

No. 751,269.

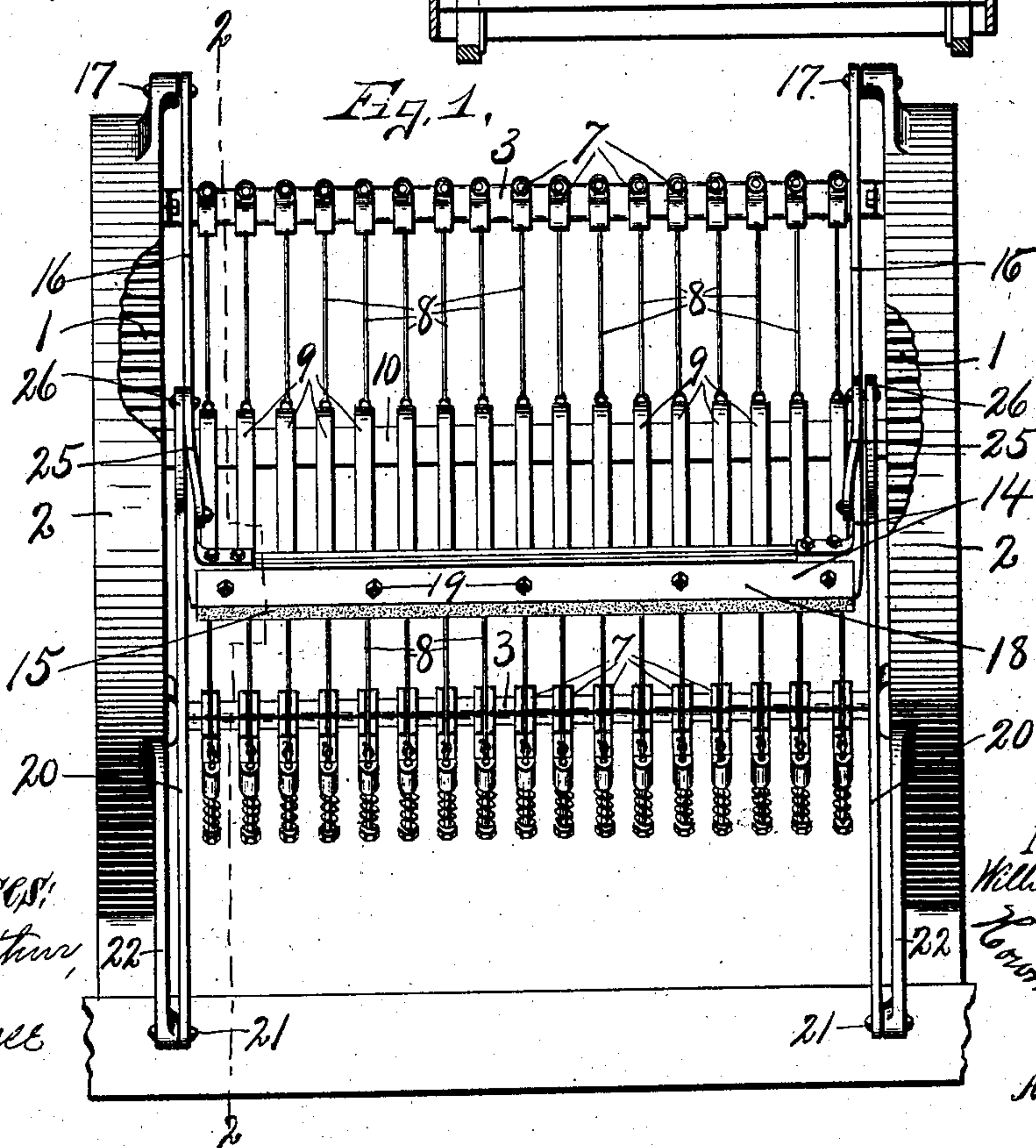
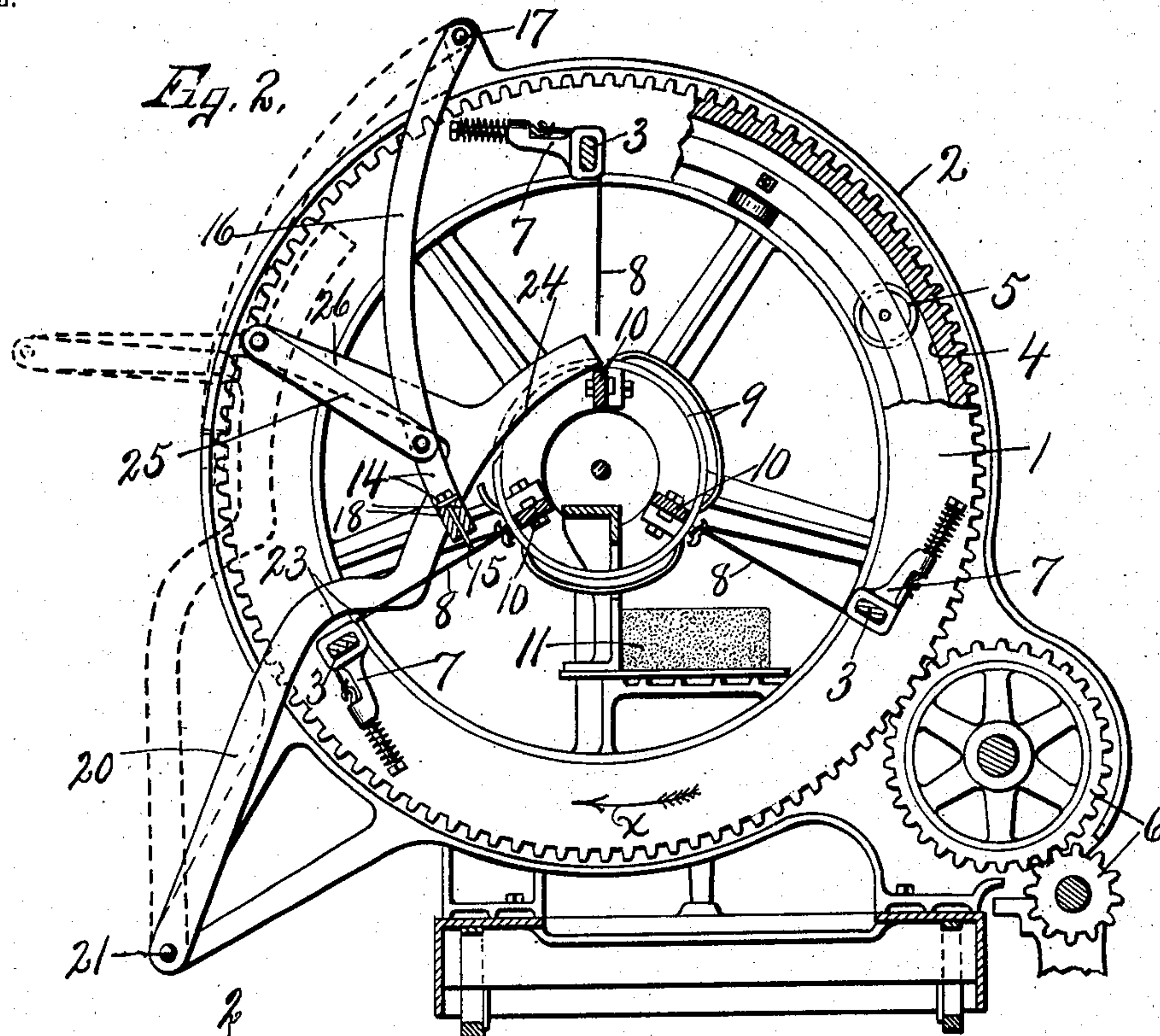
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W. J. EIPP.

CLEANER FOR BRICK OR TILE CUTTING MACHINES.

APPLICATION FILED JUNE 8, 1903.

NO MODEL.



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CLEANER FOR BRICK OR TILE CUTTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 751,269, dated February 2, 1904.

Application filed June 8, 1903. Serial No. 160,585. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. EIPP, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Cleaners for Brick or Tile Cutting Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in machines for cutting brick and tile while in plastic state, and refers more particularly to a device for cleaning the wires of a rotary cutting-reel—such, for instance, as that shown and described in Patent No. 675,825, June 4, 1901, to E. M. Freese. In this machine a rotary frame is provided with a plurality of rows of wire cutters which are radially disposed and operate to cut through the slab or body of the plastic clay, the cutters of each gang operating successively to sever the bricks from the continuously-moving slab. Although these wires are well-adapted to cleanse themselves under some conditions, it is found that when the clay is moist or of a peculiarly cohesive nature small quantities of the clay adhere to the wires after each cutting operation, so that when the same wires are again brought into action the edges of the brick are more or less torn or broken, thus leaving ragged or rough corners upon the bricks at each cut. My object, therefore, is to obviate this difficulty by providing a simple and practical device for removing the adhering material from the wires immediately after each cutting operation, and I have only sought to adapt this device to rotary cutters such as is shown in the patent above referred to.

In the drawings, Figure 1 is a side elevation of a portion of a brick and tile cutting machine, showing particularly the rotary cutting-reel and my improved cleaner for the cutters as operatively mounted upon the machine. Fig. 2 is a sectional view taken on line 2 2, Fig. 1.

Similar reference characters indicate corresponding parts in both views.

In order to clearly demonstrate the practicability of my invention, I have shown a portion of the brick-cutting machine set forth

in the patent above referred to and consisting of a rotary frame or cutting-reel, which comprises two opposite gears or rings 1, said gears being rotatable in the fixed casings 2 and are connected by lengthwise bars 3. These gears 1 are angular in cross-section for forming an annular bearing-face 4, which rides upon suitable roller-bearings 5 to maintain the gear in operative position and to reduce the friction as much as possible, said gears being driven in the direction indicated by arrow *a* by a suitable power-transmitting mechanism, as gears 6, which may be connected to any source of power, not necessary to herein illustrate or describe.

The lengthwise bars 3 are arranged concentrically around the axis of revolution of the gears 1 parallel with said axis and equidistant one from the other, and in this instance I have shown three such bars, upon which are mounted a series of wire clamps or holders 7 for receiving and securing the outer ends of a corresponding number of wire cutters 8. These cutters are arranged in gangs or rows, one gang or row for each bar 3, and the inner ends of the cutters or wires 8 are secured to rings 9. These rings 9 correspond in number to the number of wires of each row and are mounted separately one from the other upon fixed lengthwise bars 10, which secure the intermediate portions of the fixed frame-sections 2 to each other, said rings being arranged to rotate with the gears 1 and bars 3, so that the wire cutters 8 are drawn tightly in radial lines between the rings 9 and bars 3, the space between the rings 9 and bars 3 being sufficient to permit the insertion and longitudinal movement of a slab, as 11, of plastic clay as it comes from the molding apparatus. (Not shown.)

I have thus far briefly described the rotary frame and wire cutters, which constitute what may be termed the "cutting-reel," and I will now proceed to describe the means for cleaning the cutting-wires. This cleaning device consists of an oscillatory or rocking frame 14, carrying a brush or scraper 15, which is arranged parallel with the axis of the cutting-reel and extends transversely across and in the path of the wires 8, as seen in Fig. 2.

This swing-frame 14 comprises a pair of arms 16, arranged in close proximity to the inner faces of the gears 1 and having their upper ends pivoted at 17 to portions of the fixed frame or casing 2 at a point slightly at one side of the vertical plane of the axis of the cutting-reel, while the lower ends of said arms 16 are connected by lengthwise clamping-bars 18, between which the brush 15 is impinged and held in position by clamping-bolts 19. This oscillatory frame 14 is hung in such manner that the brush 15 swings inwardly by gravity to a point in proximity to the inner ends of the wire cutters as each row is advanced to the brush after having performed its function of cutting the plastic slab, and in order to move the brush 15 outwardly along the faces of the cutting-wires, so as to produce a wiping effect upon said wires, I provide a pair of oscillatory arms 20, which are also located in proximity to the inner faces of the gears 1 at the ends of the bars 3, the lower ends of said arms being pivoted at 21 to suitable brackets 22, projecting from the frame 2, while the upper ends extend upwardly above the horizontal plane of the axis of revolution of the gears 1 and normally rest against one of the fixed bars, as the upper bar 10 of the frame 2, which bar forms a stop or abutment for limiting the inward swinging movement of the brush in a manner hereinafter described. The intermediate portions of the bars 20 are provided with inturned cam-faces 23, which are rather abrupt and are adapted to be engaged by the ends of the advancing arms or bars 3 of the cutting-reel, so that at about the same time that the wires of one row come in contact with the brush 15 the bars 3 engage the cam-face 23 and rock the arms 20 outwardly upon their pivots 21 to the position shown by dotted lines in Fig. 2, the inner faces of the upper portions of the arms 20 being provided with curved bearing-faces 24, upon which the bars 3 ride after having moved the arms to the position shown by dotted lines, the object of this being to hold the brush or scraper 15 to its extreme outer position out of the path of the clamps 7, so as not to interfere with the free rotation of the cutting-reel after the cleaner has performed its function upon each row of wire cutters. This outward swinging motion of the arms 20 is transmitted to the brush-frame 14 by means of a link 25, which is pivotally connected, respectively, to the brush-frame 15 and to an extension 26 of the arm 20. The preponderance of the weight of the arms 20 is inside of the pivots 21 in both positions, while the superior weight of the lower portion of the swinging frame 14 is outside of its pivot 17, so that the tendency of both the frame 14 and arms 20 is to move by gravity toward the axis of the cutting-reel. Therefore after each operation of moving the brush along the wires from its inner position (shown by full lines) to

the position shown by dotted lines the brush is returned automatically to its normal starting position as soon as the arms 3 leave the ends of the curved bearing-faces 24 of the arms 20. It will be observed that the bearing-face 24 is continued upwardly a sufficient distance to prevent the return of the brush 15 to its normal position until after the wire-holding devices 7 have moved a sufficient distance beyond the lengthwise bars 18 when in their outward position, so that said bars will readily clear the holding devices 7 when returning to their normal position.

Inasmuch as I do not lay any claim to any part of the cutting mechanism, but simply to the means for cleaning the cutting-wires, it is thought to be unnecessary to further illustrate or describe the cutting-machine and its operation, it being sufficient to state that the cutting-reel is moved step by step in the same direction and that the cutting-wires of each row operate successively to sever the bricks from the slab and that immediately after each cutting operation of one row and during the cutting operation of the succeeding row the brush 15 is moved outwardly along and upon the advance faces of the wires which have just passed through the plastic slab and that soon after the cleaning operation of one row the brush returns automatically to its normal position ready to engage and clean the wires of the next succeeding row, the operation being repeated as often as each successive row is presented to the brush.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a brick-cutting machine, the combination with a cutting-reel having radial cutters, of a swinging frame having a brush common to all the cutters and movable toward and from the axis of the reel along and upon the cutters to clean the same and means actuated by the reel and operatively connected to rock the brush-frame in one direction.

2. In a brick-cutting machine, the combination with a cutting-reel having radial cutting-wires disposed in substantially the same plane, of a swinging frame having a brush common to and engaged by the cutters and movable along the same and means for transmitting movement from the reel to the brush-frame.

3. In a brick-cutting machine, the combination with a rotary frame and driving means therefor, of a plurality of rows of radial cutters secured to the frame, a brush supported in the path of the cutters and means actuated by the frame to move the brush along the cutters as each row is successively presented to the brush.

4. In a brick-cutting machine, a rotary frame having a plurality of rows of cutters a swinging frame, a brush mounted on the frame in the path of the advancing rows of cutters, and means actuated by the rotary frame and

operatively connected to actuate the swinging frame in one direction to move the brush along the cutters during the movement of the rotary frame.

5 5. In a brick-cutting machine, a cutting-reel, in combination with a swinging frame, a brush mounted on the frame and normally disposed in the path of the cutters of the reel, a pivoted arm connected to the swinging frame,
10 and means on the reel for engaging said arm and rocking the same upon its pivot during

the rotation of the reel whereby motion is transmitted to the brush for moving the same along the cutters during the rotation of the reel.

In witness whereof I have hereunto set my hand this 1st day of June, 1903.

WILLIAM J. EIPP.

Witnesses:

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MILDRED M. NOTT.