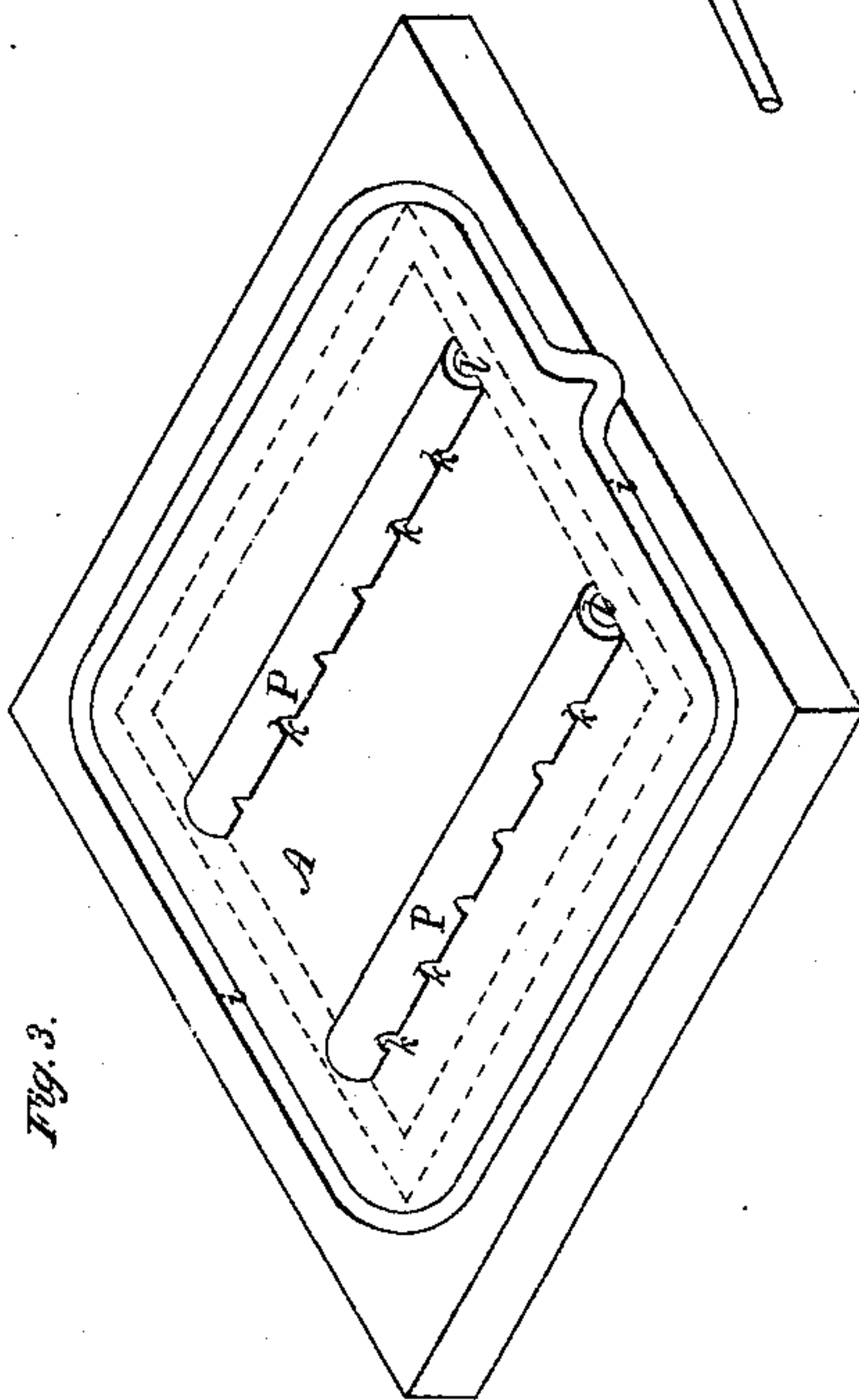
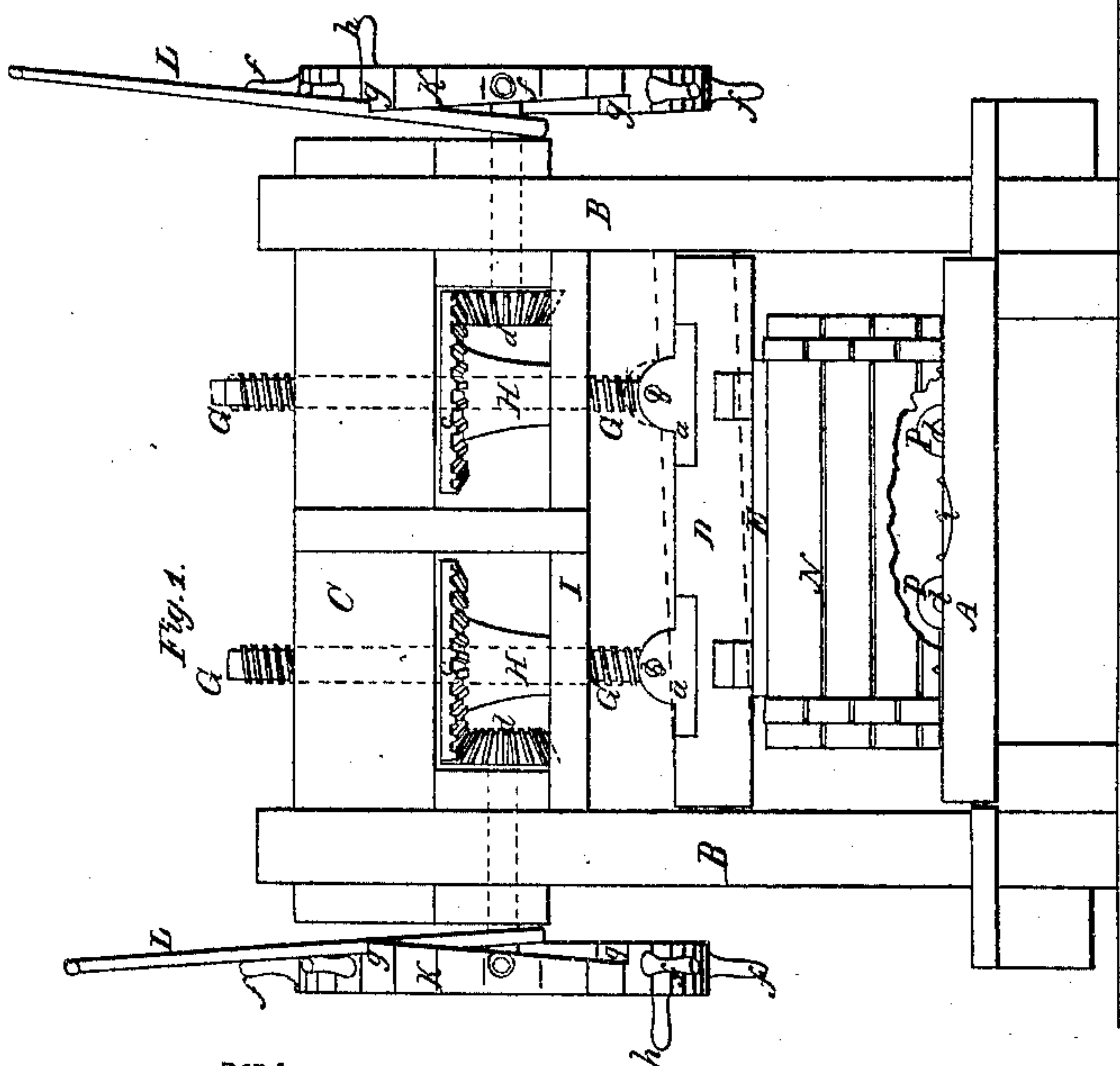
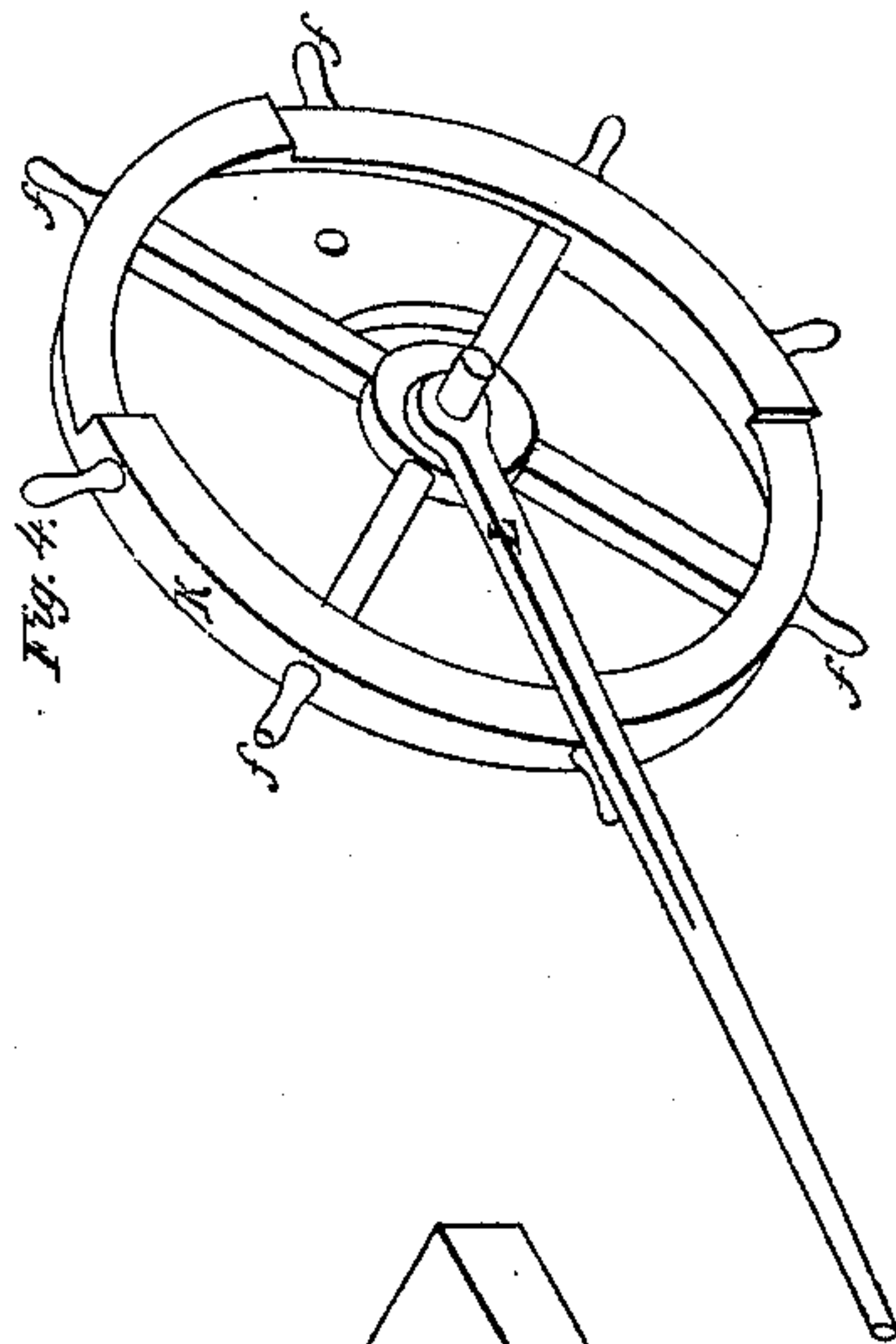
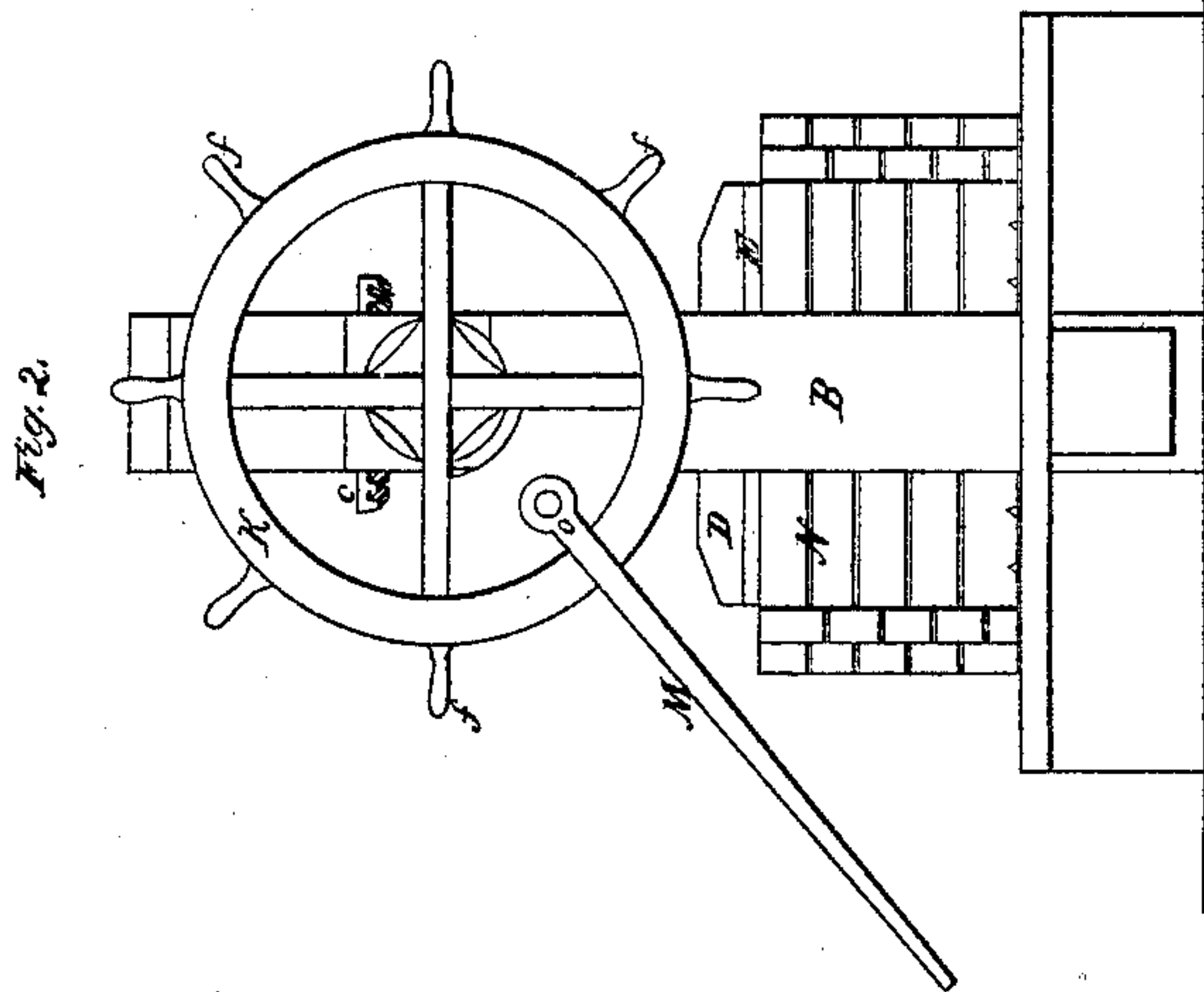


*E. W. Branch,*

*Cider Press,*

*Nº 60,992,*

*Patented Jan. 8, 1867.*



*Witnesses.*

*Jay Hyatt.*

*John Carey*

*Inventor*

*E. W. Branch*

# United States Patent Office.

E. W. BRANCH, OF EAST HENRIETTA, NEW YORK.

*Letters Patent No. 60,992, dated January 8, 1867.*

## IMPROVEMENT IN CIDER-MILLS.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, E. W. BRANCH, of East Henrietta, in the county of Monroe, and State of New York, have invented certain new and useful Improvements in Cider-Presses; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a front elevation of my improved machine.

Figure 2, an end elevation of the same.

Figure 3, a perspective view of the bed.

Figure 4, a perspective view of one of the hand-wheels.

Like letters of reference indicate corresponding parts in all the figures.

My invention consists in a certain improved arrangement of the screws and hand-wheels by which the follower is forced down or raised, and in the employment of inverted troughs or tiles in the bed for draining the interior of the cheese more readily.

As represented in the drawings, A indicates the bed, B B the standards, and C the head timber, similar in construction to the corresponding parts in ordinary presses. In grooves of the standards run the follower block D, and follower E, which are also of ordinary form. Instead of operating the follower by screws whose heads have eyes in which is inserted a long and heavy lever, as usual, I connect firmly to the follower block bearings *a a* at suitable distance apart, and to these I pivot at *b* screws G G of suitable length, which thus have a free movement and allow the follower block to stand at any angle, as well as horizontally. These screws pass up through nuts H H, with cog-wheels *c c* cast solid thereon, said nuts resting between the head timber C, and a cross-piece I, to hold them in place. With the cog-wheels *c c*, gear pinions *d d*, whose shafts pass outward, and have secured to them hand-wheels K K, by turning which the follower is turned up or down. The hand-wheels are provided with handles, *f f*, and also on one side or the other with ratches *g g*, with which engages at any time a lever, L, extending inward and bearing upon the axis of the wheels. On the outside, the hand-wheels are also provided with a crank-pin, *h*, over which is placed, when desired, the eye, *o*, of a lever, M, for rapidly turning up the follower when it is freed from pressure. Thus arranged, when the cheese is placed upon the bed the hand-wheels K are turned by the handles *f f*, carrying the follower down till the pressure is considerable. Then the levers L are employed, which, striking into the ratches *g g*, and being of considerable length, act effectively to produce great pressure. When the cheese has been thoroughly pressed, the wheels are turned back sufficiently to free the follower, and the lever M then being applied to the pin *h*, (fig. 2,) runs the follower up very rapidly. By thus pivoting the screws G G directly to the follower block D, I am enabled to raise as well as lower the follower automatically, and thus I do not have the trouble and difficulty of holding it up to adjust the parts, or of blocking it up in inserting or removing the cheese. And at the same time this pivoting does not interfere in the least with the free action of the follower, and the same can stand at any angle, (as in red lines, fig. 1,) as well as horizontally. The nuts H, by furnishing long bearings for the screws, hold them steadily at all times, and keep them properly centred. The employment of the hand-wheels, constructed as described, enables me to press down rapidly when the resistance is light, and when it becomes greater to apply adequate power by the levers L, and this without the great labor of carrying a heavy lever around from eye to eye, as in the old way. The pressure is much more easily applied and controlled than by any other method with which I am acquainted. The bed A is provided with the usual curb N for holding the cheese, and grooves, *i i*, for running off the expressed juice. In ordinary presses the floor beneath the cheese is plain and smooth, and as the cheese is of considerable thickness it is difficult for the juice to escape from the centre of the mass. To obviate this difficulty, I employ a suitable number of inverted troughs or tiles, P P, arranged in a series upon the bed or floor, with side openings, *k k*, for the entrance of the liquid, and longitudinal passages, *l l*, for its escape. These tiles extend from side to side of the curb, which is slightly elevated above the bed, or provided with notches through which the juice has a free passage in escaping from the ends of the tiles. The position of the curb on the bed with relation to the tiles is shown by red lines in fig. 3. By this arrangement, as fast as the juice is expressed it enters the tubes without difficulty, since the distance apart is not very great and the pomace is not only drained very rapidly, but much more effectively than in the ordinary way. In addi-



tion to this, the troughs or tiles, by forming ridges, have a tendency to prevent the lateral expansion or crushing out of the cheese, and, therefore, it is much less difficult to preserve the form of the latter.

I claim the windlass wheel K, having three separate functions of operation, composed, first, of the side pin *h*, and rod M, for rapidly turning up the screw-wheel H; second, the hand-pieces *f*, for imparting the initial pressure; and, third, the ratches *g* and lever L for producing the final pressure, arranged and operating conjointly with the screw-wheels H H, and follower D, substantially as set forth.

I also claim the employment of a series of inverted troughs or tiles P P, closed on their upper sides, but provided with apertures *k k*, on a level with the face of the bed, to receive and conduct away the expressed juice, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

E. W. BRANCH.

Witnesses:

JOHN CAREY,

JAY HYATT.