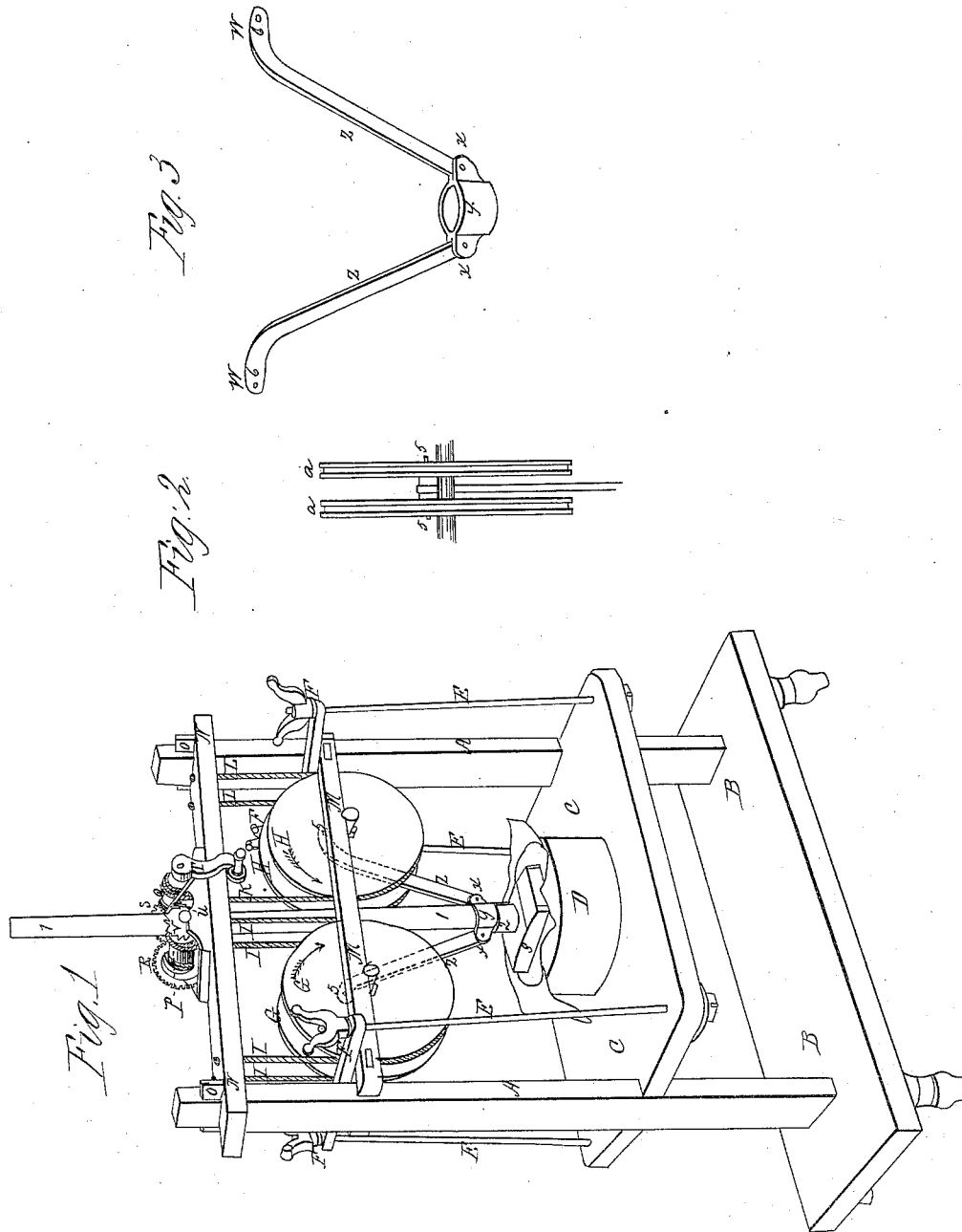


B. H. Otis,

Cheese Press.

N^o 6,225.

Patented Mar. 27, 1849.



UNITED STATES PATENT OFFICE.

BENJN. H. OTIS, OF CLEVELAND, OHIO.

SELF-ACTING CHEESE-PRESS.

Specification of Letters Patent No. 6,225, dated March 27, 1849.

To all whom it may concern:

Be it known that L. BENJAMIN H. OTIS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Self-Pressing Machine, which is described as follows, reference being had to the annexed drawings, making part of this specification.

Figure 1 is a perspective view of the press and all its appurtenances as fitted up for immediate use. Fig. 2, is a view of one pair of the pulley wheels showing the place and manner in which the bent lever is attached. Fig. 3 is a representation of the bent lever. Similar letters refer to similar parts.

The nature of my invention consists in the arrangement of two levers, in connection with certain wheels in such a manner that a continual and constantly increasing pressure is produced simply by the gravity or weight of the substance to be pressed.

To enable others skilled in the art to make and use my invention I will proceed to describe briefly its construction and operation.

Fig. 1 is a perspective view of the press. Two upright wooden posts or sides A, A, say about four feet in length are firmly mortised into the plank or wooden bottom B B which is supported upon four short legs, three of which are shown in the drawing.

C C is the baseboard on which is placed the substance to be pressed, a cheese for example, as shown at D. This base-board slides up and down upon the uprights A A, which for an ordinary cheese press may be about three feet apart, the base-board may be of any suitable width. From the four corners of the base-board four metallic rods E E E E arise, which pass through the four corners of a sliding frame F F F F and are furnished with finger-nuts and washers by means of which the distance between the sliding frame and the base board may be adjusted. Two pairs of wheels G, G, and H, H, from twenty inches to thirty inches or more if desired in diameter according to the size of the press, having grooves shown at a a Fig. 2 turned in them for the reception of four cords J J J J, and K L, K L have their axes resting in sockets or boxes on the under side of the sliding frame as shown at M M. The ends are fastened at the ends I I and L L to a stationary cross

bar N, N, which is firmly secured to the uprights A, A, as represented in the drawing, by the wooden keys or wedges O, O. The width of this cross-bar may be about ten inches. The other ends of the ends J J and K K passing through holes in the top cross-bar are wound around the barrels P and Q passing from the inside up, over and around them. Each of these barrels is furnished with a cog-wheel shown at R and S, which cog-wheels being of the same dimensions, and having the same number of teeth also meshing into each other, the two barrels will move simultaneously and wind up the cords I J, I J, K L, K L, precisely the same amount on their respective barrels, P and Q, by turning the winch or handle T. One end of the axis of each barrel is squared to receive this handle but on opposite sides, and a ratchet wheel V is also attached to the barrel P, into the teeth of which the catch U falling, whenever the cords are wound up on the barrel, prevents them from unwinding. A sliding circular rod 1, 1, moves up and down between the two barrels P and Q having at its lower part a shoulder as shown at 2, and a flat cross piece as shown at 3. Resting upon this shoulder 2, is a metallic ring Y, Figs. 1 and 3, which fits the shaft 11. This metallic ring has a pair of ears or projections on each side X X Fig. 3 between which the bent levers Z Z move on a hinge joint. The upper ends of these levers shown at W W, Fig. 3, and also by the dotted lines Fig. 1 pass between the two pairs of pulley, one on each side of the rod 11 and are attached to the pulleys by a pin passing through them as at 5 5, Figs. 7, and 2, which pin also passes through the holes in the top of the levers shown at 6 6 Fig. 3. The levers are attached to the wheels so that when the cords I J, I J, K L, K L, are wound up on the barrels P and Q the pins 5 5 will be just over the center of the wheels or pulleys as shown in Figs. 1 and 2. The bent levers are made of any suitable material, and thickness, according to the resistance to which they are to be subjected, and are of such length, that when the cords are wound up as just described they will reach to the ears or projections X X on the metallic ring Y, to which they are attached.

Having now described the several parts of the press I will briefly explain its mode of operation and will for the sake of illustration suppose that the substance to be

pressed is a cheese contained in a ring of wood D Fig. 1, having a wooden follower on it. The cords being wound up on the barrels P and Q, this ring with the cheese
 5 and its wooden follower is to be placed under the cross-piece 3 Fig. 1, which is made to bear down upon the wooden follower by means of the four finger nuts at the corners F F F F of the sliding frame. The catch
 10 U, of the ratchet wheel V being now raised immediately the cheese descends by its own gravity, but in descending it moves with it the base-board C C, which in turn carries with it, by reason of the four rods E E E E,
 15 the sliding frame F F F F. The sliding frame as it moves down, carries with it the wheels G G and H H, and these wheels by reason of the cords I J, I J, K L, K L, are caused to turn on their axes M, M, in the
 20 direction indicated by the arrows, shown in Fig. 1. In thus turning it is evident that the pins 5 5, which at the commencement were directly over the axes M M of the wheels, will be moved in the same direction
 25 as the wheels, thus bringing the two ends W W Fig. 3 of the levers nearer together and carrying of them downward causing the ring Y to which the lower ends of the levers are attached to descend, and thus, by means
 30 of the collar 2 on which this ring rests, the

cross piece 3 of the rod 11 is made to press forcibly upon the follower of the cheese. It will be perceived that the power of this press increases as the pins 5 5 come into the same straight line with X X and the
 35 axle of the wheel, or in the last stages of the pressure when most needed.

If in this last stage of the pressure a sufficient compression shall not have been attained, the cords may be again wound up,
 40 and then the cross piece 3 of the rod 11 being again brought down upon the follower by means of the four nuts at F F F F, the operation may be again repeated as just described. In this manner, acting simply by
 45 its own gravity any substance may be pressed and with a continually increasing force.

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

The combination and arrangement of two levers with their corresponding pairs of pulleys, having cords passing around them to their respective barrels as substantially herein described.

BENJAMIN H. OTIS.

Witnesses:

SAMUEL B. PRENTISS.

PERRY BOSWORTH.