W. ORCUTT AND I. H. FROST, OF ST. JOHNSBURY, VERMONT.

MACHINE FOR PRINTING BUTTER.

SPECIFICATION forming part of Letters Patent No. 536,120, dated March 19, 1895.

Application filed May 23, 1894. Serial No. 512,167. (No model.)

To all whom it may concern:

Be it known that I, HORACE ATWOOD, a citizen of the United States, residing at East Genoa, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Machines for Printing Butter; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain improvements in machines for printing butter; and it consists in providing a revoluble roll with printing devices of varying shape and design, and in suitable means for feeding the butter to the printing-roll and conveying the butter prints from said roll, as will be hereinafter more fully described and set forth in the claims.

The principal object of the invention is to provide a device, which shall be simple of construction, easily kept clean and in working order, and efficient in operation, and a further object is to provide for the ready and quick removal and substitution of the printing-blocks, in case of injury. These objects are attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of my improved machine; Fig. 2, an end elevation; Fig. 3, a vertical longitudinal section, and Fig. 4, an end view of the printing-roll, showing a modified form of division plates or markers.

Referring to the drawings:—the numeral 1 indicates the main frame of the machine, which consists of the vertical posts 2, connected together by the side rails 3 and end rails 4, and mounted upon the upper side rails of said frame, are vertical posts 5, which are connected together by side rails 6 and end rails 7.

Journaled in suitable bearings, secured upon the side rails 6, are two feed-rolls, 8 and 9, and journaled in suitable bearings, secured upon the upper side rails 3, are a smoothing-roll 10, and a printing-roll, 11, the shafts of which rolls, at one end, are provided each with a gear, 12, which intergear to run at the same speed. The same end of each shaft of each roll is provided with a sprocket-wheel, 13, and the feed roll 9 is connected with the printing-roll by a sprocket-chain, 14, and the feed roll 8 is connected with the smoothing-roll by a sprocket-chain, 15, so that all of the rolls may be run at the same rate of speed.

The numeral 16 indicates a curved smoothing-bar, situated parallel with the printing-roll and having its ends supported by arms 17 secured to the upper side-rails of the main frame. This bar serves to smooth the face or front surface of the butter before it reaches the printing-roll.

Journaled in suitable bearings, secured upon the lower side-rails of the main frame, is a series of rolls, 17, over which travels an endless-belt or apron 18, which receives the printed butter and conveys it from beneath the printing-roll. One end of each shaft is provided with a sprocket-wheel, 19, and all of the shafts are connected together by a sprocket-chain, 20, which is connected to one edge of the belt or apron. The rear end-roll shaft is provided with a second sprocket-wheel, 22, which is connected with a sprocket-wheel 23, on the shaft of the smoothing-roll, by a sprocket-chain, 24. Thus it will be seen that the conveyer-belt or apron is driven in the same direction with the periphery of the printing-roll and at the same rate of speed.

The periphery of the printing-roll is provided with a series of longitudinal grooves 25, adapted to receive the tongues 26 of a series of "print-blocks." The periphery of the printing-roll may be both longitudinally and transversely grooved to receive longitudinal and transverse partitions or markers of thin or V-shape material, as shown in Fig. 4, and the surface of the roll, within the square or oblong formed by said partitions or markers, be suitably engraved to print butter, but the print-blocks are preferred, as, in case of injury, a block may be readily and quickly removed and replaced by another.

The operation of the machine is obvious from the above description. The butter being fed between the feed-rolls 8 and 9, passes downward between the smoothing-roll and printing-roll, the face or front surface of the butter being smoothed by the curved-bar 16 before it reaches the printing roll, and is received in printed blocks or squares onto the

belt or apron, by which it is conveyed from beneath the rolls.

Instead of feeding the butter to the printing-roll in a vertical manner it may be fed to said roll in a horizontal manner, by placing it onto the belt or apron and conveying it beneath the printing-roll, in which case the feed-rolls 8 and 9 and the smoothing-bar may be dispensed with.

Trays or boards, to receive the pressed butter, may be placed upon the belt or apron, and the butter cut into blocks, by hand, with a severally bladed knife into separate prints, which may be allowed to harden without being removed from the trays or boards.

The shafts of feed-rolls 8 and 9 may be provided with gear wheels, to intermesh, instead of the shafts of the smoothing and printing-rolls, and other modifications may be made without departing from the spirit of my invention or sacrificing the principle thereof.

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

1. The combination, with the main frame a printing-roll and a smoothing-roll, journaled in said frame and geared together, of a set of feed-rolls journaled above said smoothing and printing-rolls and delivering the material to them, and a traveling-apron or belt, situated beneath the smoothing and printing-rolls, substantially as specified.

2. The combination, with the main frame and the smoothing and printing-rolls geared together, of the feed-rolls, one of which is geared to the printing-roll and the other to the smoothing-roll, a smoothing-bar parallel with said printing-roll, and an endless conveyer-apron situated beneath said smoothing and printing-rolls and driven by a chain and sprocket-wheels, substantially as specified.

In testimony whereof I affix my signature in the presence of two witnesses.

HORACE ATWOOD.

Witnesses:
A. C. McINTOSH,
W. I. H. PARKER.