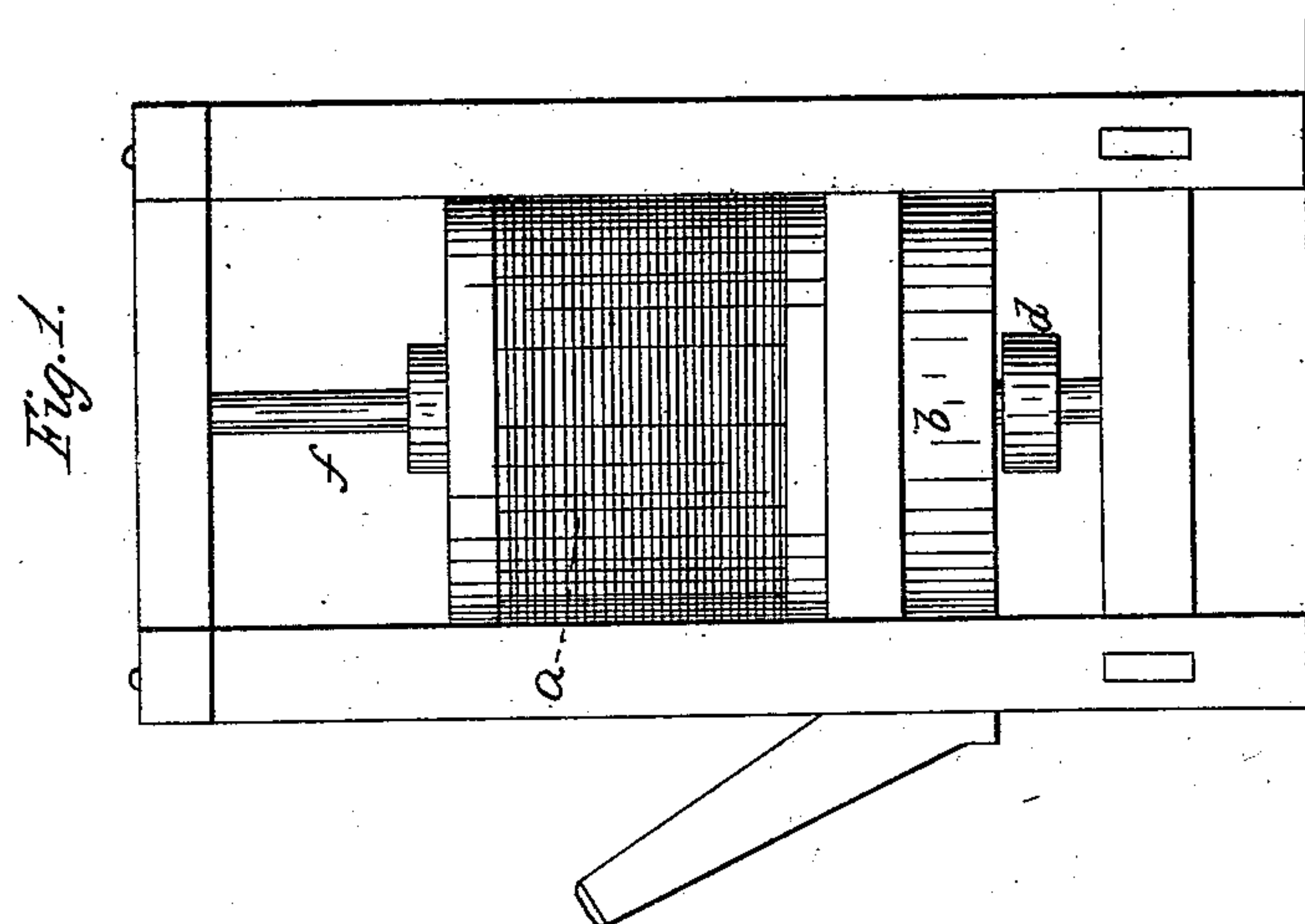
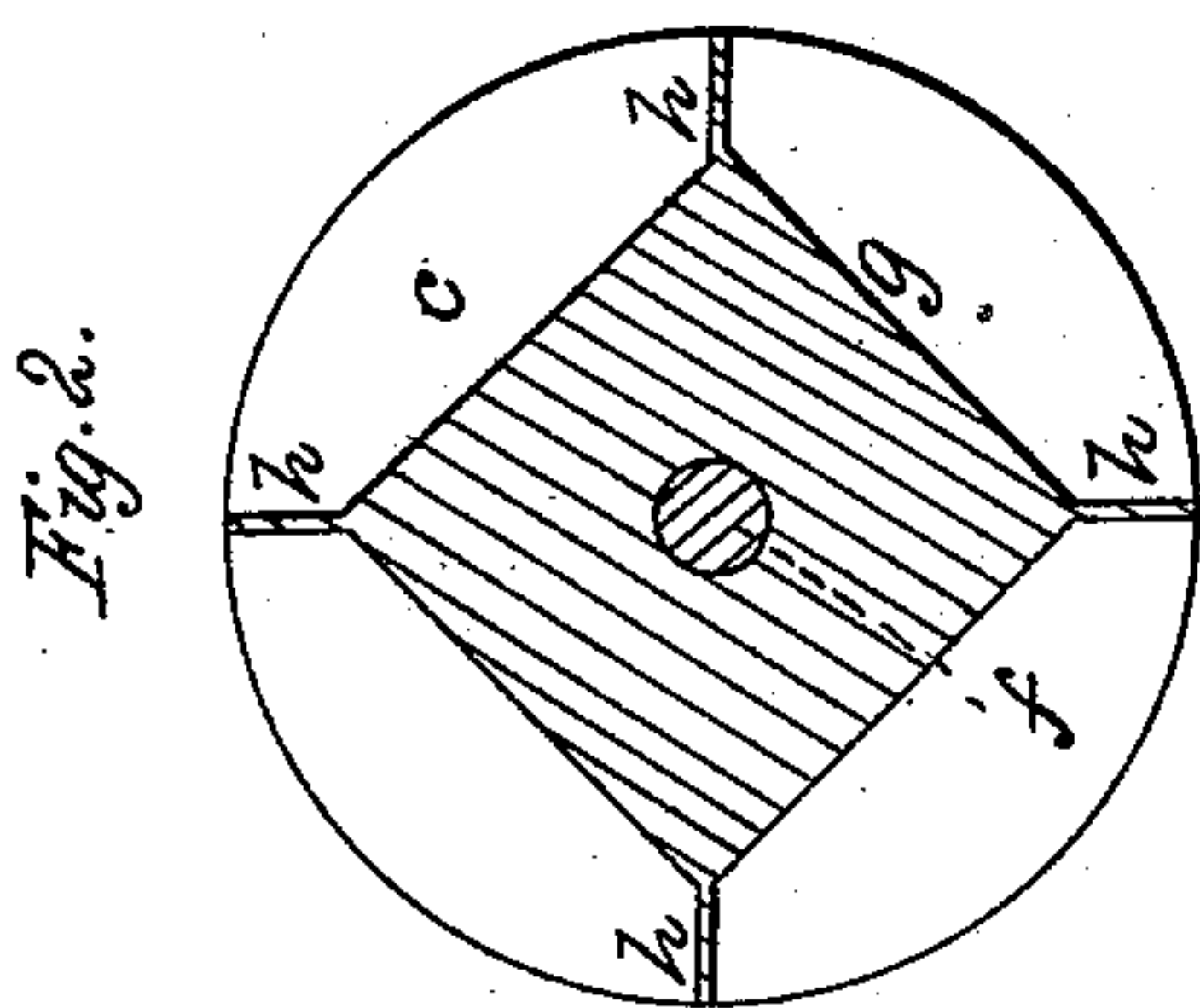
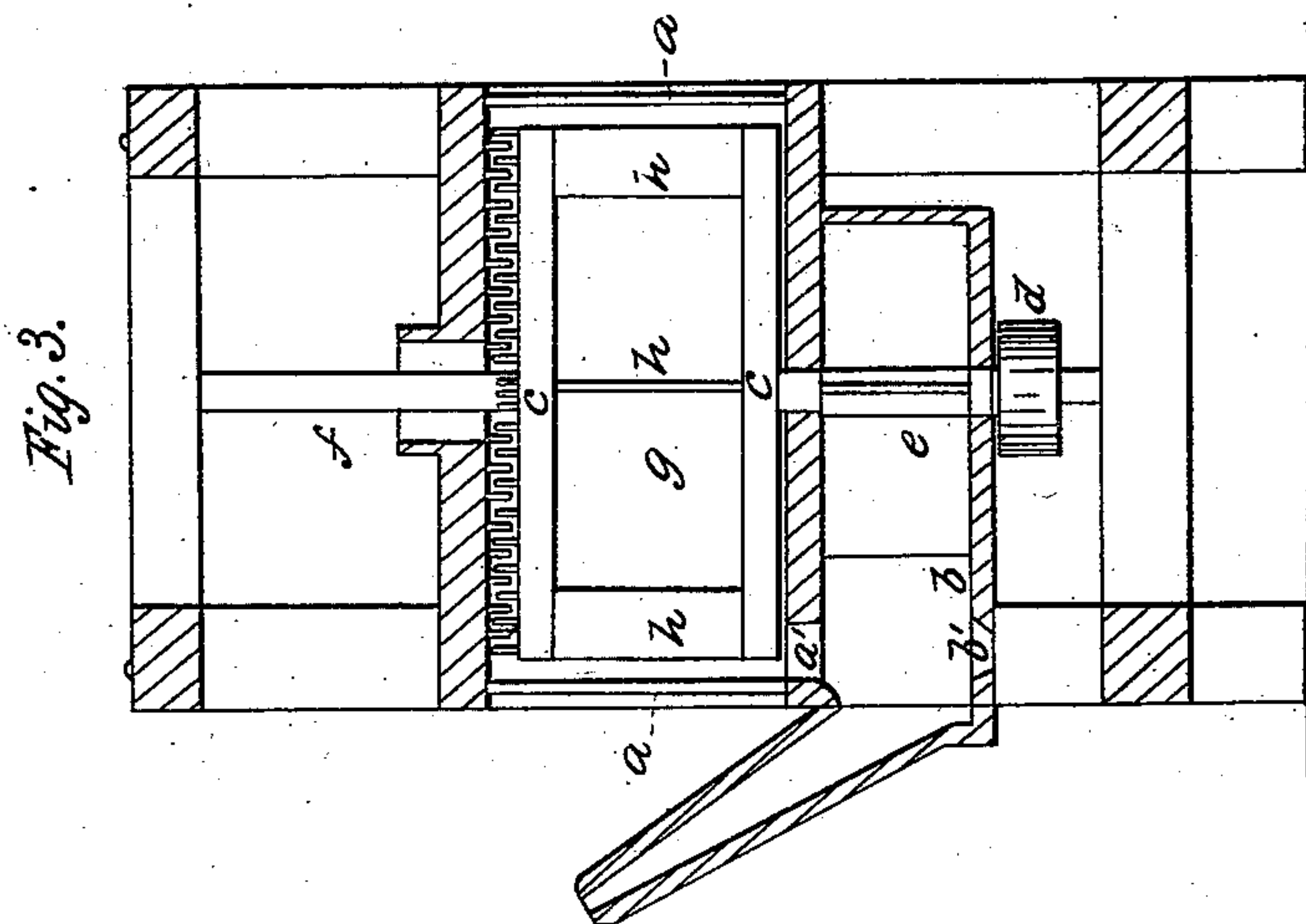


ENGLE & KINNEY

Smut Machine.

No. 3,088.

Patented May 19, 1843.



UNITED STATES PATENT OFFICE.

WM. ENGLE AND M. G. KINNEY, OF CONYNGHAM, PENNSYLVANIA.

SMUT-MACHINE.

Specification of Letters Patent No. 3,088, dated May 19, 1843.

To all whom it may concern:

Be it known that we, WM. ENGLE and M. G. KINNEY, of Conyngham, in the county of Luzerne and State of Pennsylvania, have
5 invented a new and useful Improvement in Vertical Smut-Machines; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

10 Figure 1, is a geometrical view of the machine; Fig. 2, runner detached; Fig. 3, section of machine.

The nature of our invention consists in
15 submitting the wheat to a proper amount of friction by passing it between two circular disks armed on their faces with spikes, afterward submitting it to the action of fans in a case and lastly letting it fall down
20 across a spout through which a current of air is made to pass, thus ridding it of all extraneous matter.

In constructing our machine a frame is formed of four upright posts, with proper
25 cross ties, in which a cylindrical case (a) is supported in a horizontal position; this case is formed of upright rods around which are wound wires so as to leave apertures sufficiently large to let the cheat and cockle
30 grains pass through when formed against them by the centrifugal force of the runner; the upper head to this case has an aperture at its center through which the shaft of the runner passes and which is large enough to
35 admit the grain being fed in through it which is done from a hopper and shoe similar to grinding mills and which are not shown in the drawing; this head is studded with teeth projecting down from its inner
40 surface and set in concentric circles, the lower head is plain with a small hole at the center just large enough for the spindle to pass through and near its outer edge a hole is made for the grain to pass down through;
45 under this head there is a small cylindrical

case (b) which contains a horizontal fan that is fastened to the spindle of the runner; this case has a spout leading from it under the hole (a') near the edge of the above named head to the edge of the case, from
50 whence it rises at an angle of about 45° to the height found most desirable in practice. There is a hole (b') in this spout directly under that in the head of the case (a) for the exit of the grain from the machine. 55

The runner is composed of two disks (c) nearly as large as the inside of case (a) fastened to an upright spindle f passing through the center of the case and having its bearings in the frame above and below
60 between these two disks there is a square box (g) which connects them together, the bottom disk running near the lower head of the case and the upper one just clearing the teeth on the underside of the upper
65 head; from this disk a number of teeth, similar to those on the head stand up in concentric rows which are intermediate between those on the stationary head; from each corner of the box wings (h) stand out even
70 with the circumference of the disks and reach from one to the other. There is also a fan (e) attached to the spindle of the common construction just under the lower head, in a case (b) as above described, and
75 between this case and the bottom of the frame a pulley (d) is attached by which the machine is driven.

What we claim as our invention and desire to secure by Letters Patent is— 80

The combination of the runner (c c) and fan (e) with the cases (a) and (b) constructed and arranged as herein above described.

WM. ENGLE.
M. G. KINNEY.

Witnesses:

MICHAEL WELLER,
J. DUMHILLEN.