J. J. Alvord,

Brick Machine.

No. 50,088. Patented Sep. 26, 1865.

Fig. 1.

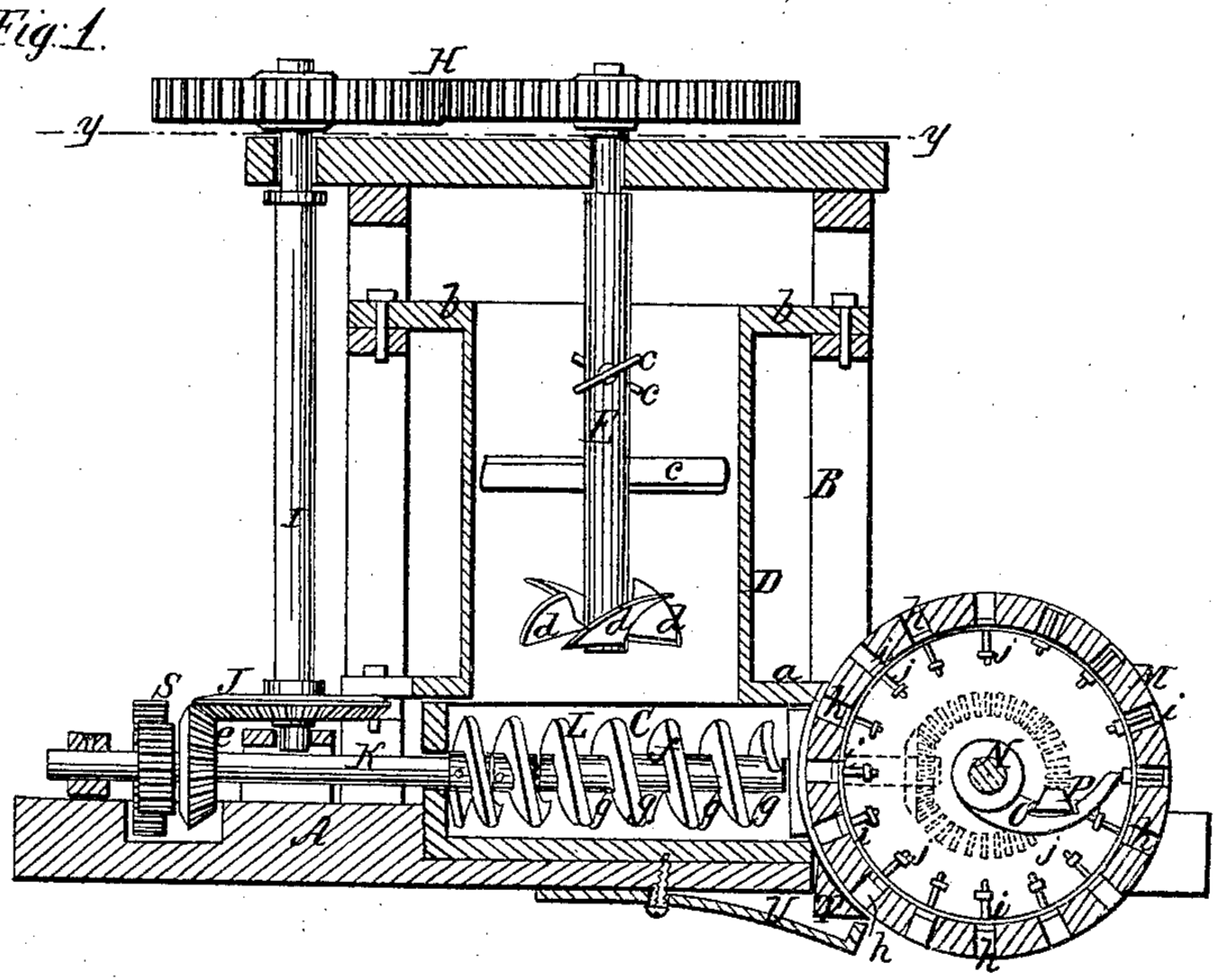
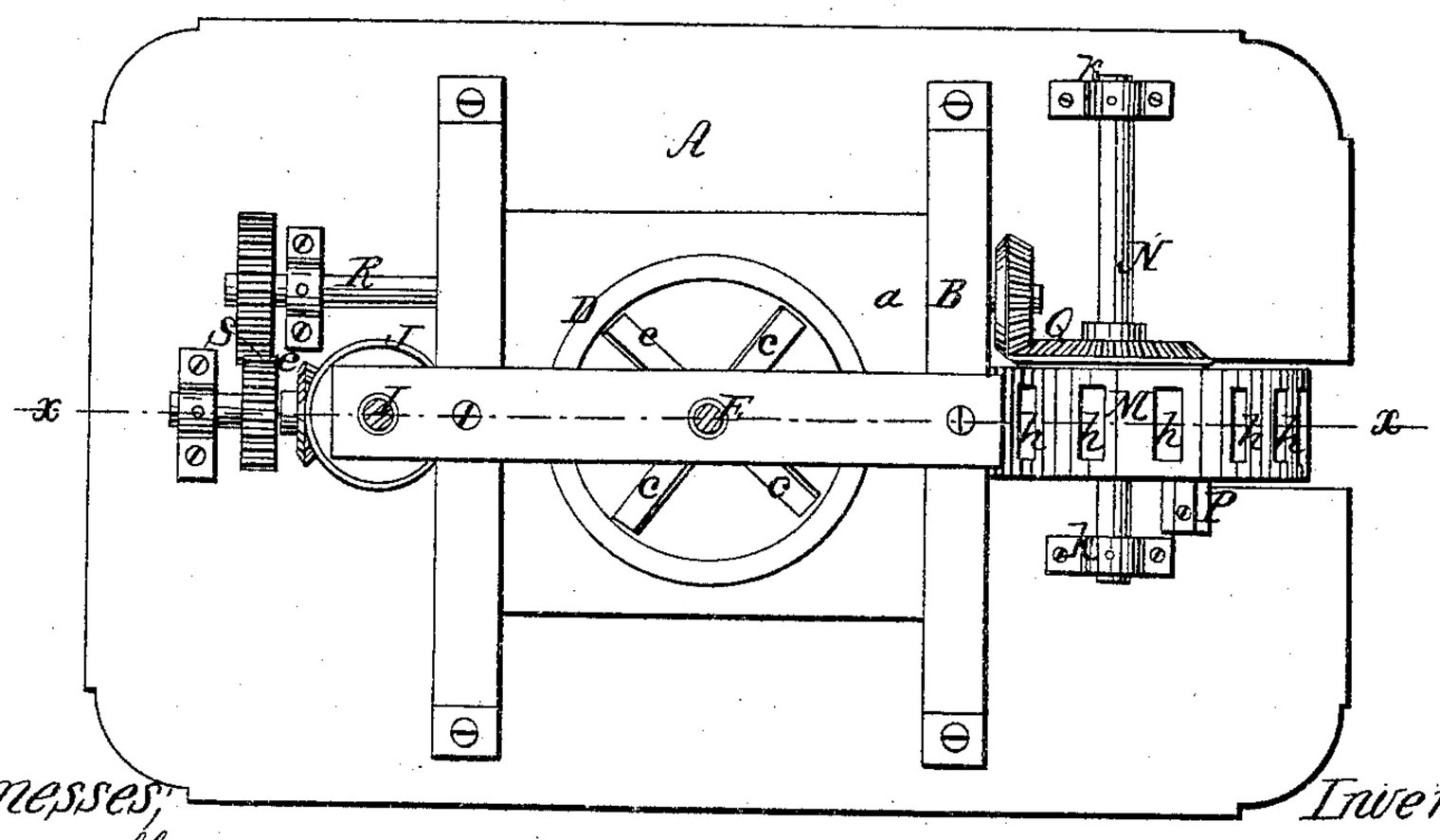


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN J. ALVORD, OF TECUMSEH, MICHIGAN.

IMPROVEMENT IN BRICK-PRESSES.

Specification forming part of Letters Patent No. **50,088**, dated September 26, 1865.

To all whom it may concern:

Be it known that I, JOHN J. ALVORD, of Tecumseh, in the county of Lenawee and State of Michigan, have invented a new and Improved Brick-Press; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal vertical section of my invention, taken in the line *x x*, Fig. 2. Fig. 2 is a horizontal section of the same, taken in the line *y y*, Fig. 1.

Similar letters of reference indicate like parts.

This invention relates to a new and improved brick-press of that class in which a screw or auger is employed for forcing the clay into the molds.

The invention consists in constructing the screw or auger with a concave flange, the concave surface being at the face side of the flange, whereby the clay, as the screw or auger rotates, is gathered toward the center of the box in which the screw or auger works, and the latter rendered far more efficient in its operation than those hitherto used.

The invention also consists in arranging the screw or auger directly under the mud-mill or clay-tempering box, whereby the machine is greatly simplified.

The invention further consists in the employment or use of a jointer arranged with a spring and in connection with a mold-cylinder in such a manner as to face or smooth off the clay in the molds in a perfect manner.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a bed-piece or base, on which a framing, B, is secured; and C is a box which is fitted in the bed-piece A and has an upright cylinder, D, secured to its upper end, said cylinder being the case or box of the mud-mill, and properly supported in position by a plate, *a*, and arms *b* from the framing B. Within the cylinder D there is a vertical shaft, E, to which cutters or knives *c* are attached, the lower end of said shaft having spiral blades or flanges *d* secured to it for forcing the clay downward into the box C. This shaft E is driven by gearing H from an upright shaft, I, the latter having a bevel-wheel, J, on its lower end, which gears into a bevel-pinion, *e*, on a shaft, K, which passes into the box C and has a screw or auger, L, attached to it, the latter extending the whole length of the box C, and having the face side of its spiral flange *f* of concave form, as shown at *g* in Fig. 1. This screw or auger is directly under the cylinder D, as shown clearly in Fig. 1.

M is a mold-cylinder, provided with molds *h*, in which plungers *i* are fitted. These plungers are provided with a stem, *j*, which project radially inward toward the center of the wheel, as shown in Fig. 1. The mold-cylinder M is fitted on a shaft, N, which works in suitable bearings, *k k*, on the bed-piece or base A, and on this shaft N there is fitted loosely a curved arm, O, which is secured in position by a fixed bar, P, attached to the bed-piece, the shaft N being allowed to turn freely within the arm O. The mold-cylinder M is rotated by gearing Q from a shaft, R, which receives its motion from the auger or screw-shaft K by means of gearing S.

T represents what I term a "jointer," which is composed of a block of metal equal in length to the width of the mold-cylinder. This jointer has its face side of concave form, corresponding to the periphery of the mold-cylinder, and it is fitted between said cylinder and the bed-piece and secured in position by a spring, U, as shown clearly in Fig. 1.

The mold-cylinder, it will be seen, is directly in line with the screw or auger box C, and the axis of the screw or auger L is about in line with the center of the mold. When the machine is in operation the cutters or knives *c* on the shaft E grind and temper the clay, which is thrown into the cylinder D in a properly-moistened state. The spiral flanges *d* force the tempered clay down into the box C, and the screw or auger L presses the clay into the molds *h* of the cylinder M. In consequence of having the face side of the spiral flange *f* of concave form, it has a tendency to draw the clay toward the center of the box C and around the screw or auger, so that the latter will work much more efficiently and force or compress the clay into the molds more compactly than it otherwise would. The plungers *i* are forced inward under the pressure of the screw or au-

ger, and the filled molds have the clay at their orifices jointed or smoothed by the jointer T, which is pressed against the molds by the spring U, the latter yielding to a certain extent, when necessary. The clay is discharged from the molds in consequence of the stems *j* of the plungers coming in contact with the curved arm O, which causes the plungers *i* to be forced outward.

The mold cylinder and plungers and also the curved arm have been previously used. A screw or auger of ordinary construction for forcing the clay into the molds is also old. I therefore do not claim said parts, broadly, or in themselves considered; but

I do claim as new and desire to secure by Letters Patent—

1. In combination with a rotary mold-cylinder, M, a screw or auger, L, having the face side of its spiral flange *f* of concave form, substantially as and for the purpose specified.

2. The placing of the screw or auger L directly under the cylinder D, which forms the case or box of the mud-mill, so that the tempered clay will be forced direct from the mud-mill into the box C, which contains the screw or auger, as described.

3. The jointer T, in combination with the mold-cylinder M and the spring U, or its equivalent, substantially as and for the purpose set forth.

JOHN J. ALVORD.

Witnesses:
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