

(No Model.)

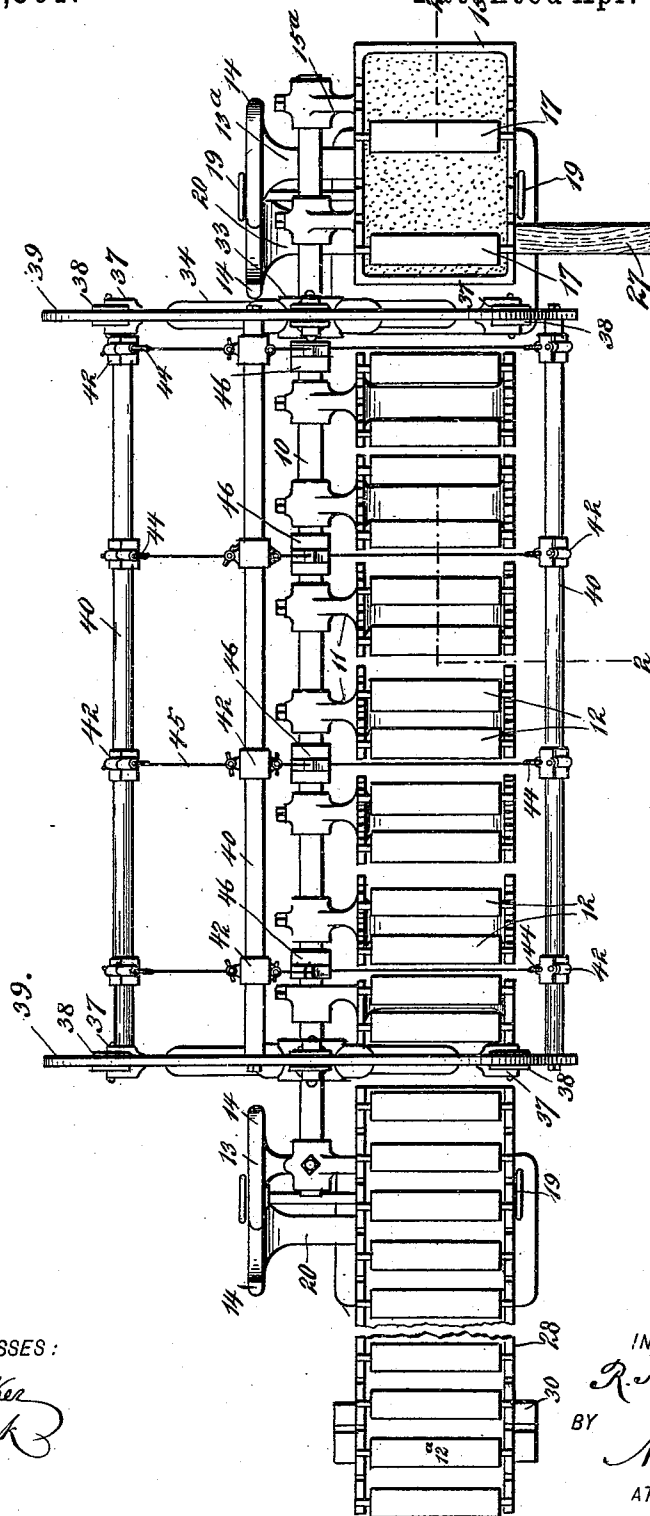
3 Sheets—Sheet 1.

R. A. DRAWDY.  
BRICK AND TILE CUTTING MACHINE.

No. 473,301.

Patented Apr. 19, 1892.

Fig. 1



WITNESSES:

*H. Walker*  
*C. Sedgwick*

INVENTOR:

*R. A. Drawdy*

BY

*Munn & Co.*  
ATTORNEYS

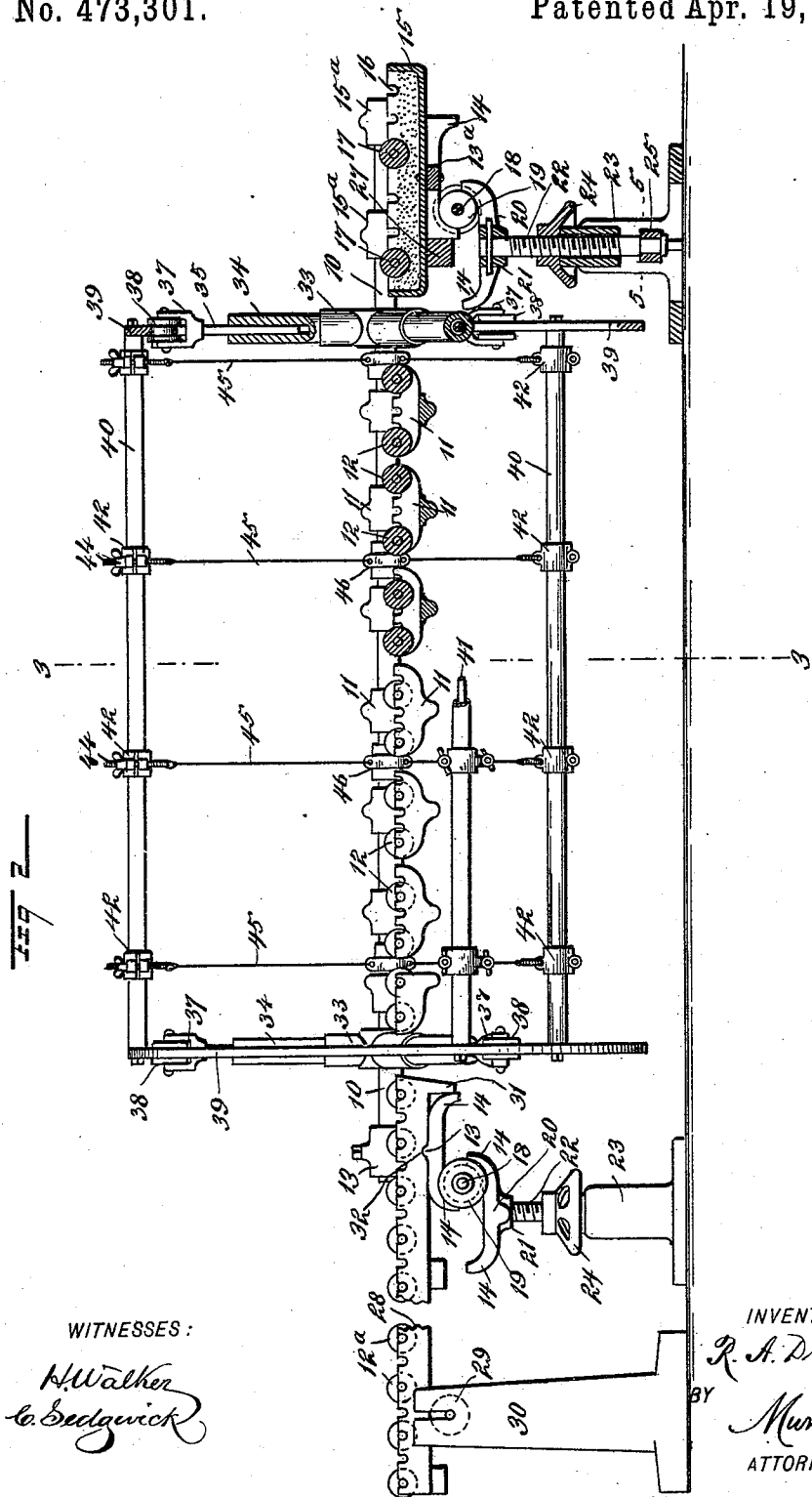
(No Model.)

3 Sheets—Sheet 2.

R. A. DRAWDY.  
BRICK AND TILE CUTTING MACHINE.

No. 473,301.

Patented Apr. 19, 1892.



(No Model.)

3 Sheets—Sheet 3.

R. A. DRAWDY.  
BRICK AND TILE CUTTING MACHINE.

No. 473,301.

Patented Apr. 19, 1892.

Fig 3

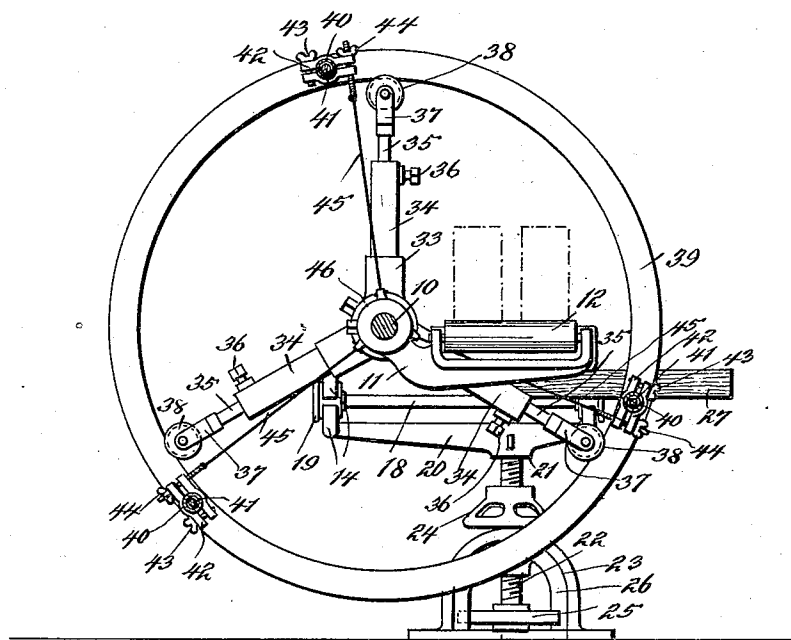


Fig 4

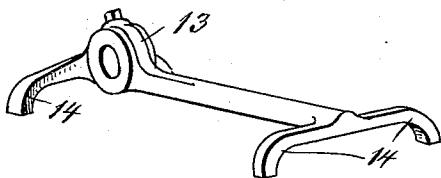
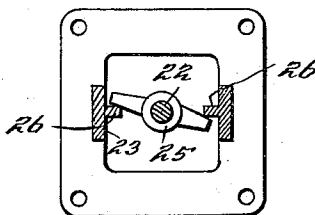


Fig 5



WITNESSES:

H. Walker  
C. Sedgwick

INVENTOR:

R. A. Drawdy  
BY  
Munn & Co  
ATTORNEYS

# UNITED STATES PATENT OFFICE.

RICHARD A. DRAWDY, OF JACKSONVILLE, FLORIDA.

## BRICK AND TILE CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 473,301, dated April 19, 1892.

Application filed December 14, 1891. Serial No. 414,957. (No model.)

*To all whom it may concern:*

Be it known that I, RICHARD A. DRAWDY, of Jacksonville, in the county of Duval and State of Florida, have invented a new and Improved Brick and Tile Cutting Machine, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of machines which are adapted to cut a continuous or intermittent stream or bar of clay into bricks, tiles, or other articles of certain shapes and regular sizes; and the object of my invention is to produce a simple machine of the above character by means of which the clay may be rapidly cut, and also to construct a machine so that the clay will be cleanly cut and the bricks or tiles left with well-defined edges, and, further, to provide means for preventing the clay from sticking to the carrying-rollers and for receiving the severed articles from the cutting-table proper in such a way that they will not be broken or damaged.

To this end my invention consists in certain features of construction and combination of parts, as will be hereinafter described and claimed.

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

Figure 1 is a broken plan view of the machine embodying my invention. Fig. 2 is a broken side elevation, partly in vertical section, on the line 2 2 in Fig. 1. Fig. 3 is a vertical cross-section on the line 3 3 in Fig. 2. Fig. 4 is a detail perspective view of one of the end brackets of the cutting-table, and Fig. 5 is a cross-section through the jack-screw on the line 5 5 in Fig. 2.

The cutting-table is provided with a main shaft 10, which does not revolve and extends longitudinally of the table, the shaft carrying a series of laterally-projecting brackets 11, which support the rollers 12, on which the bars of clay are fed, as shown by dotted lines in Fig. 3, the brackets being far enough apart so that the cutting-wires may pass between them, as hereinafter described. At the ends of the shaft or table are depending brackets 13 and 13<sup>a</sup>, which are secured to the shaft, the bracket 13 having downwardly-curved arms 14 at each end, and the brackets 13<sup>a</sup> having similar arms; but the latter bracket is secured

to the under side of the sand-box 15, which box is supported at one end of the shaft by means of suitable brackets 15<sup>a</sup>. The sand-box 15 may be supported in any convenient way, however, and it may be made to contain water instead of sand. It is provided on opposite sides with notches adapted to afford bearings for the rollers 17, which rollers turn in the box and have their upper surfaces flush with the surfaces of the carrying-rollers 12. The rollers 17 will thus carry up sand or water, as the case may be, and deliver it upon the under sides of the bars of clay, which are forced over the rollers, and the clay will thus be prevented from sticking to the rollers 12.

At the ends of the machine, beneath the bars 13 and 13<sup>a</sup> and parallel therewith, are cross-shafts 18, having rollers 19 at each end, which rollers are adapted to support the brackets 13 and 13<sup>a</sup>, being held to roll between the arms 14. The rollers on their under sides turn between arms 14 on the brackets 20, which brackets are similar to the brackets 13 and 13<sup>a</sup>, except that they have near one end and on the under side a hub 21, which enables them to be secured to the upper ends of the screws 22, which screws are mounted in the common form of supports or posts 23 and are provided with hand-nuts 24, by means of which they may be raised and lowered. The screw carries near its lower end a two-armed spider 25, which engages the ribs 26 on the inner side of the post and prevents the screw from turning with the hand-nut.

When the bars of clay are fed upon the machine-table, they will automatically roll the table endwise, the brackets 13 and 13<sup>a</sup> moving on the rollers 19, and to return the table an arm 27 is used, which arm is secured to the under side of the sand-box and projects forward, so that the operator may conveniently push against it with his knee, and thus return the table. The above construction, with the exception of the sand-box and its rollers, is similar to the construction shown in the patent to Freese and Wolcott, No. 400,399, dated March 26, 1889, and I do not claim said construction as a part of my invention.

At the rear end of the machine is an extension-frame 28, which aligns with the brackets 11 and in which are a series of rollers 12<sup>a</sup>, similar to the rollers 12 and held in the same plane. The frame 28 is adapted to reciprocate in unison with the shaft 10 and the brack-

ets 11 and to facilitate this operation it is mounted near one end on a roller 29, which turns in a support 30. The opposite end of the frame terminates in a depending flange 5 31, adapted to engage one of the arms 14 of the bracket 13, and the frame has also on the under side a recess 32, adapted to receive a rib on the bracket 13; but it will be understood that the frame may be connected in any 10 convenient way with the reciprocating shaft and brackets. The object of this frame 28 is to enable the severed bricks or tiles to be carried automatically out of the way of the cutting mechanism of the machine, so that they 15 may be conveniently removed without interfering with the work of the machine. The cutting mechanism of the machine will be described below.

To each end of the machine cutting-table, 20 which consists, essentially, of the shaft 10, the brackets 11, and rollers 12, is a three-armed spider 33, secured to shaft 10 by a set-screw, which prevents it from revolving on the shaft, the arms 34 of which are hollow, and 25 held in these arms are radially-extending rods 35, which are secured in place by set-screws 36, and which terminate at their outer ends in yokes 37, carrying grooved pulleys 38, which form supports for the rims 39, which 30 rims are thus made to form the ends of the cutting-reel, and the rims are connected by pipes 40 and rods 41, extending through the pipes and bolted to the rims. The pipes 40 thus afford convenient handles, by means of 35 which the reel may be revolved, and by having the rims pivotally supported, as described, the reel may be very easily turned and made to cut the clay cleanly. The reel is provided at intervals with clamps 42, which consist of 40 two similar pieces adapted to embrace the pipes 40, the pipes being held in place by screws 43 and 44, the latter of which project through the clamping-pieces and carry the cutting-wires 45, which wires extend radially 45 inward and are secured at their inner ends to loose collars 46, which are adapted to revolve on the shaft 10. It will thus be seen that the wires may be easily tightened by the screws 44, so as to be held perfectly taut.

50 The operation of the machine is as follows: The jack-screws are manipulated so as to bring the rollers to the required level, and the bars of clay having first been made of the required cross-section are fed to the machine in the 55 usual manner, passing over the rollers 17, which either sand or lubricate the clay, so that it will not stick to the rollers 12. As the clay strikes the rollers 12 it will move the brackets 11 and shaft 10, and the operator 60 then grasps one of the pipes 40 and pulls downward and forward upon it, thus causing the cutting-wires 45 to pass cleanly and quickly through the clay. The operator then returns the table by pressing his knee against 65 the arm 27 and it is again allowed to feed forward, and the cutting operation is repeated. As the cuts are made the severed bricks or

other articles will pass rearward upon the extension-frame, where they may be conveniently removed. 70

It will be noticed that the reel constructed as described can be very conveniently operated, and its bearings may be easily adjusted, so that it can be held in just the right position. 75

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the longitudinal shaft having brackets 11, carrying-rollers 12, 80 and the cutting-reel mounted on the shaft, of depending brackets 13 13<sup>a</sup>, secured to the ends of the shaft and having downwardly-curved arms 14 at each end, supporting-brackets 20, mounted below the brackets 13 13<sup>a</sup> and having 85 upwardly-curved arms and rollers between the two sets of arms, and the receptacle 15, mounted above the bracket 13<sup>a</sup> and having brackets 15<sup>a</sup>, mounted on shaft 10, and transverse rollers parallel with and in the plane of 90 the rollers 12, substantially as set forth.

2. The combination, with the reciprocating cutting-table having the transverse rollers 12 and the upper and lower brackets having 95 curved arms 14, between which are placed the rollers 9, the rear upper bracket 13, having a rib, of the rear extension-table 28, also having rollers and provided with a concavity receiving the rib of bracket 13 and depending arm 31, and a support 30, having a roller 29, on 100 which the outer end of the extension-table rests, substantially as set forth.

3. The combination, with the cutting-off table, of radially-extending arms secured to the 105 ends of the table, pulleys mounted in the outer ends of the arms, a reel held to turn on the pulleys, and cutting-off wires carried by the reel and extending radially toward the table-shaft, substantially as described.

4. The combination, with the cutting-table 110 having a main shaft extending longitudinally thereof, of hollow arms extending radially from the table ends, pulleys adjustably mounted on the outer ends of the arms, connected rims held to turn on the pulleys, and cutting-off 115 wires having their inner ends secured to collars mounted on the table-shaft and their outer ends secured to the rim connections, substantially as described.

5. The combination, with the cutting-table 120 having a main shaft extending longitudinally thereof and the arms extending radially from the table-shaft and carrying-pulleys at their outer ends, of the cutting-reel comprising end rims held to turn on the pulleys, cross-pipes 125 connecting the rims, clamping-pieces mounted on the cross-pipes, and adjustable wires extending from the clamping-pieces to collars held to turn on the main table-shaft, substantially as described.

RICHARD A. DRAWDY.

Witnesses:

W. G. HANFORD,  
C. FABIAN LAW.