

(No Model.)

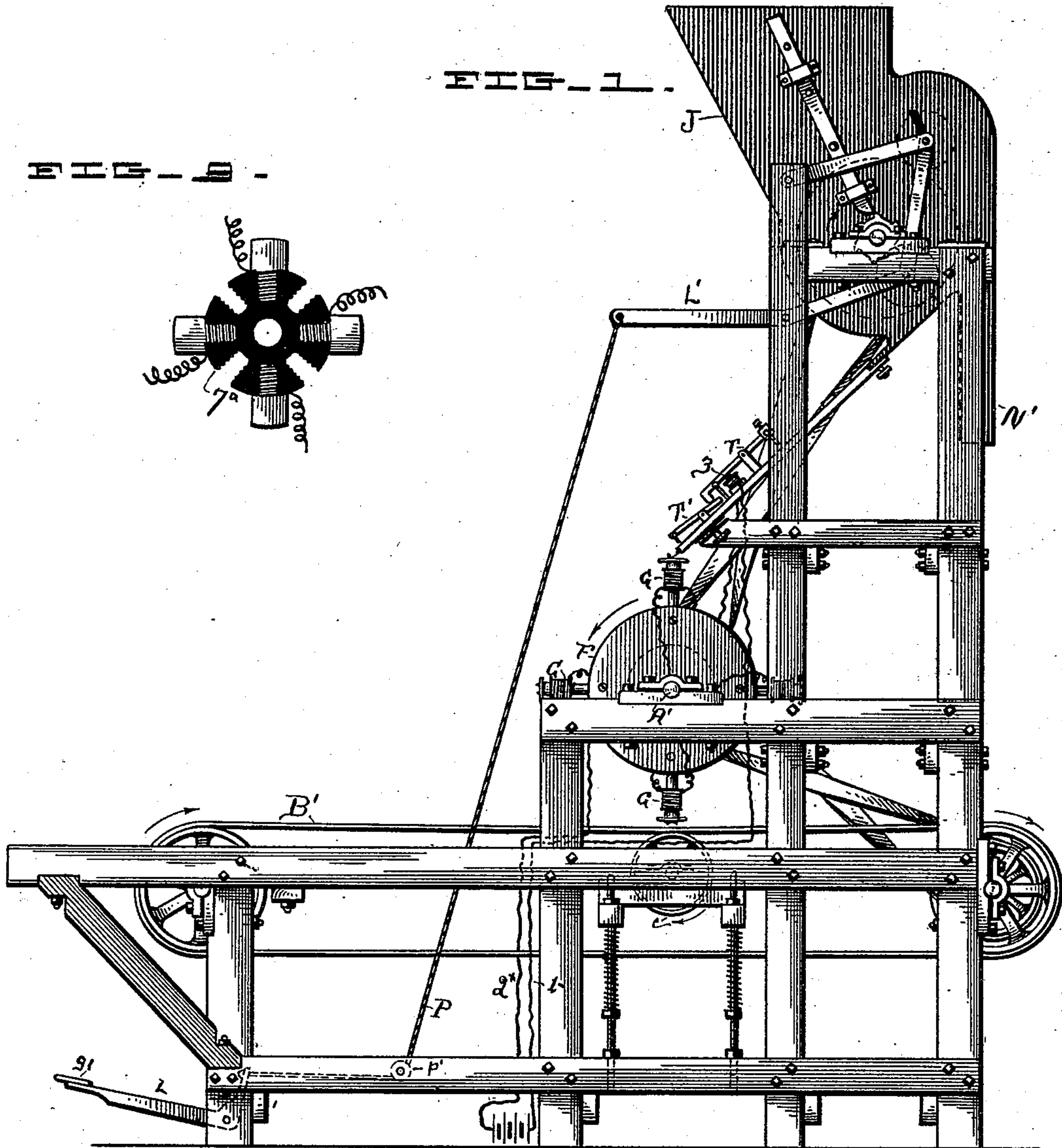
4 Sheets—Sheet 1.

W. B. MUNNELL.

MACHINE FOR ATTACHING METALLIC TAGS TO PLUG TOBACCO.

No. 534,370.

Patented Feb. 19, 1895.



Witnesses

Inventor

H. S. Neely
Joseph H. Sney

William B. Munnell
By his Attorney
F. H. Gibbs

(No Model.)

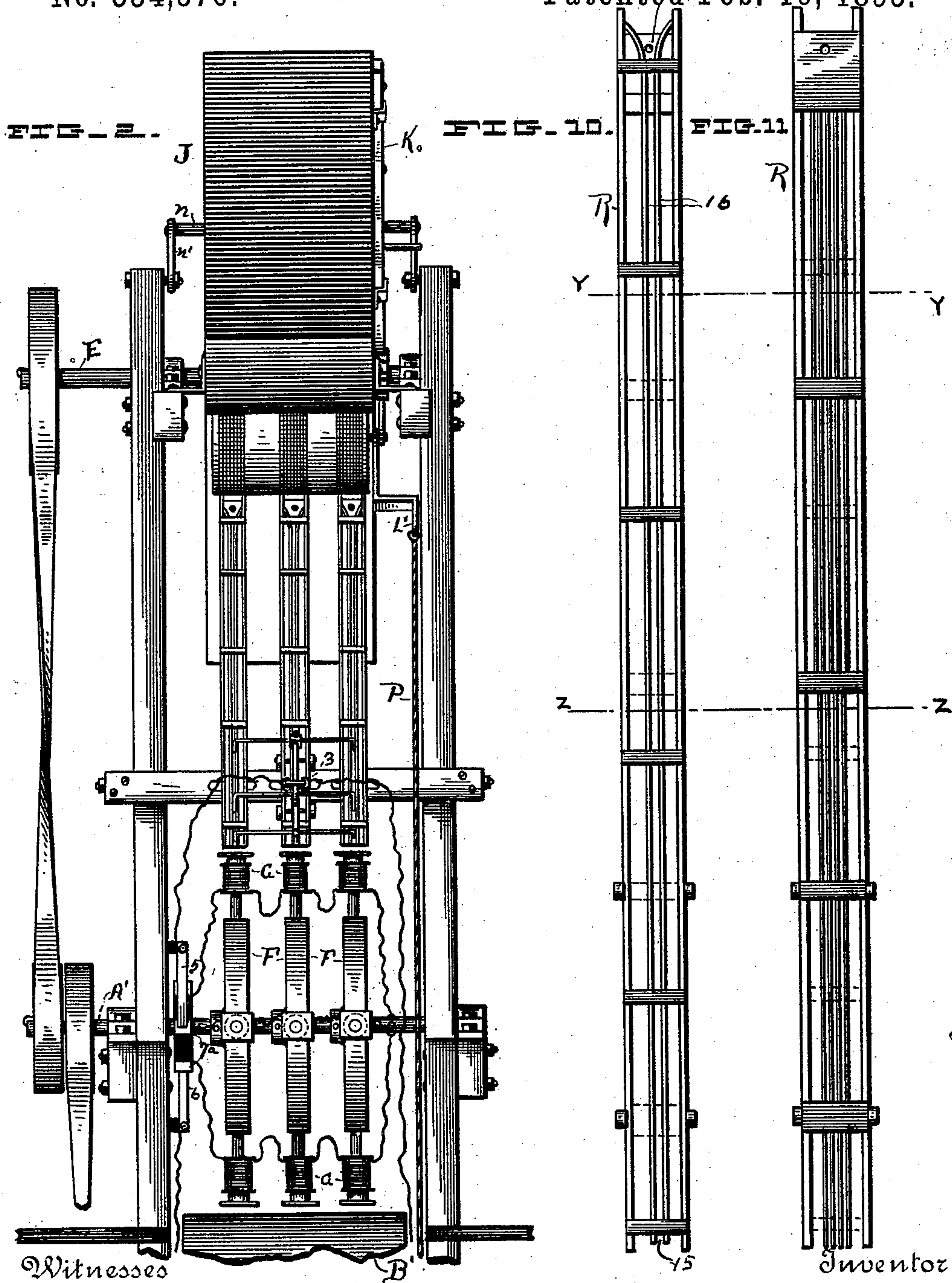
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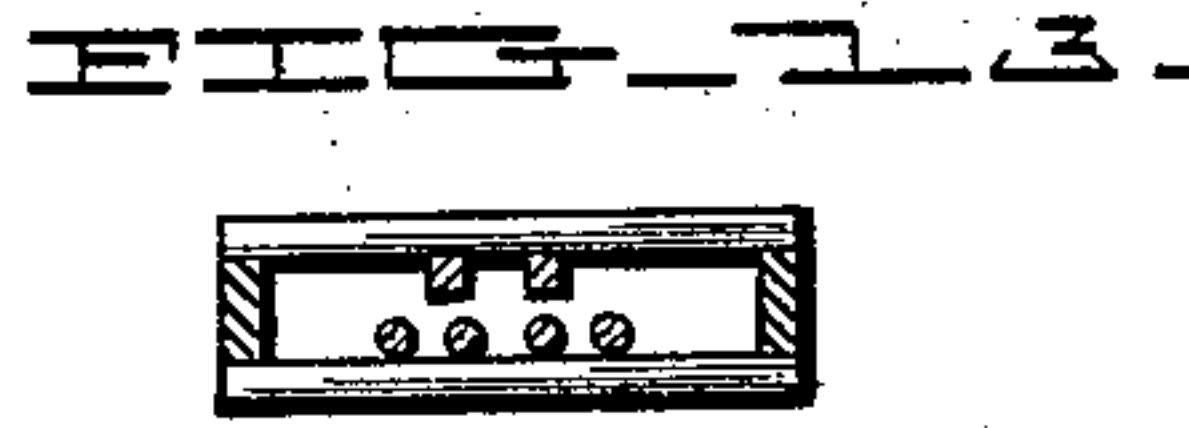
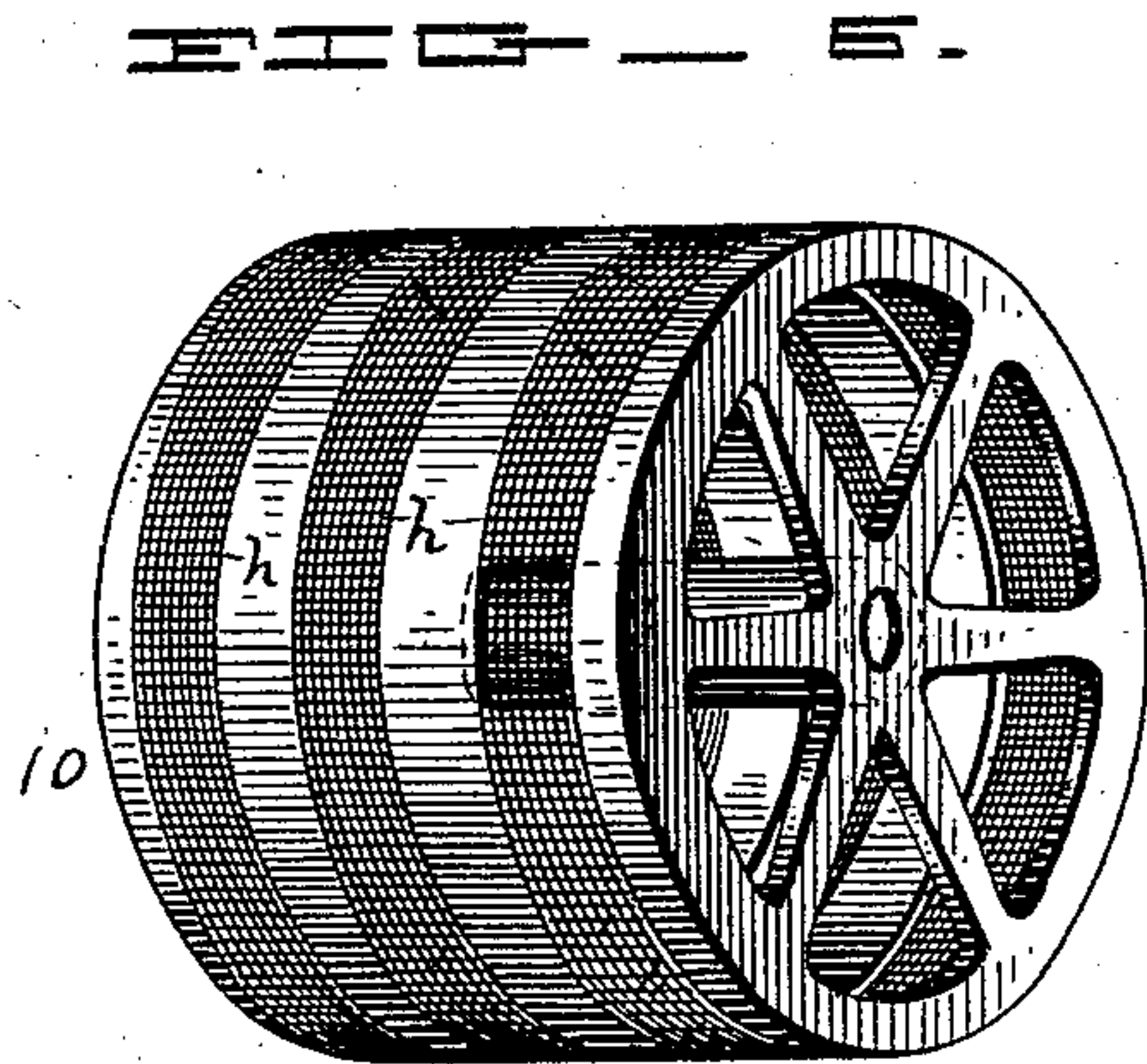
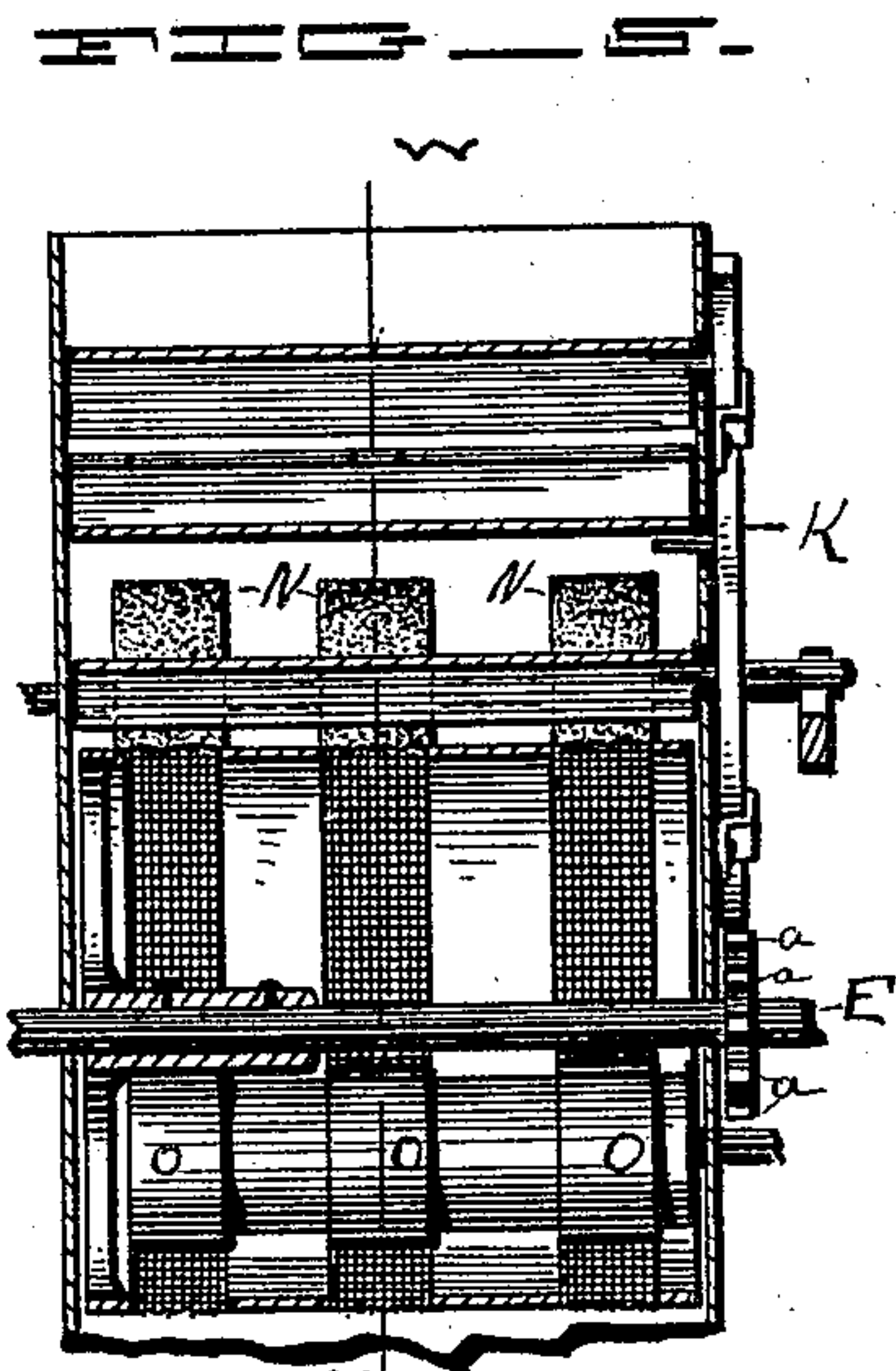
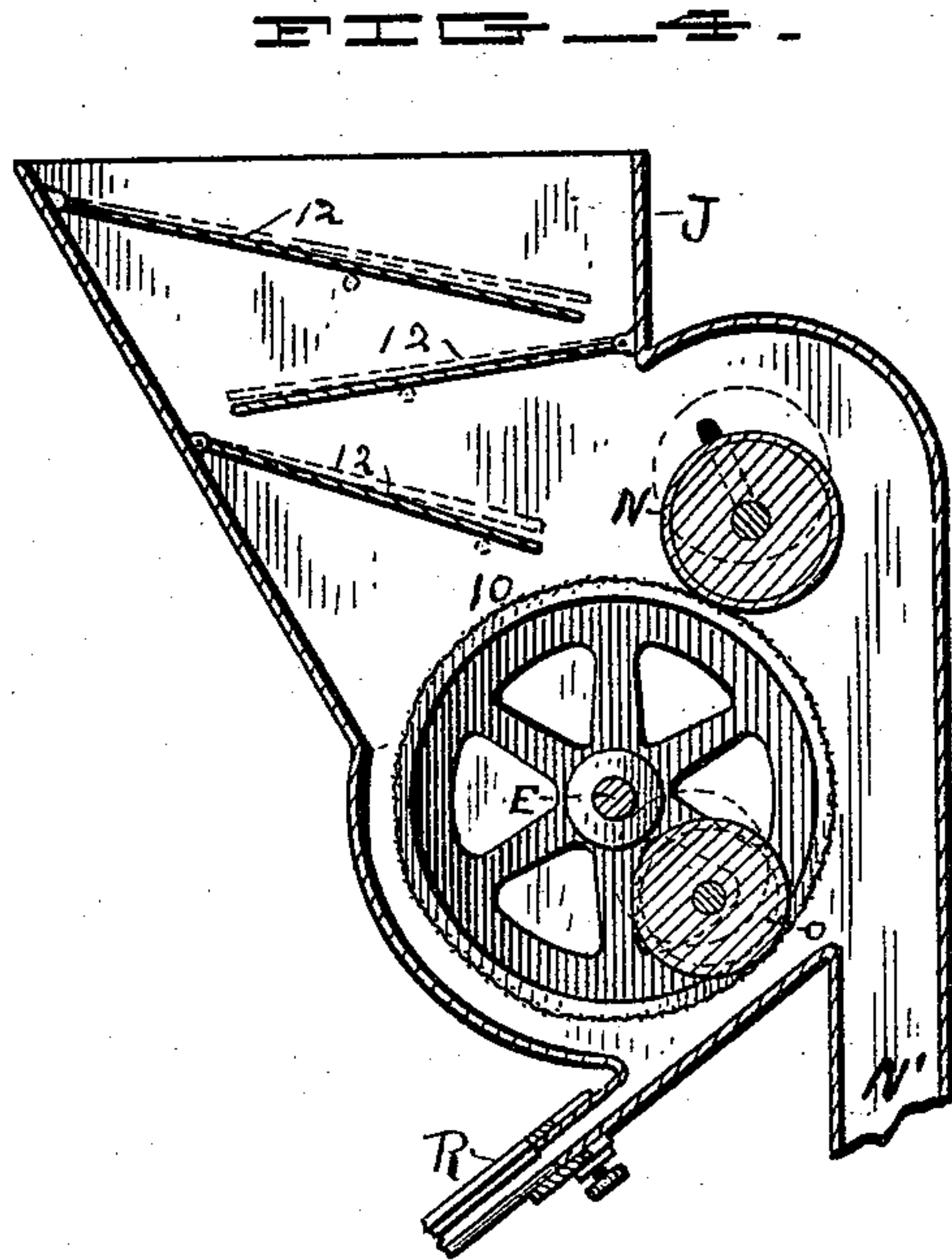
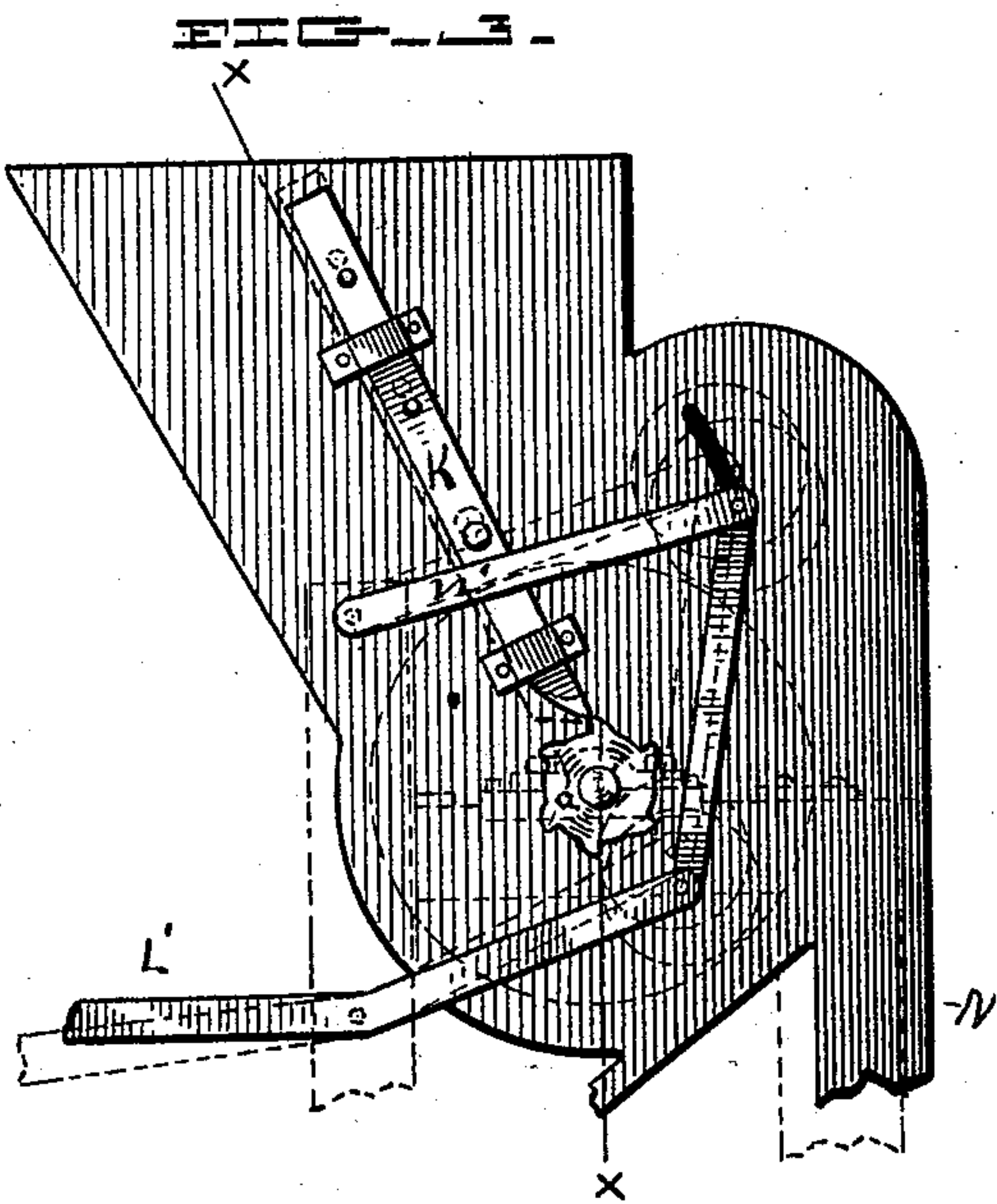
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FIG. 7—

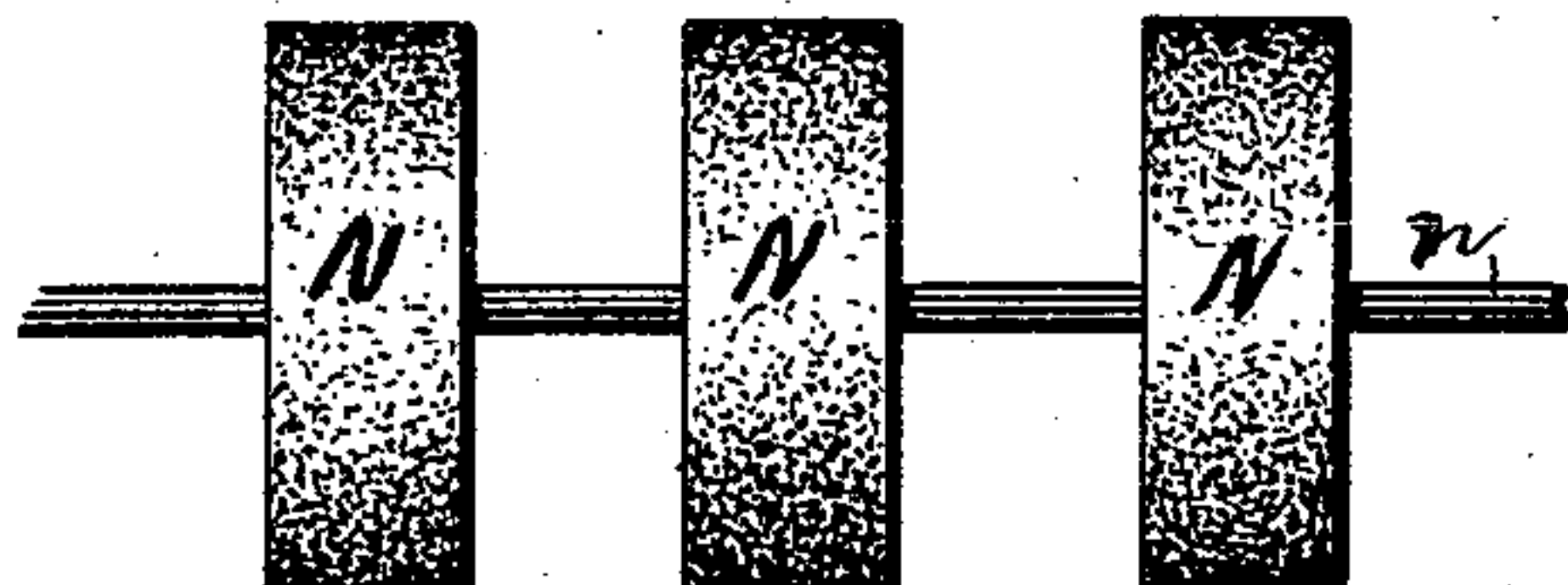
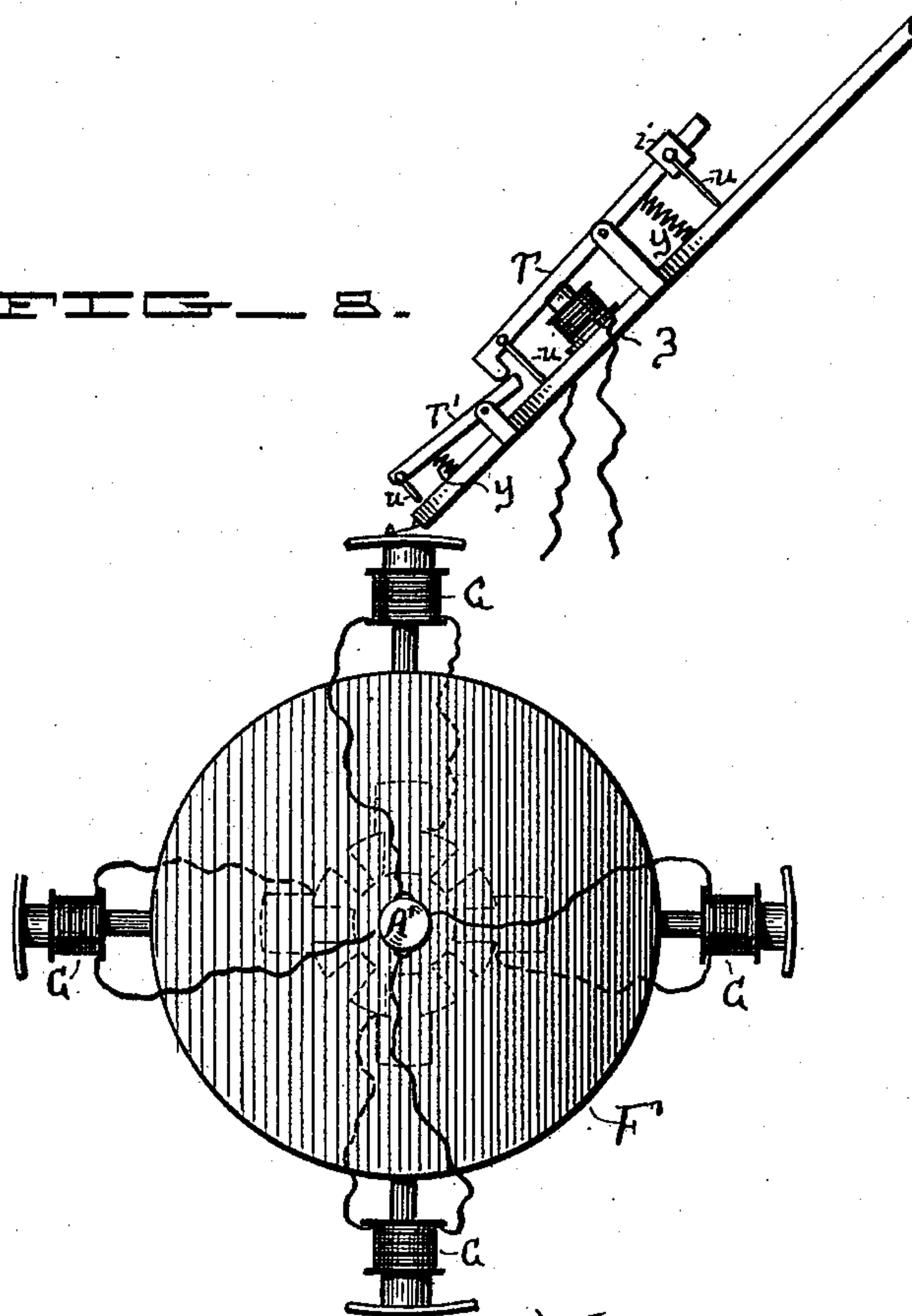


FIG. 8.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM B. MUNNELL, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO FREDERICK H. GIBBS, OF SAME PLACE AND BUFFALO, NEW YORK.

MACHINE FOR ATTACHING METALLIC TAGS TO PLUG-TOBACCO.

SPECIFICATION forming part of Letters Patent No. 534,370, dated February 19, 1895.

Application filed May 17, 1892. Serial No. 433,341. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. MUNNELL, of Louisville, in the county of Jefferson and State of Kentucky, have invented new and useful Improvements in Machines for Attaching Metallic Tags to Plug-Tobacco, of which the following is a full, clear, and exact description, taken in connection with the accompanying drawings.

This invention relates to machines to be used in "tagging" plug tobacco, and consists in a novel machine for securing the tin name plates or tags to the plugs by means hereinafter more fully described and specifically set forth in the claims.

In the annexed drawings similar letters and figures of reference denote corresponding parts in all views where used.

Figure 1 is a side elevation of the machine. Fig. 2 is a front elevation of the upper portion of the operative parts of the machine. Fig. 3 is an enlarged side elevation of the separating hopper and its connected parts. Fig. 4 is a vertical section of the hopper showing the interior thereof taken on line —W—W— of Fig. 5. Fig. 5 is a section of Fig. 3 taken on line —x—x— of Fig. 3. Fig. 6 is an exterior view of the reticulated drum revoluble within the separating hopper showing also a few of the tags thereupon. Fig. 7 is an enlarged detached view of the felt rollers —N— which bear on the drum 10. Fig. 8 is an enlarged view, detached, of the magnet carrying disks and magnets with the escapement device at the lower end thereof to control the escape of tags from the tag chutes down which the tags are to pass. Fig. 9 is a detached view of a commutator on the shaft with said disks. Fig. 10 is an enlarged top plan view of the tag chute. Fig. 11 is an inverted view of the said chute. Figs. 12 and 13 are sectional views of said chute taken on lines —y—y— and —z—z—.

Commencing at the point where the tags are put into the machine and continuing the description of parts in the order in which they are intended to operate I will first describe the separating hopper, which is composed of the main hopper shell —J— which is meant as a receptacle into which the tags are dumped preparatory to separation. This hopper —J—

consists of a shell open at its upper side into which the tags are fed, falling on a series of inclined plates which are hinged to the inner side walls of the hopper shell, and are designated by the reference numerals —12—. The plates —12— are hinged at opposite sides of the shell alternately so that a lot of tags falling on the top plate —12— will be caused to slide from thence to the next lower plate, and so on in the series until they are at last permitted to drop onto a revoluble drum —10— which is made of metal interposed reticulated strips or rings *h* with openings sufficiently large to engage the projecting prongs of the tags.

The axle E of the drum 10 is provided with studs or irregularities *a* on which bears a reciprocating rod —K— held to the sides of the hopper shell, and connected in any suitable manner with the plates —12— as by pins passing through the side of the hopper as shown in Fig. 5, so that as the axle or shaft —E— is rotated it will cause vibratory movement of said rod —K— and corresponding agitation of the plates —12— so as to cause the tags thereon to fall onto said drum 10 on the upper side of which bears a supplemental drum —N— which is designed to cause such part of the tags as fall on the drum 10 with their prongs down to be engaged with the perforations in said drum 10 and be carried around with it in its revolution, though the tags which fall onto said drum with their prongs up will be simply carried around to a point on the circumference thereof from whence they will drop into the auxiliary receiving hopper —N'—, from whence they may be again fed to the main hopper and sent through to cause them to engage with said drum 10.

Assuming the tags to be held by the drum 10 with their prongs engaged therewith it will be seen that they are carried around to the lower side thereof, at which point the inner roll —o— held within said drum 10 will bear on said prongs and expel the same from said drum 10 from which they fall into the inclined chute —R—, down which they fall by gravity, being guided by the way —15—, which is provided so as to project up above the bottom just sufficient to engage the prongs so as to arrange the tags with their prongs in

a uniform line and secure better results and appearance when placed on the plugs of tobacco.

Arranged on the chute —R— is a series of
5 pins or stops actuated by an electro magnet
so as to stop the progress of the down coming
tags when desired, the operation of which
will be hereinafter more fully set forth. Below
the chute I provide a shaft —A'— which
10 carries a series of magnets G which are preferably
permanent magnets provided with a demagnetizing
coil so as to permit said magnets being demagnetized
at times when occasion requires, and said magnets
are connected directly to the shaft, or they are set
15 in the face of disks F secured to the same so as to
project therefrom, so as to travel in close proximity
to the mouth of the chute —R— so as to draw
therefrom and carry away any tags which may
20 be at the mouth thereof.

The magnets —G— may be permanent magnets,
provided with the demagnetizing coil or not as may
be found desirable, or they may be electro magnets
in a closed circuit which
25 may be broken at such time as it is desired to
release the tags therefrom, either arrangement being
within the spirit of my invention. I prefer, however,
to use permanent magnets which are provided with
the demagnetizing
30 coil for economy, and have the circuit normally
broken and only closed at such time as it is desired
to release the tin-tag from the same, and to that end
I provide the disks —F— preferably of non-conducting
material, or insulated at the point of securing said
35 magnet stems thereto, and secure the magnets to the
peripheral face thereof, connect one pole of the battery
through the electro magnet —3— to the tag-chute, run
the wire from thence to a contact spring —5— which
40 is held by the frame —A— so as to bear normally on
the insulating material of the contact collar —6—, shown
in detail at Fig. 9, and so arrange the contact points
set in said collar that they will correspond in number
45 with the number of magnets held around the circumferential
face of the disks —F— so that as any one of said disks
reaches a point vertically below the axis of the shaft
—A'— the circuit will be closed and the lowest magnet
50 will be demagnetized, the electro-magnet will be energized,
the tag on the lowest magnet will be released, and the
stop device on the tag-chute will be actuated and a tag
released and permitted to be attracted by the magnet at
55 the top side of the disks and carried by it to a point
at the lower side where it will in turn be released in
the same manner as those which have gone before it.

60 It will be observed that I provide a carrying belt
—B'— upon which the plugs of tobacco are laid to be
carried under the magnet disks, and a supplemental table
is provided at a point where the pressure occurs so
65 as to lend suitable support for the plugs at the time
when the tags are about to be forced into the plug immediately
below the axial line

of the shaft —A'— so that, as a tag is carried to that
point by its carrying magnet it will be met by the plug of
tobacco and the pressure incident to its contact is designed
70 to secure the tag to said plug.

Unless some device were provided to retard the downward
progress of tags fed from the separating hopper to the chute
—R— there would be no certainty of the tags remaining
75 in proper position to be taken up by the magnets in their
travel past the mouth of the said chute, and for the purpose
of securing a regular feed I provide the pivoted levers —T—
80 T'— normally held down at their extreme ends by the two
springs —y—y—, at which point are pins entering the open
topped chute —R— so as to hold the tags which may lie in
the path of said pins, but when the circuit is closed it will
85 be seen that the electro magnet will overcome the tension of
the spring and raise the two end pins permitting a tag to
drop from the open mouth of the chute onto the magnet which
is at the time in proximity thereto, at the same time opening
90 the way for movement of the advancing column of tags above
the top pin so as to permit another tag to fall to such position
that it will be engaged by said top pin —u— on again breaking
95 the circuit, which occurs as soon as the lower magnet passes
the point vertically below the axis of the shaft —A'—, when
the springs —y— again exert their influence, draw down the
two end pins —u— and hold two tags— one of which is the tag
100 which was at first held by the top pin, and another of which
is a tag advanced from the column in the chute above.

It will be noted that where a tag is held by the top pin
—u— when the springs are exerting their force without the
magnet it will be caused to fall to a point where it will strike
105 the middle pin —u— when the magnet is exerting its energy,
and as soon as the circuit is broken it will fall from thence
to the lowest pin —u— where it will be held until the circuit
is again closed at which time said third pin is in its elevated
110 position and permits the tag to fall onto the magnet immediately
beneath. In the mean time the tag which was at first held by
the top pin falls the distance to the middle pin where it is in
turn held only while the circuit is closed, and runs down the
115 incline to the last pin as soon as it is broken, at which time
the top pin grasps a tag at the point where it enters the chute
and holds it ready to be advanced in rotation as needed.

To secure uniformity of feed I provide the pivoted lever
—T— with a sliding collar or clip i which carries the top pin
120 so that the same may be adjusted lengthwise of said lever to
accommodate different sizes of tags to be fed through the chute,
this collar being set nearer the end of the lever —T— to feed
larger tags and brought nearer the pivotal point for smaller tags,
125 according to the size.

The hereinbefore described machine and connections are to be used
where a series of permanent magnets without demagnetizing

coils are to be used, but where the permanent magnets are to be demagnetized I run the circuit from the contact collar —6— to and through the coils at the ends of said permanent magnets and from thence to the axle —A'— from whence it is conducted back through said axle, the contact spring —7— and wire —2^x— to the battery.

In the event that the feed of the drum 10 and its connections is too rapid I use the foot lever —31— or treadle to raise the rod —K— and rolls —N—N— and stop the flow of tags through said separator, holding down the treadle —31— only sufficient time to partially exhaust the tags in the chute —R—, the rolls and rod being connected to said treadle by means of the pivoted levers —L—L'— and cable —P—, running over the pulleys —p'— secured to the frame.

I show the two sides of the chute —R— as I find it essential that the bottom shall be so constructed that observation, of the tags running through, will be permitted and in the event of a tag entering said chute with its prongs down it will be apparent and may be removed by sliding it back and up through the overlapping sections of said chute, while the top of the chute is preferably open so the operator may determine the rate of feed through the same and if his tags are coming with the prongs properly arranged to enter the plug to best advantage.

It will be observed that there are two guide plates —16— at the top side of the chute, between which the opening —15— is provided, and that said guide plates are beveled off at the upper ends to nothing so as to insure the tag entering the said channel —15— with their prongs held within said channel so as to secure uniformity in arrangement of the tags when secured to the plugs.

Where it is desirable to use electro-magnets in place of the permanent magnets it will be only necessary to so arrange the commutator and brushes as to keep the magnets in circuit from the time when they approach near to the chute —R— to the time when they are vertically below the axis of the axle or shaft —A'—, carrying the disks —F— and so connect to the electro-magnet —3— as to energize it at the times when the magnets —G— approach the end of the chute —R—.

Having described my invention, what I claim is—

1. In a machine of the described class, a hopper, agitator plates therein, a perforated drum below said plates, a bearing roll normally pressing against the exterior of said perforated drum, an agitator rod arranged to agitate one or more of said plates at one end and bearing on the axle of said reticulated or perforated drum at the other end, in combination with means for raising said bearing roll and agitator rod, all combined substantially as specified.

2. In a machine of the described class, a hopper, a reticulated or perforated drum revo-

luble beneath said hopper, a chute extending downwardly from said drum, a pivoted stop lever provided with two or more downwardly projecting pins extending into said chute, in combination with a series of magnets revoluble on an axis beneath said chute, and means for operating said stop lever at predetermined times, all combined substantially as specified.

3. In a machine of the described class, a hopper, a chute communicating therewith, a stop in said chute, a series of magnets revoluble on an axis in convenient proximity therewith and a plug carrying belt adapted to carry plugs into proximity with said magnets, all combined substantially as specified.

4. In a machine of the described class, a hopper provided with a series of agitators, a reticulated or perforated drum revoluble beneath said hopper, a chute communicating with said hopper at one end, a series of magnets revoluble about a fixed axis in proximity with the opposite end of said chute, and a plug conveying belt suitably supported in proximity with said magnets, all combined substantially as specified.

5. In a machine of the described class, a plug conveying belt, a series of magnets revoluble on a fixed axis in convenient proximity with said belt, a tag chute provided with one or more electrically operated stops, and an electro magnet for operating said stops at predetermined times, all combined substantially as specified.

6. In a machine of the described class a hopper, a tag chute leading therefrom, a pivoted stop lever near the mouth of said chute, pins connected to said lever entering said chute, an electro magnet actuating said lever at predetermined times, magnets revoluble in proximity with the mouth of said chute and a conveying belt adapted to carry plugs into the path of travel of said revoluble magnets, substantially as specified.

7. In a machine of the described class, a hopper separating means therein, a chute leading therefrom, a plug carrying belt, a series of magnets carried into proximity with said belt and the mouth of said chute and an electrically operated stop in said chute, all combined substantially as specified.

8. In a machine of the described class, a hopper, a reticulated or perforated drum revoluble beneath the same, a tag conveying chute leading therefrom, an electrically operated stop in the line of travel through said chute, permanent magnets revoluble on a fixed axis below said chute, a plug carrying belt, and means for operating said electrically operated stop and demagnetizing said permanent magnets at predetermined times, all combined substantially as specified.

9. In a machine of the described class, a hopper, a reticulated or perforated drum revoluble beneath the same, a chute leading therefrom, a series of magnets adjustable in their relative distance apart, an electrically operated stop in said chute and means for releas-

ing said stop when each magnet of the series reaches a predetermined point, all combined substantially as specified.

10. In a machine for attaching tags to plug
5 tobacco, a plug carrying means, a tag chute,
an automatically operated stop therein, and a
magnet movable on a fixed axis in convenient
proximity with said plug carrying means and
the mouth of said chute, all in combination.
10 11. In a machine for attaching tags to plug

tobacco, a plug carrying means, a tag chute
and a magnet and means for moving the same
for receiving the tags from the chute and carry-
ing them to the plugs, all in combination.

In testimony whereof I have hereunto set 15
my hand this 12th day of May, 1892.

WILLIAM B. MUNNELL.

Witnesses:

NEWTON G. ROGERS,
WALTER DURBY.