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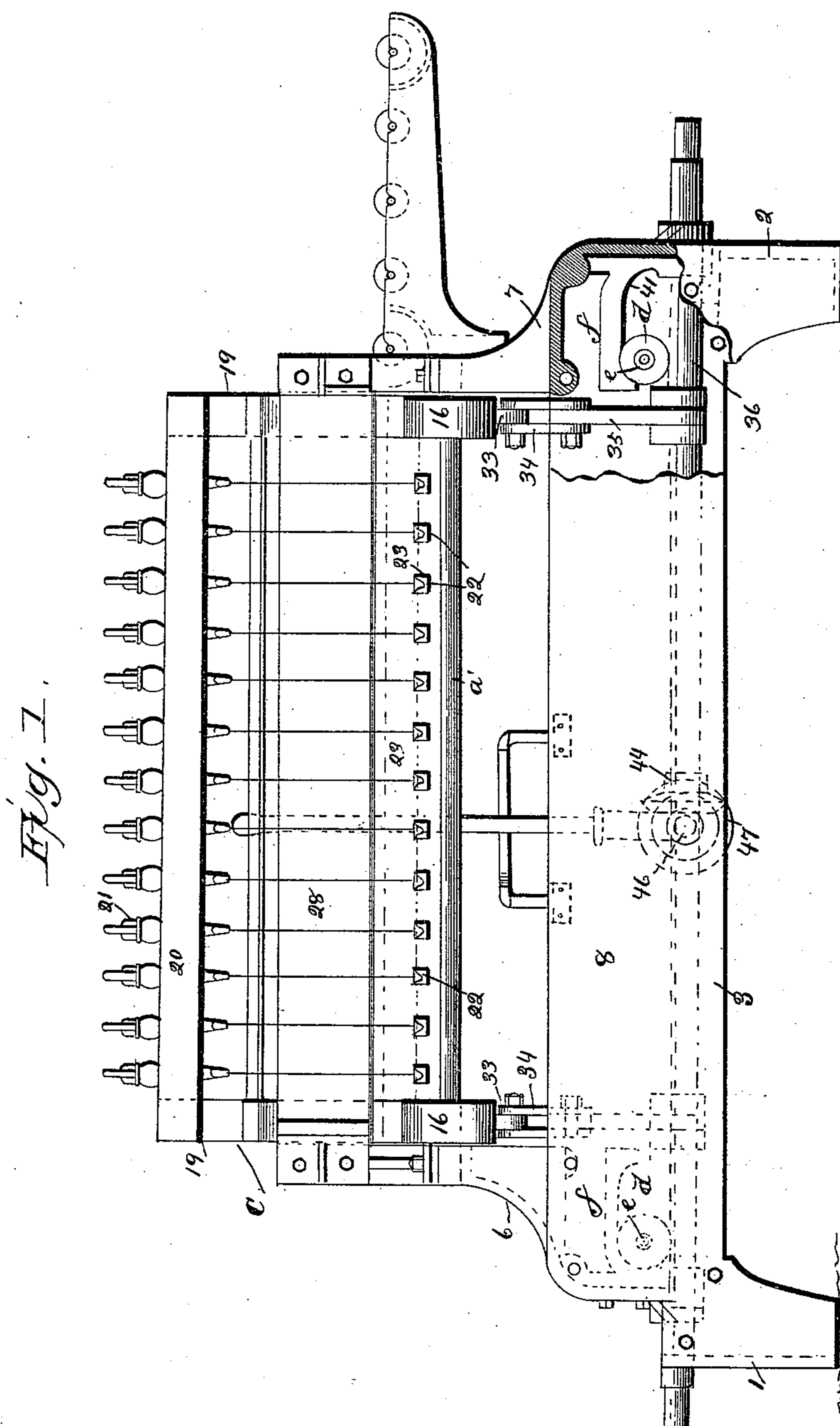
4 Sheets—Sheet 1.

J. A. & F. E. FREY.

### CUTTING TABLE FOR BRICK OR TILE MACHINES.

No. 446,338.

Patented Feb. 10, 1891.



*WITNESSES*

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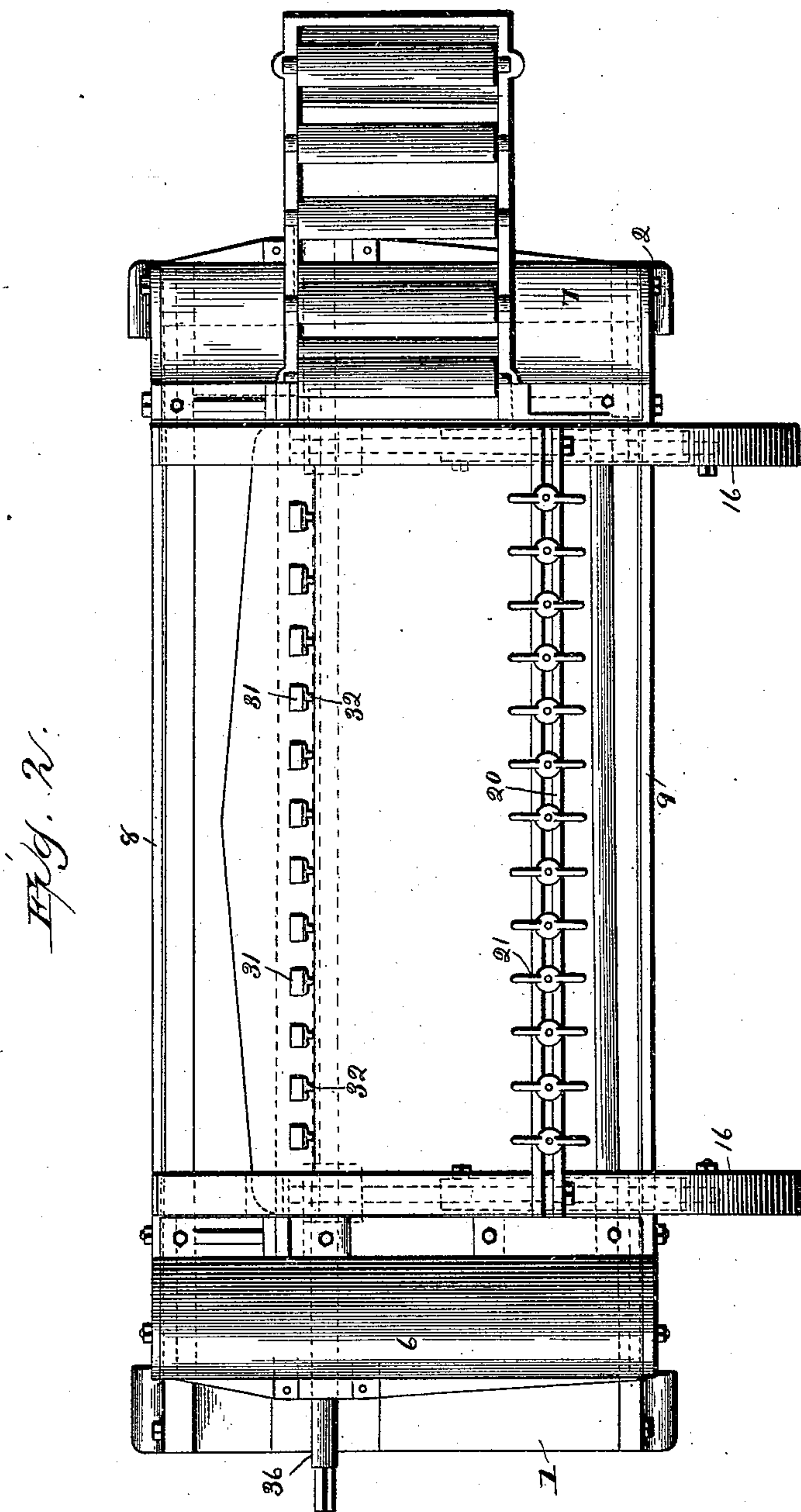
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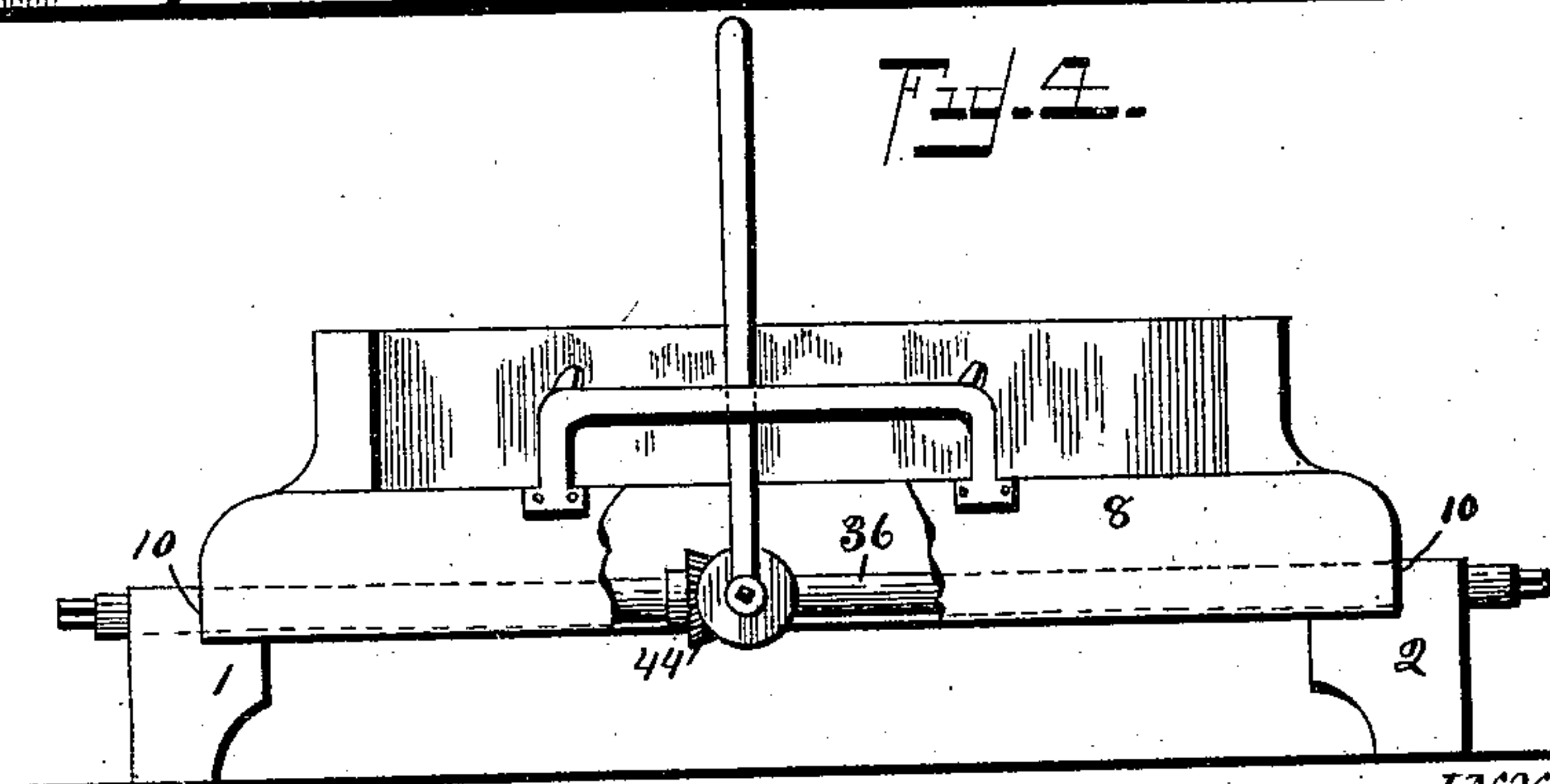
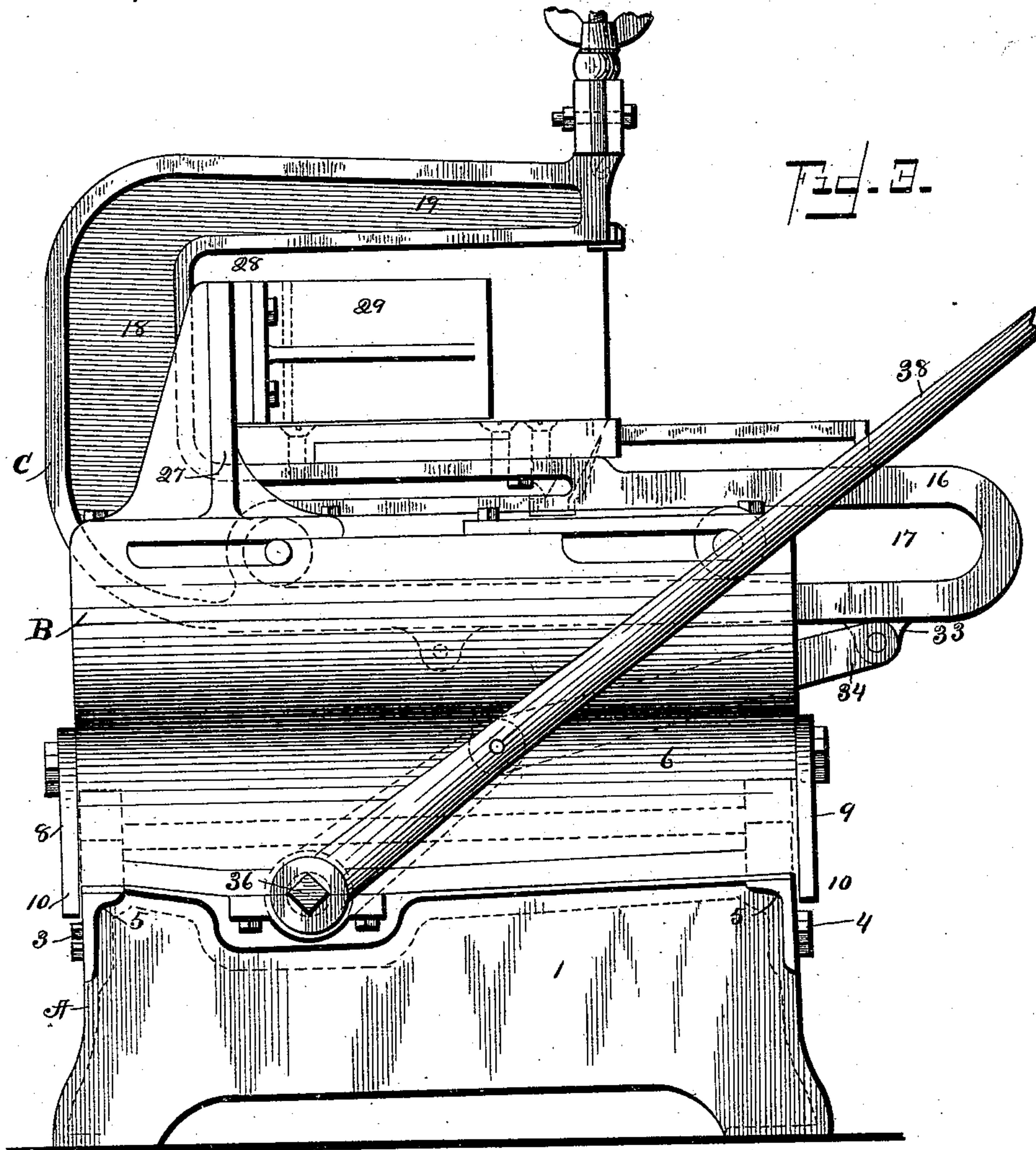
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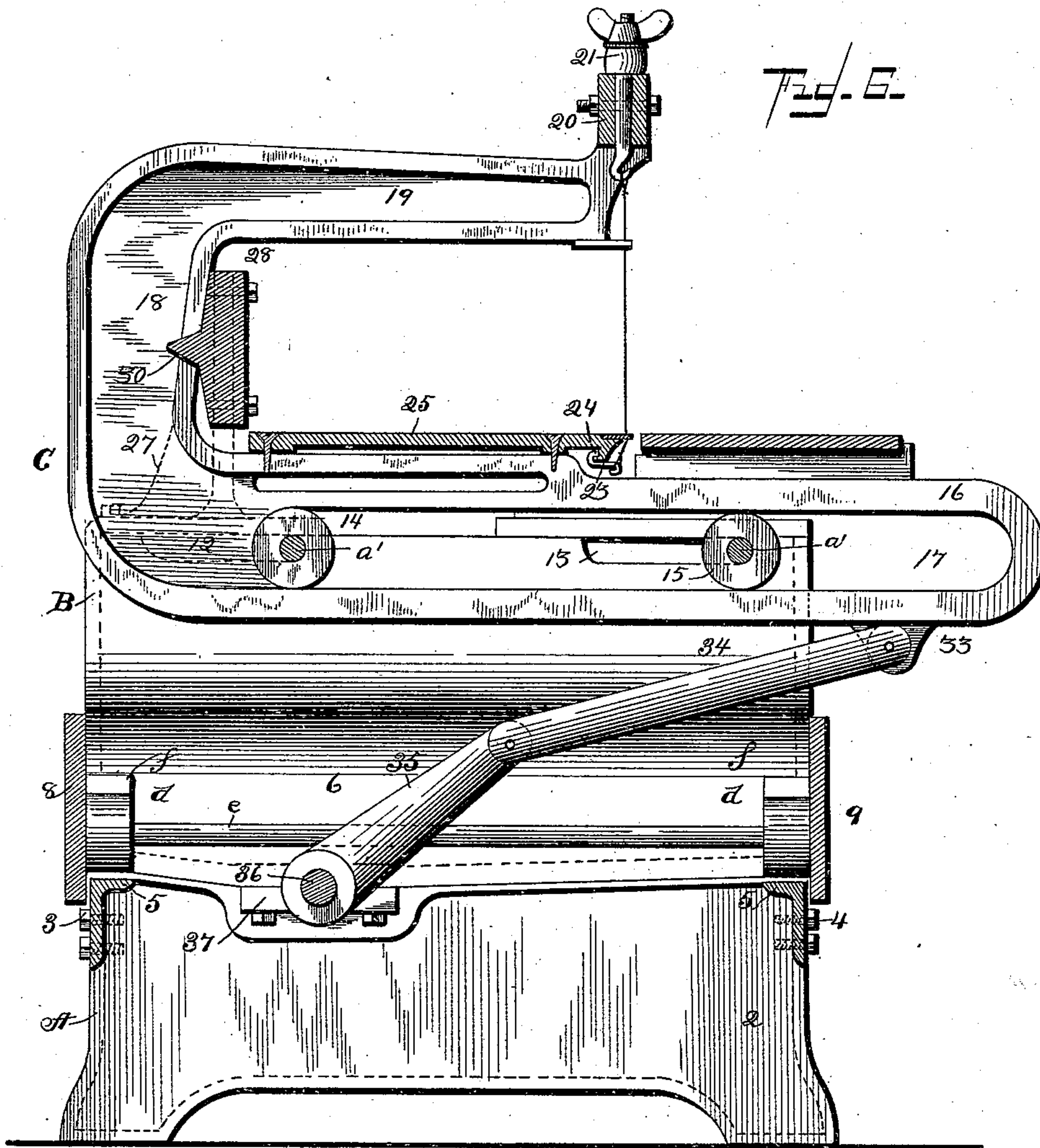
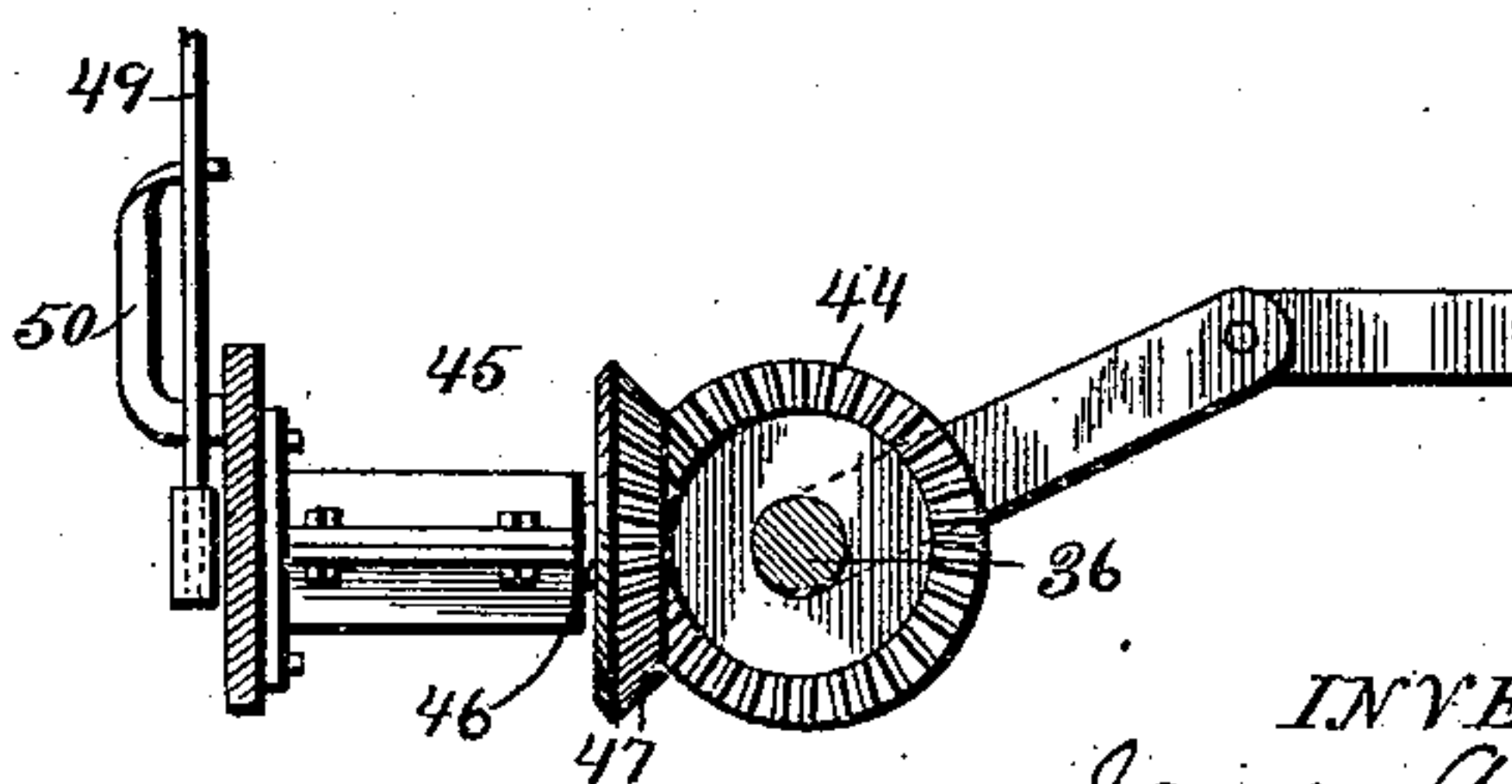


Fig. 5.



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# UNITED STATES PATENT OFFICE.

JAMES ARTHUR FREY AND FREDERICK E. FREY, OF BUCYRUS, OHIO, ASSIGN-  
ORS TO THE FREY-SHECKLER COMPANY, OF SAME PLACE.

## CUTTING-TABLE FOR BRICK OR TILE MACHINES.

SPECIFICATION forming part of Letters Patent No. 446,338, dated February 10, 1891.

Application filed September 13, 1890. Serial No. 364,826. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES ARTHUR FREY and FREDERICK E. FREY, citizens of the United States of America, and residents of Bucyrus, in the county of Crawford and State of Ohio, have jointly invented certain new and useful Improvements in Cutting-Tables for Brick and Tile Machines, of which the following is a specification.

Our invention has relation to cutting-tables for brick and tile machines of that class used for dividing a column of clay projected from the machine into determined lengths or blocks.

In the general construction of machines of the class to which our invention is related the wires are supported on a stationary frame and the column or slab moved across the table through the cutting-wires, being divided in its progress by the wire.

In the present invention the frame on which the cutting-wires are held is moved, and the wires traverse the table and cut the column of clay substantially in the position it is placed by the machine, the wires being given a transverse movement to cut the slab and the table capable of a limited horizontal movement to separate the cut forms from the integral progressing slab.

We have fully and clearly illustrated our invention in the accompanying drawings, wherein—

Figure 1 is a side view in elevation, a portion of the frame being broken away to show one of the bearing-rolls. Fig. 2 is a plan view of the machine. Fig. 3 is an end view. Fig. 4 is a detail of the shifting-lever. Fig. 5 is a detail side view of the shifting-lever, showing the manner of mounting it in its bearing. Fig. 6 is a vertical section transversely of the machine.

A designates the bed-frame of the machine, composed of end pieces 1 2, connected by side rails 3 4, formed on their upper faces with inwardly-directed flanges 5, serving as rails or ways on which the rollers of the upper frame travel when the table is moved longitudinally.

B designates the longitudinally-reciprocating table-frame, composed of end plates 6 7, connected at their lower portions by side plates 8 9, substantially as shown in the drawings, the lower edges of the side plates extending down below the edges of the side rails of

the bed-frame to serve as flanges to keep the parts in aligned relation when the table-frame is moved longitudinally, and also to steady the table-frame in its position when the wire-frames are moved transversely across the table, as shown at 10. The end plates extend above the side plates and support the transversely-reciprocating cutting-table. The table-frame is supported on rollers *d*, fixed on shafts *e*, the rollers being arranged to bear with their upper portions on the under face of flanges *f* on the inner face of the side pieces of the frame.

C designates the wire cutting-frames, of which there are two, supported on the end pieces of the frame, and to this end the end pieces are formed with covered ways 12 13 in their upper edges. In these ways are journaled shafts *a'*, bearing carriers or rollers 14 15, which carry the wire cutting-frame. It will be perceived that the carriers have a rotary movement on their journals and also travel in the ways. This arrangement gives a yielding function to the wire-frame, and in instances where the wires encounter an obdurate substance in their passage through the clay they are relieved of jar and less liable to break. The distance traveled by the table is also duplicated. On the rollers 14 15 are mounted the wire cutting-frames. These consist of lower arms 16, having openings or races 17 to take the rollers 14 and 15, and from these arms are projected vertical standards 18, from which are projected horizontally-arranged arms 19, carrying on their ends the cross-bars 20, in which the upper wire-holders 21 are secured, substantially as shown in the drawings, the other ends of the wires being fastened to hooks 22 on adjustable hook-blocks 23, supported on a flange or rib 24, running lengthwise on the front under edge of the platen. On the wire cutting-frames is secured the platen 25, which receives the slab or column of clay as it progresses from the machine, the platen thus being part of the transversely-reciprocating wire cutting-frame. Extending horizontally from the platen are the board-supports 26, on which the brick-board is carried. On the rear of the end pieces of the endwise-movable table-frame are fixed standards 27, having fastened against them a side abutting plate



28 and fastened thereto an end abutting plate 29, the lower edges of these plates being arranged on a plane high enough to let the platen pass under them. Now it will be perceived that as the slab of clay issues from the machine it lies close to the face of the side abutting plate 28 and eventually ends up against the end abutting plate 29, in which position it is to be subjected to the action of the cutting-wires. When the cutting-frame is drawn back, the platen is carried with it and from under the slab, the brick-board being drawn under the slab, and when the wires have cut the slab into forms the frame is moved forward, carrying the brick-board, with the forms thereon, out ready to be carried away, and the platen by the same reciprocation is returned to its place to receive the progressing slab of clay. The side abutting plate 28 consists, preferably, of a plate having a strengthening-rib 30 on its back, and is formed with vertically-arranged apertures 31, having vertical wire-slots 32 entering from the face and opening into the apertures, the purpose being to clean the wires of adhering clay and let it drop down through the apertures.

On the underside of the arm 16 are lugs 33, to which a bar 34 is jointed, the other end of the bar being jointed to an arm 35, fixed on a shaft 36, having its bearings 37 in the end pieces of the frame of the machine. On the end of the shaft may be secured a lever 38, by which the wire cutting-frame may be reciprocated and by the same means the table-frame may be moved endwise. This endwise movement of the table-frame is facilitated and limited by rollers *d*, traveling on the flanges of the bed-frame and arranged in flanged ways 41, formed in or fastened on the side pieces of the table-frame, substantially as shown.

To make the endwise movement of the table-frame and also move the wire-frame across the table, means besides the ordinary lever above-described have been added. This additional lever dispenses with two motions consequent in the movement with the other. In operating the machine with the lever on the end of the shaft the lever must be given two motions to effect the throws of the wire-frame and two to effect the endwise reciprocations of the table-frame, while by mounting a gear on the shaft and arranging another gear to engage therewith and a lever to turn the gears the movements are accomplished by two motions or movements of the lever. To accomplish this a bevel-gear 44 is fixed on the shaft 36, and on the inner side of the frame is secured a bearing-sleeve 45, in which is journaled a shaft 46, bearing a bevel-gear 47, meshing with the gear 44. On the projecting end of the shaft 46 is secured a lever 49, having its bar arranged to travel in a keeper 50 on the end piece of the table-frame. It will be perceived that by swinging the lever the shaft is rotated, and through its connections

the wire-frame is moved, and that when the lever is swung the table-frame may be pulled or pushed on its rollers. It will thus be perceived that by throwing the lever 49 so as to rotate the shaft and draw the cutting-frame across the table the movement is completed, when the lever is in position to apply or make the second or endwise movement, which draws the table with its mounted cutting mechanism away from the end of the progressing slab of clay.

The operation or manipulation of the machine in actual and practical use is as follows: The column or slab of clay being pushed onto the platen from the machine, it is in condition and location for being severed into forms or blocks. This is accomplished as follows: The operator grasps the lever and moves it to draw the wire cutting-frame across the moving column of clay, which is done as soon as the clay abuts against the end abutting plate and by its force commences to push the table-frame endwise. The continued movement of the wire-frame severs the column and the endwise movement insures the cuts to be straight. The slab being severed, the wire cutting-frame is moved back by the reverse motion of the lever, and the pressure on the lever pushes the table-frame endwise.

The operation of the secondary-lever movement is to reduce the four motions of this operation to two, as follows: Lever 49, being attached to shaft 46, acts by its motion upon shaft 36, which actuates the wire-frame. When the moving column of clay abuts against the abutting plate 29 and pushes the table outward, the position of the lever 49 inclines toward the machine. The operator then pulls the lever in the direction in which the column of clay is progressing. When it reaches the extremity of the guide stirrup or keeper on the end of the frame, it has moved the wire-frame across the column of the clay and pulled the brick-board laid on the supports 26 in under the severed blocks. At this juncture the operator continues the pull in the same direction, which moves the table ahead of the motion of the clay column far enough, so that in its backward movement the wires of the wire-frame clear the end thereof and allow the operator to push the lever toward the machine, which replaces the wire-frame in the original position. The operator, however, continues to push on the lever, which now is at the other extremity of the stirrup, against the stop on the table, which thereby is shoved toward the machine and ready to meet the traveling column of the clay again.

Having thus specifically described our invention, stated its uses, and explained the principle and the operation, we hereinbelow particularly point out and distinctly claim what we desire to secure by Letters Patent, as follows:

1. In a brick and tile cutting table, the combination of a stationary bed-frame having track-rails on its sides, a table-frame mounted



on the bed-frame and having a longitudinal movement thereon, a wire cutting-frame provided with a platen and movable transversely across the table-frame, and a lever to move the wire cutting-frame and the table-frame, substantially as described.

2. In a brick and tile cutting table, the combination of a stationary bed-frame having track-pieces on its sides, an endwise-movable table-frame formed with flanges at its ends on the inner face of the side pieces of the frame, carrying-rollers arranged under the flanges and on the track-pieces, rollers at the top of the table-frame, a wire cutting-frame mounted on the rollers and provided with a platen, a brick-board adjacent to the platen on the wire cutting-frame, a side abutting plate, and an end abutting plate, all substantially as described.

3. In a brick and tile cutting table, the combination of an endwise-reciprocating frame having rollers journaled in elongated boxes, a wire cutting-frame having roller-races to take the rollers of the frame, and a lever to move the table, substantially as described.

4. In a brick and tile cutting table, the combination of the bed-frame, a table-frame mounted on rollers and having a limited longitudinal movement, a transversely-reciprocating wire cutting-frame, and a side abutting plate formed with vertical apertures having vertical slots opening through the face into the apertures, substantially as and for the purpose specified.

5. In a brick and tile cutting table, the combination of a bed-frame, a table-frame mounted on rollers to have an endwise movement on the bed-frame, a wire cutting-frame mounted to move transversely across the table-frame, a shaft in the table-frame having lever-connection to the wire cutting-frame and having a bevel-gear, a journal having a gear to engage the bevel-gear on the shaft, and a lever on the journal whereby the table may be moved endwise and the wire cutting-frame transversely, substantially as and for the purpose specified.

In witness whereof we have hereunto set our hands in the presence of two attesting witnesses.

JAMES ARTHUR FREY.  
FREDERICK E. FREY.

Attest as to Jas. A. Frey:

H. P. EATON,  
A. M. ENSWENGER.

Attest as to Fredk. E. Frey:

A. G. HEYLMUN,  
JOSÉ M. YZNAGA.