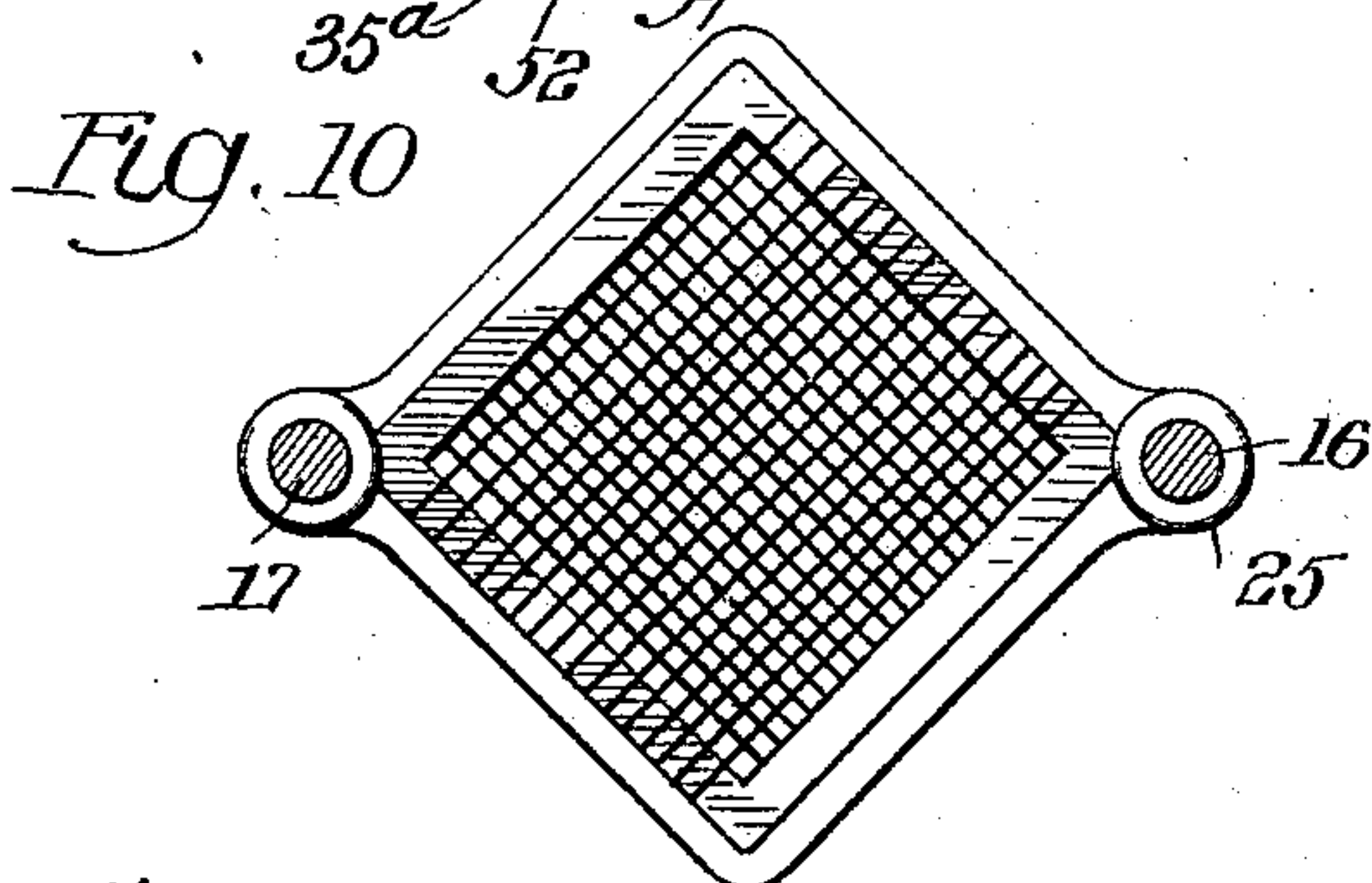
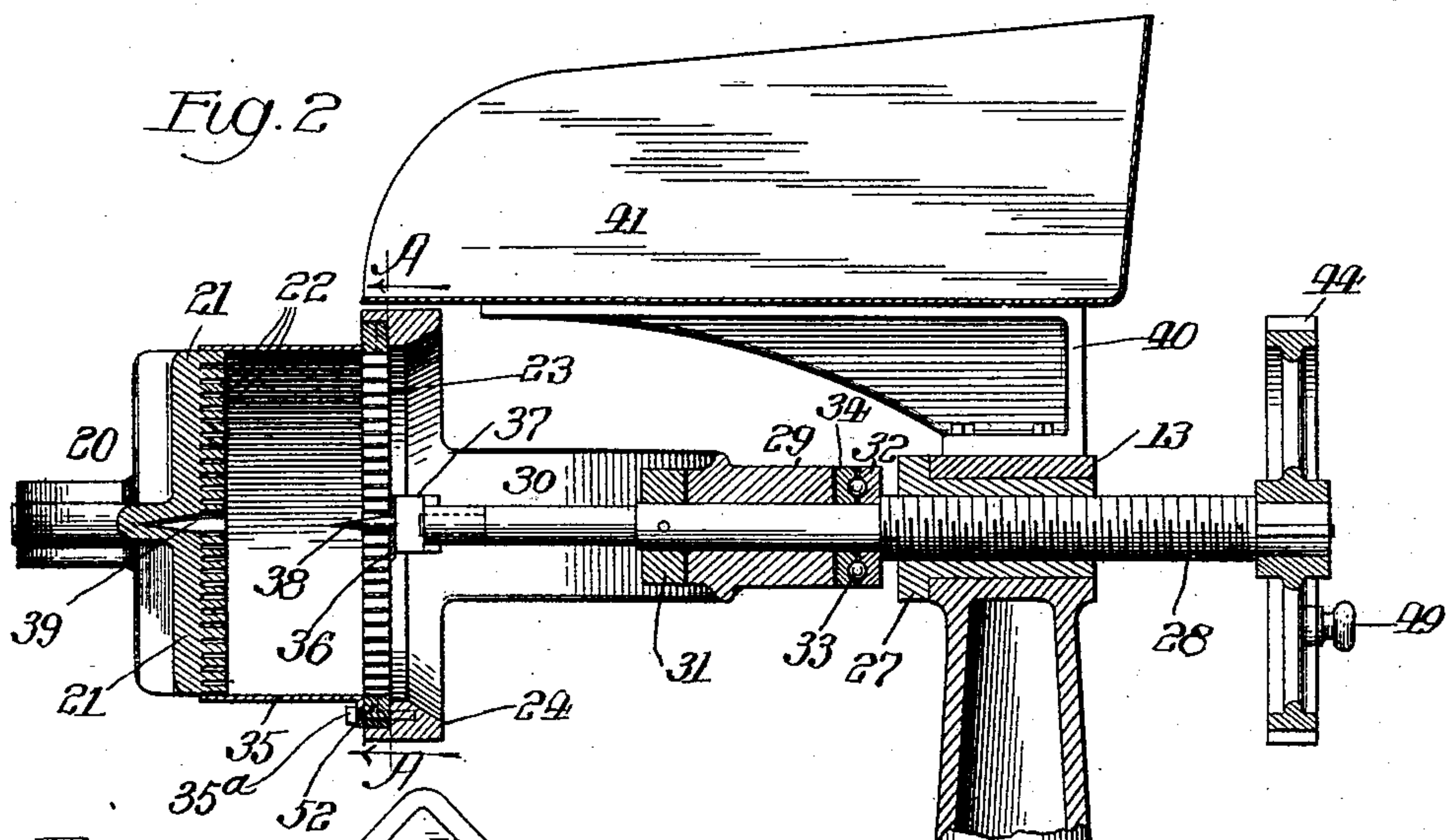
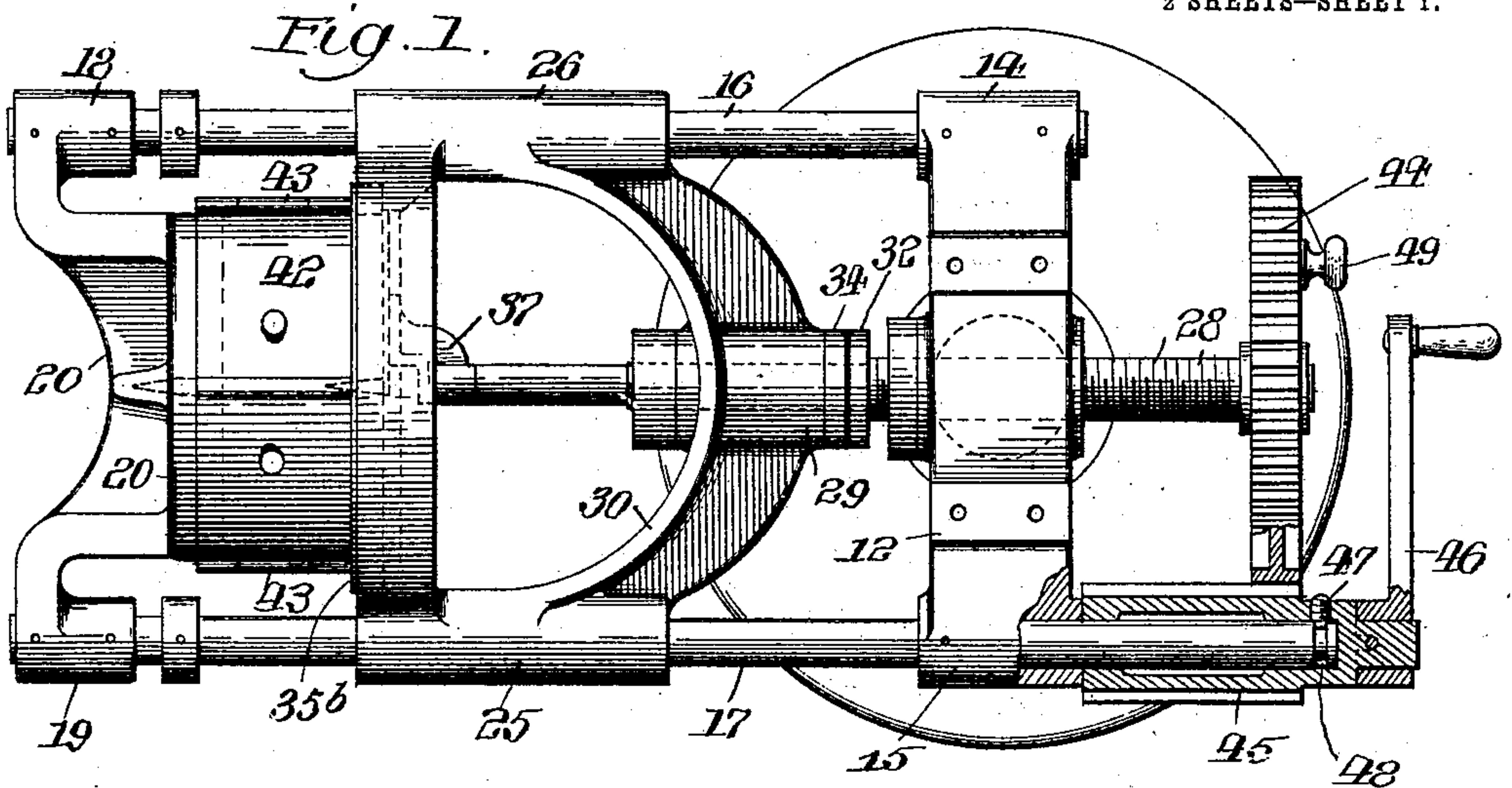


No. 824,587.

PATENTED JUNE 26, 1906.

C. L. RUEHS & G. WEISS.
VEGETABLE AND FAT CUTTING MACHINE.
APPLICATION FILED MAY 6, 1905.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 3

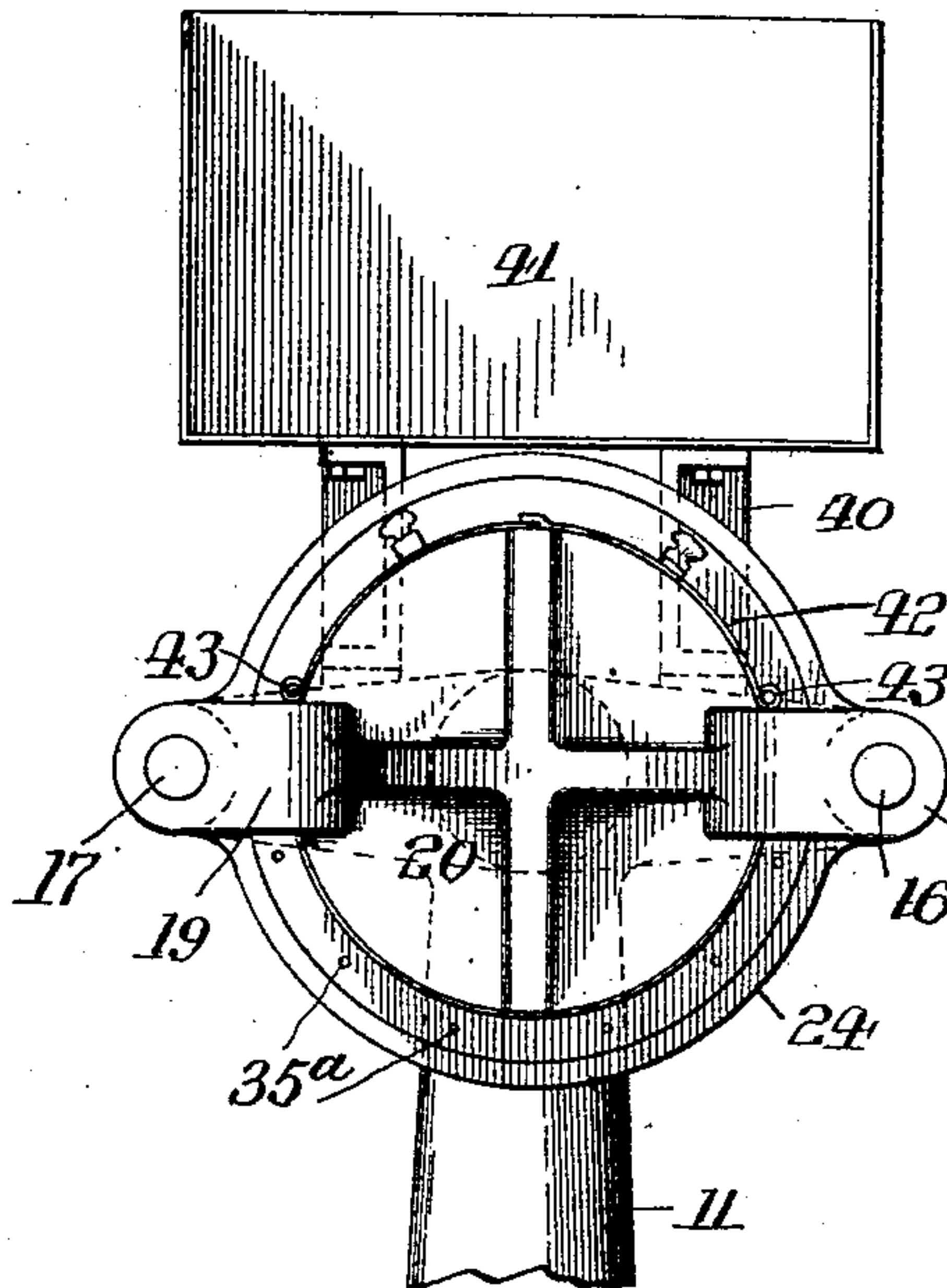


Fig. 4

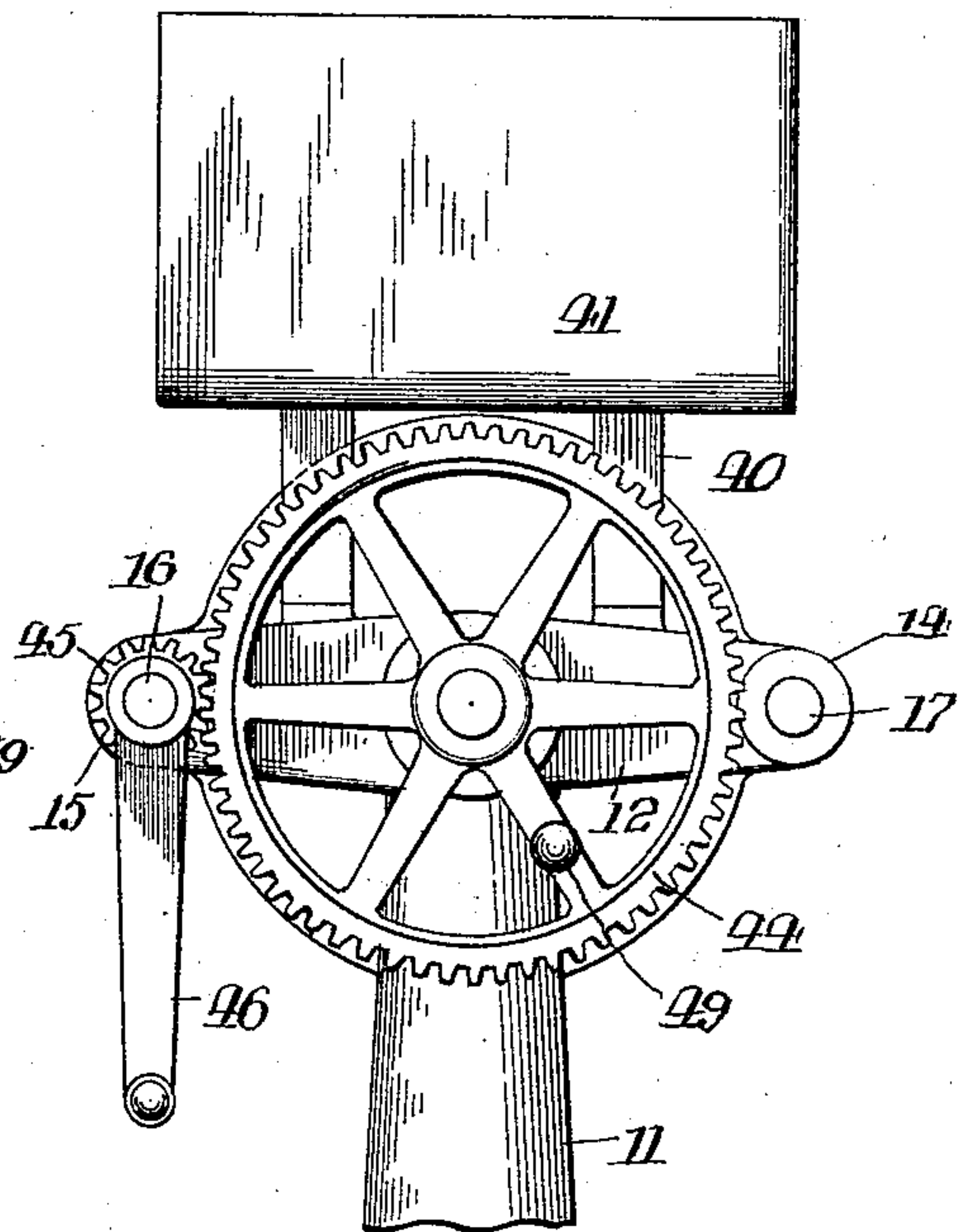


Fig. 5

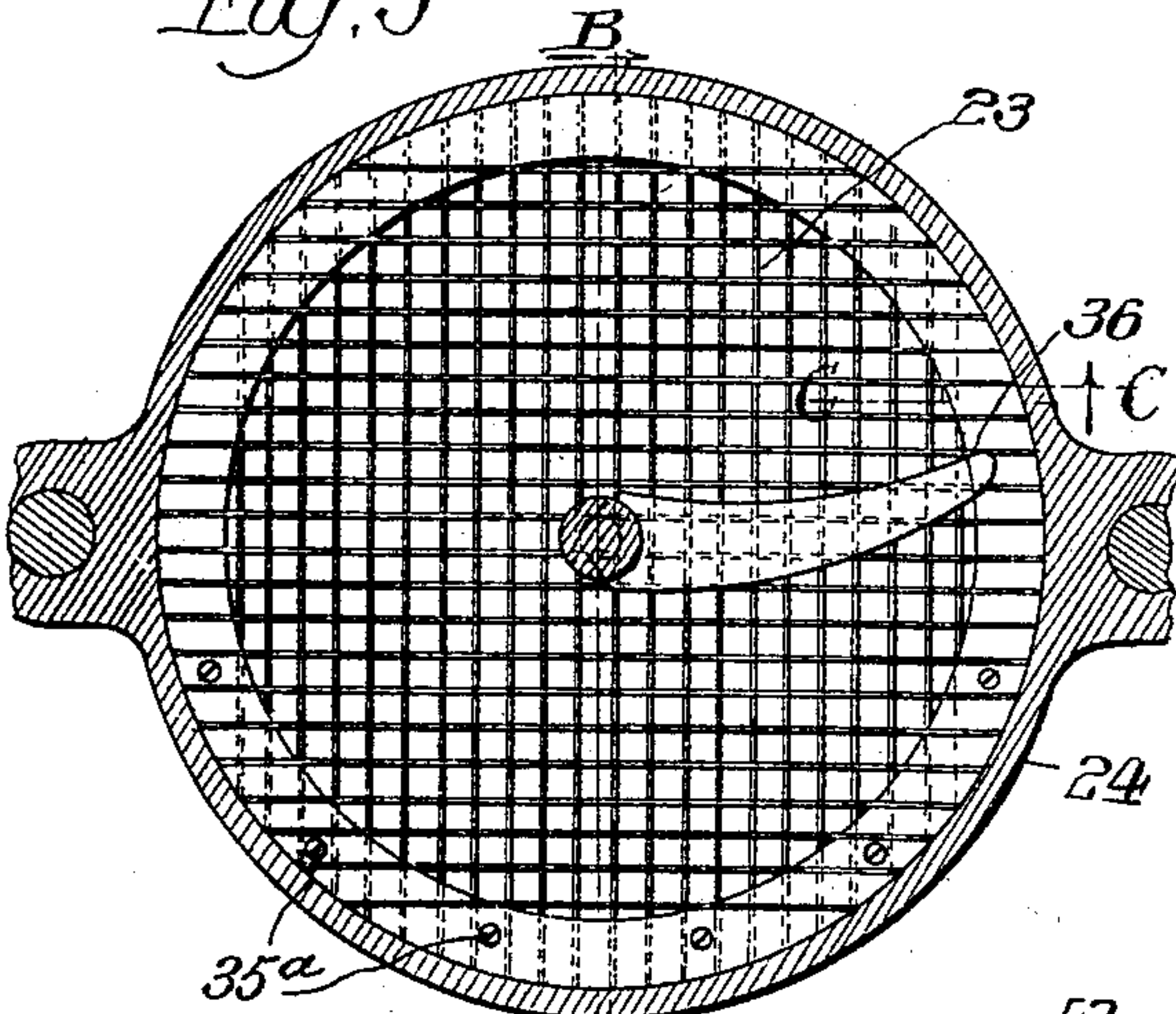


Fig. 6

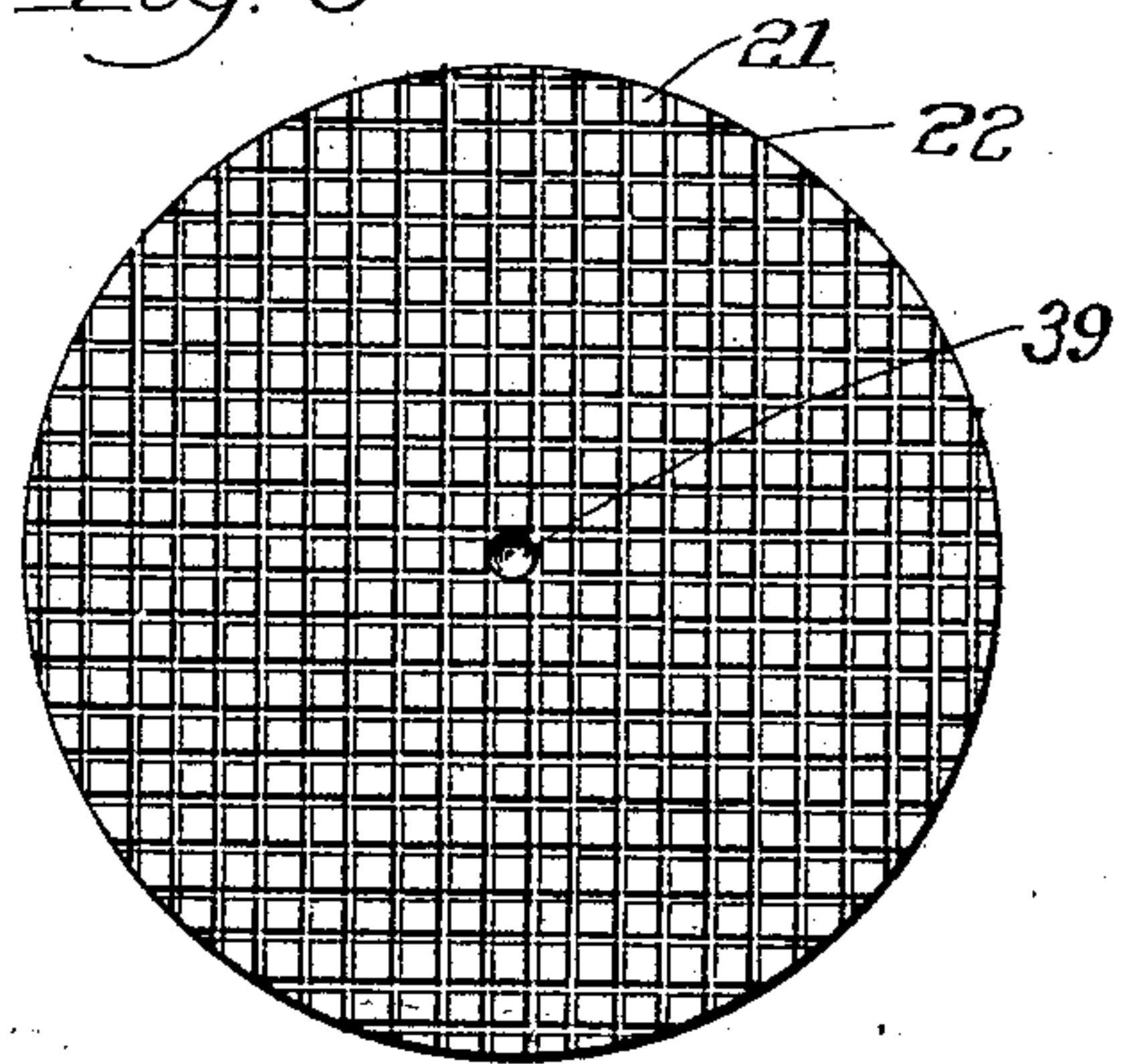


Fig. 7 B

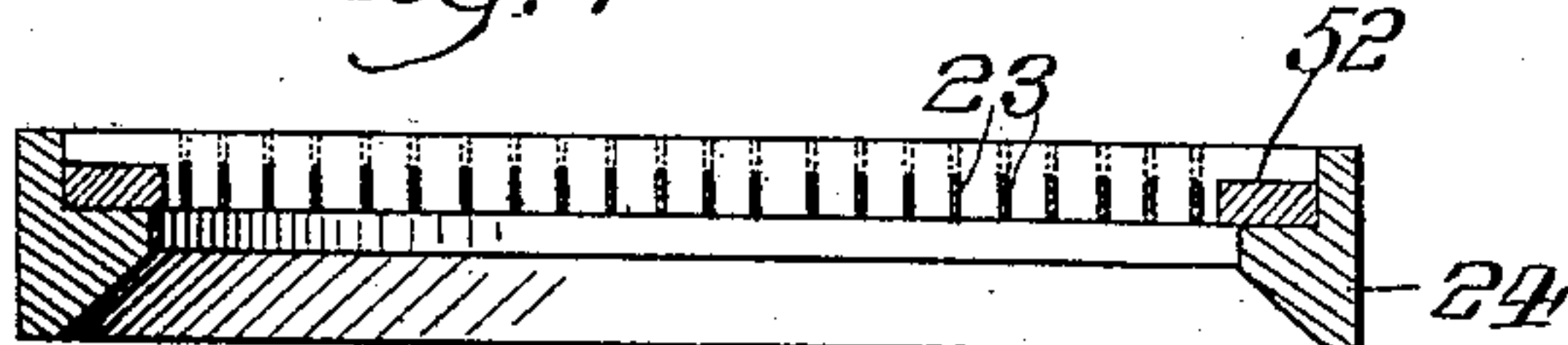


Fig. 8

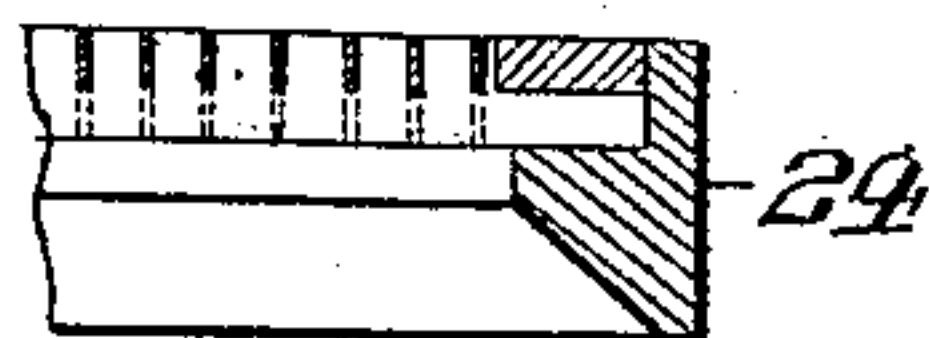
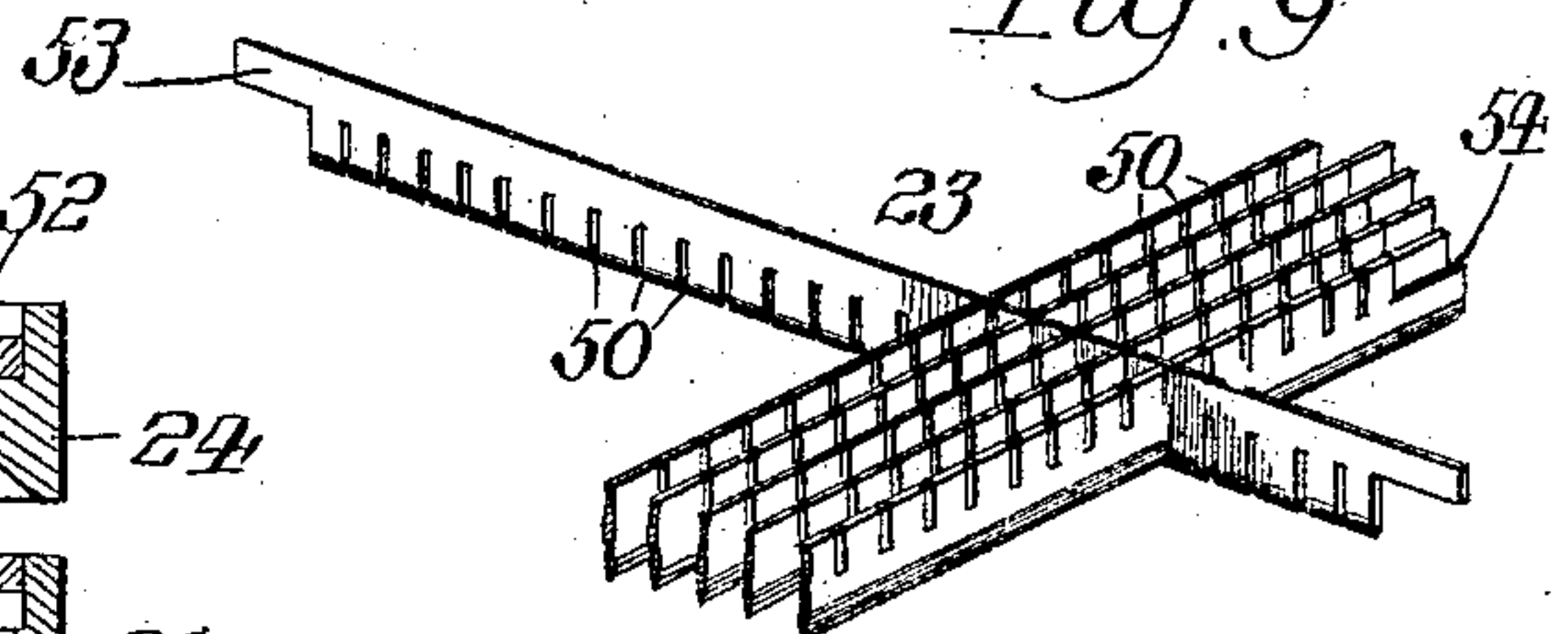


Fig. 9



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UNITED STATES PATENT OFFICE

CHARLES L. RUEHS AND GEORGE WEISS, OF CHICAGO, ILLINOIS,
ASSIGNORS OF ONE-THIRD TO PARKE J. KEENEY AND JOHN F.
VOLZ, OF CHICAGO, ILLINOIS.

VEGETABLE AND FAT CUTTING MACHINE.

No. 824,587.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed May 6, 1905. Serial No. 259,252.

To all whom it may concern:

Be it known that we, CHARLES L. RUEHS and GEORGE WEISS, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Vegetable and Fat Cutting Machines, of which the following is a specification.

Our invention is designed to produce a simple and efficient apparatus by which meats, vegetables, &c., can be cut rapidly into small pieces and is embodied in the various novel combinations of elements hereinafter described, and pointed out in the claims.

To illustrate our invention, we annex hereto two sheets of drawings, in which the same reference characters are used to designate identical parts in all of the figures, of which—

Figure 1 is a top plan view of the apparatus. Fig. 2 is a central vertical longitudinal section. Figs. 3 and 4 are end elevations. Fig. 5 is a detail view on an enlarged scale, in section on the line A A of Fig. 2. Fig. 6 is a similar view showing the face of the block with which the knives cooperate. Fig. 7 is a detail in section on the line B B of Fig. 5, but with the rotating knife omitted. Fig. 8 is a similar fragmentary view on the line C C of Fig. 5. Fig. 9 is a detail in perspective showing how the cutting-knives are put together. Fig. 10 is a detail view illustrating a different form of the casing.

In carrying out our invention for the larger sizes of the apparatus a substantial standard 11 is employed, the cross-piece 12 of which is provided with the central sleeve 13 and the ends with the sleeves 14 and 15. These elongated sleeves 14 and 15 have secured therein the bearing-rods 16 and 17, and these bearing-rods have secured on the outer ends thereof the sleeves 18 and 19, which are formed on the arms of the casting 20, whose function is to support the chopping-block 21, which, as seen in Fig. 6, has its face covered by a series of intersecting channels 22 of the proper size to accommodate the intersecting knives 23, which are, broadly speaking, carried by the annulus 24, which in turn is supported by its elongated sleeves 25 and 26, which are adapted to slide back and forth on the bearing-rods 17 and 16, respectively. The sleeve 13 has secured therein the nut 27, in which is screwed the shaft 28, which rotates in the elongated

bearing 29, formed in the yoke-shaped cross-piece 30 of the casting, making up the annulus 24 and the sleeves 25 and 26. This shaft 28 has its bearing portion cooperating with the bearing-sleeve 29, somewhat reduced in cross-section, as shown, and is provided with the collars 31 and 32, which serve to hold it from longitudinal movement in the bearing; the collar 32 preferably being provided with a semicircular annular ball-race in which is mounted a series of antifriction-balls 33, cooperating with a corresponding channel formed in the collar 34, secured to the end of the sleeve 29, so as to reduce the friction of the shaft as it rotates in the bearing-sleeve 29.

Where the mechanism thus far described is arranged in a horizontal position, as shown, it is necessary to provide a casing 35, which is preferably of sheet metal and corresponds in size and shape to the block 21, over which it slides, it being supported from the annulus 24, as by screws 35^a, passing through the flanges 35^b, as seen in Fig. 2. It will be apparent that with the parts in the position shown in Fig. 2 if any material to be cut up is placed in the casing 35 and the shaft 28 is turned the casing will be forced over the block 21 and the knives 23 will be forced outward and finally into the channels in the face of the block, so that any material will necessarily be cut into elongated strips square in cross-section if the particular arrangement and form of knives illustrated is employed.

Where it is desired to cut the material into cubes or short chunks, in connection with the mechanism thus far described we employ the rotating knife 36, which is carried by the eccentric arm 37, supported on the end of the shaft 28 and adjacent to the knives 23, so that it will shear against the backs thereof. As the shearing-knife cannot rotate at the axis of the shaft, to prevent any clogging at that point we preferably fill the central recess between the knives with the pointed deflecting piece or spike 38 and of course provide a similarly-shaped recess 39 in the face of the block 21, which the spike enters when the knives are forced into the block.

To conveniently supply the material to the apparatus, we preferably secure the bracket 40 on the top of the standard and place thereon the hopper 41, whose open end terminates adjacent the top of the casing 35 when the

knives are drawn out and the casing is ready to be filled. To facilitate filling the casing, we preferably provide it with a pair of doors 42, hinged at 43, so that they can be thrown wide open, so that the material can be dropped into the casing from the hopper.

To supply the necessary power to the shaft 28, we preferably secure upon it the gear-wheel 44, which meshes with an elongated driving-pinion 45, which is conveniently mounted upon the extended end of the rod 17 and which is provided with a preferably removable handle 46, by which the pinion is turned. The pinion is held from longitudinal movement on the rod 17 by reason of the screw 47 entering into the annular channel 48, formed in the end of the rod 17. When the knives have been forced home and it is desired to recharge the device, the crank-handle 46 is removed, and by turning the gear-wheel 44 by means of the knob or handle 49, with which it is provided, the apparatus can be opened very much more rapidly than it was closed.

In forming the dividing apertures by means of the knives 23 we employ a novel construction. These knives, as is best seen in Figs. 7 to 9, consist of thin blades, the front edges of those running in one direction having the recesses 50 therein of the width of the blades, while the back edges of those running in the other direction have the recesses 51 therein of the same width. Both sets of recesses preferably extend into the blades one-half of their widths, so that they can be intermeshed, as clearly shown in Fig. 9. The supporting-ring 52, which is secured in the annulus 24, as by the screws 35^a, will of course be provided with recesses on one side to accommodate the ends 53 of the blades running in one direction, while it will be provided on its other side with the necessary recesses to accommodate the ends 54 of the blades running in the other direction. We are not of course in the employment of our invention limited to any particular shape of casing, as we may employ a square one, as indicated in Fig. 10, instead of the circular one shown in the other views.

While we have shown and described our invention as embodied in the form which is at present considered best adapted to carry out its purposes, it will be understood that it is capable of some modifications and that we do not desire to be limited in the interpretation of the following claims, except as may be necessitated by the state of the prior art.

What we claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a device of the class described, the combination with the supporting-frame carrying a stationary block, of a casing closed at one end by, and adapted to be forced over, said block, and provided with apertures in the other end of the casing, through which the

material is forced to divide it, bearings carried by the frame upon which the casing moves, a threaded shaft moving with the casing, and a stationary nut carried by the frame, with which the shaft coöperates.

2. In a device of the class described, the combination with the supporting-frame carrying the stationary block, of a casing closed at one end by, and adapted to be forced over, said block, and having apertures in the other end thereof through which the material is forced to divide it, bearings upon which the casing is moved, carried by the frame, a rotary knife moving transversely of said apertures, a threaded shaft moving with the casing and carrying the knife on its end, and a stationary nut carried by the frame, with which said shaft coöperates.

3. In a device of the class described, the combination with the supporting-frame carrying the stationary block, of a casing closed at one end by, and adapted to be forced over, said block, and having apertures in the other end through which the material is forced to divide it, bearings for the casing carried by the frame, a threaded shaft rotating relative to the casing, but moving therewith, a fixed nut in the frame, with which the shaft coöperates, a gear-wheel on the shaft, and an elongated driving-pinion journaled on the frame meshing with the gear-wheel.

4. In a device of the class described, the combination with the supporting-frame carrying the stationary block, of a casing closed at one end by, and adapted to be forced over, said block, and provided with apertures in the other end through which the material is forced to divide it, bearings upon which the casing moves, carried by the frame, a threaded shaft rotating relative to the casing, but moving therewith, a fixed nut in the frame with which the shaft coöperates, a gear-wheel on the shaft, a handle on the gear-wheel, an elongated driving-pinion journaled on the frame and meshing with the gear-wheel, and a removable handle on the pinion.

5. In a device of the class described, the combination with the standard, of the bearing-rods carried thereby, the stationary block supported on the ends of said rods, the frame adapted to slide on the rods, a casing carried by the frame, and provided with apertures in one end thereof, and means to reciprocate the frame on the rods and thereby carry the casing over the block for the purpose described.

6. In a device of the class described, the combination with the standard, of the horizontal bearing-rods carried thereby, the stationary block on the outer ends of said rods, the frame adapted to slide on said rods, a casing carried by the frame, and provided with apertures in one end thereof, a stationary nut carried by the standard, a threaded shaft journaled in the sliding frame and co-

operating with the nut, and means for rotating the shaft.

7. In a device of the class described, the combination with the standard, of the horizontal bearing-rods carried thereby, the stationary block on the outer ends of said rods, the frame adapted to slide on said rods, a casing carried by the frame, and provided with apertures in one end thereof, a stationary nut carried by the standard, a threaded shaft journaled in the sliding frame and cooperating with the nut, a gear-wheel on the shaft, and an elongated pinion journaled on one of the rods and meshing with said gear-wheel.

8. In a device of the class described, the combination with the standard, of the horizontal bearing-rods carried thereby, the stationary block on the outer ends of said rods, the frame adapted to slide on said rods, a casing carried by the frame, and provided with apertures in one end thereof, a stationary nut carried by the standard, a threaded shaft journaled in the sliding frame and cooperating with the nut, the gear-wheel on the end of the shaft, a handle on the gear-wheel, an elongated pinion on the adjacent end of one of said rods meshing with the gear-wheel, and a removable handle for the pinion.

9. In a device of the class described, the combination with the standard, of the horizontal bearing-rods carried thereby, the stationary block on the outer ends of said rods, the frame adapted to slide on said rods, a casing carried by the frame and having apertures in the inner end through which the material is adapted to be forced, a knife movable transversely of said apertures, means to traverse said knife across said apertured end of the casing, and means for reciprocating the frame on the rods.

10. In a device of the class described, the combination with the standard, of the horizontal bearing-rods carried thereby, the stationary block on said rods, the frame adapted to slide on said rods, the casing carried by the frame and having apertures in its inner end through which the material is adapted to be forced, a knife adapted to rotate transversely of said apertures, a stationary nut carried by the standard, and a threaded shaft journaled in the sliding frame and cooperating with the nut and carrying the rotary knife on its end adjacent the casing.

11. In a device of the class described, the combination with the supporting-frame carrying the casing having the apertures at one end thereof through which the material is forced to divide it and an opening in the side to receive the material, of the stationary block cooperating therewith, means for moving the casing over the block, and a receptacle located above the casing having its discharge end adjacent the casing when it is in position to be filled.

12. In a device of the class described, the

combination with the supporting-frame carrying a casing having the apertures at one end thereof through which the material is forced to divide it and an opening in the upper side to receive the material, of a pair of doors hinged to the sides of said casing, adapted to close said aperture, the stationary block cooperating therewith, means for moving the casing over the block, and a receptacle located above the casing, having its discharge end adjacent the casing when it is in position to be filled.

13. In a device of the class described, the combination with the casing, of the channeled block adapted to close one end thereof, intersecting knives adapted to close the other end, means for moving the casing and block relatively to each other, a rotary knife adapted to shear transversely to the intersecting knives, a shaft outside of the casing carrying said rotary knife, and a dividing-plug between said knives to deflect the material from the axis of the shaft, said block being provided with a special recess to accommodate the plug.

14. In a device of the class described, the combination with the supporting-frame carrying the stationary channeled block, of a member adapted to be forced over said block and provided with apertures therein through which the material is forced to divide it, bearings carried by the frame upon which the member moves, and connections between the frame and member for forcing the latter over the block.

15. In a device of the class described, the combination with the supporting-frame carrying the stationary channeled block, of a member adapted to be forced over said block, a series of intersecting cutting-knives mounted in said member and forming apertures through which the material is forced to divide it, bearings carried by the frame upon which the member moves, and connections between the frame and member for forcing the latter over the block.

16. In a device of the class described, the combination of the supporting-frame carrying the stationary block, with a member adapted to be forced over said block and provided with apertures through which the material is forced to divide it, bearings carried by the frame upon which the member moves, a knife moving with said member, means for forcing the member over the block, and means for automatically moving the knife transversely to the apertures at intervals, for the purpose described.

17. In a device of the class described, the combination with a supporting-frame carrying the stationary channeled block, of a member adapted to be forced over said block, a series of intersecting knives secured in the member forming apertures through which the material is forced to divide it, bearings

carried by the frame upon which the member moves, a shearing-knife moving with the member adjacent the intersecting knives and transversely of the apertures formed
5 thereby, means for automatically moving the last-mentioned knife at intervals, for the purpose described, and means for forcing the member over the block.

In witness whereof we have hereunto set our hands this 27th day of April, 1905.

CHARLES L. RUEHS.
GEORGE WEISS.

Witnesses:

JOHN H. McELROY,
M. S. REEDER.