

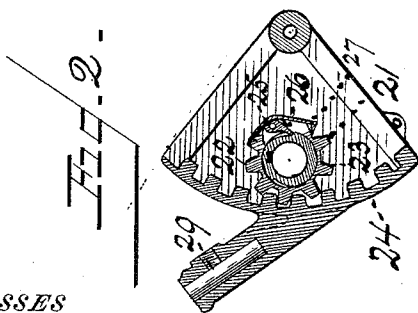
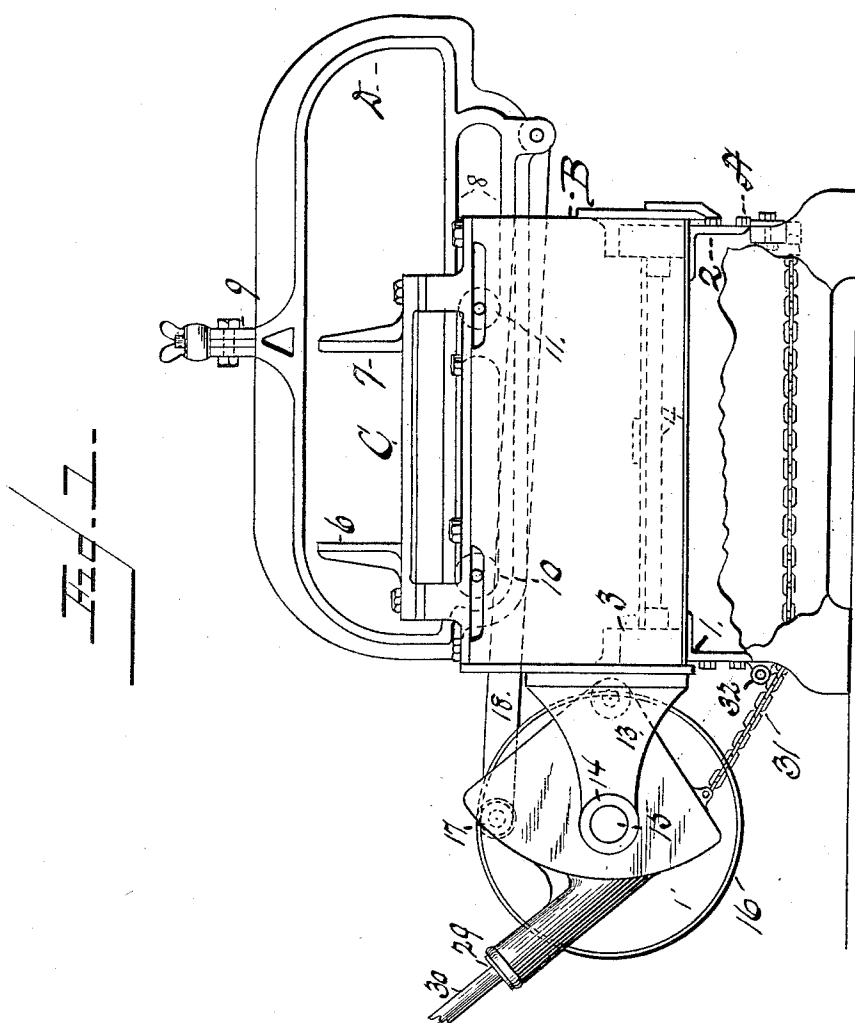
(No Model.)

2 Sheets—Sheet 1.

J. THOMPSON.
BRICK OR TILE CUTTING MACHINE.

No. 491,747.

Patented Feb. 14, 1893.



WITNESSES
F. L. Ourand
Chas. L. Condit

INVENTOR
John Thompson
by A. G. Hayfman Attorney

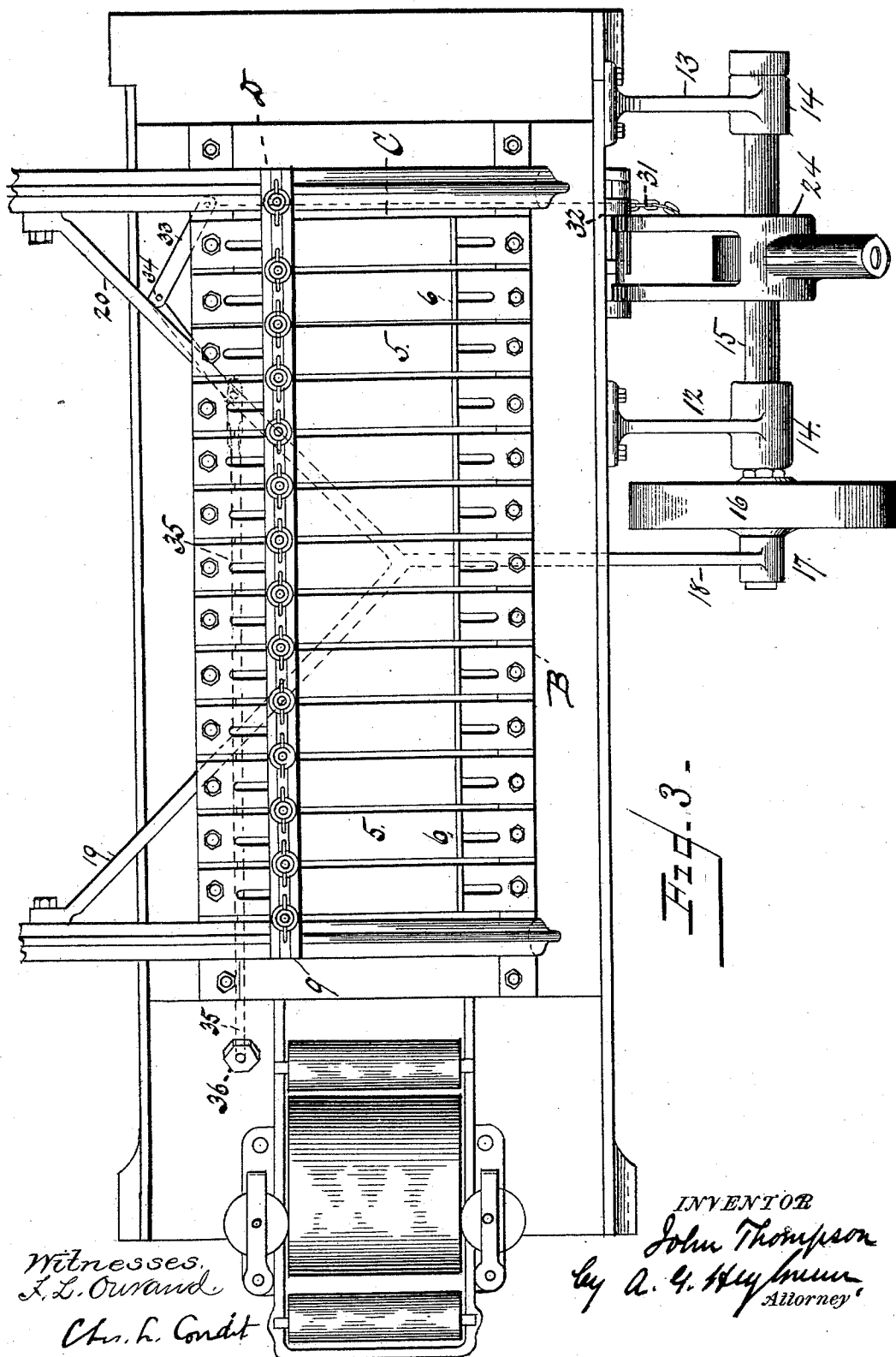
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L. L. Oursand

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INVENTOR

John Thompson
by A. G. Heyman
Attorney

UNITED STATES PATENT OFFICE.

JOHN THOMPSON, OF BUCYRUS, OHIO, ASSIGNOR TO THE FREY-SHECKLER COMPANY, OF SAME PLACE.

BRICK OR TILE CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 491,747, dated February 14, 1893.

Application filed November 15, 1892. Serial No. 452,039. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMPSON, a citizen of the United States of America, residing in Bucyrus, in the county of Crawford and State of Ohio, have invented certain new and useful Improvements in Brick and Tile Cutting Tables, of which the following is a specification.

My invention relates to improvements in cutting-tables for brick and tile machines; and the object is to provide improved means or mechanism for drawing the cutting-wire-frame through the column or slab of clay by direct power—of the lever at all times, and at each successive movement of the wire-frame; and also, by the movement of the same lever to move the table back to receive a new supply of the moving column of clay from the machine.

The invention consists in the novel construction of parts and their combination as will be fully described and particularly pointed out and distinctly claimed.

I purpose in the present instance to show and describe the invention as applicable to a cutting-table for bricks, wherein the wire holding frame has the cutting-wires stretched centrally and vertically, and the platen of the table is composed of a number of plates having vertically arranged standards at each end; the plates being disposed with wire-spaces between them.

The construction and arrangement of the parts or elements composing the table are substantially identical with those shown and described in my former Letters Patent No. 456,449, dated July 21, 1891, except that the mechanism for operating that table is removed and dispensed with, and in its place I substitute a hand-lever and connections, whereby the table is adapted to be operated by the manipulation of the operator.

I have fully and clearly illustrated my improvements in the accompanying drawings, wherein—

Figure 1 is an end view of the cutting-table showing the hand-lever and its connections to the table and wire-frame. Fig. 2 is a plan view showing the forked connecting-rod, bell-crank lever, and its connections and the lever. Fig. 3 is a detail section of the segmental-gear wheel and segmental-rack gear.

Referring to the drawings by special notations of designation A is the stationary frame or support of the cutting table, having side rails or tracks, 1, 2, on which is supported the longitudinally movable table B, mounted or sustained on wheels 3, rotating on axles 4, arranged across the frame of the movable table, with the wheels to run on the side rails of the stationary frame.

On the table B is supported the platen C, composed of a proper number of plates 5, having oppositely arranged vertical standards 6, 7, as shown in the drawings.

D designates the wire-frames composed of duplicate frames arranged at the ends of the plate and formed with ways 8. These wire-frames have arched top bars as shown, in the center of which are secured cross-pieces 9, to which the cutting-wires are fastened and their lower ends properly secured to fastenings or to other means below. The frames D are moved on rollers 10, 11, substantially as shown.

The foregoing description includes the parts or elements entering into and forming part of my said cited Letters Patent, and except as incidentally and necessarily associated with my present invention, form no part thereof, and therefore, it is deemed that the foregoing description is sufficient for the present purpose, and may be readily understood in operation and construction.

Proceeding to specifically describe and set forth my present invention as connected to or aggrouped with the general part of the table as above-described: 12, 13, designate brackets secured to the side face of the longitudinally movable part of the table and formed or provided on their outer ends with bearings 14, in which is mounted a shaft 15, carrying on one end an arm or wheel 16, having a wrist-pin or crank 17, on which is pivotally connected a pull-rod 18, forked at its inner portion as shown in the drawings in Fig. 2; the arms 19, 20, of the fork being secured at their ends to the opposite frames of the wire-frames, substantially as shown.

It will be perceived from the foregoing description in connection with the drawings, that the rotation of the wheel 16 will reciprocate the rod 18 and correspondingly move the transversely movable wire-frame D.

On the shaft 15 is keyed a ratchet-sleeve 21, having the ratchets radially and oppositely arranged as seen at 22, 23; this ratchet-sleeve may be formed on or cast with the shaft, but it is here illustrated as cast separate and keyed in position, and on this ratchet-sleeve is fitted a revoluble segment-gear wheel 24, having a sufficient number of cogs or teeth to turn the shaft and throw or move the transversely moving wire-frames in both directions across the table to their limit of reciprocation. In the rim of the segment gear-wheel 24 is formed a recess or chamber 25, in which is hung a pawl 26, to engage with the ratchets or steps on the ratchet-sleeve; the engagement of the pawl being attained and positively made by means of a spring 27, in the recess, bearing with its free end on the pawl.

On the side of the longitudinally movable table is fulcrumed an internal segmental rack-gear 24, having a socket 29, in which is fitted a hand-bar or lever 30, by which the segmental gear-wheel is turned. It will be perceived from the foregoing description and reference to the drawings, especially Fig. 3, that when the lever is drawn down the pawl will engage the step or ratchet in the ratchet-sleeve and hold the segmental gear-wheel fast thereon to turn with the shaft thereby turning the shaft and through the pull-rod connection to the wire-frame draw the wires through the slab of clay. Then this being accomplished, the lever is raised and the segmental gear wheel is carried around the ratchet-sleeve until the pawl falls into and engages with the other ratchet; the crank arm or pin of the wheel being at the time or position of the mechanism, radial at its limit back or front the downward movement of the lever will then turn the shaft so as to push or pull the wire-frame, and cut the slab of clay which has moved on the platen in the meantime. It will thus be seen that the cut in both ways is made by a downward pull on the lever.

The slab of clay in its progression pushes the table away from the machine, and of course, provision must be made to return it or run it back, and this I accomplish through the instrumentality of the lever when being lifted or carried upward and the following described mechanism: On the heel or lower portion of the segmental-rack frame is secured one end of a chain 31, which is carried under, and bears against a roller 32, journaled in supports on the side of the stationary-frame, and from thence is carried across the frame of the machine, and the end fastened to an arm of a bell-crank lever 33, fulcrumed on the rail of the stationary frame, as at 34. The other arm of this bell-crank lever is connected to a pull-bar 35, having its further end secured to the end of the movable frame, as seen at 36 in the drawings. It will be observed that when the operating lever is lifted the heel of the segmental-rack is carried outward drawing the chain with it and moving the bell-crank lever so that when the

table is run out and away from the clay-mill it will be run back to the machine and thus the lever not only operates to throw the wire-frame in both directions by a downward pull, but it moves the intermediate and longitudinal movable table to its normal position adjacent to the clay-mill after having been run out on the tracks of the stationary supporting-frame.

To summarize the operation, the lever segment being moved to rotate the segmental gear and with that pull the cutting wire-frame, the wire-frame is moved across the table in the direction which the pull-rod moves between the crank-wheel or arm, this is always attained by the downward stroke or movement of the lever, which reaches its lowest requisite limit, at substantially the time the table has been carried out and away from the clay-mill to its limit of travel, then on lifting the lever the chain in connection with the bell-crank lever is drawn on and moves that lever so that the table is run back to its position adjacent to the clay-mill.

Having thus described my invention as prescribed by the statute what I claim and desire to secure by Letters Patent is:—

1. The combination with a brick and tile cutting table consisting of a stationary base, a longitudinally movable table on the base having a platen mounted thereon to move therewith and a cutting-wire-frame arranged to move transversely across the movable table, of a shaft journaled on the side of the movable table, a crank on the shaft, a connecting-rod on the crank and having its other end fastened to the cutting wire-frame, a ratchet-sleeve fixed on the said shaft, and a lever and pawl to engage the ratchet-sleeve in the downward movement of the lever, and move the cutting-wire-frame across the table in both directions.

2. In a brick and tile cutting table, the combination of a stationary base-frame or support a longitudinally movable table on the stationary-frame provided with a platen movable therewith, a cutting-wire frame on the movable frame arranged to move transversely across the same, a shaft mounted on the longitudinally movable table, a crank on the shaft, a connecting-rod between the crank and the cutting wire-frame, a ratchet-sleeve on the said shaft provided with ratchets radially and oppositely arranged, a segmental-gear mounted to turn on the ratchet-sleeve, a pawl in the segmental-gear to engage the ratchets, a segmental-rack to engage the segmental-gear, and a handle in the segmental rack.

3. In a brick and tile cutting table the combination with the longitudinally moving table thereof, of a lever fulcrumed on the side of the longitudinally movable table, a bell-crank lever fulcrumed to a stationary point on the frame of the table a connecting-chain between an arm of the bell-crank lever and the lever on the side of the table, and a pull-rod

having one end attached to an arm of the bell-crank lever and the other end connected to the movable-frame of the table whereby when the table is run out from the clay-mill it may be returned to normal position.

5 4. In a brick and tile cutting table the combination with a longitudinally movable table, and a cutting wire-frame arranged to transversely move across the table, of a shaft jour-
10 naled to the side of the movable table, a crank on the shaft, a connecting rod between the crank and the wire-frame, a ratchet sleeve on the shaft, a segmental-gear mounted to turn on the ratchet sleeve, a pawl in the seg-
15 mental-gear to engage the ratchets of the

sleeve, a segmental rack fulcrumed to the movable table in engagement with the segmental gear a bell-crank lever fulcrumed to the stationary support of the movable table, a flexible connection between the segmental- 20 rack and the bell-crank lever, and a connecting-rod between the other arm of the bell-crank lever and the movable table.

In witness whereof I have hereto set my hand in the presence of two attesting wit- 25 nesses.

JOHN THOMPSON.

Attest:

W. CLARENCE DUVALL,
A. G. HEYLMAN.