

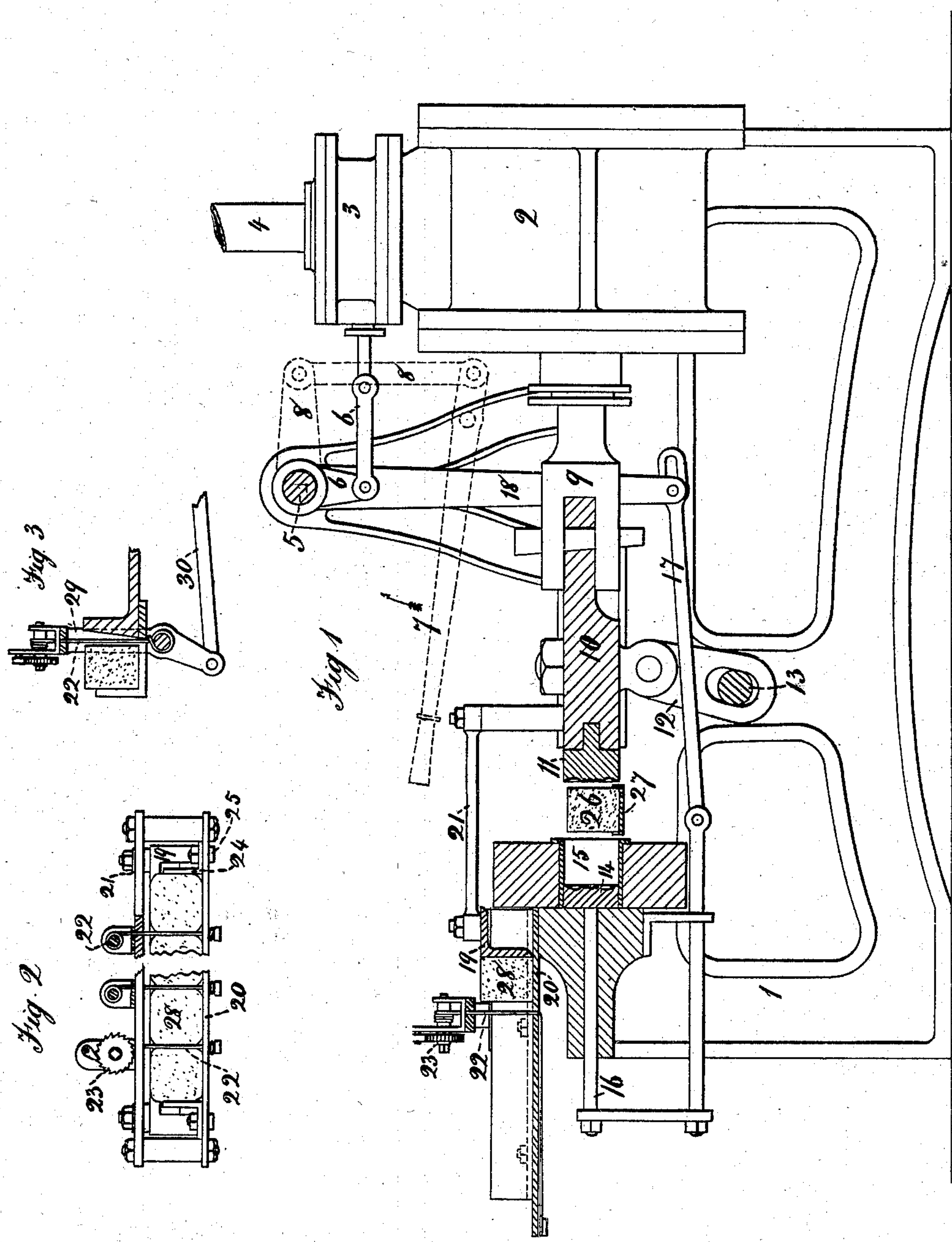
(No Model.)

J. O'KEEFFE & W. ROBERTSON.

MACHINE FOR SHAPING SOAP.

No. 249,532.

Patented Nov. 15, 1881.



Witnesses

Mr. Johnson
John Richardson

Inventors

John O'Keeffe
Wm. Robertson

UNITED STATES PATENT OFFICE.

JOHN O'KEEFFE AND WILLIAM ROBERTSON, OF LIVERPOOL, COUNTY OF LANCASTER, ENGLAND.

MACHINE FOR SHAPING SOAP.

SPECIFICATION forming part of Letters Patent No. 249,532, dated November 15, 1881.

Application filed September 9, 1881. (No model.) Patented in England November 18, 1880.

To all whom it may concern:

Be it known that we, JOHN O'KEEFFE and WILLIAM ROBERTSON, both of Liverpool, in the county of Lancaster, England, have invented a new and useful Machine for Shaping Soap, (for which we have obtained a patent in Great Britain, No. 4,749, bearing date November 18, 1880,) of which the following is a specification.

Our invention relates to improvements in machines by which soap is formed into tablets. The object is to provide machines capable of making tablets neatly, economically, and rapidly from bars or blocks of soap.

Heretofore soap-tablets have been cut to the required size, and the pieces so cut placed one by one beneath a die. The process is tedious, expensive, and troublesome.

Our improved machine impresses or shapes a bar of soap at once into a number of tablets, which are afterward separated. One machine will effect the work of many of those at present in use, and can be worked and kept going with fewer attendants and less care, thereby effecting a great economy in the production of soap-tablets.

Figure 1 is a sectional elevation of a soap-shaping machine; Fig. 2, an end elevation of the cutting apparatus constructed under our invention, and Fig. 3 shows a modification of the cutting apparatus.

1 is the frame-work, preferably of cast-iron, connected together by bolts and nuts or their equivalents; 2, steam-cylinder, secured to the frame-work 1; 3, valve-box, containing a valve of any ordinary or desired kind for admitting and shutting off steam to or from either end of the cylinder 2; 4, steam-pipe; 5, rocking shaft, connected to the valve in 3 by the lever, link, and rod 6, and to the hand-lever 7 by the lever and rod 8. The parts 7 and 8 are shown in dotted lines, as they would be in the front of the machine, and therefore could not be seen in the sectional view.

9 is the piston-rod cross-head attached to the guide 10; 11, multiple die the length of a bar of soap, and shaped so as to impress the desired number of tablets; 12, link attached to the guide 10, and slotted so as to work on the fixed pin 13, to limit the stroke of the pis-

ton for the purpose of preventing such piston striking against the cylinder-covers; 14, multiple die similar to die 11, fitting in the box 15 secured to the frame 1; 16, ejecting-rod, connected by the slotted link 17 to the lever 18, secured on the rocking shaft 5; 19, push-piece working on the table 20, and connected to the guide 10 by the link and stud 21; 22, cutting-wires; 23, tightening-gear; 24, adjusting-bar, held in position by the nuts and bolts 25; 26, soap being shaped; 27, table to hold said soap; 28, soap being cut.

The action of the apparatus is as follows: A bar of soap, 26, which it is desired to form into tablets, is placed on the table 27, and the hand-lever 7 is moved in the direction of the arrow, so as to move the valve in 3 and admit steam to the rear end of the cylinder 2. The piston and die 11 move forward, and the soap is compressed into shape between the two dies 11 14. The hand-lever 7 is then moved in the reverse direction to the arrow, steam is admitted to the inside end of the cylinder, the die 11 is thereby withdrawn, the die 14 is pushed forward by the ejection-prong 16, and the shaped soap is deposited on the table 27, from whence it is lifted and placed on the table 20 behind the push-piece 19, and a second bar of soap to be shaped is placed on the table 27. When the piston moves forward for shaping the soap the push-piece 19 propels the shaped bar 28 against the cutting-wires 22, and the said bar is cut into tablets.

Fig. 3 shows a modification of cutting apparatus. Here the cutting-wires are fixed to lever-arms 29, and the soap is cut by giving an oscillating motion to the said wires by means of the rod 30.

Hydraulic or other fluid power may be used in place of steam in the cylinder 2.

What we claim as our invention, and desire to have secured to us by Letters Patent, in a machine for shaping soap, is—

1. The combination of two reciprocating shaping-dies, the face of each die being a multiple of the figure to be produced, a die-box, and an ejector and piston for actuating the respective dies, substantially as and for the purpose specified.

2. The combination of two reciprocating

shaping - dies, a die-box, a receiving-table arranged in front of the die-box, a piston for actuating one die, and an ejector, link, and rocking shaft for actuating the other die, substantially as and for the purpose specified.

3. The combination of the reciprocating multiple-faced die for shaping the faces of a bar and a piston for actuating the same with a multiple cutter adapted to sever the bar into sections corresponding to the figures of the forming-die, the cutting devices connected to and actuated from the piston of the shaping-die, substantially as and for the purpose specified.

4. The combination of the reciprocating die 11 and piston for actuating said die with the

reciprocating die 14, and the ejector 16, slotted link 17, lever 18, and rocking shaft 5, for actuating the latter die, substantially as and for the purpose specified.

5. The combination of the piston cross-head 9 and guide 10 with the link 12 and pin 13, for the purpose set forth.

6. The combination of the hand-lever 7 with lever 18, for working the ejector mechanism 16 17, and with the lever 6, for working the valve in 3.

JOHN O'KEEFFE.
WM. ROBERTSON.

Witnesses:

W. B. JOHNSON,
JOHN RICHMAN.