

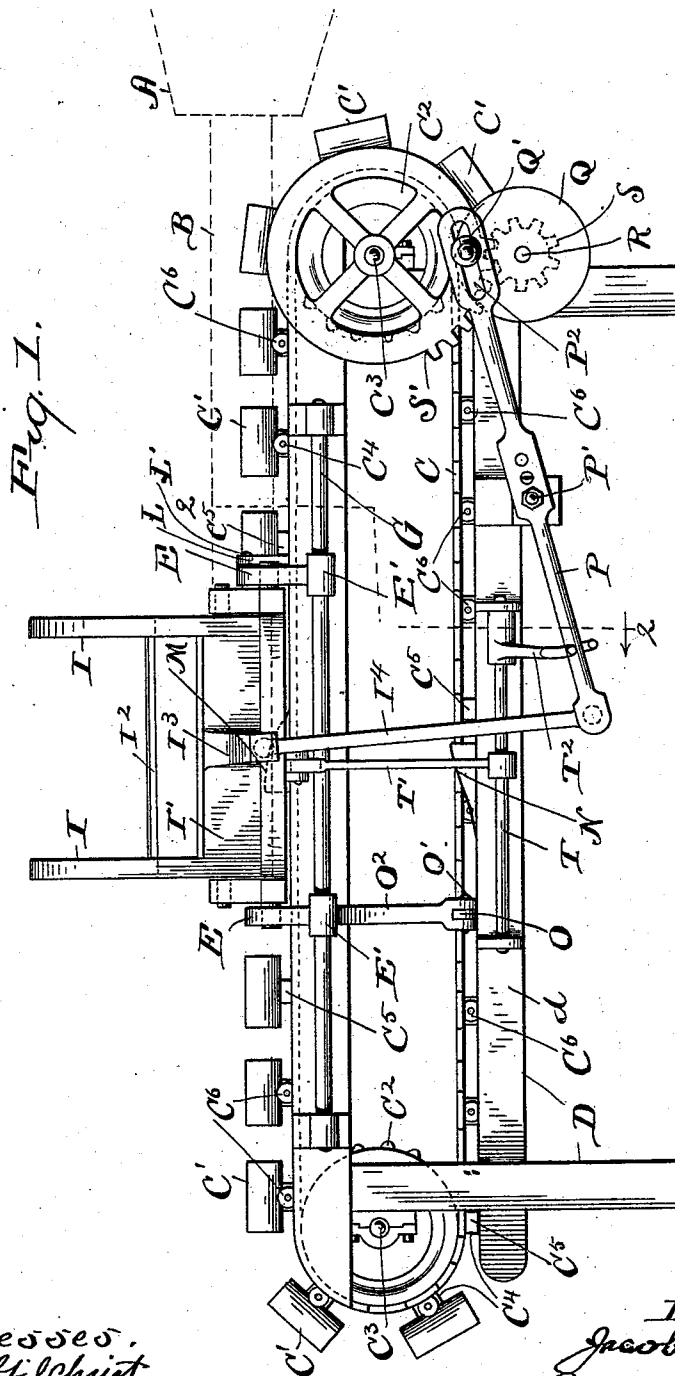
(No Model.)

2 Sheets—Sheet 1.

J. H. OMWAKE.
CUTTER FOR CLAY PRODUCT MACHINES.

No. 531,213.

Patented Dec. 18, 1894.



Witnesses.
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C. Wood

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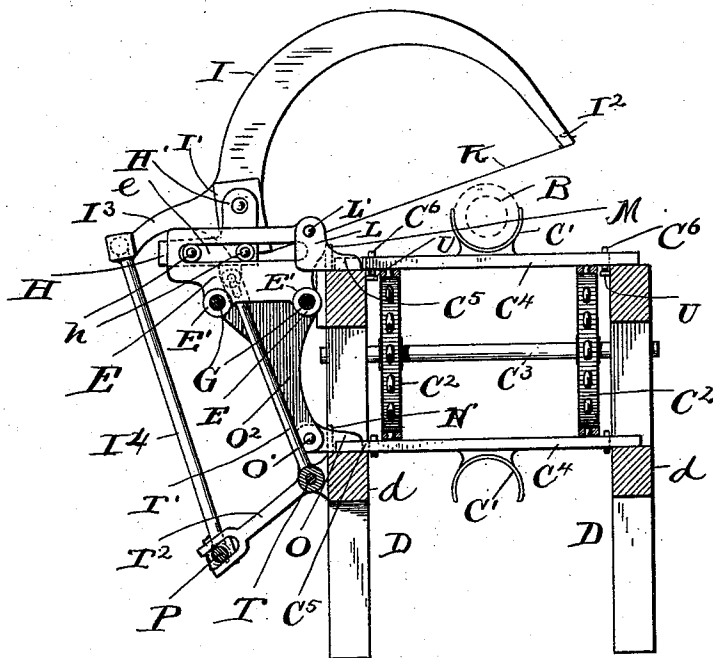


Fig. 2.

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Inventor:
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By M. D. Leggett
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UNITED STATES PATENT OFFICE.

JACOB H. OMWAKE, OF ILER, OHIO, ASSIGNOR OF ONE-HALF TO JOHN W. WALTERS, OF SAME PLACE.

CUTTER FOR CLAY-PRODUCT MACHINES.

SPECIFICATION forming part of Letters Patent No. 531,213, dated December 18, 1894.

Application filed May 28, 1894. Serial No. 512,713. (No model.)

To all whom it may concern:

Be it known that I, JACOB H. OMWAKE, of Iler, in the county of Seneca and State of Ohio, have invented certain new and useful
5 Improvements in Cutters for Clay-Product Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make
10 and use the same.

My invention relates to improvements in cut-off tables for brick, tile and other clay-product-machines; and it consists in certain features of construction, and in combinations
15 of parts hereinafter described and pointed out in the claims.

A preferable construction of a machine embodying my invention is illustrated in the accompanying drawings, wherein—

20 Figure 1 is a rear side elevation of a cut-off table for a tile-machine. Fig. 2 is an end elevation in vertical section on line 2—2, Fig. 1.

Referring to the drawings, A represents the discharging-mouth or die of a tile-machine,
25 and B a column of clay being discharged from said machine, and which is to be cut into pieces of the required length by my improved cut-off machine. The column of clay to be severed into pieces is discharged from the
30 clay-product-machine upon an endless-belt or carrier, C, with which my improved machine is provided, said belt or carrier being suitably constructed to receive and be propelled by the column of clay, the belt or carrier being
35 actuated by the friction had between the opposing surfaces of the column of clay and said belt or carrier.

If the cut-off-machine is designed for use in connection with a tile-machine, wherein
40 the column of clay is round or circular in cross-section the belt or carrier, at suitable intervals, is provided with semi-circular holders, C', arranged to receive the correspondingly shaped column of clay.

45 D designates the supporting-frame of my improved cut-off machine, and endless belt or carrier C engages wheels C² suitably supported at opposite ends of said frame, respectively. A severing-wire-carriage is suitably
50 mounted upon the supporting-frame a suit-

able distance from the receiving-end of the machine. The severing-wire-carriage comprises a pair of transversely arranged bars or pieces E which are centrally and longitudinally slotted, as at *e*. The two bars E are located a suitable interval apart and are each
55 provided at the bottom with a pair of sleeves, E', that are easily mounted upon rods G suitably supported from and at the rear side of the supporting-frame. Bars or members E are
60 capable of reciprocation upon rods or tracks G, and between said bars or members E is located a frame H that is provided with rollers *h* that engage and are capable of traveling endwise of slots *e* in bars or members E.
65 Frame H, at each end, extends somewhat above bars or members E, as at H', and to and between said upwardly-extending portions of frame H is trunnioned the severing-wire-carrying-frame I. Said severing-wire-
70 bearing-frame comprises a pair of inverted U-shaped bars or members, suitably connected at their rear ends, as at I'. Said U-shaped members of the severing-wire-frame are also
75 suitably connected at their forward extremities, as at I², and the severing-wires, K, are stretched in any approved manner from member I² to member I'.

By the construction thus far described, it will be observed that three different motions
80 are capable of being given to the severing-wires.

The construction whereby the severing-wire-carriage is slidably mounted upon rods or tracks G, that, as already indicated, are arranged lengthwise of the cut-off-table, enables
85 said carriage to be moved in the direction taken by the moving column of clay. The construction whereby the severing-wire-frame of said carriage is carried upon rollers adapted
90 to travel in a direction transversely of the machine, renders the severing-wires capable of being moved in that direction, and the construction whereby the severing-wire-frame is carried upon axial trunnions, renders said
95 frame capable of oscillation in a vertical plane.

The capability of the severing-wires to move in the direction of the moving bar or
column of clay, and the capability of said 100

wires to move in a direction at right angles to the path of the column or bar of clay are absolutely necessary to obtain a vertical cut, while the oscillating movement of which the severing-wire-frame is capable, is only desirable in that it enables the severing-wires to cut the bar or column of clay with what is known as a saw or draw-cut.

Referring, first, to the means employed whereby the severing-wire-carriage is moved in the direction of the traveling bar or column of clay, I would remark that said motion is preferably communicated to the endless-belt or carrier C. To this end the endless-belt or carrier consists preferably of two endless-chains located a suitable interval apart and leading over sprocket-wheels C² rigid with or operatively mounted upon shafts C³ suitably supported at the ends of the supporting-frame, and the two endless-chains are connected at suitable intervals, preferably short intervals, by bars C⁴, bearing holders C', to form a suitable surface for engagement by the traveling-bar or column of clay. Some of said connecting pieces or bars project a suitable distance beyond the endless-chain that is located adjacent to the rear side of the machine, as at C⁵, and said projecting portions of said bars are adapted, in the operation of the machine, to engage a forwardly-projecting arm or dog L, pivotally connected at its rear end, as at L', to the severing-wire-carriage, and thereby actuate the severing-wire-carriage in the direction of the moving column of clay, and said forwardly-projecting arm or dog on the severing-wire-carriage is adapted to engage and travel up an incline M rigid with the supporting-frame. Those bars C⁴ of belt or carrier C that are adapted to actuate the severing-wire-carriage, to effect the movement of said carriage with the moving or incoming column of clay, are located such a distance apart that one of said bars shall come into position for operation as soon as the section or column of clay shall have come into position to be cut into pieces, and the arrangement of parts and trend of incline M are such that dog or member L of the severing-wire-carriage shall ride up incline M during the longitudinal movement of the severing-wire-carriage in the severing operation and the severing-wire-carriage shall be moved with the column of clay during the severing operation (which severing operation is hereinafter described) until member L has been lifted by means of incline M out of operative engagement with the belt or carrier C, which occurs immediately upon the completion of the severing-operation.

The severing-wire-carriage is provided with another forwardly-projecting arm or dog O in position to be engaged by the returning or lower portion of the belt or carrier. Said arm or dog is pivoted, as at O', to a depending-member O² of the severing-wire-carriage, and is adapted to be engaged by the projecting

members C⁵ on said portion of the carrier, thereby resulting in the return of the severing-wire-carriage into position for the next succeeding severing operation. During the return movement of the severing-wire-carriage member O comes into engagement and rides up an incline N rigid with the supporting-frame and the trend of said incline and the arrangement of parts are such that as soon as the severing-wire-carriage has been returned into position for the next succeeding severing-operation incline B shall have lifted member O out of operative engagement with carrier C.

The mechanism employed for effecting the movement of the severing-wires in a direction at right angles to the path of the bar or column of clay during the severing operation is preferably as follows:—Member I' of the severing-wire-frame, preferably near its central portion is provided with a rearwardly-projecting arm or lever I³, that is operatively connected, by means of a link, I⁴, with a lever, P, that is fulcrumed near its central portion, as at P', to the supporting-frame, and is slotted longitudinally at its opposite end, as at P². Slot P² is engaged by the crank-pin or wrist Q' of a crank-wheel or crank Q that is rigid or operatively connected with a shaft R, that is suitably supported from the supporting-frame and bears a pinion S that meshes with a sectional or mutilated gear S' fixed or operatively mounted upon the shaft C² at the forward end of carrier C. The arrangement of parts is such that the mechanism just described is actuated at the proper time, as required, to oscillate the severing-wire-frame and the severing-wires carried thereby, forwardly to sever the column or bar of clay into pieces during the movement of said carriage in the direction of the traveling bar or column of clay, and so that said severing-wire-frame shall be oscillated in the opposite direction upon the completion of the severing operation.

Referring, lastly, to the not indispensable but desirable motion of the severing-wire-frame and the severing-wires carried thereby in a direction transversely of the traveling bar or column of clay during the severing operation, in order to sever the bar or column of clay by what is known as a saw or draw-cut, I provide preferably as follows:—Frame H, at the bottom, is pivotally connected to a lever T' operatively mounted upon a horizontally-arranged shaft T that is suitably supported from and located at the rear side of the supporting-frame. Said shaft is provided with another and forked lever T², the fork T³ whereof straddles the adjacent arm of lever P. The arrangement of parts is such that the severing-wire-frame and severing-wires carried thereby, shall be moved directly forwardly during the severing-operation, and shall be returned in time for the next succeeding severing-operation.

Briefly described, in the machine illus-

trated, the arrangement of parts is such that the severing-wires are moved with the moving column of clay and transversely of the path of said column during the oscillation of the severing-wires to cut the column of clay into pieces, and the machine automatically severs the moving bar or column of clay into pieces with what is known as a saw or draw-cut.

I would also remark that, in order to prevent the belt or carrier from sagging, the supporting-frame, at the top, is provided with a track U engaged by rollers C⁶ on the ends of those bars C⁴ of the belt or carrier that are not provided with projecting members C⁵, and that the lower or returning section of the belt or carrier is kept in alignment by its engagement with the top side of longitudinal members d of the supporting-frame, which is effected by the extension of each end of bars C⁴ that are provided with members C⁵, as shown in Fig. 2.

What I claim is—

1. In a cutter for clay-product machines, the combination of an endless-belt or carrier for conveying the column of clay to the place of cutting, suitably supported severing-wire-carriage, pivotal arms or dogs L and O carried by said carriage, stationary inclines M and N, projecting-members C⁵ on the belt or carrier, and suitable mechanism for actuating the severing-wire-bearing-members of the severing-

wire-carriage to cause the severing-wires to perform their function during the aforesaid movement of the severing-wire-carriage with the column of clay, substantially as set forth. 35

2. In a cutter for clay-product machines, the combination of an endless-belt or carrier for conveying the column of clay to the place of cutting, suitably supported severing-wire-carriage, means whereby said carriage is moved with the moving column of clay during its severing operation, means whereby the severing-wire-bearing members of said carriage are actuated to cause the wires to perform their function, the severing-wire-bearing members of the carriage being capable of oscillation, a crank-wheel or crank operatively connected with the aforesaid belt or carrier, a tilting-lever suitably connected with said crank, an arm or lever rigid with the severing-wire-bearing-members and a link operatively connecting said arm or lever with the aforesaid crank-engaging lever, the arrangement of parts being substantially as shown, for the purpose specified. 40 45 50 55

In testimony whereof I sign this specification, in the presence of two witnesses, this 29th day of December, 1893.

JACOB H. OMWAKE.

Witnesses:

C. H. DORER,
WARD HOOVER.