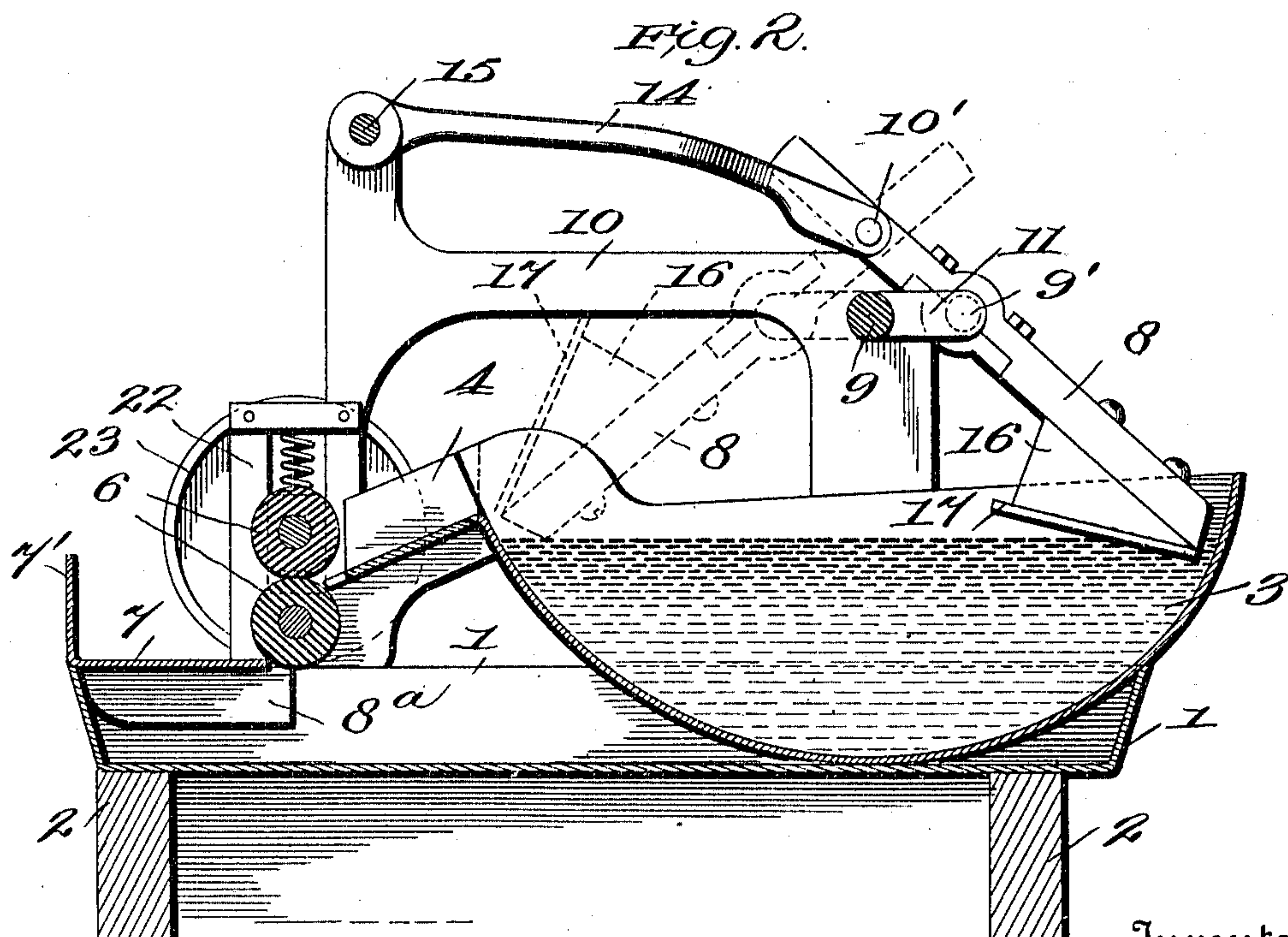


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2 SHEETS—SHEET 1.

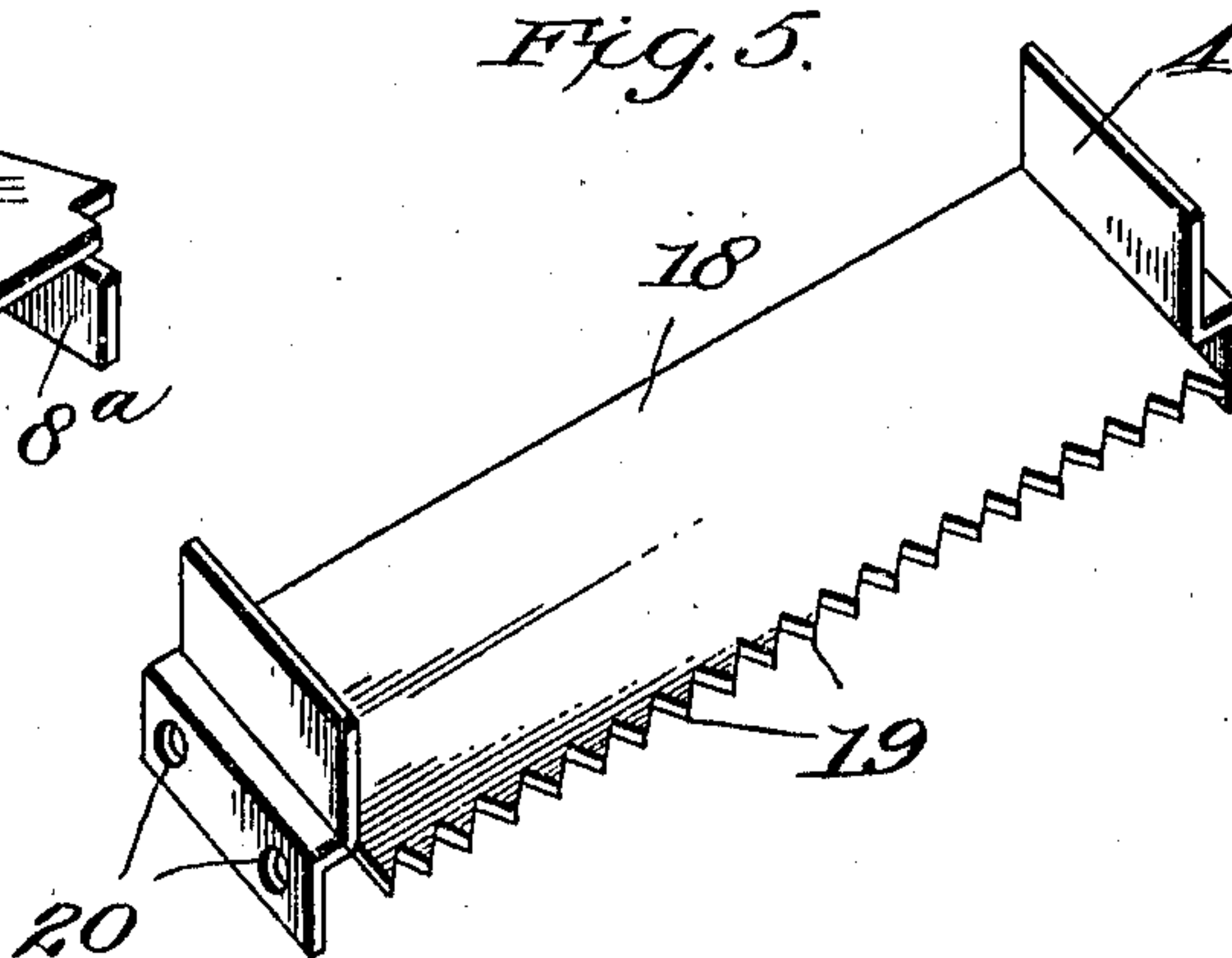
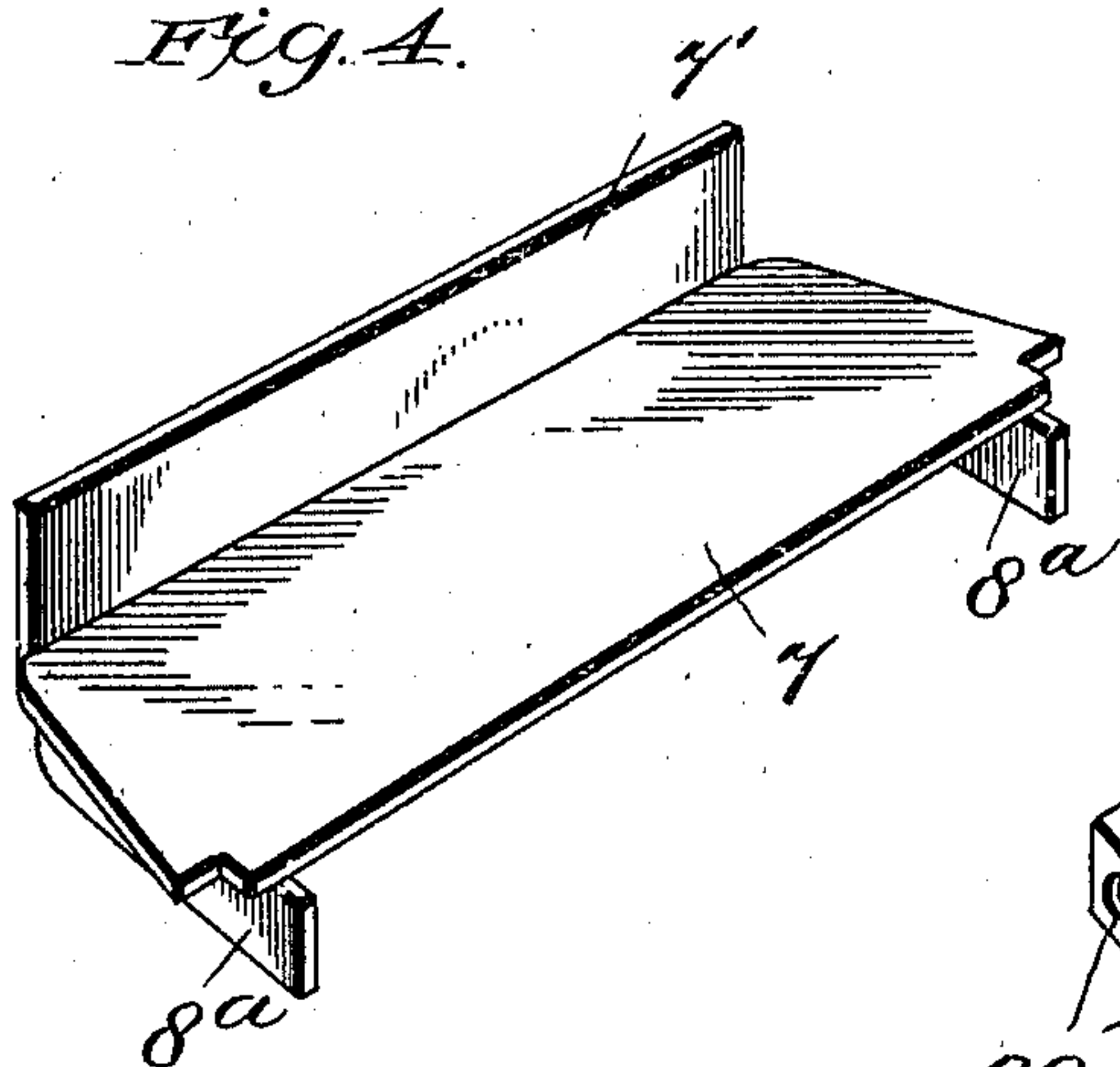


Witnesses
Geo. A. Byrne.
H. H. Byrne

Charles R. Mahone
By Knight Bros
Attorneys.

953,214.

2 SHEETS—SHEET 2.



Witnesses
Geo. A. Ryer.
H. H. Ryer.

Inventor
Charles P. Mahone.
By Knight Bros
Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES R. MAHONE, OF RICHMOND, VIRGINIA, ASSIGNOR OF ONE-FOURTH TO
WILLIAM A. KLEVESAHN, OF RICHMOND, VIRGINIA.

MACHINE FOR CONDITIONING TOBACCO.

953,214.

Specification of Letters Patent.

Patented Mar. 29, 1910.

Application filed April 7, 1909. Serial No. 488,456.

To all whom it may concern:

Be it known that I, CHARLES R. MAHONE, a citizen of the United States, and resident of Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Machines for Conditioning Tobacco, of which the following is a specification.

The present invention relates to machines for conditioning tobacco with a saturating solution preparatory to its treatment in a lumping machine or use for other purposes.

The purpose of the invention is to provide a machine of that character wherein the tobacco leaf is permitted to remain in the saturated solution sufficiently long to permit its being properly impregnated, whence it is caused to pass between a pair of compressing rollers which expel the excess liquid and discharge the tobacco into a suitable receptacle.

With these objects in view, my invention is shown in its preferred structure in the accompanying drawings, wherein:

Figure 1 is a side elevation of the machine, Fig. 2 is a longitudinal sectional view thereof, Fig. 3 is a top plan view, Fig. 4 is a perspective view in detail of the receiving tray, and, Fig. 5 is a perspective view in detail of the delivering tray.

Referring to the several figures in further detail, wherein like numerals of reference indicate corresponding parts in the several views shown, the invention comprises in its structure a trough 1 of any preferred material, and which is rigidly supported upon a base 2. Disposed at one end of the trough 1 and suitably mounted therein is a tank 3 of substantially semi-cylindrical design in cross section and which is adapted to contain the solution with which the leaf tobacco is to be treated. At one end, the tank 3 is provided with a tray 4 which is disposed on a downward incline toward a pair of compressing rollers 6 whereby the tobacco treated in the tank may be delivered to said rollers and have the excess solution taken therefrom, after which the material is deposited upon a tray 7 from where it passes through its further process of treatment.

The means for passing the tobacco leaf through the solution contained in the hopper

3 and effecting more positively the impregnation of the same comprises a pair of agitators 8 suitably supported upon a shaft 9, which shaft is in turn journaled within the frame 10 comprising like members disposed to either side of the trough. The shaft 9 is constructed with a pair of oppositely disposed cranks 11 and 12 which carry the arms 8 of the agitators. The points of bearing 9' between said arms and the cranks 11 and 12 being substantially intermediate of the arms, and at 10' said arms are further connected with a pair of links 13 and 14 for which purpose said links 14 are bifurcated (as shown in Fig. 3). The links 14 are pivoted to the machine frame 10 and which by reason of said mounting permit an arcuate movement of the agitators in the path of the pivotal connection 10' with the point 15 as the center.

The active ends of the agitators carry each a triangular block 16 to which is adjustably secured dasher plates or blades 17, whose function is that of sweeping the material in the hopper 3 through the solution and delivering the same to the tray 4 in precisely that manner shown by the agitator in dash lines of Fig. 2. After this operation, the agitators are caused to be lifted from the solution and describe a rearward movement in the path of an arm, whence they again enter the tank 3 at precisely that point shown by the agitator in full lines in Fig. 2. Thus one complete movement of an agitator is substantially that of an ellipse. It will therefore be obvious that by reason of the clearance of each agitator on each rotation of the shaft 9 that the tobacco within the solution will have had time to become suitably saturated whence it is carried to the delivery tray 4 in the manner just stated, and by reason of disposing the agitators in opposite relation, there is provided a continuous disturbance within the tank 3 and there is the further advantage that a more uniform and even operation of the machine is effected. To facilitate a more even and effective movement of the dashers 17 through the tank 3 their lower edges are designed with teeth 17' in the manner shown in Fig. 3.

The delivery tray which guides the mate-

rial from the tank 3 to the compressing roller 6 comprises a plate 18 having its lower edge formed with a plurality of teeth 19, the spaces between which serve as a suitable
 5 drain for the liquid that is expelled from the tobacco by the compressing rollers. The tray is of such structure that it may be readily removed from position for the purpose of cleaning or otherwise. To effect
 10 this, the side plates of the tray are each perforated as at 20 to receive the securing bolts 21 held within the sides of the tank 3.

The compressing rollers are of the structure usually employed for the same or similar purposes and are journaled within the
 15 posts 22 of the machine frame 10. The upper roller of the pair is designed to have vertical movement in the post 22 after the usual manner.

20 The receiving tray 7 comprises a single plate having its back portion 7' upturned to provide a guard and at either end, and on its under side, said tray is further provided with plates or flanges 8^a the purpose where-
 25 of being to prevent any tendency to lateral movement of the tray. As shown in Fig. 4 both sides of the tray are preferably left free, or open, in order that the treated tobacco deposited thereon may be readily
 30 pushed into baskets conveniently arranged or removed in any other suitable manner.

The shaft of the upper of the compressing rollers carries a fixed pulley 23 adapted to be driven by a belt from any suitable source
 35 of power. On that end of the roller shaft opposite to the pulley 23 is a bevel gear 24 that meshes with a like gear 25 upon a suitably supported shaft 26. On its opposite end the shaft 26 is fitted with a bevel
 40 gear 27 meshing with a bevel gear 28 mounted on the shaft 9; the diameter of the gear wheel 28 being such as will give to the shaft 9 carrying the agitators a movement commensurate with the period for conditioning
 45 the material to be treated.

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

1. In a machine for conditioning tobacco,
 50 the combination of a vat, dashers adapted to having sweeping movement for the length of the vat and having a part of their path of movement substantially in contact with the bottom thereof whereby to sweep the tobacco
 55 therefrom, means for actuating said dashers, and means for expelling the excess liquid from the tobacco treated.

2. In a machine for conditioning tobacco, the combination of a vat, a pair of dashers
 60 pivotally mounted on a crank shaft and adapted to have successive sweeping movement in said vat, means for actuating said dashers, compressing rollers coöperating with said agitators for expelling the excess

liquid from the tobacco treated in said vat, 65 and a downwardly inclined delivery tray adapted to receive the material from the agitators and deliver the same by gravity to said compression rollers.

3. In a machine for conditioning tobacco, 70 the combination of a vat having an arcuate bottom, a pair of agitators adapted to have successive movement therein and having a part of their path of movement substantially in contact with the bottom of the vat 75 whereby to sweep the tobacco therefrom, compressing rollers coöperating with said agitators for expelling the excess liquid from the tobacco, a downwardly inclined tray extending from said vat to said com- 80 pressing rollers adapted to receive the material from the agitators and deliver the same by gravity to said compressing rollers, and means for actuating said agitators and rollers simultaneously. 85

4. In a machine for conditioning tobacco, the combination of a vat, an agitator operable therein, said agitator comprising a dasher mounted upon an arm, said arm being pivotally mounted on a crank shaft dis- 90 posed above the vat, a link connecting the upper end of said arm with a fixed part of the machine; said dasher adapted to have sweeping movement in said vat and for the length thereof in one direction and mov- 95 ing clear thereof in the opposite direction, a pair of compressing rollers adapted to receive the material from the vat and expel the excess of liquid therefrom, and means for actuating said rollers and agitators 100 simultaneously.

5. In a machine for conditioning tobacco, the combination of a vat having an arcuate bottom, agitators successively operable there- 105 in and having a part of their path of movement substantially in contact with the bottom of the vat whereby to sweep the material therefrom, said agitators comprising dashers carried by arms, said arms being mounted on a crank shaft journaled above 110 the vat, links connecting the upper ends of said arms with a fixed part of the machine; a pair of compressing rollers, a downwardly inclined tray adapted to receive the ma- 115 terial from said agitators and deliver the same by gravity to said compressing rollers, a tray adapted to receive the material compressed from said rollers, and means for actuating said agitators and rollers simul- 120 taneously.

6. In a machine for conditioning tobacco, the combination of a trough, a vat supported therein having an arcuate bottom, a pair of agitators adapted to have succes- 125 sive movement in said vat and having a part of their path of movement substantially in contact with the bottom of the vat whereby to sweep the tobacco therefrom,

pressing rollers, a downwardly inclined delivery tray extending from said vat to said rollers and adapted to receive the material from the agitators and deliver the same by
5 gravity to said compressing rollers, said tray being perforated to permit the expelled liquid to flow into the trough, a tray adapt-

ed to receive the compressed tobacco from said rollers, and means for actuating said rollers and agitators simultaneously.

CHARLES R. MAHONE.

In presence of two witnesses:

L. G. ROSS,

T. M. DETRICK.