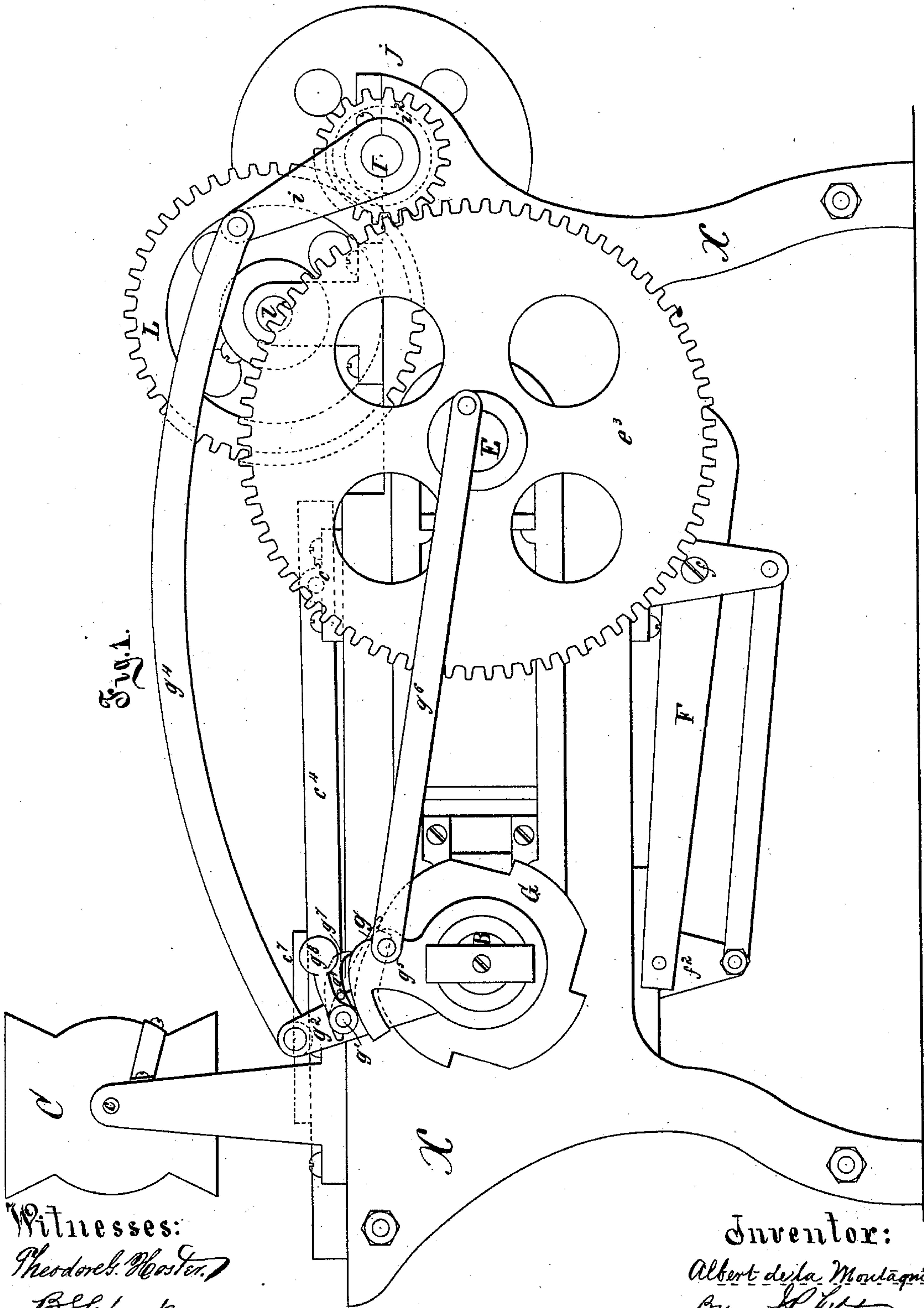


A. de la MONTAGNIE.
Machine for Pressing Sugar.

No. 201,229.

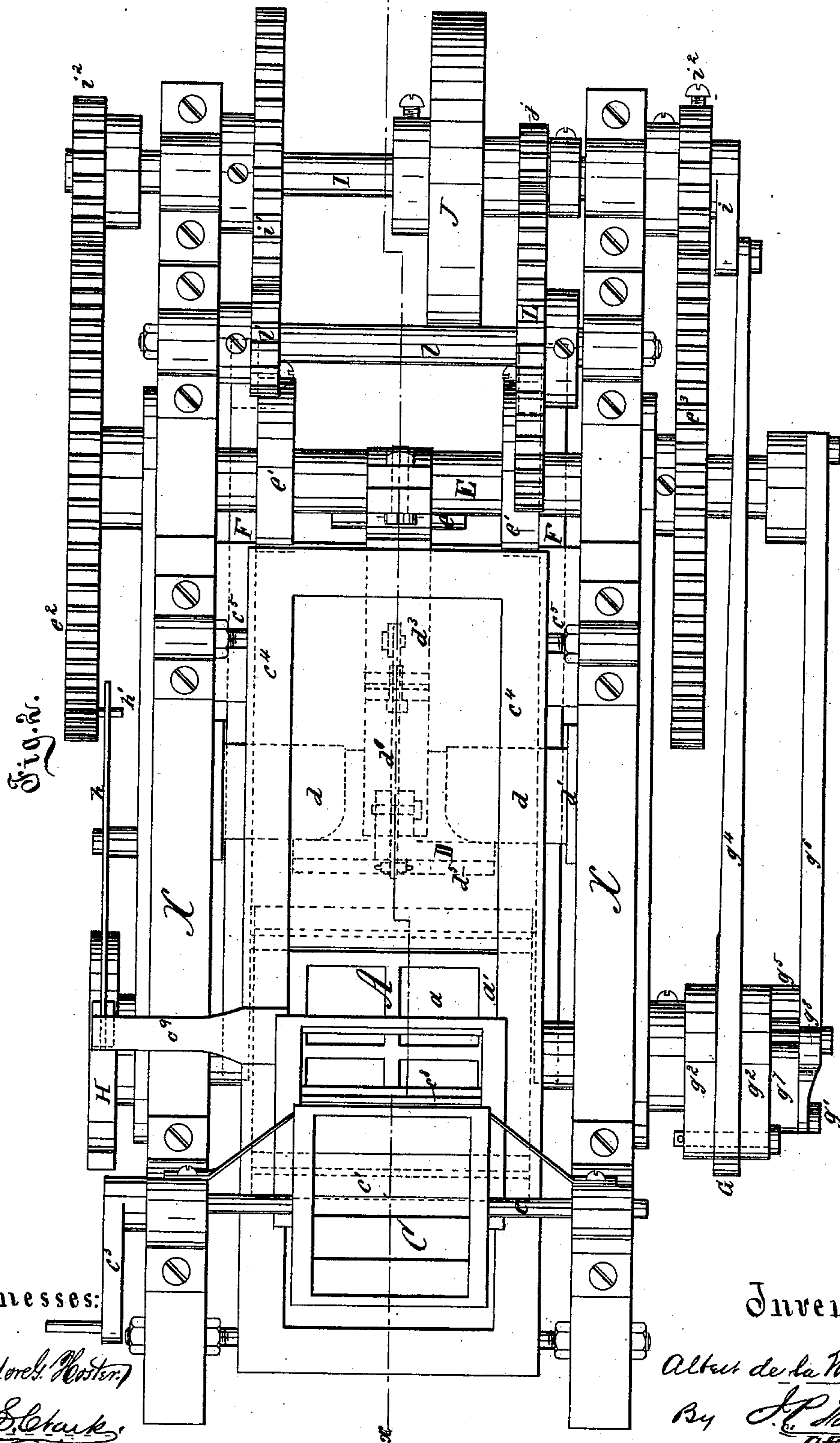
Patented March 12, 1878.



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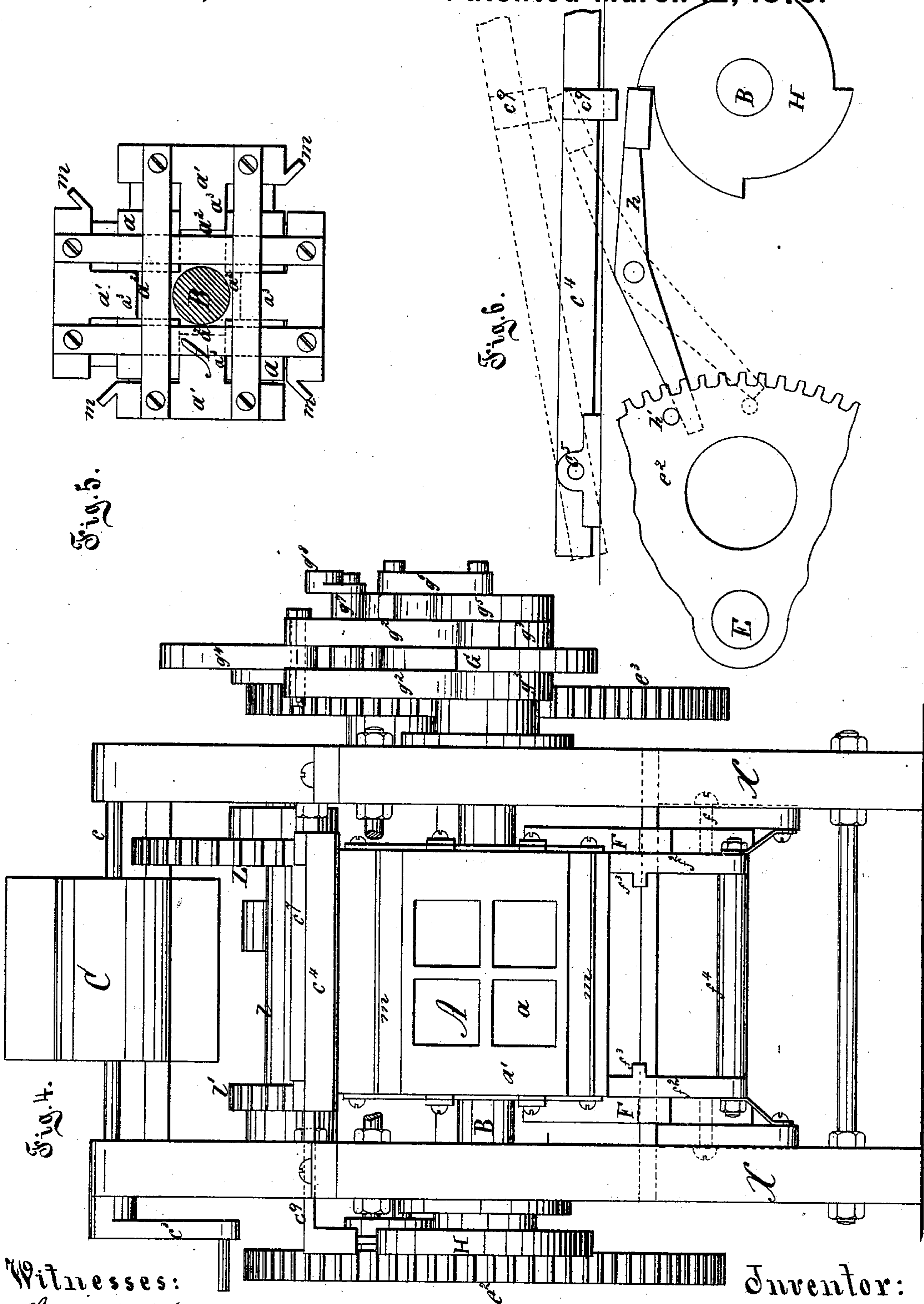
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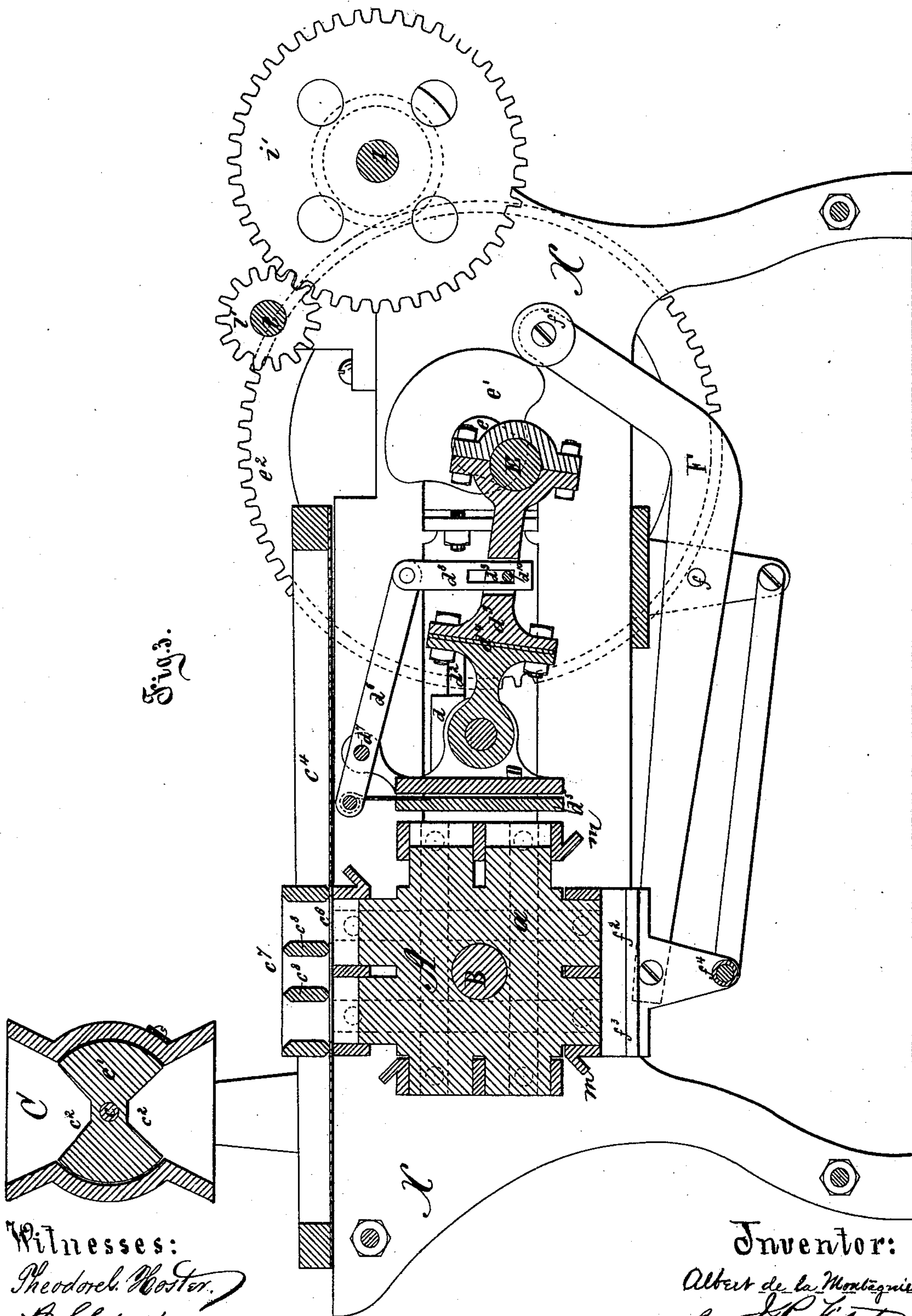
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UNITED STATES PATENT OFFICE.

ALBERT DE LA MONTAGNIE, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR PRESSING SUGAR.

Specification forming part of Letters Patent No. 201,229, dated March 12, 1878; application filed October 22, 1877.

To all whom it may concern:

Be it known that I, ALBERT DE LA MONTAGNIE, of the city, county, and State of New York, am the inventor of an Improved Machine for Pressing Sugar, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1, Sheet 1, is a side elevation of a machine embodying my invention. Fig. 2, Sheet 2, is a plan of the same. Fig. 3, Sheet 3, is a vertical central sectional view of the same on the line *x x*, Fig. 2. Fig. 4, Sheet 4, is an end elevation of the same; and Figs. 5 and 6, Sheet 4, are detailed elevations of parts of my machine.

My invention relates to a machine for pressing sugar into cubes, and is, in its parts and their operation, an improvement on the sugar-pressing machine heretofore patented to me under Letters Patent No. 181,920, granted to me September 5, 1876; and my invention consists in the combinations of devices hereinafter shown and described, and more at length recited in the claims, whereby the entire action and operation of the machine is automatic, with the exception of the charging of the dies with sugar to be pressed and the removal of the trays receiving the compressed cubes, and whereby a greater compactness and durability of the parts are secured.

I do not intend to claim herein any of the parts or devices, or the combinations of parts and devices, claimed in and covered by the Letters Patent heretofore granted to me, as above referred to; but I desire to claim herein only the combinations of parts hereinafter specifically set forth as improvements on my machine.

X is the frame, on which the parts of the machine are mounted. At *A* are shown the groups of dies, with their plungers. These are of the same general construction and arrangement as those in my former Letters Patent above referred to.

The block *a*, bearing the plungers, and forming part of the same, is fixed on the shaft *B*, which has bearings in the frame *X*. Upon this block and fitted upon the plungers are the dies *a*¹. These sets of dies are yoked together, as shown, in opposite pairs. In the sides of

the block *a* are cut channels or grooves *a*², as shown, and in these channels work the tongues *a*³, which extend inward from the die-frames upon either side. By means of these channels and tongues the dies are permitted to play upon the plungers, while at the same time the dies and their frames are rendered more steady in their movement on the plungers, and are prevented from any lateral displacement on the block *a* during the operation of the machine.

To load or fill the dies, I employ the following devices: Upon the frame, over the dies, is mounted a hopper, *C*. Within this hopper, on a shaft, *c*, works a cylinder, *c*¹. This cylinder is recessed on opposite sides of its shaft, as shown at *c*². The shaft is provided with a crank, *c*³, to turn it. A long tray, *c*⁴, is hinged upon the top of the frame *X*, at one end at *c*⁵, and it extends from its hinge to and under the hopper *C*. Through an opening, *c*⁶, in the bottom of the tray communication is had with the dies. A frame, *c*⁷, is arranged to slide longitudinally on the frame of the tray *c*⁴, and is provided with lateral partitions *c*⁸.

In loading a set of dies, the cylinder *c*¹ is turned to the position shown in Fig. 3, with its recesses *c*², one opening into the receiving-neck of the hopper. This recess is filled with sugar to be pressed, and the cylinder revolved to a reverse position, when the sugar, which is of about sufficient quantity to load the dies, is discharged into the tray *c*², the frame *c*⁷ being placed so as to have the charge delivered onto it. The frame *c*⁷ is now moved to and over the dies, and is agitated quickly on the tray, and the dies are, by such operation, charged, and the upper surface of the sugar in the dies is smoothed off level with the top of the dies. The surplus sugar, if any remains, is now carried, by the frame *c*⁷, off from over the dies toward the hinge end of the tray, and the frame remains there during the next one-quarter revolution of the dies, and is brought into use again when the next set of dies is to be charged.

D is the presser-plate for compressing the dies upon the plungers. This plate is mounted or fixed upon a block, *d*, which extends laterally across the frame *X*, and has lugs *d*¹ upon its ends, which fit into and traverse grooves *d*²,

presence of which at this point would clog the dies and plungers and prevent the desired action of the presser-plate. These lips are shown plainly in Figs. 3 and 5.

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

1. The combination, in a sugar-press with the sets of plungers *a* fixed at right angles on the intermittingly-rotating shaft B, with sets of dies *a*¹ fitted on the plungers, the sets of dies on opposite sides of said shaft being coupled together, of the horizontally-reciprocating presser D and the vertically-reciprocating frame *f*², carried by levers F, all constructed, arranged, and operating substantially as and for the purpose specified.

2. In combination, in a sugar-press, the sets of plungers and their dies A, as described, on the shaft B, the ratchet G, dog *g*, lever *g*², and crank-rod *g*⁴, the pawl *g*⁷, guide *g*⁵, and eccentric-rod *g*⁶, together with the ratchet H, lever *h*, and pin *h*¹, all constructed, arranged, and operating as described, and for the purpose specified.

3. The combination, in a sugar-press, of the plungers and their dies A on the intermittingly-rotating shaft B, with the presser D, on block *d*, working in ways *d*², rod *d*³, and crank *e* on shaft B, together with plate *d*⁵, lever *d*⁶, slotted rod *d*⁸, and pin *d*¹⁰, all constructed, arranged, and operating as and for the purpose specified.

4. The combination, in a sugar-press, with the dies and plungers A on the intermittingly-rotating shaft B, of the frame *f*², levers F, and cams *e*¹ on the shaft E, all arranged and operating as and for the purpose specified.

5. The combination, in a sugar-press, with the plungers and dies A on the shaft B, actuated to intermittingly rotate by the ratchet G and dog *g* in vibrating lever *g*², controlled by guides *g*⁵, traversed by pawl *g*⁷, of the releasing-lever *h*, actuated by pin *h*¹, the ratchet H, and the hinged loading-tray *c*⁴, having lateral arm *c*⁹, as described, and for the purpose specified.

6. In combination, in a sugar-press, with the die-frames *a*¹, the same being fitted on plungers *a* on rotating shaft B, and the opposite sets thereof being coupled together, so that the forcing of the dies upon the plungers of one set will withdraw the dies of the opposite set from the plungers, the lips *m*, constructed, arranged, and operating as and for the purpose specified.

7. In combination with the dies and plungers A on rotating shaft B, the hopper C, with its contained revolving cylinder *c*¹, having the diametrically-opposite recesses *c*², the tray *c*⁴, with openings *c*⁶, and the sliding frame *c*⁷, with its partitions *c*⁸, all constructed, arranged, and operating as and for the purpose specified.

8. In combination with the dies and plungers A, the dies being fitted on the plungers, mounted on rotating shaft B, and the opposite sets of plungers being coupled together, the plunger-block *a*, having channels *a*², and the die-frames *a*¹, having tongues *a*³, constructed, arranged, and operating as specified.

ALBERT DE LA MONTAGNIE.

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