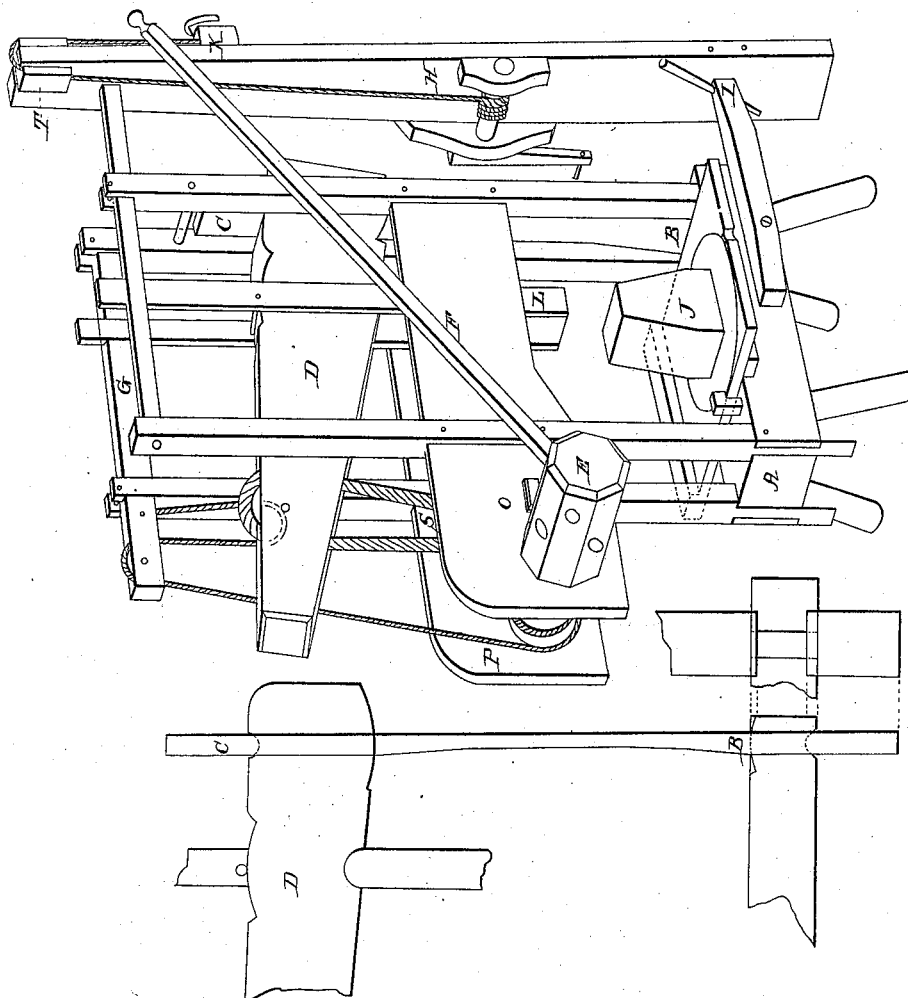


W. W. Townsend,

Cheese Press.

N^o 1433.

Patented Dec. 18, 1839.



UNITED STATES PATENT OFFICE.

WM. W. TOWNSEND, OF SHOREHAM, VERMONT.

CHEESE-PRESS.

Specification of Letters Patent No. 1,433, dated December 18, 1839.

To all whom it may concern:

Be it known that I, WM. W. TOWNSEND, of Shoreham, in the county of Addison and State of Vermont, have invented an Improvement in Cheese-Presses, of which the following is a specification.

The object of this press is to give a great pressure, long continued, by such means that the compression of the cheese shall not relieve it, in a short time, from the desired pressure, which is the practical inconvenience of the presses generally in use.

For the description, reference is made to the drawing accompanying this.

The block A B, which is supported upon four feet, has mortised into it four upright posts, as shown on the main figure of the drawing. These sustain, at top, two horizontal stanchions which bind the posts, two and two, together, and serve several purposes in the machine. One of the stanchions is lettered, on the main figure, G.

The piece marked I, is a strut fixed upon the vertical face of the block, and together with the stanchion opposite to G, supports the vertical piece I H K, from the top of which is suspended the weight used for communicating the desired pressure. The four posts also sustain, about their mid length, two broad and flat side plates, lettered P, S, and O, F. These are framed through the posts, or otherwise attached to them with great strength, to form the fixtures for the horizontal capstan and its lever. The weight K, being attached by its loop to the end of that lever, turns the capstan by its descent which rolls upon itself the rope S, one extremity of which is fastened to the cylinder of the capstan and the other to the lever through piece O; the intermediate length of rope being passed over a single pulley wheel in the end of the large lever, which of course, is brought down by the winding of the rope upon the cylinder. The lever D, is connected, at its other extremity, with the blocks A, B, by the movable fulcrum B, C, which traverses between two of the upright posts, and is attached to the extremity of the block in the manner shown at B, by the auxiliary figure of the drawing; and in such a manner as to admit free motion in the direction of the lever's length, but in no other. The movable fulcrum is attached to the lever by a joint precisely similar, but inverted, and admitting the same motions, precisely. Between the fulcrum and the

power there is also attached to the lever at D a sliding piece L, G, whose guides slide in grooves made in the top stanchions. The mode of attachment is shown at D, in the auxiliary figure of the drawing. Now when the power end of the lever is brought down by the shortening of the rope as it rolls around the cylinder, the sliding piece, last described, is also made to descend with augmented pressure and the free play of the fulcrum allows this descent to be exactly vertical.

The operation is as follows: The cheese being placed upon the board, and properly arranged to receive the pressure,—also the block J, being placed upon it,—the capstan is turned by hand till the sliding piece has its foot L, down upon the block J, with as much force as the hand can give. The lever, or hand spike, is then introduced into the capstan and the pressure is augmented to any desirable degree. There are pin holes in the foot of the vertical piece I, H, K, into which the pin shown at I, may be inserted and hold down the lever, until a second lever or handspike shall have been inserted in one of its holes in the capstan and the weight attached to it; when the lower handspike may be liberated and withdrawn. The pressure upon the cheese now becomes constant, and, as the cheese is compressed, the sliding piece follows it down, until the weight shall have run entirely down to the floor or ground.

To elevate the lever for a new operation it would be necessary to unwind the rope from the cylinder. This operation of unwinding is made to answer a second purpose (that of lifting the lever itself) by means of an auxiliary rope I, which is coiled around the cylinder in the opposite direction to the power rope, and which passing over a pulley wheel in the top stanchion, and around a second pulley in the power lever has its other extremity fastened to the stanchion. Several arrangements upon this principle might be resorted to. The operation is evident from the figure. Now the weight used being too great to be lifted and attached by hand to the capstan lever with ease an important practical improvement has been made by attaching to the machine the windlass shown at H, by means of which the cord suspending the weight (which cord passes over a pulley in the top block T,) may be wound up, and lift the weight easily to

the height required. The winch of the windlass may then be fixed by a pin set into a hole in the vertical piece I, H, K, and by means of a loop, or ring, or hook, or in some
5 other way, the weight may be attached to the power end of the handspike or capstan lever.

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

10 The before described method of applying the weight to the press; that is to say by having a cord and a loop, ring, or something equivalent thereto attached to the weight, the former for the purpose of winding up

the weight by passing over a pulley or pulleys, and the latter to attach the weight to the lever F, the whole being constructed substantially as herein described. 15

In testimony that the above is a specification of my said improvement as above
described I have hereunto set my hand this 20
21st day of November in the year of our Lord 1839.

WM. W. TOWNSEND.

Witnesses:

SAML. MOORE,
E. S. ATWOOD.