

J. BUDLONG.

Manufacture of Cheese.

No. 53,777.

Patented April 10, 1866.

Fig. 1,

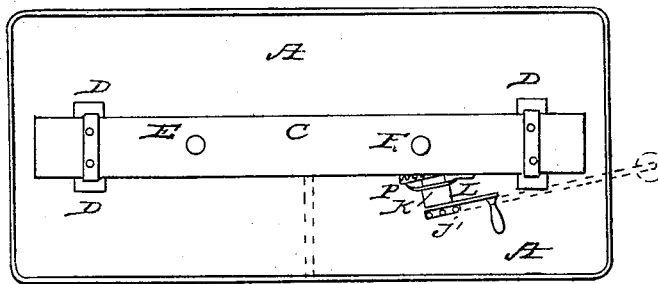
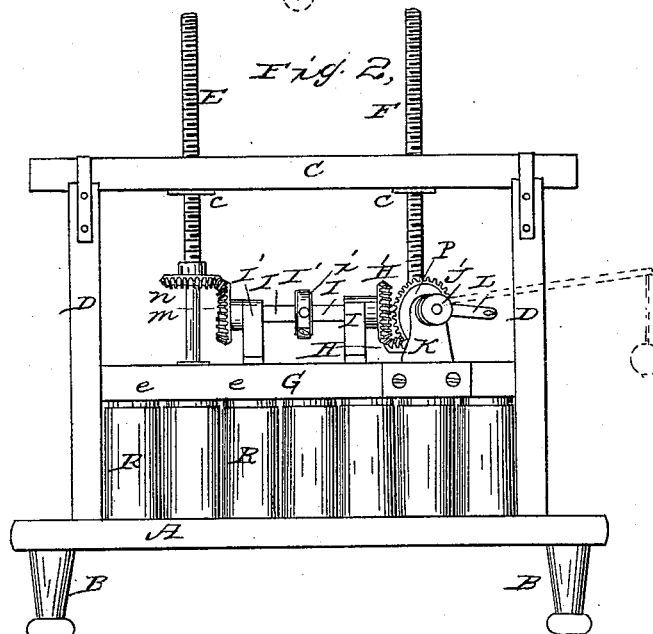


Fig. 2,



WITNESSES:

W. H. Burndge
A. W. McAllister

INVENTOR:

J. Budlong

UNITED STATES PATENT OFFICE.

JENKS BUDLONG, OF CHARDON, OHIO.

IMPROVEMENT IN THE MANUFACTURE OF CHEESE.

Specification forming part of Letters Patent No. 53,777, dated April 10, 1866.

To all whom it may concern:

Be it known that I, J. BUDLONG, of Chardon, in the county of Geauga and State of Ohio, have invented certain new and useful Improvements in the Mode of Manufacturing Cheese for Market; and I do hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan view of the machine. Fig. 2 is a side elevation.

Like letters of reference refer to like parts in the views.

My improvement in manufacturing and preparing cheese for market relates to the mode of pressing two or more together, of equal or unequal size, whereby curd in all the hoops is subject to a uniform condensation simultaneously by one continuous operation, making a more uniform quality in size and shape with greater facility than in the ordinary way.

In the figures, A represents the platform of the machine, supported on legs B. D D, are standards at each end, secured in the platform, and at the top there is a cross-piece, C, extending between the standards and firmly fastened to them. E and F are screws that screw through nuts *c* in the piece C. The lower ends of the screws or rods on which the screws are formed are secured in a cross-bar, G—that is, a piece extending between the standards, the ends of which fit into grooves in the standards, that allow the cross-bar G to move up or down.

At the lower end of the screw F there is a gear-wheel, H, that works in a gear, H', on a shaft, I. This shaft has its bearing in journal-boxes I', secured on the cross-bar G.

m is a gear-wheel on the other end of the shaft I, that works in a gear-wheel, *n*, on the screw E. These gears and screws are turned, moving up and down the cross-bar G, by a gear-wheel, P, on a crank-shaft, working in the gear H, being turned by the crank L. The crank-shaft has its bearing in a standard, *k*, extending up from the cross-bar at one side.

On the shaft I, at the middle, there is a wheel, I', with holes *i* in its periphery, in which the end of the lever may be inserted to gain leverage for producing increased pressure, and to the other end of the lever a weight may be suspended for continuing the pressure.

J' is a similar wheel on the crank-shaft, to which a lever may be connected in the same manner, as indicated by the dotted lines in Figs. 1 and 2.

Pressure can be produced on the cheese by having levers in one or both of the lever-wheels I' J', and to continue the pressure weights can be placed on the levers, as indicated.

The object of the crank-shaft L is mainly to run the cross-bar G up and down quickly, but where much pressure is required the levers are used.

E and F are both right-hand screws; but they may be right-and-left by changing the gears; or endless screws may be used in place of the gear-wheels *m* and H', the screws working in the gears H and *n*, or equivalents.

R, Fig. 2, represents the cheese-hoops that are placed on the platform below the cross-bar G, of which there can be any desired number of any size.

The mode of manufacturing cheese in this machine is as follows: The hoops, filled with the curd, are placed on the platform A, a follower, *e*, Fig. 2, being inserted in the top of each hoop to be pressed down upon the curd. Then by turning the crank L the gear P revolves the gear H, turning the screw F, that turns the screw E in the same manner, by means of the shaft I and gears H', *m*, and *n*, moving down the cross-bar G, producing a uniform pressure the entire length of the cross-bar on the cheese below.

An increased leverage and greater pressure is produced upon the cheese by adjusting a lever in the wheel I' or in the wheel J' on the crank-shaft; and where the machine is large or a great amount of pressure is required there can be a lever in each wheel and two persons to operate them. In this way the power of two levers would be obtained, being both operated at once. To continue the pressure the weights can be hung on the ends of the levers, as before stated.

A number of cheeses of the same or various sizes can be pressed simultaneously in this way, and as they are all arranged in a line directly under the pressure on the cross-bar G, being the same from one end to the other, the cheese will be pressed perfectly uniform and level and be of the same height on all sides, which is very difficult to obtain in the ordinary

mode of pressing cheese, where, the pressure being greater in the center and the follower so liable to spring, the cheese will be pressed more or less one-sided and uneven, which difficulty is entirely removed by this process.

A uniform pressure can be produced upon different-sized cheeses, that may be either of the same height and different diameters, or they may vary in depth also by having the followers in the hoops of varying thicknesses, according to the depth of the cheese.

In this machine as constructed any amount of pressure when obtained cannot be relaxed by the reverse movement of the gearing, but the pressure will be retained firmly on the cheese, and the cheese can so readily be adjusted into and removed from the machine.

As uniform pressure affects the quality of the cheese, cheese pressed in this manner

will be all of the same quality, and consequently of more value, and the process is so much facilitated, as a number of cheese can be pressed at the same time by one continuous operation, and one person can perform the labor of two with less waste than in pressing the old way, and with the same ease, being, therefore, much more economical.

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

The described improvement in preparing or making cheese for market by condensing the curd in a series of hoops, arranged as specified, by the action of the screws E F, shaft I, and beam G, arranged as specified.

JENKS BUDLONG.

Witnesses:

W. H. BURRIDGE,

A. W. McCLELLAND.