

(No Model.)

S. W. LASOR, Dec'd.

E. S. LASOR, Administratrix.

WIRE CUT-OFF BRICK MACHINE.

No. 401,750.

Patented Apr. 23, 1889.

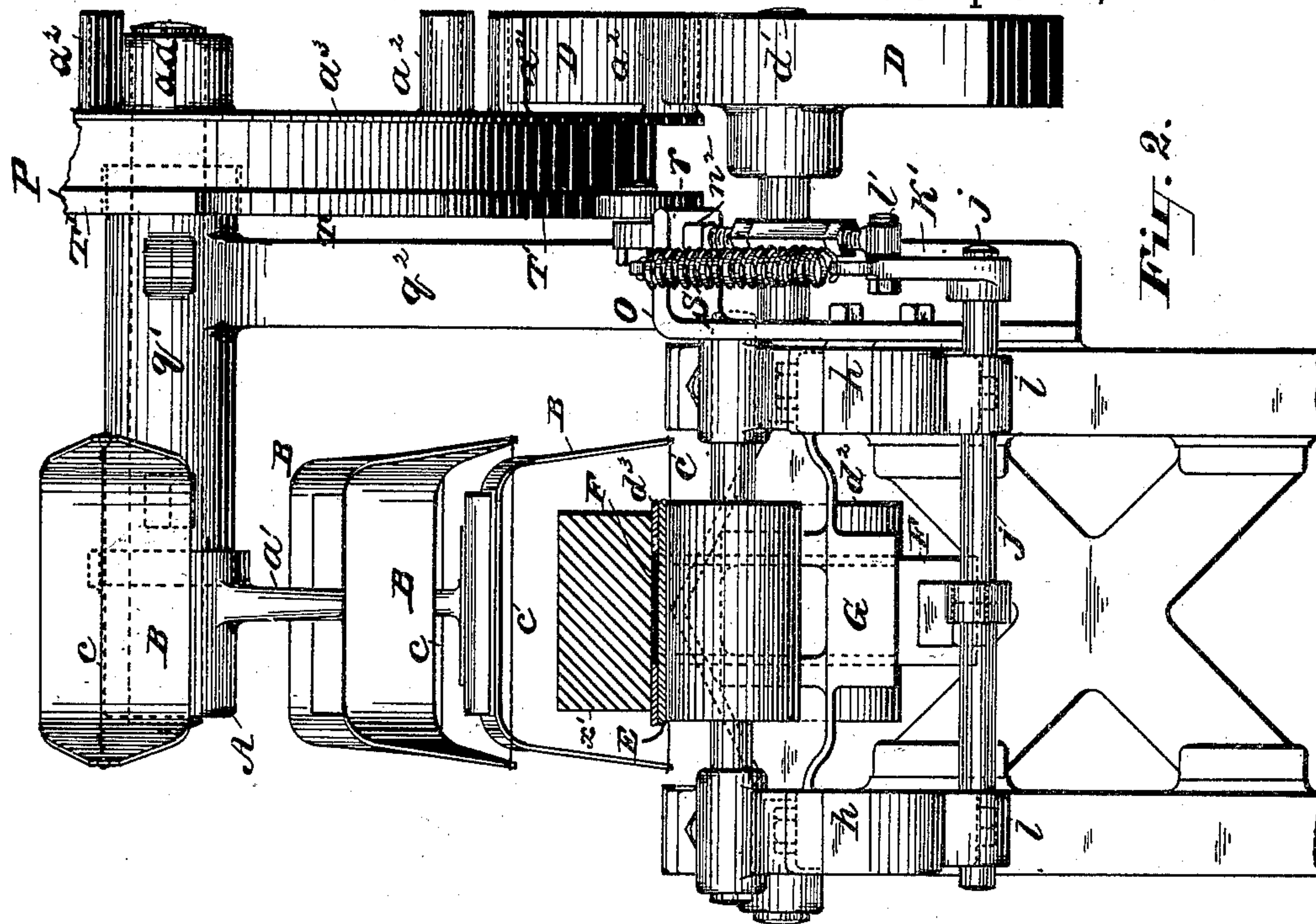


Fig. 2.

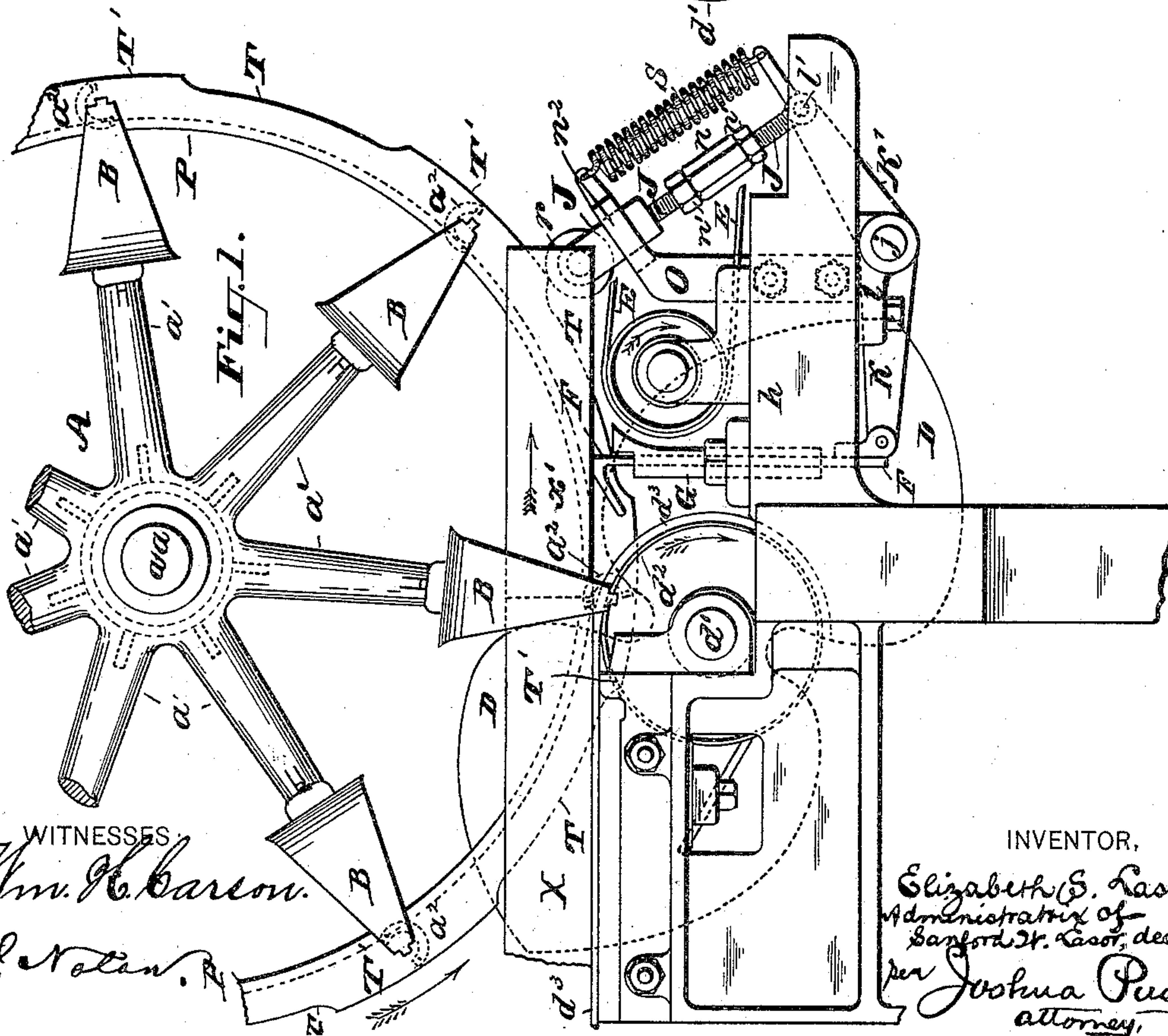


Fig. 1.

WITNESSES

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UNITED STATES PATENT OFFICE.

ELIZABETH S. LASOR, OF PHILADELPHIA, PENNSYLVANIA, (ADMINISTRATRIX OF SANFORD W. LASOR, DECEASED,) ASSIGNOR TO CYRUS CHAMBERS, JR., OF SAME PLACE.

WIRE CUT-OFF BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 401,750, dated April 23, 1889.

Application filed June 26, 1886. Serial No. 206,291. (No model.)

To all whom it may concern:

Be it known that SANFORD W. LASOR, deceased, late a citizen of the United States, and a resident of the city and county of Philadelphia, and State of Pennsylvania, has invented certain new and useful Improvements in Wire Cut-Off Brick-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, of which—

Figure 1 is a side elevation of the cut-off devices of a brick-machine in which the device is embodied. Fig. 2 is a front elevation of Fig. 1, looking in the direction of the arrow marked 1, the bar-belt d^3 being in section.

The invention is used in connection with that class of brick-machines wherein an advancing bar of clay forced out from a die is cut off into bricks by means of wires carried by an endless belt or a rotating armed wheel across the path of the moving bar of clay, which wires, gradually entering the latter, sever the same into bricks. Cut-off mechanism of the first description is shown in Letters Patent No. 297,917, granted to Cyrus Chambers, Jr., dated April 29, 1884, and of the latter description in the drawings hereunto annexed, which represent part of a wire cut-off brick-machine (having said Lasor's present improvements applied thereto) invented by said Cyrus Chambers, Jr., for which he filed an application, Serial No. 271,671, for Letters Patent. Nothing, however, hereinafter described is claimed as the invention of SANFORD W. LASOR except as particularly specified.

The nature and object of the present invention is a device for temporarily supporting the projecting end of the partially-severed moving clay bar, and also to hold back the same by frictional resistance, so that the parting strain caused by the wire cutting through the clay will be counteracted and the clay be prevented from cracking or breaking beneath the line of the cut just before the wire has completed the severance of the bar.

The primary object of the invention is to secure a clean cut instead of, as heretofore, the ragged or broken edge on the under side of the brick; also to cause said supporting

device to be dropped out of the path of the cut-off wires after the cut-off is completed.

Referring to the drawings, A is the cut-off wheel, with arms a' , at the ends of which are secured elastic steel bows B, each carrying a cut-off wire, c , Fig. 2. Said cut-off wheel is driven by a belt (not shown) that passes around a pulley, a^3 , upon the shaft $a a$, which carries wheel A. This pulley has projecting therefrom studs or tappets a^2 , which, as the pulley rotates, engage with and bear against the edge of a double heart-shaped cam, D, upon the shaft d' of the forward pulley, d^2 , of the belt d^3 , which carries the bar of clay X. The cut-off wheel turns in the direction of the adjacent arrow, Fig. 1. The contour of the cam D is such as to determine the movement of the cut-off wheel, so as to insure that the wires moving across the path of the bar of clay will in passing through the latter finally sever the same at right angles into brick-lengths. The essential operation of the cut-off described is similar to that of the endless-belt cut-off shown in the aforesaid Letters Patent of Cyrus Chambers, Jr., although the special mechanism is different. The bricks thus cut off continue on to the off-bearing-belt E, which, in order to separate the bricks, so as to facilitate handling by the "offbearers," is run at greater speed than the other or bar belt, d^3 .

It is necessary in order to prevent breaking off of the lower rear corners of the brick and bar that the almost-severed end of the clay bar should be supported out of contact with the offbearing-belt until the cut-off is finished, and also so that the brick shall be taken back from its front end, or evenly on its lower side, by the offbearing-belt, in order to prevent the tearing off of its lower front edges by the latter. It has been attempted to secure these results by placing a roller in advance of the point of completed cut-off in such position that the roller supported the projecting end of the bar above the offbearing-belt, the severed brick dropping into contact with the latter as soon as its center of gravity had passed beyond the roller. The defects in this device are in that the end of the bar is not, so to say, suffi-

ciently retarded to prevent the aforesaid breaking of the clay at the bottom of the cut-off while the latter is being effected, and, secondly, in that the position the roller is required to occupy is such that it is struck by each of the cut-off wires in the course of the rotation of the cut-off belt or wheel.

This invention, which will now be described, fully obviates the aforesaid defects which interfered with the perfect operation of the machine.

Referring again to the drawings, F is a vertically-sliding plate located under the advancing clay bar X about the distance of half the length of a brick, or in front of the point of complete severance of the bar, as seen clearly in Fig. 1, so that when the brick x' is about to be entirely cut off it is supported by said plate, and, being about balanced, it has no tendency to drop and break off. The plate is made with a flat top and beveled or dropping edge toward the cut-off, as shown, so as to insure that the end of the clay bar will properly strike and slide upon the plate. The friction of the clay upon the surface of the latter holds back the projecting end, thus insuring the coherence of the yet unsevered part of the clay on the line of cut-off, so that when the wire reaches near the bottom of the bar the almost-severed end is prevented from being moved or jumped forward by the final force of the wire as it cuts through. In this way the heretofore breaking off or "ragging" of the lower edge of the brick is obviated. It is necessary that this plate should be dropped or moved out of the way of the wire; otherwise it would be struck by the latter as the cut-off wheel A, which carries the series of wires, continues in its rotation. The top of the plate must also be nicely adjusted to the line of the under side of the clay bar. A combination of mechanism will now be described, although it is here remarked that the invention is not confined to the particular mechanism shown.

The plate F works in a guide-box, G, which is secured to the frame h . To its lower extremity is pivoted one arm, K, of a rock-lever on the end of shaft j , journaled in brackets e on the under side of frame h . On a stud, e' , projecting from the other arm, K', of said lever at about right angles thereto, is pivoted a rod, J, made in two parts—one with a right-hand and the other with a left-hand screw-thread—with an adjusting-nut, n , and set-nuts n' , whereby the length of the rod may be readily shortened or lengthened at pleasure. The upper portion of said rod is flattened, and extends through a guide-slot, n^2 , in an angle-bracket, O, that is bolted to the side of the frame. A spring, S, connects the projecting ends of the fixed bracket O and the arm K' of the rock-lever, the stress of the spring tending to draw up the said arm, and consequently depress the sliding supporting-plate F. A roller, r , is journaled on the free end of rod J, which roller rides upon the edge

of a circular disk, P, upon the shaft a , that bears the cut-off wheel and belt and tappet-wheel a^2 , which shaft is journaled in a box, q' , upon the standard q^2 , Fig. 2. Said disk is provided with depressions T, with rounded ends, the number of which depressions and intervening elevations, T', respectively, is equal to that of the cut-off wires. The position of roller r is such that it rides against the edge of the disk, being held there by the stress of the spring S. When the roller is riding upon the elevations of the disk, the plate F is retained in the position where it performs its function of supporting the projecting ends of the clay bar; but as the disk continues its rotation the spring causes the roller to enter the depressions, and obviously at the same time the arm of the lever is raised up, and by the sequence hereinbefore described the plate is drawn down out of the way of the cut-off wire, and is then held a sufficient time (regulated by the length of the depression) until it is again elevated by the roller riding upon the elevated portion of the disk. It will of course be understood that the arrangement of the devices is such that the raising, retaining, and dropping of the sliding plate shall successively occur and continue at and during such intervals as will effect the purposes of the invention.

In the drawings one of the wires has just completed the cutting off of a brick from the bar of clay. The roller r is about to drop into a depression upon the cam-disk, which occurring, the plate will be dropped and the brick be permitted to descend flatly upon the offbearing-belt.

Having thus described the invention, that which is claimed as new, and for which Letters Patent are desired, is—

1. In a brick-machine of the class recited, the combination, with the continuously-moving belt E and the rotating cut-off device arranged with relation thereto, substantially as shown and described, of the plate for supporting and retarding the advancing end of the bar of clay while a brick-length is being severed therefrom, said plate being located between the point of severance and delivery beyond said belt, substantially as described.

2. In a brick-machine of the class mentioned, the combination, with the rotating cut-off devices, of the supporting-plate located with relation to the point of severance of the clay bar, as shown and described, together with mechanism, such as shown and described, for bringing and retaining the plate in position to support the end of said bar and for moving the same away from such supporting position out of the path of the cut-off wires, substantially as and for the purpose set forth.

3. In a brick-machine of the class mentioned, the combination, with the rotating cut-off devices, of the vertically-sliding plate located relatively to the point of severance of the clay bar, as shown and described, the rock-lever, the rod, the bracket, the spring, and the

disk having the elevations and depressions, all constructed and adapted to operate substantially as and for the purpose set forth.

4. In a brick-machine of the class mentioned, the combination, with the rotating cut-off devices, of the belt for carrying the clay bar, the offbearing-belt with its surface below the said carrying-belt, the supporting-plate located with reference to the point of
10 final severance of the clay bar, as shown, together with the mechanism for elevating, depressing, and retaining said plate, all constructed and adapted to operate substantially as and for the purpose set forth.

15 5. In a brick-machine of the class mentioned, the combination, with the rotating cut-off devices, of the vertically-sliding plate located relatively to the point of severance of the clay bar, as shown and described, the rock-
20 lever, the rod, with means for adjusting its length, the bracket, the spring, and the disk

having the elevations and depressions, all constructed and adapted to operate substantially as and for the purpose set forth.

6. In a brick-machine of the class men- 25 tioned, the combination, with the rotating cut-off devices, of the sliding plate located with relation to the point of complete severance of the clay bar, as shown, the rock-lever, the rod, the disk having the elevations and de- 30 pressions, and means for holding the free end of said rod in contact with the disk by a yielding force, substantially as and for the purpose set forth.

In testimony whereof I have hereunto af- 35 fixed my signature this 19th day of June, A. D. 1886.

ELIZABETH S. LASOR,
Administratrix.

Witnesses:

C. H. COCHRAN,
D. J. McDONOUGH.