

(No Model.)

W. LEWIS.
TILE MACHINE.

No. 298,002.

Patented May 6, 1884.

Fig. 1

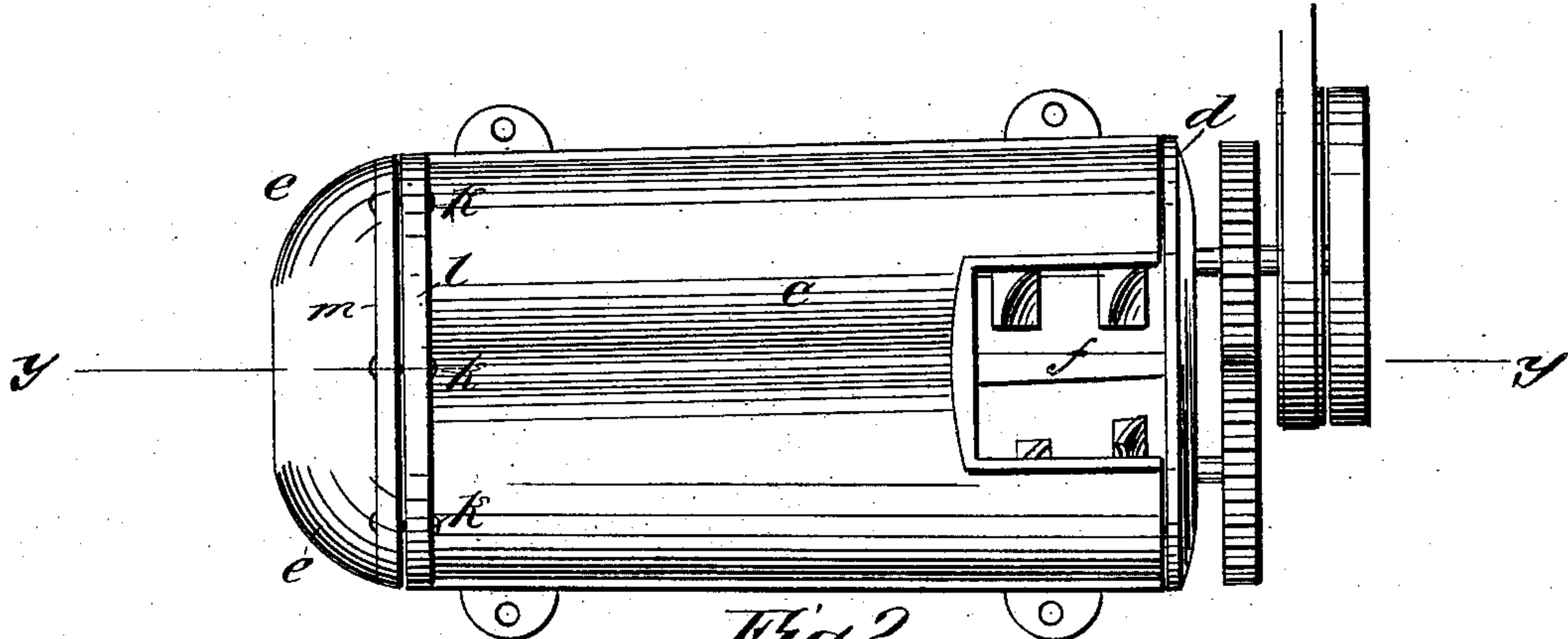


Fig. 2

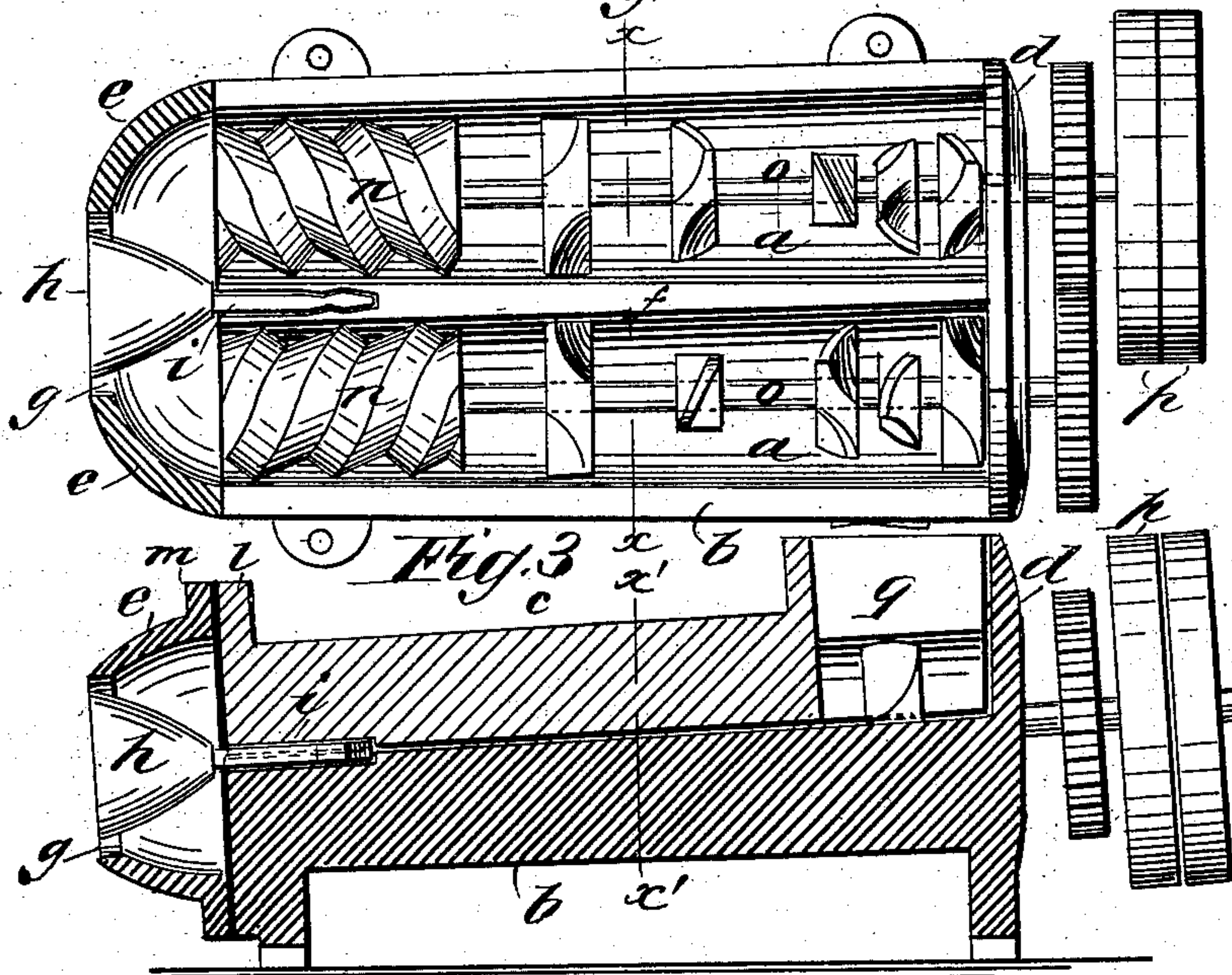


Fig. 3

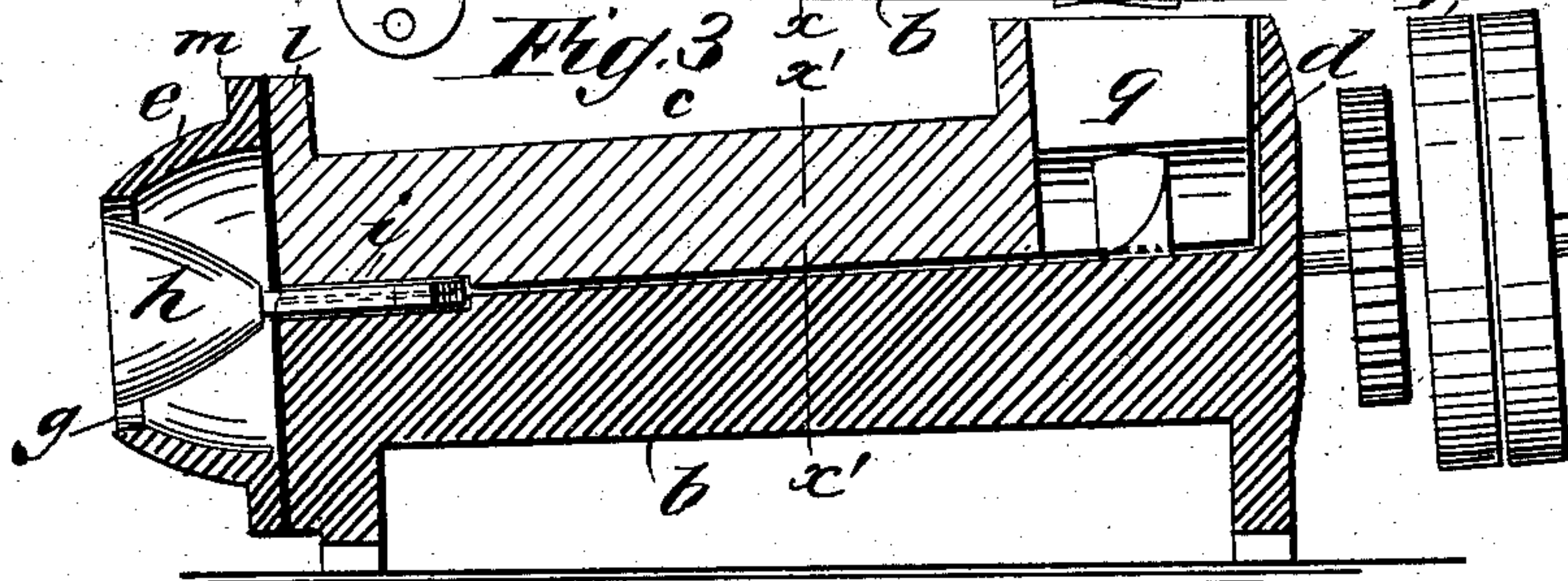


Fig. 4

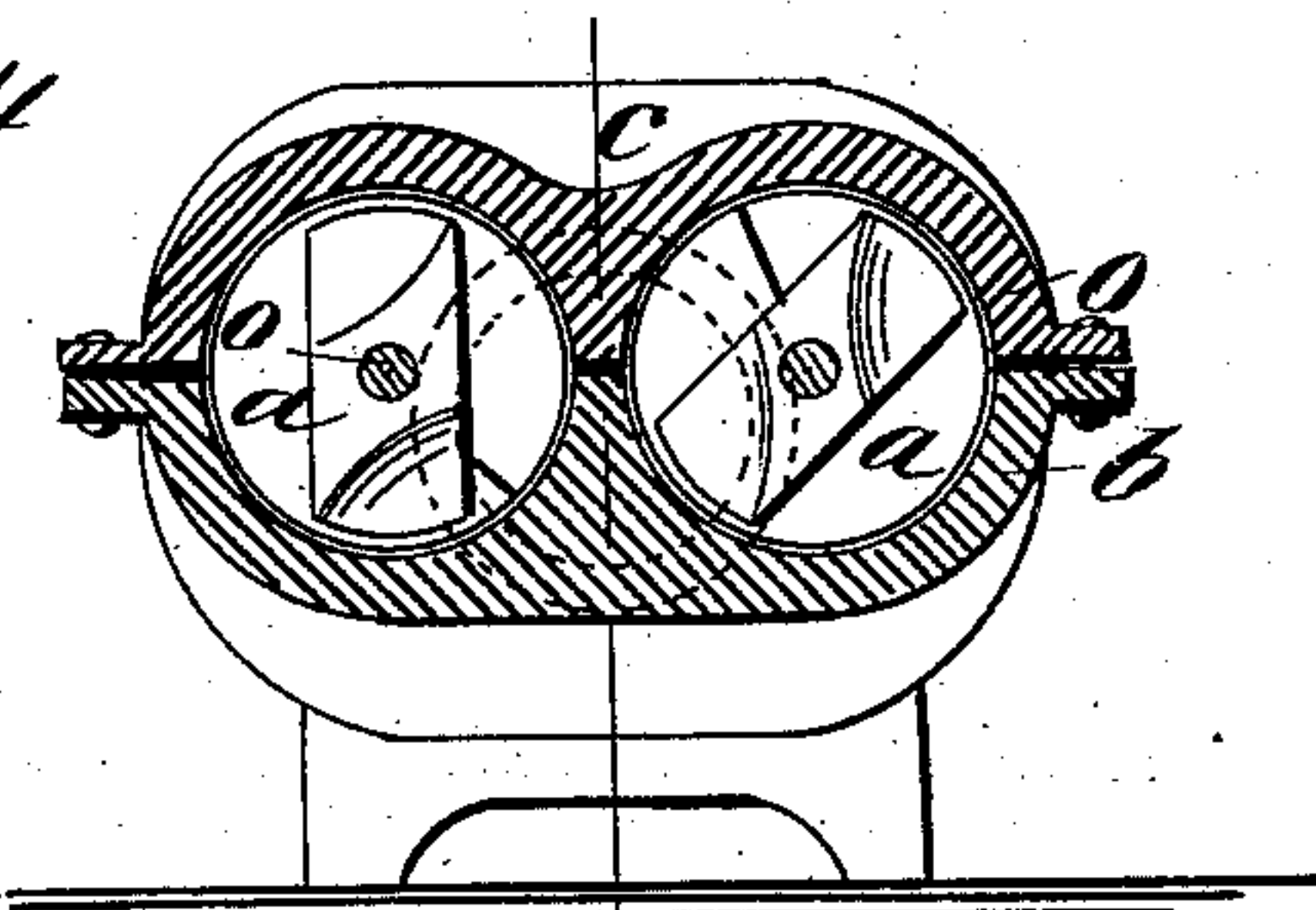
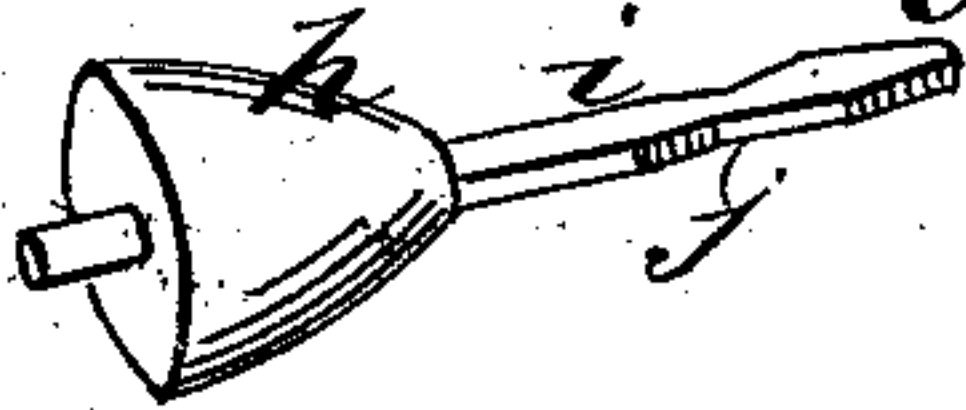


Fig. 5



WITNESSES:

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UNITED STATES PATENT OFFICE.

WARNER LEWIS, OF STONE BLUFFS, INDIANA.

TILE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 298,002, dated May 6, 1884.

Application filed August 11, 1883. (No model.)

To all whom it may concern:

Be it known that I, WARNER LEWIS, of Stone Bluffs, in the county of Fountain and State of Indiana, have invented a new and Improved Tile-Machine, of which the following is a full, clear, and exact description.

The object of the invention is to improve tile-machines, as hereinafter described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this invention, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improved tile-machine. Fig. 2 is a plan view with the cover removed and a horizontal section of the die-plate. Fig. 3 is a longitudinal section on the line *y y* of Fig. 1. Fig. 4 is a transverse section on the line *x x* of Fig. 2 and *x' x'* of Fig. 3. Fig. 5 is a perspective view of the core over which the tiles are formed.

I arrange two hollow cylinders, *a*, side by side in a suitable case consisting of bottom, *b*, and cover *c*, said cylinders being slightly tapered from the upper end, having the cover *d* to the other end discharging into the die-plate *e*, and they are separated by the partition *f*. The die-plate has an orifice, *g*, out of which the tiles are delivered over the conical core *h*, on which the bore of the tiles is formed. This core is connected by its stem *i*, placed in grooves of the partition *f*, which partition is partly formed in the two parts of the case, and meets together and closes on the stem when the case is closed. Said stem is notched at *j*, and the grooves are correspondingly formed for securely holding the core against the pressure of the clay. The die-plate is cup-shaped on the interior, to cause the two streams of clay to converge on the sides of the core, so as to be pressed firmly together to unite and form homogeneous connection. The die-plate is connected to the end of the case by bolts *k* and flanges *l m*, the holes in the flange *l* being larger than the bolts, to enable the die-plate to be shifted for adjusting it accurately to the core and for the application of die-plates and cores of different sizes for making tiles of different sizes. Each cylinder contains a screw or auger, *n*, to force

the clay, and also to work it, said augers or screws being constructed in any approved form of the spirals and studs for working the clay, and having a shaft, *o*, extending out through the cap *d*, wherein they have a bearing to be geared with the driving-pulley *p*.

The cover *c* has an opening through it at *q*, through which the clay is to be supplied to the machine. By employing two augers they may be made much smaller than when only one is used, and consequently will have much less resistance, both on account of their diminished size and of the division of the work. They will therefore have much greater strength proportionately to the work to be done than when a single auger is used. The augers are fitted at the discharging end of the cases to work in the cylinders, so that they serve for bearings to the augers.

The above-described arrangement of cylinders, case, die-plates, and core is alike applicable for the use of plungers or pistons instead of the augers for forcing out the clay, and I propose to employ either augers or plungers, and desire it to be understood that I claim such arrangement whether used with one or the other of said devices.

The union of two streams of clay on the sides of the forming-core is greatly facilitated by the collection of clay in the space at the end of the partition *f*, not directly in the lines of the stream, wherein is ample room for the merging of the two streams in one, so as to effect substantial connection and cause the rings thrown off by the augers to be smoothed and reduced to uniformity. The bearings of the auger-shafts in the caps *d* may be such that the augers *n* will be supported without contact with the sides of the cylinders, if preferred.

I am aware that it is not new to use two plungers, screws, or augers in the same cylinder of a brick and tile machine; but

What I do claim as new and of my invention is—

1. The combination, with two plungers, screws, or augers, of two cylinders, *a a*, divided by a partition closed at one end, open at the other, and provided at the open end with a cup-shaped die-plate, *e*, open at *g*, and

a central conical core, *h*, as and for the purpose described.

2. The cylinder of a tile-machine, having its internal diameter decreasing from the clay-inlet to its outlet, to condense the clay as it approaches the die, and thus make a strong shell for the tile.

3. The core *h*, having a central stem, *i*, oppositely notched at *j*, in combination with the

two sections forming cylinders *a a*, and provided with an intermediate recess, half in each section, and adapted to fit over said stem, as and for the purpose specified.

WARNER LEWIS.

Witnesses:

WILLIAM WERTZ,

WILLIAM E. BAKER.