

No. 624,261.

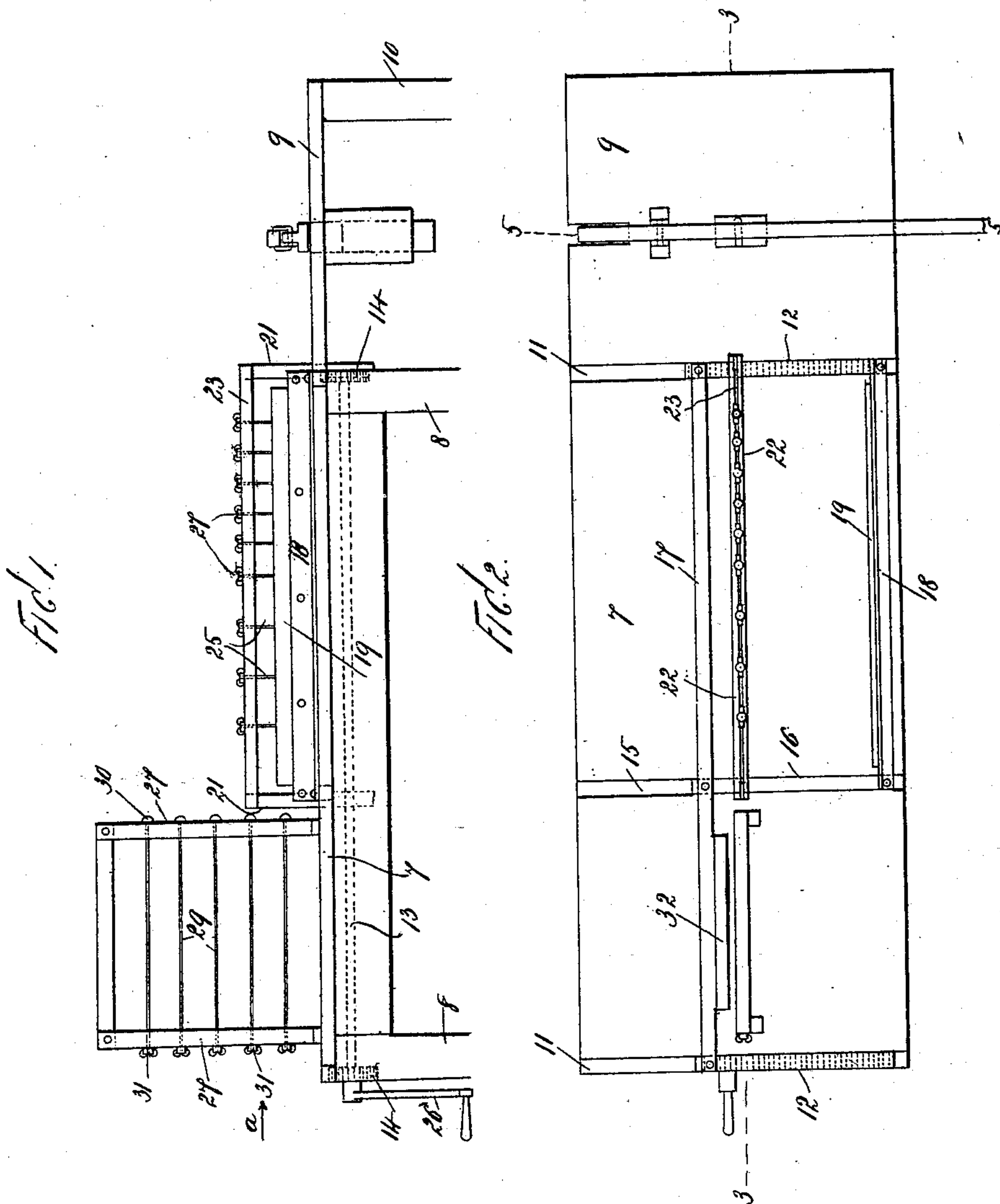
Patented May 2, 1899.

R. R. STONE.
BUTTER CUTTING MACHINE.

(Application filed Apr. 21, 1898.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

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INVENTOR

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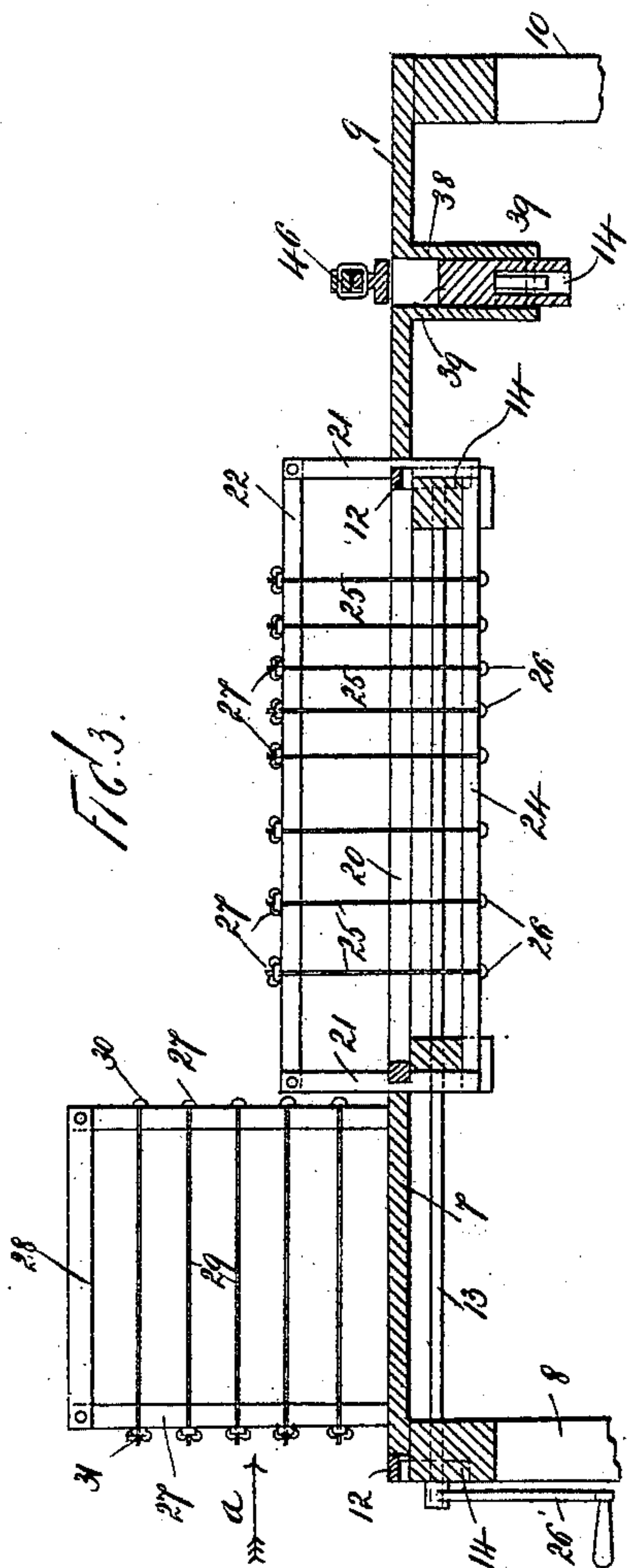


FIG. 3.

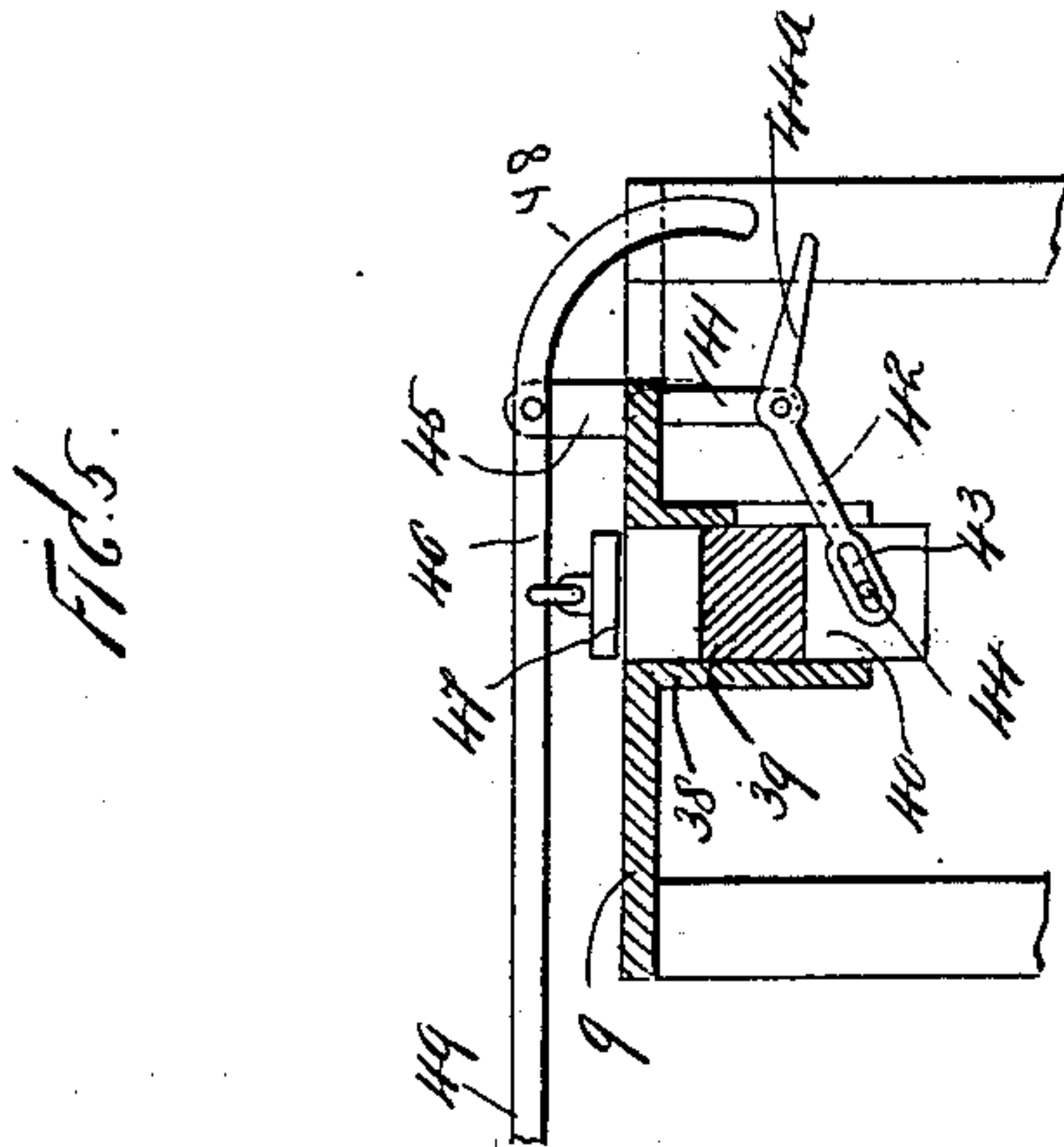


FIG. 4.

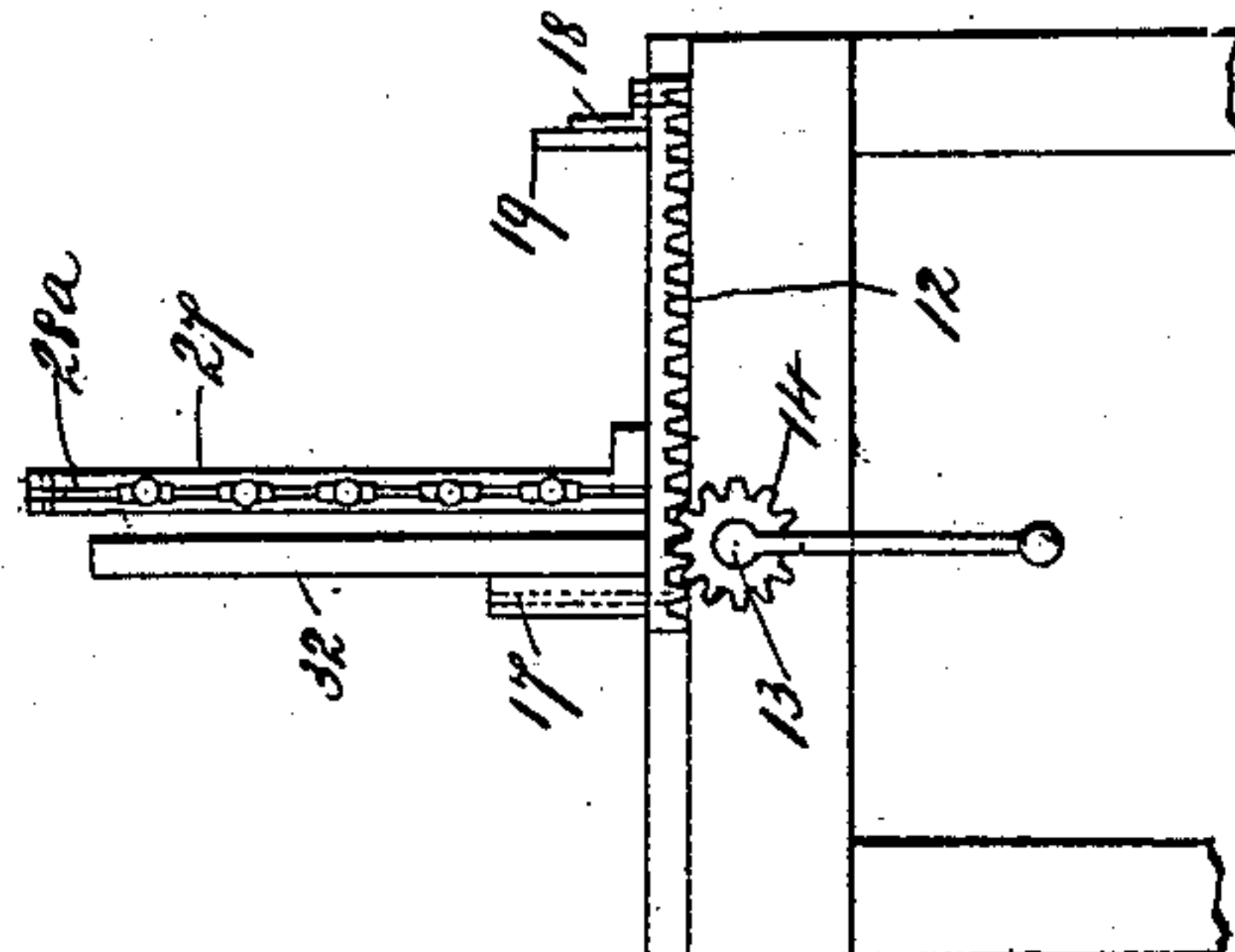
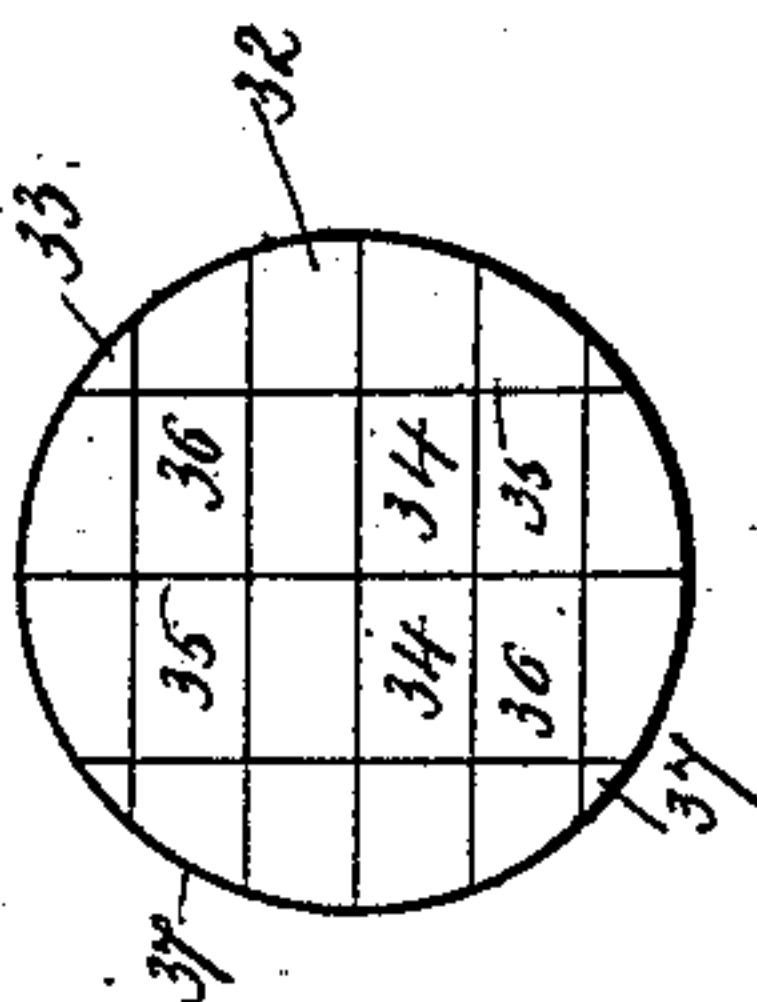


FIG. 5.



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UNITED STATES PATENT OFFICE.

REUBEN R. STONE, OF NEW YORK, N. Y.

BUTTER-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 624,261, dated May 2, 1899.

Application filed April 21, 1898. Serial No. 678,442. (No model.)

To all whom it may concern:

Be it known that I, REUBEN R. STONE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Butter-Cutting Machines, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to butter-cutting and print-forming machines; and the object thereof is to provide an improved device of this class which is simple in construction and operation and by means of which butter from a tub or any suitable vessel may be cut into cakes or blocks of any desired thickness and whereby said disks or blocks may be cut into oblong bricks or blocks which resemble in shape ordinary pound-prints; and with these and other objects in view the invention consists in the construction, combination, and arrangement of parts hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a side view of my improved butter-cutting and print-forming machine; Fig. 2, a plan view thereof; Fig. 3, a partial longitudinal vertical section. Fig. 4 is an end view looking in the direction of the arrow *a* in Fig. 1; Fig. 5, a partial section on the line 5 5 of Fig. 2, and Fig. 6 a diagrammatic view showing the manner in which the butter is cut into bricks or blocks.

In the drawings forming part of this specification the separate parts of my improvement are designated by the same numerals of reference in each of the views, and in the practice of my invention I provide a main table 7, provided with suitable legs or supports 8, and said table is preferably provided at one end with an extension 9, having a leg or support 10, and the main table is provided at each end with a transverse groove 11, in which are mounted transversely-movable rack-bars 12. The rack-bars 12 are provided with gear-teeth on their under sides, and mounted centrally of the table and beneath the same is a longitudinal shaft 13, which is provided at each end with a pinion 14, one

of which is shown in full lines in Fig. 4 and both of which are shown in dotted lines in Figs. 1 and 3, and these pinions are adapted to operate in connection with the rack-bars 12, and the table 7 is also provided with a transverse groove 15 similar to the grooves 11, and arranged between said grooves 11 and preferably nearest to the left-hand end of the table, as shown in Fig. 1, and mounted in the groove 15 is a sliding bar 16, and the rear ends of the sliding bar 16 and the rack-bars 12 are connected by a vertical longitudinal strip or plate 17, and the front ends of one of the rack-bars 12 and the bar 16 are also connected by a vertical annular strip 18, to which is secured a plate 19.

Formed centrally and longitudinally in the table 7, between the groove 15 and the groove 11 at the right thereof, is a longitudinal slot 20, (shown in Fig. 3,) and at each end of said slot is a vertical standard 21, each of which passes vertically through the table and projects a predetermined distance above and below the same, and the upper ends of the standards 21 are connected by two horizontal bars 22, between which is a longitudinal slot 23, as shown in Fig. 2, and the lower ends of said standards are connected by two similar horizontal bars 24, between which is a longitudinal slot similar to the slot 23.

In the drawings but one of the lower horizontal bars 24 is shown; but it will be understood that this construction is exactly the same as the upper horizontal bars 22, which are clearly shown in Figs. 1, 2, and 3.

By means of the standards 21 and the upper and lower horizontal bars by which said standards are connected an oblong frame is formed, which projects above and below the table, and passed vertically through the upper and lower horizontal bars 22 and 24 of said frame or through the slots formed therein are wires 25, provided with heads 26 at the lower ends and thumb-nuts 27 at the upper ends, and it will be seen that the wires 25 at the left of this frame are farther apart than those at the right thereof.

One end of the shaft 13 is provided with a crank 26, and mounted over the end of the table, between the crank end of said shaft and the frame of the wires 25, are two standards 27, which are arranged longitudinally of the

table and the upper ends of which are connected by a top bar 28, so as to form a rectangular frame, and the standards 27 are also each composed of two vertical parts, between
 5 which is a slot 28^a, as shown in Fig. 4, and wires 29, similar to the wires 25, are passed through these standards or through the slots formed therein and provided at one end with a head 30 and at the opposite end with a
 10 thumb-nut 31. A vertical plate 32 is secured to the longitudinal plate 17, connected with the rack-bar 12 and the sliding bar 16, adjacent to the frame formed by the standards 27, and it will be observed that the frames which
 15 carry the wires 25 and 29 are in the same vertical longitudinal plane and said frames are stationary, while the frame composed of the rack-bars 12, the sliding cross-bar 16, and the plates 17 and 19 may be moved transversely
 20 of the table by turning the shaft 13 by means of the crank 26, the direction of the movement of said frame depending on the direction in which said shaft is turned. The operation of this part of the device will be clearly
 25 understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof: As is well understood, butter is usually packed or shipped in tubs or buckets,
 30 and when it is desired to cut this butter into the required forms or into cakes of a certain weight the butter is removed from the tub or bucket and placed upon the table 7 between the vertical plate 32 and the frame which carries the wires 29. The crank 26 is then turned
 35 to the right, and the frame of which the plate 17 forms a part is moved across the table in the direction of the frames which carry the wires 25 and 29, and in this operation the butter, which is substantially in the form of a cylinder, is cut by the wires 29 into circular cakes of the form shown at 33 in Fig. 6. These circular cakes are then moved along the table between the plate 19 and the frame which carries
 40 the wires 25, and the motion of the shaft 13 is reversed so as to move the frame of which said plate 19 forms a part backwardly across the table. The position of the cake in this operation is such that the wires 25 at the left of the frame by which said wires are carried divide
 45 said cake in the manner shown by the lines 34 in Fig. 6 into oblong blocks, and when this is done the oblong blocks formed by the last operation are moved along the table between the plate 17 and the wires at the right of the frame by which the wires 25 are carried and the movement of the shaft 13 is again reversed, and the plate 17 forces these oblong blocks against the wires 25 and said blocks
 50 are cut transversely, as indicated by the lines 35 in Fig. 6. It will be observed that in the first of these operations the plate 32 forces the butter in its original form against the wires 29, by means of which the circular cakes are formed, and the plate 19 then forces
 55 these circular cakes against the wires 25 at the left of the frame by which said wires are

carried, and the plate 17 then forces the oblong blocks thus formed again against the wires 25 at the right of the said frame, it being understood that in the second operation
 70 the cake 33 must be moved into position to be operated on by the plate 19, which forces it against the wires at the right of the frame which carries the wires 25, and in the third
 75 operation the oblong blocks formed by the second operation must be moved into position, so that the plate 17 will force them against the wires at the right of said frame. By means of these successive operations it
 80 will be observed that regular bricks or cakes 36 are formed and also irregular pieces or blocks 37. The wires 25 may be so adjusted as to form the regular cakes or blocks 36 of any desired size or weight, and in my invention I provide means for molding the irregular cakes or blocks 37 into forms of any desired weight. This operation I accomplish by forming in the extension 9 of the main
 85 table a mold 38, in the bottom of which is a plunger 39, the lower side of which is provided with a slot 40, and secured to the bottom of the extension 9, in which the mold is formed, is a hanger 41, with the lower end of which is pivotally connected a lever 42, one
 90 arm of which is provided with a slot 43, through which is passed a pin 44, connected with the end 40 of the plunger 39, and the lever 42 is provided with a supplemental arm 44^a, which projects in the direction of the end
 95 of the extension 9 of the table.

Mounted over the extension 9 of the table and over the hanger 41 is a standard 45, with which is pivotally connected a lever 46, said lever being provided with a depending plunger or follower 47, which is pivotally connected therewith and which is adapted to be forced into the mold 38, and the outer end of said lever being curved outwardly and downwardly, as shown at 48. In the operation of
 100 this device the irregular cakes or blocks 37, which are of indefinite size, form, and weight, are collected and may be printed into the required shape and form by forcing them into the mold 38 by means of the lever 46 and the plunger or follower 47, secured thereto, and when said mold is filled to the required extent the longer arm 49 of the lever 46 is raised and the shorter arm 48 thereof is forced downwardly until it strikes the arm 44^a of the lever 42, when the free end of said lever is moved upwardly and the plunger 39 is also forced upwardly and the cake, print, or block of butter is forced out of the mold 38.

It will thus be seen that I accomplish the
 105 object of my invention by means of a machine which is simple in construction and operation and one which is perfectly adapted to accomplish the result for which it is intended, and it will also be apparent that changes in and
 110 modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages.

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

1. A machine for cutting butter, comprising
5 a rectangular horizontal table or support, vertical frames mounted at either end thereof and in the same vertical plane, one of said frames passing through a longitudinal slot in said support and provided with vertical wires adjustable longitudinally of the frame, and the
10 other frame provided with horizontal wires adjustable vertically of the frame, said support being provided with slots at either end thereof, one of said slots being intermediate
15 of the sides of the frame passing through said longitudinal slot, and the other exterior of the other frame, said frame being also provided with a third intermediate slot between the sides of said frame passing through said
20 longitudinal slot, said slots at the ends of said support being provided with gear-plates, and said intermediate slot being provided with a sliding plate, a longitudinal frame mounted in said support and comprising cross-rods
25 uniting said gear-plate and said sliding plate which are between the sides of said vertical frame which passes through said longitudinal slot in said support, a cross-rod uniting said sliding plate and the other gear-plate, and a

shaft mounted beneath said support and provided with gear-wheels which engage said gear-plates whereby in a single reciprocation of said cross-rods, a block of butter may be cut vertically and longitudinally, substantially as shown and described. 30 35

2. A mold for pressing blocks of butter formed as described, comprising a die, a movable plunger in said die, a lever pivoted at one side of said die, an arm of said lever passing therethrough and being connected with
40 said plunger and furnishing means for limiting the downward movement of said plunger, a lever-arm pivoted above said die and provided with a follower pivotally attached thereto and which is adapted to be forced into said
45 die, said lever-arm having a short extension beyond its pivotal point, and adapted when said lever-arm is raised to engage a supplemental arm of said lever to raise said plunger, substantially as shown and described. 50

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 13th day of April, 1898.

REUBEN R. STONE.

Witnesses:

S. L. HAWKSHURST,
T. M. CARR.