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O. HAMMERSTEIN.

WRAPPER CUTTING AND TRANSFERRING MECHANISM.

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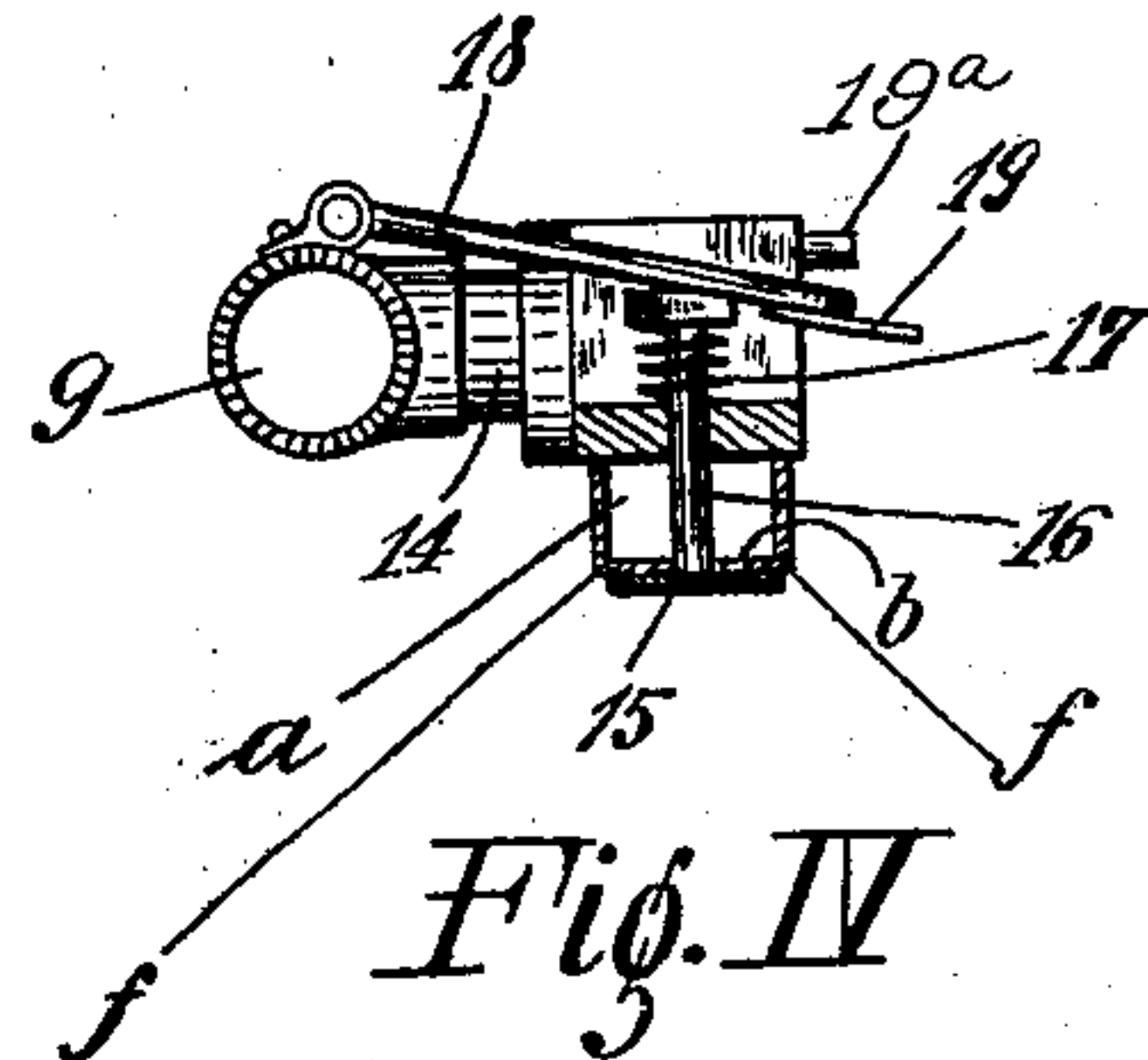
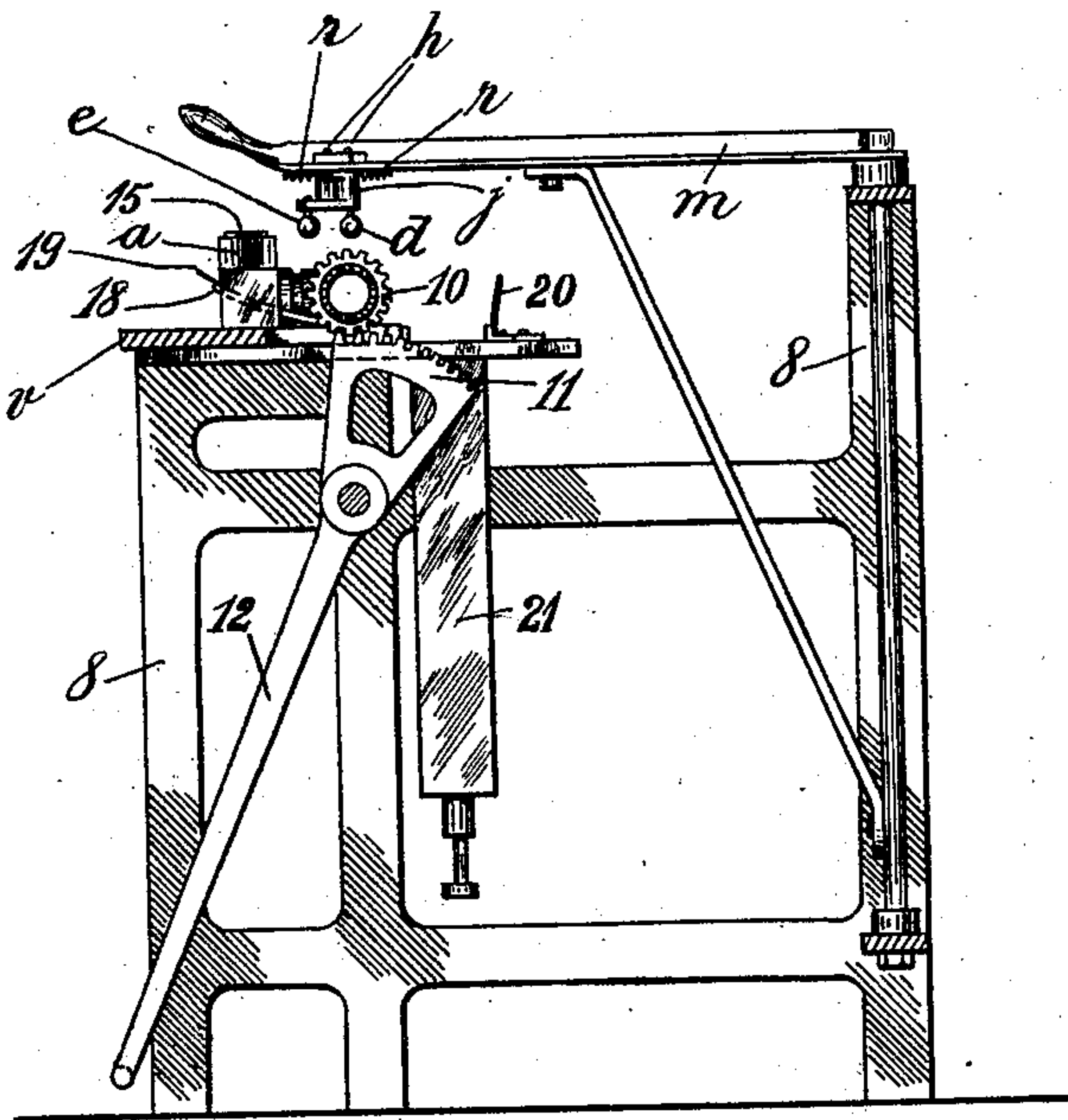
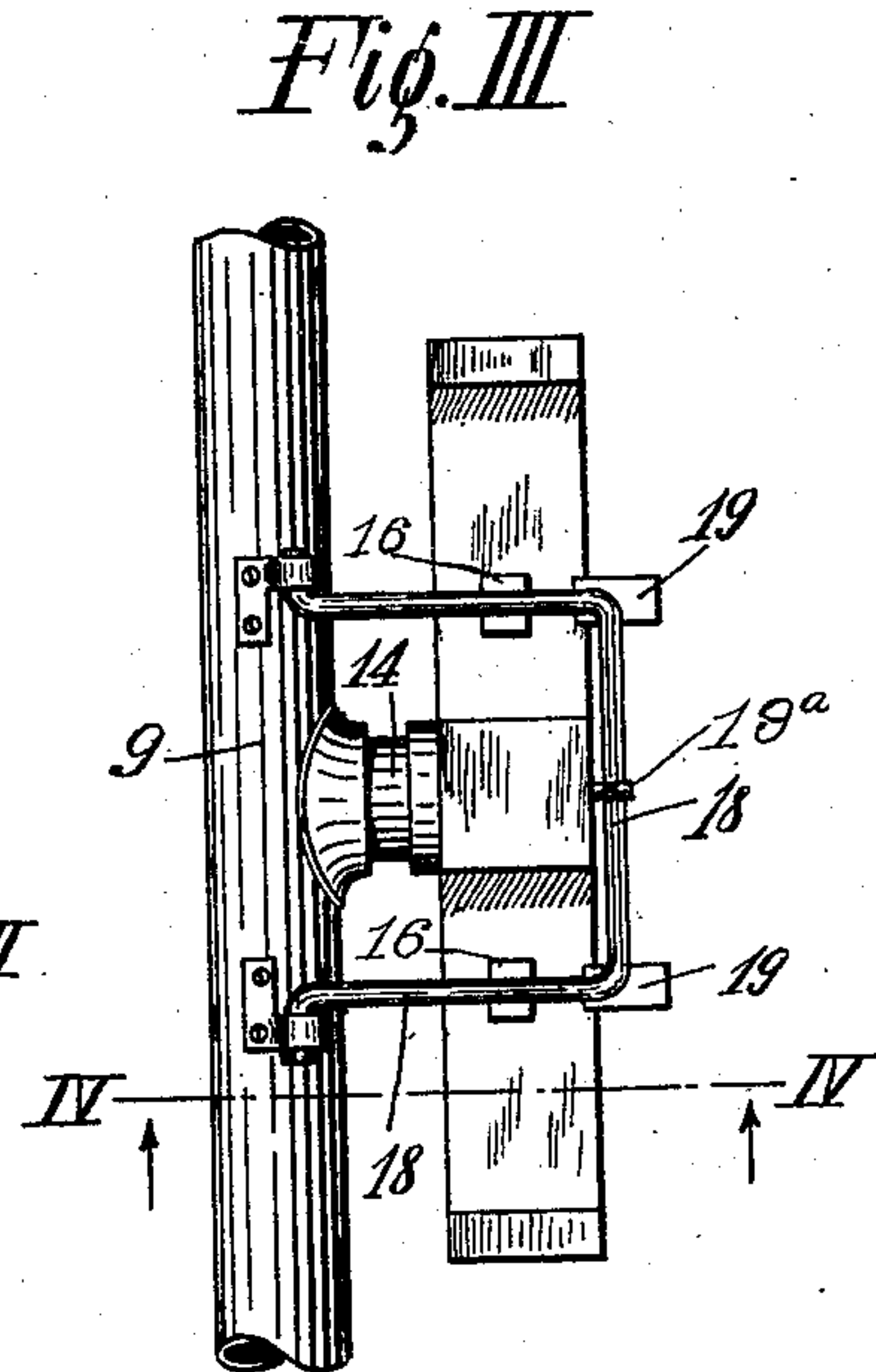
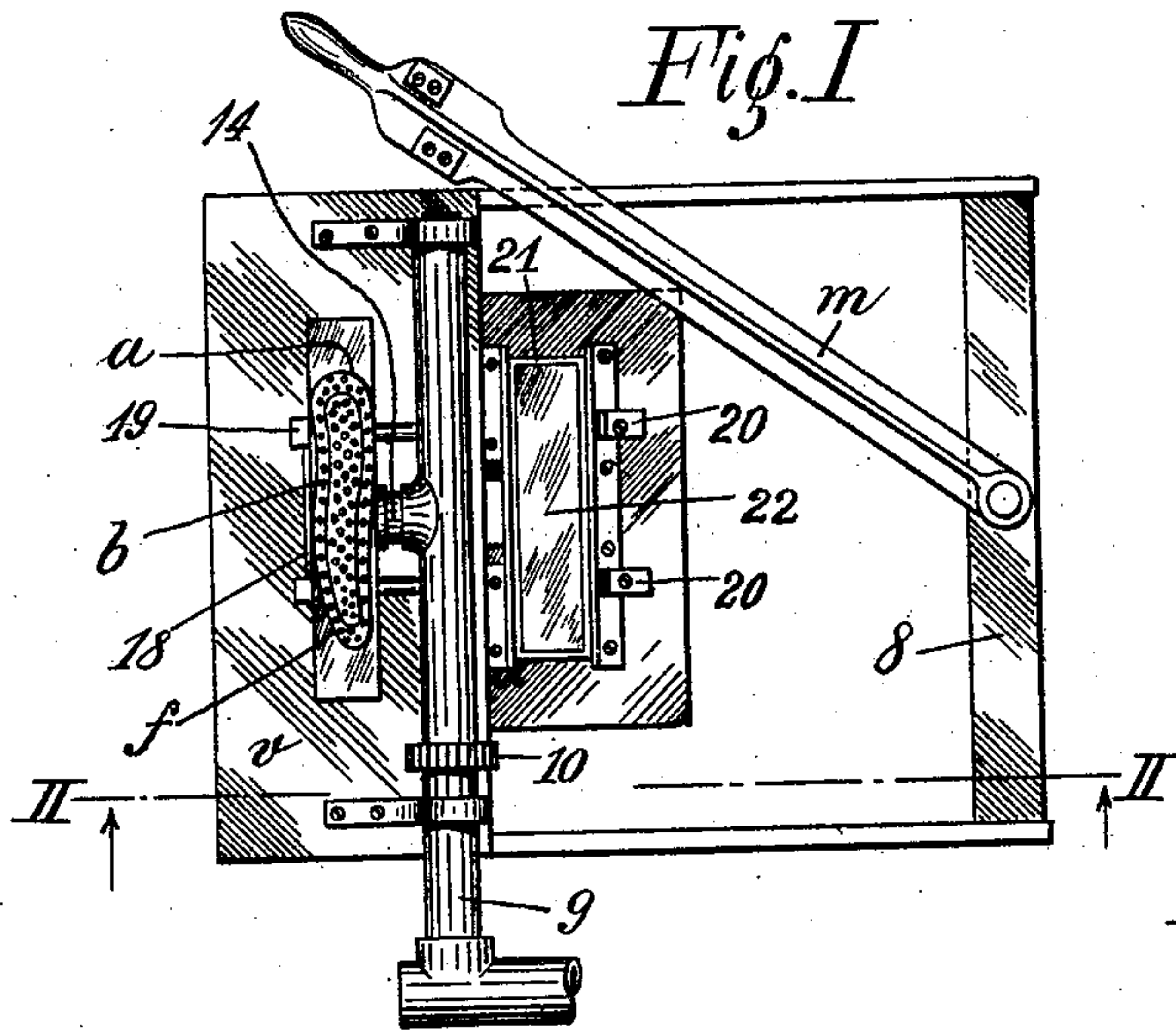


Fig. II

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WRAPPER CUTTING AND TRANSFERRING MECHANISM.

No. 861,835.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed January 17, 1903. Serial No. 139,370.

To all whom it may concern:

Be it known that I, OSCAR HAMMERSTEIN, a citizen of the United States, and a resident of the borough of Manhattan, city, county, and State of New York, have
5 invented certain new and useful Improvements in Wrapper Cutting and Transferring Machines, of which the following is a specification.

My invention relates to wrapper cutting and transferring machines and has for its particular object to
10 produce a machine in which the wrappers may be quickly and economically cut and properly transported to a storage apparatus.

In the accompanying drawing I have illustrated a machine showing the principles of my invention, it
15 being understood that I do not thereby limit myself to the machine therein shown as the invention will find its embodiment in a variety of constructions.

In the drawing, Figure I is a plan view of the machine; Fig. II is a sectional elevation on line II—II of
20 Fig. I; Fig. III is an enlarged underneath view of the suction box and its operating means; and Fig. IV is a section on line IV—IV of Fig. III.

In the drawing, 8 represents the frame of the machine which may be of any desired or preferred construction. Mounted in suitable brackets on the frame
25 of the machine is a suction pipe or chamber 9 capable of being rotated and provided with a pinion 10 and sector 11 or other suitable means for rotating or otherwise moving the same. The sector 11 may receive
30 motion from an arm 12 which may be suitably actuated. The suction pipe 9 connects by a trunk 14 with a suction box *a* shown as provided with a perforated top *b* having a cutting corner or edge *f*.

Lying against the face of the top of the suction box
35 is a follower 15 mounted on rods or plungers 16; or otherwise suitably mounted, which rods or plungers are provided with springs 17, normally holding the follower in position, preferably against the face of the top of the suction box. In practice this follower is
40 made of thinner material than it is convenient to show in the drawing and preferably has perforations opposite those in the top of the suction box *b*. The suction box may be adjusted to normally rest upon a table *v* and has associated therewith a yoke or frame 18 piv-
45 oted to the suction pipe and bearing against the plungers 16 and provided with one or more plates or other suitable engaging devices 19 which are adapted to engage and be frictionally held by suitable latches 20 preferably mounted on the table *v* and whose operation
50 will be given in detail subsequently. A pin 19^a on the suction box serves to effect the movement of the yoke or frame 19 in one direction.

In order to arrange for the storage of wrappers, I provide a suitable storage box or compartment 21 having
55 therein a block or receptacle 22 held in such manner as

to be allowed to gradually descend as wrappers are piled in the box.

In order to effect the cutting of the wrappers, I preferably provide an arm *m* provided with pivots *h* upon which are freely journaled brackets *j* carrying freely
60 rotatable travelers *d* and *e* herein shown as balls. These travelers are arranged to traverse the peripheral edge or corner *f* to effect the cutting, each traveler running around the extent of one half of the said edge on each traverse or movement of the arm *m* which carries
65 said travelers, the travelers being made to exert a lateral pressure on the edge *f*, by the springs *r* attached at one end to each bracket *j* and at the other end to the arm *m*.

The specific cutting apparatus indicated in the draw-
70 ings forms the subject-matter of another application filed by me in the United States Patent Office on January 18, 1902, Serial No. 90,327, and renewed on September 5, 1902, Serial No. 122,206, in which applica-
75 tion such cutting apparatus is more fully disclosed.

The operation is as follows: A tobacco leaf is spread under tension of the air suction (of the suction pipe 9) on the top flat surface of the follower 15 and face of suction-box *b*, the arm *m* is given a sweep (in the present instance by hand) so as to run its travelers completely
80 around the edge *f* by which means the wrapper is cut. The arm *m* having now been moved out of the way, a movement is given to the lever 12 in any suitable manner as by the foot of the operator by which through the medium of the sector 11 and gear 10 the portion of the
85 suction pipe or chamber 9 which carries the suction box *a*, and on which the frame 18 is pivoted or mounted is swung on its axis so as to swing the suction box and frame to bring the said suction box into position at the entrance of the wrapper receptacle 21 where the wrap-
90 per on the suction box is brought into contact with the movable block or support 22 or, if other operations such as is now being described have already taken place, upon the pile of wrappers previously deposited on the said block or support. The pin 19^a serves to effect this
95 movement of the frame 18 and to bring the frame 18 into position to engage the spring latches 20.

When the swinging-movement of the suction box has been completed it will be found that the catches or springs 19 have become engaged with the spring latches
100 20 and are frictionally held thereby so as to allow a slight lost motion of the frame 18 upon its return rotation which is effected by a reverse movement of the lever 12, whereby the plungers 16 are held stationary during the beginning of the return movement of the
105 suction box *a* to its initial position shown in Figs. I and II. In this manner the follower 15 will remain behind during the beginning of the return movement of the suction box and will separate the wrapper from the suction box thus relieving it of the tension of the air
110

suction and whatever adhesion may exist by reason of stickiness and hold it firmly to the pile of wrappers in the receptacle 21. As the suction box continues to move, it will swing the yoke or frame 18 releasing it from its frictional engagement with the spring latch 20 thereby permitting the springs 17 to move the plungers 16 to bring the follower firmly against the face *b* of the suction box *a*. These wrappers thus piled will remain stretched for a time and may be used for wrapping cigars. The block 22 is arranged either by frictional devices or otherwise so as to recede into the receptacle as the pile of wrappers becomes thicker and when the pile contains the desired number of wrappers the wrappers may be removed from the receptacle and stored for future use or used at once as desired.

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

1. The combination of means for supporting a wrapper in position to be cut, means cooperating with the said first mentioned means for effecting the cutting of the wrapper on the same, means for moving the wrapper support into another position when it is desired to deliver a wrapper and a device for mechanically engaging the wrapper and removing it from the face of the wrapper support.

2. The combination of means for supporting a wrapper in position to be cut, means for cooperating with the said supporting means for effecting the cutting of the wrapper while on the said supporting means, means for swinging the wrapper supporting means into a position where it will deliver the wrapper and a device for mechanically engaging the wrapper for removing the wrapper from its supporting means.

3. The combination of a suction tube or chamber 9 adapted to rotate on an axis extending longitudinally thereof, a wrapper support carried by the said tube or chamber and adapted to support a wrapper in position to be cut, means for effecting the cutting of the wrapper while on the wrapper support, means for effecting the rotation of the tube or chamber to position the wrapper support for delivering a wrapper and mechanical means for removing the wrapper from the wrapper support.

4. In a machine for cutting wrappers, the combination of a cutting die, means for cooperating therewith to effect the cutting, a follower at the face of the die, means for moving the die after the cutting is accomplished and lost motion means for effecting the separation of the follower from the face of the die at the beginning of the return motion.

5. The combination of a wrapper support with air suction means for holding the wrapper to the face of the said support, means for effecting the cutting of a wrapper while the leaf is on the said support and mechanical delivery means carried by the suction support and independent of the operation of the air suction means for effecting the delivery of the wrapper from the face of the wrapper support.

6. The combination of a wrapper support with suction mechanism connected therewith adapted to subject a leaf placed upon the support to the stress of the air suction, means for effecting the cutting of a wrapper while the said wrapper is on the said support and a movable follower carried by the suction wrapper support and adapted to remove the wrapper from the wrapper support.

7. The combination of a suction wrapper support, means for effecting the cutting of the wrapper while the said

wrapper is on the said support and a follower at the face of the said wrapper support and adapted to be moved to cause the delivery of the wrapper from the said suction wrapper support.

8. The combination of a suction wrapper support, cutting means for cutting a wrapper thereon a follower at the face thereof, means for moving the suction wrapper support into a delivery position and means actuating the follower for delivering the wrapper.

9. The combination of a suction wrapper support, means for cutting a wrapper while on said support a follower at the face of said support, means for moving the suction wrapper support and for actuating the follower to effect the delivery of the wrappers and a suitable receptacle for receiving the said wrappers and storing them in a pile.

10. The combination of a suction wrapper support, with cutting means for cutting a wrapper while on said support, a follower plate at the face thereof, and means for moving the follower plate away from the face of the wrapper support.

11. The combination of a wrapper support, wrapper cutting means for cutting the wrapper while it is on the support, a follower plate at or near the face thereof, the said follower plate adapted to contact with the wrapper and to intervene at the time of the cutting operation between the face of the wrapper support and the leaf to be cut.

12. The combination of a wrapper support, wrapper cutting means for cutting the wrapper while it is on the support, a movable plate at the face thereof, the said movable plate being so located as to contact with the leaf while it is being cut.

13. The combination of a suction wrapper support with cutting means adapted to cooperate therewith to effect the cutting of the wrapper and a follower plate at the face of the suction wrapper support and adapted to effect the mechanical delivery of the wrapper.

14. The combination of a movable wrapper support, means for effecting the cutting of a wrapper while the leaf is on the said support, means for maintaining the wrappers in a pile and means for transporting the wrapper support after the wrapper has been cut to the position where the wrappers are to be piled and means for delivering the wrappers directly from the support to the pile.

15. The combination of the movable perforated suction carrier, the follower connected with said carrier and having perforations in registry with those of the carrier, means for normally keeping the follower against the carrier, and means, brought into operation by the movement of the carrier, for separating the follower from the carrier to release the article previously held by suction.

16. The combination of the perforated suction carrier, the follower having perforations arranged to register with those of the carrier, and means for separating the follower from the carrier to release the article previously held by suction.

17. The combination of a movable wrapper support, means for effecting the cutting of a wrapper while the leaf is on the said support, means for maintaining the wrappers in a pile and means for transporting the wrapper support after the wrapper has been cut to the position where the wrappers are to be piled and mechanical delivering means carried by the wrapper support and adapted to deliver the wrapper from the wrapper support independently of the air suction.

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Witnesses:

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