

No. 684,789.

Patented Oct. 22. 1901.

L. S. BURBANK.

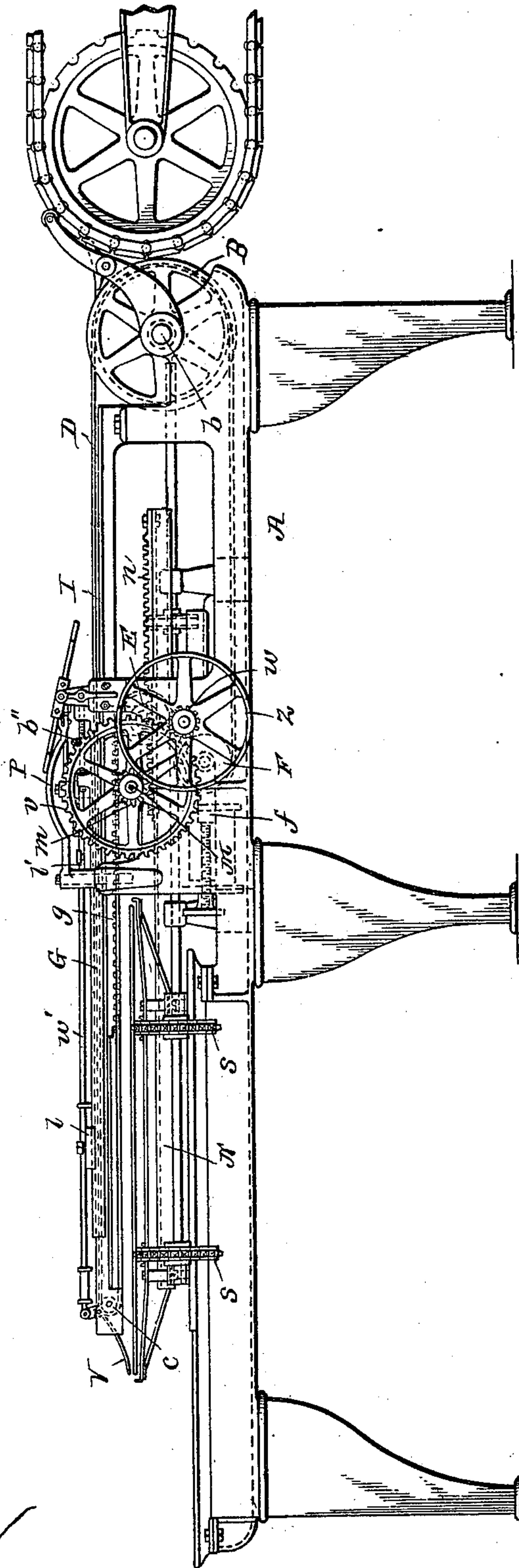
DISTRIBUTIVE DEPOSITING OR PANNING MACHINE.

(Application filed Dec. 30, 1899.)

*(No Model.)

3 Sheets—Sheet 1.

FIG. 1.



Witnesses
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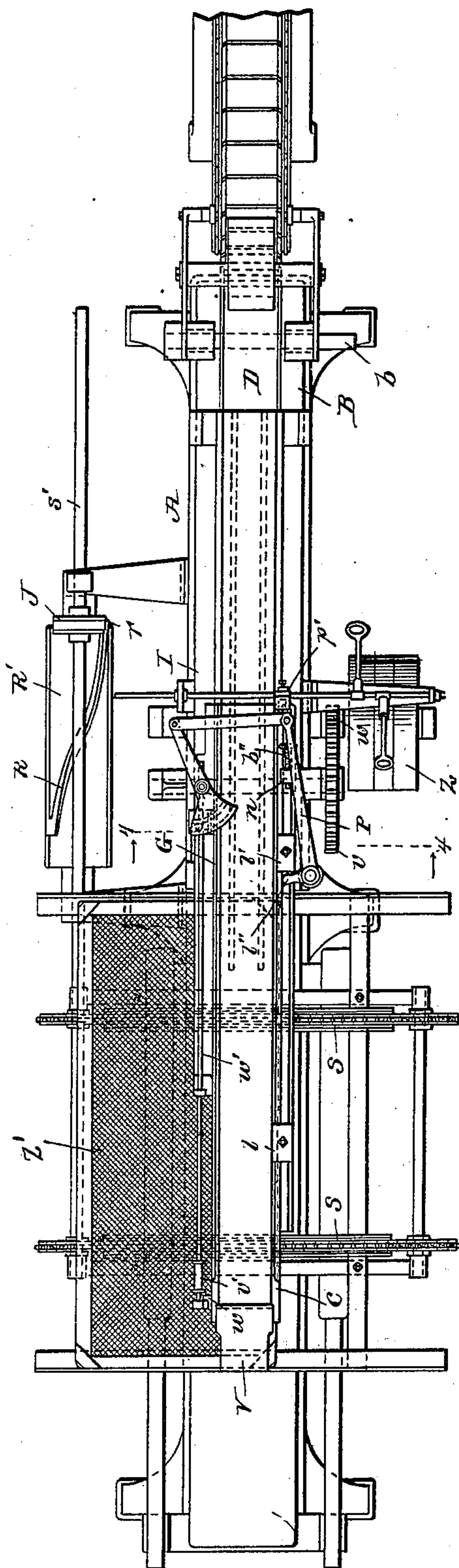
DISTRIBUTIVE DEPOSITING OR PANNING MACHINE.

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(No Model.)

3 Sheets—Sheet 2.

FIG. 2.



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FIG. 4.

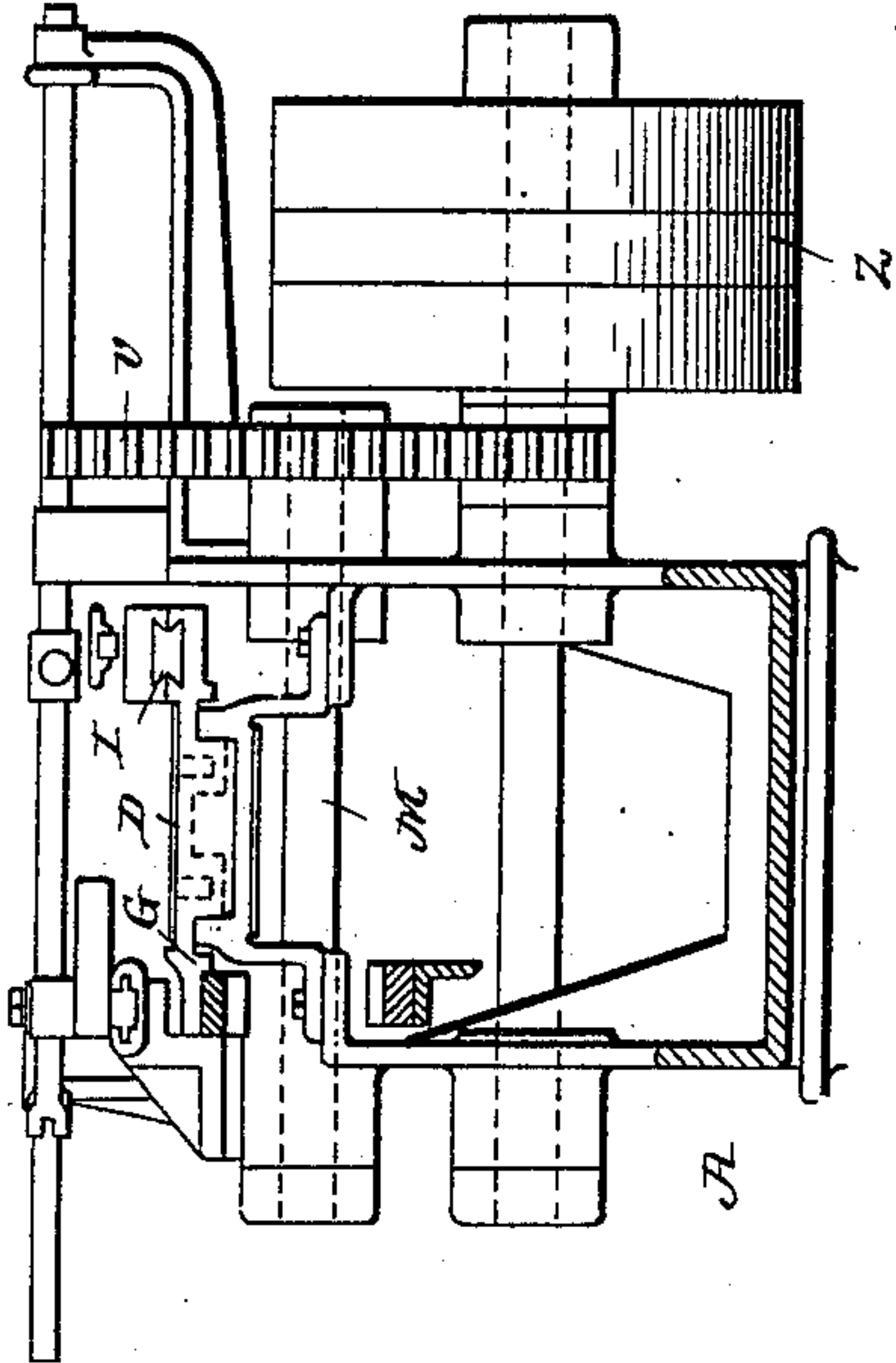


FIG. 5.

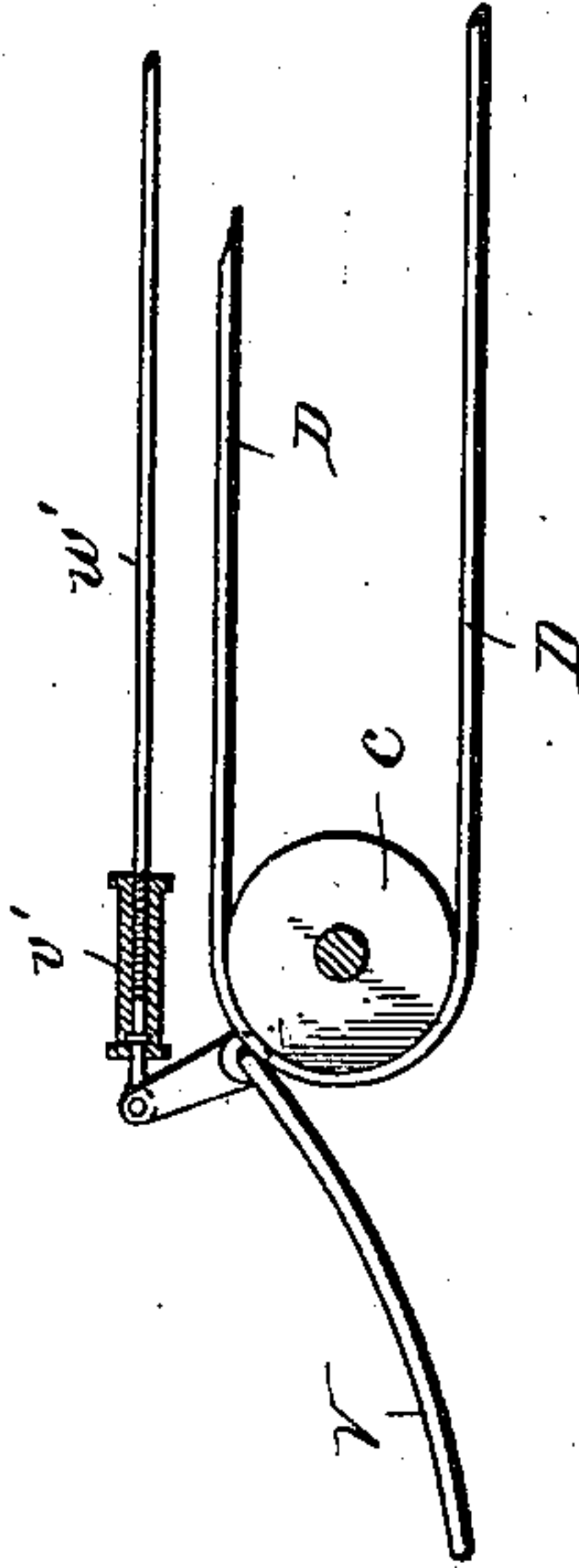
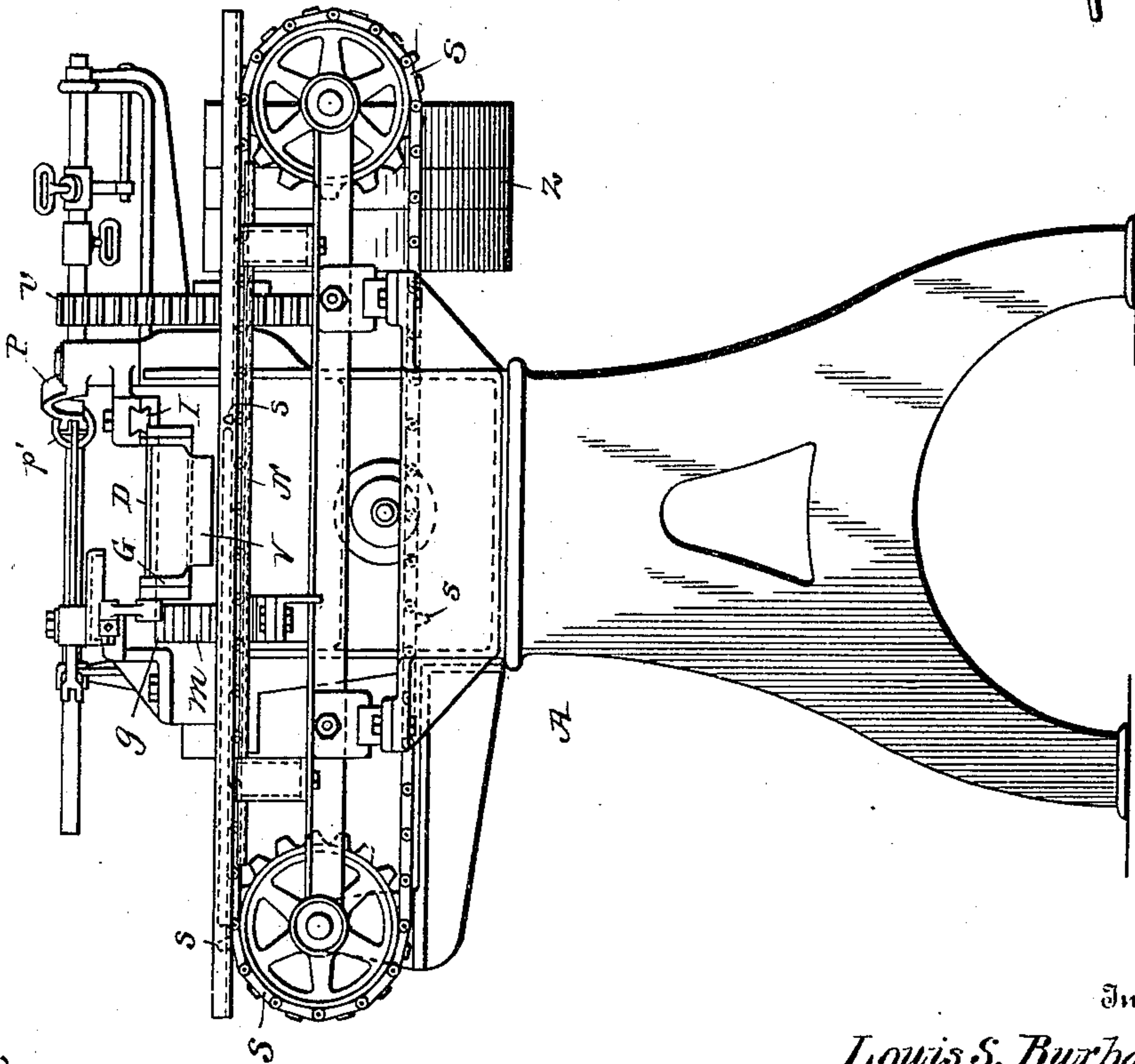


FIG. 3.



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UNITED STATES PATENT OFFICE.

LOUIS S. BURBANK, OF WORCESTER, MASSACHUSETTS.

DISTRIBUTIVE DEPOSITING OR PANNING MACHINE.

SPECIFICATION forming part of Letters Patent No. 684,789, dated October 22, 1901.

Application filed December 30, 1899. Serial No. 742,121. (No model.)

To all whom it may concern:

Be it known that I, LOUIS S. BURBANK, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Distributive Depositing or Panning Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In the accompanying drawings, Figure 1 is a side elevation of my machine. Fig. 2 is a plan view of the same. Fig. 3 is a front elevation of the same. Fig. 4 is a section on the line 4 4, Fig. 2; and Fig. 5 is a detail view illustrating the adjusting mechanism for the depositing-lip.

The object of the invention is to provide a machine for depositing in regular order and in parallel rows upon pans or receivers sections or cakes of shredded wheat or other preparations for cooking and for such other purposes as it may be found useful; and it consists in the novel construction and combinations of devices, as hereinafter set forth.

In the accompanying drawings, illustrating this invention, the letter A designates the main frame of the machine, and B a pulley having its bearings therein near one end, its shaft *b* projecting for the application of power. Around the pulley B passes one end portion of a carrier-belt D, which extends horizontally along the frame and passes around the small end pulley *c* and below and around the take-up pulley E and the tension-pulley F, the latter being also connected to the main frame of the machine, an adjustable bearing *f* being provided for the purpose. The pulleys *c* and E are mounted in bearings of a reciprocating carriage G, the operation of which is designed to alternately shorten and lengthen the carrying portion of the belt D, so that while the receiving portion of this belt moves along continuously and steadily with the sections of biscuit or cakes deposited thereon the other end portion of the belt shortens and lengthens itself alternately, by the one movement depositing the biscuit-sections upon the receiver

or pan Z' and by the other movement carrying forward the line or feed of biscuit-sections to be deposited in the second row upon said receiver or pan parallel to the first row, a lateral adjustment and longitudinal retraction of the receiver or pan taking place while the depositing-belt is lengthening. The reciprocating carriage G is geared to move at the same rate of speed as the pulley B and as the reciprocating carriage N of the receivers or pans.

The main frame is provided with slideways I for the carriage G, to which is connected the small end pulley *c* and the intermediate pulley E, which when the delivery portion of the belt is retracted by the backward movement of the carriage G also moves backward and serves as a take-up for the shortening-belt.

M indicates a reversing-shaft having a pinion *m*, which engages by its upper portion the rack *g* of the belt-carriage G and by its lower portion the rack *n* of the carriage N of the pans or receivers. By means of this pinion and a reversing-shipper, in connection with fast and loose pulleys at Z, these carriages are reciprocated in opposite directions, but at the same rate of speed.

The carriage N of the receivers having the lower rack *n* carries the sprockets of the chains S, upon which the receivers or pans are placed in position to receive the biscuit-sections from the depositing portion of the belt D. The sprocket-chains run transversely, and they are provided with guide-studs *s*, placed at proper intervals to insure the correct position of the pans when laid on said chains. The operation of these sprocket-chains by means of slide-shaft *s'*, its pawl device *r*, and the cam J serves to give the proper intermittent lateral movement to the receivers or pans. This lateral movement is effected as the carriage is moving backward, the slide-shaft of the sprockets during this movement moving its pawl device or disk along the camway R', so that one of its pawls *r* engages the spiral cam-rib R, turning said shaft. During the forward movement of the carriage the pawl *r* passes loosely over the

cam-rib, so that there is no engagement therewith, and the pan on the carriage moves in a direct line.

At the end of the carriage G is provided a
5 depositing lip or slide V, which takes the biscuit-sections from the end of the carrier-belt D and passes them down its incline to the receiver. By means of suitable gearing (indicated at *v* and *w* and operating in connection with the reversing mechanism) this depositing-lip is raised at the end of the movement of delivery and held in the raised position until the extended belt D is ready to
10 place another row of biscuit-sections on the receiver, when said lip is lowered promptly to inclined position and so held until the delivery of this row is completed. The movement of reversal of the depositing-lip takes place at the time of the movement of reversal
15 of the carriages, and is effected by the same reversing devices. A sleeve-screw *v'* in connection with the threaded end of the rod *w'* serves to change the relative position of said worm, so that an adjustment of the degree
20 of inclination of the depositing-lip may be readily effected while the machine is in motion. The reversing mechanism is operated automatically by the carriage G through its lugs *l* and *l'*, which alternately engage a boss
25 *l''* of the switch-lever P. The lugs *l* and *l'* are slides which are adjustable on a longitudinally-adjustable bar at the side of the carriage, which serves as a bearing for said lugs, being engaged by longitudinal channels in the bottoms thereof. These lugs
30 when their adjustment is fixed on this bar are conjointly adjustable by means of a right-and-left screw *b''*, engaging a threaded lug of said bar. As either or both lugs are therefore adjustable, means are provided for
35 lengthening or shortening the stroke or varying its position. These adjustments are important in arranging the terminal position of the receiver-carriage as well as that of the delivering-lip of the carrying-belt with reference to the positions of the biscuit-sections. The switch-lever P by means of the slide *p'* actuates the reversing-belts of the fast and loose pulleys and also operates the reversing-
40 gear of the delivery-lip. The biscuit-sections being fed in regular succession upon the belt D are by means of its reciprocating end portion and the depositing-lip placed upon the receiver or pan, the operating mechanism of
45 which by effecting an intermittent lateral movement of said receiver or pan serves to produce an arrangement of the biscuit-sections in parallel rows thereon. As one pan is filled another pan is placed upon the carriage to be filled. Usually the receiver-carriage is made wide enough to hold two or more pans side by side in order to give the attendant time enough to remove a filled pan and to place an empty one upon the sprocket-
50 belts while an intermediate pan is being filled.

Having described this invention, what I

claim, and desire to secure by Letters Patent, is—

1. The combination, with a carrier-belt, having a reciprocating end portion, of a reciprocating receiver-carriage, and means for effecting the reciprocation of both in the same times, and at the same rate of speed, substantially as specified. 70

2. A carrier-belt, in combination with a driving-pulley at one end, and a reciprocating pulley at the other end, the adjustable tension-pulley and the intermediate reciprocating take-up pulley, and mechanism for operating the pulleys, whereby the belt is caused to lengthen and shorten itself at the delivery end, substantially as specified. 75 80

3. The combination, with the carrier-belt, its stationary and reciprocating pulleys, and the carriage, for the latter, of the rack-and-pinion device for reciprocating said carriage, substantially as specified. 85

4. The combination with a continuously-moving carrier-belt, having a lengthening and shortening depositing portion, of a laterally-moving receiver, substantially as specified. 90

5. The combination with a continuously-moving carrier-belt having a lengthening and shortening end portion, of a correspondingly reciprocating receiving device having an intermittent transverse movement, substantially as specified. 95

6. The combination with a depositing carrier-belt of an intermittently and transversely moving receiving device, and a longitudinally-reciprocating carriage for said receiver, substantially as specified. 100

7. The combination with a carrier-belt, having a reciprocating end portion, and a reciprocating carriage bearing the pulleys of said end portion, of a transversely-moving receiving device, and its reciprocating carriage, substantially as specified. 105

8. The combination with a carrier-belt, having a lengthening and shortening end portion, pulleys therefor, and a reciprocating carriage for the pulleys of said portions, of the transversely and intermittently moving receiving device, its reciprocating carriage, and reversing mechanism, substantially as specified. 110 115

9. The combination with a depositing carrier-belt, having a lengthening and shortening end portion, and a reciprocating carriage for the pulleys of said portion, of a transversely and intermittently moving receiving device, its reciprocating carriage, and rack-and-pinion mechanism, and a reversing device, substantially as specified. 120

10. The combination with the lengthening and shortening carrier-belt and the pulleys of its depositing portion, of the transversely and intermittently moving receiving device, the carriages for said pulleys and for said receiving device, and means for reciprocating said carriages in opposite directions at the same rate of speed, substantially as specified. 125 130

11. The combination with a reciprocating depositing device, of a receiver, transverse sprocket-chains and sprocket-pulleys therefor, and mechanism for operating said chains 5 intermittently, substantially as specified.

12. The combination with the reciprocating receiver-frame, and its transverse sprocket-chains and sprocket-wheels, of the slide sprocket-shaft, its pawl device and cam, substantially as specified. 10

13. The combination with the reciprocating end portion of the carrier-belt, and its pulley-carriage, of the pivoted depositing lip or slide and reversing devices, whereby said lip is 15 alternately raised and lowered, substantially as specified.

14. The combination with a depositing carrier-belt, having a reciprocating end portion of a reciprocating carriage for said end portion and reversing mechanism operated automatically by said carriage, substantially as 20 specified.

15. The combination with a depositing carrier-belt, and a reciprocating carriage operating its end portion, of adjustable reversing devices operated automatically by said carriage, substantially as specified. 25

16. The combination with the receiver-frame and the carrier-belt, of the oppositely-reciprocating carriages, the transverse intermittently-moving sprocket-chains, the depositing-lip, and automatic reversing devices, substantially as specified. 30

17. A distributing-machine, comprising an endless carrier, having an alternately extending and retracting end portion, an alternately rising and falling depositing-lip at the end of said end portion, a transverse intermittently-moving receiver device, a reciprocating carriage therefor, and automatically-operated reversing mechanism, substantially as 35 specified. 40

18. A carrier-belt having a lengthening and shortening end portion, and end pulley, and a take-up pulley and a reciprocating carriage 45 for said end and take-up pulleys, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIS S. BURBANK.

Witnesses:

J. R. GILKESON,
ALBERT H. CHAFFEE.