

No. 794,467.

PATENTED JULY 11, 1905.

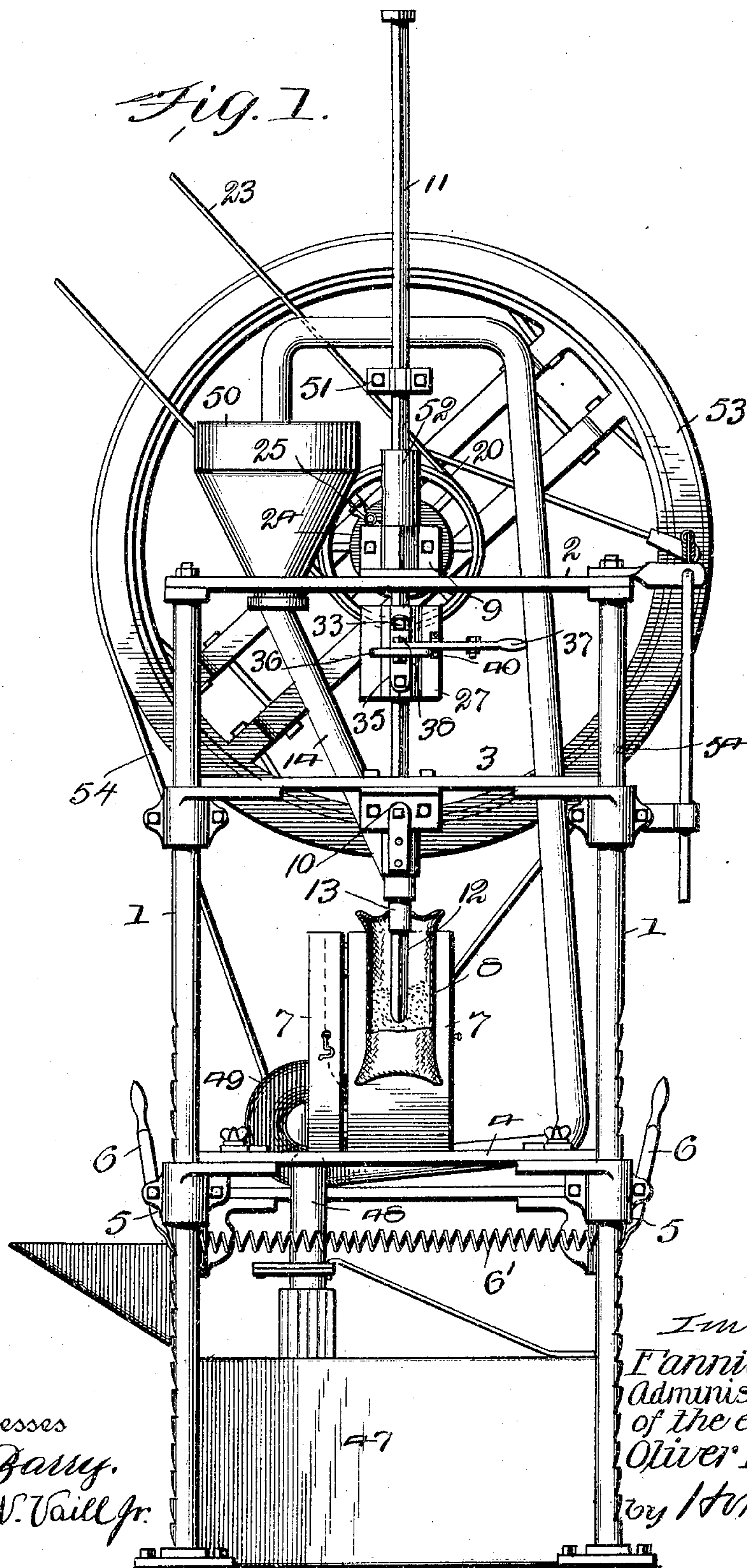
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MACHINE FOR STUFFING CUSHIONS.

APPLICATION FILED DEC. 12, 1904.

2 SHEETS—SHEET 1.



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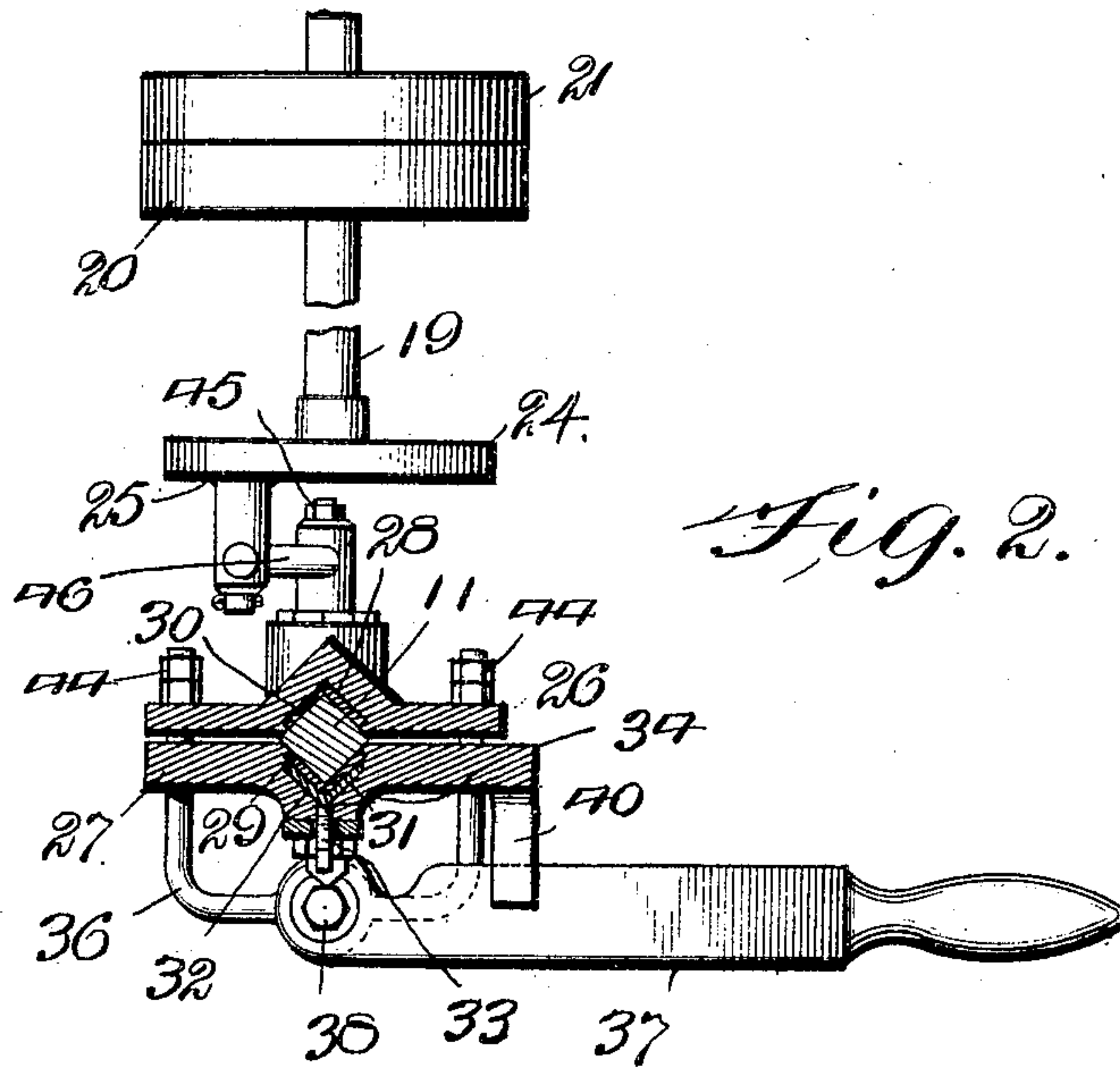
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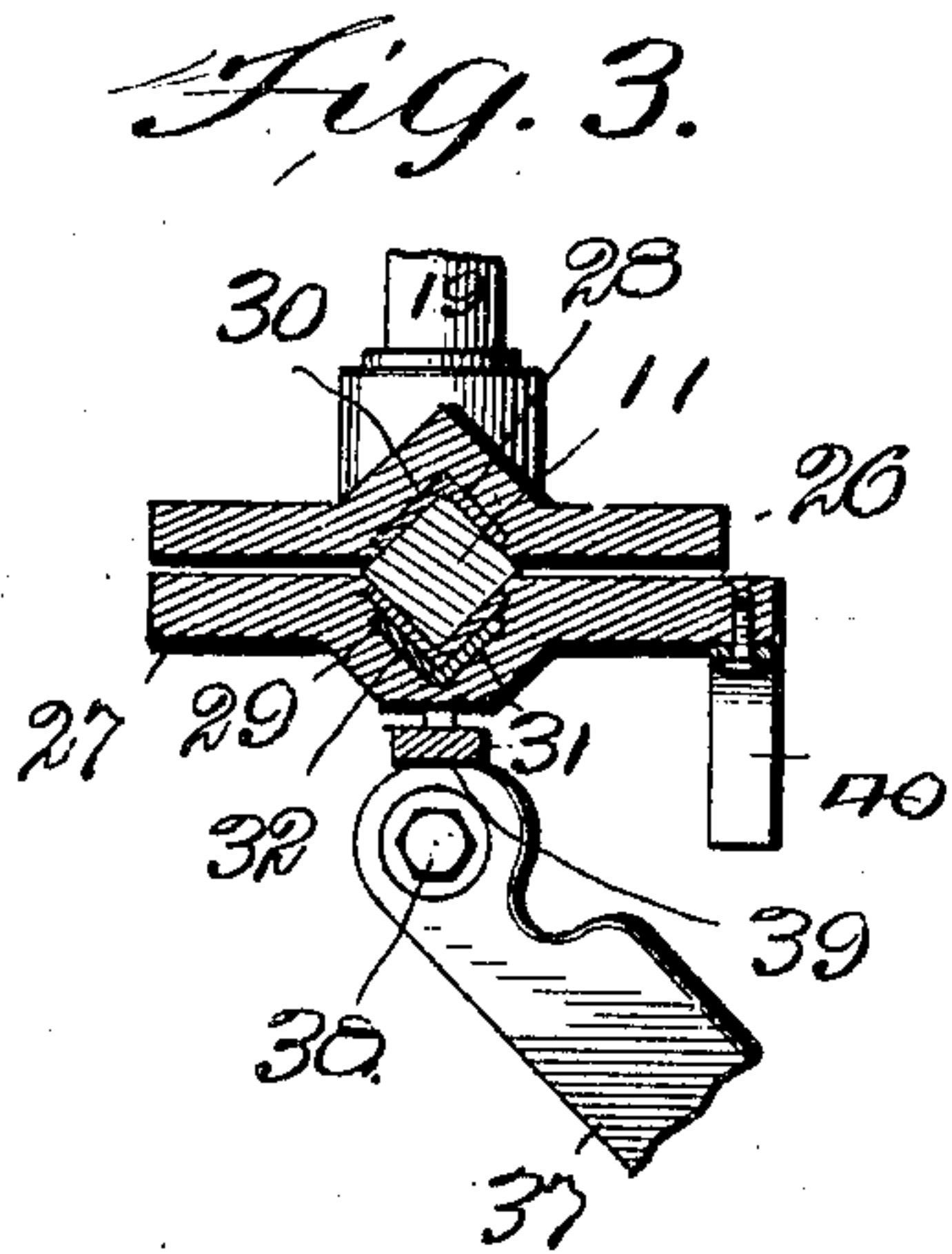
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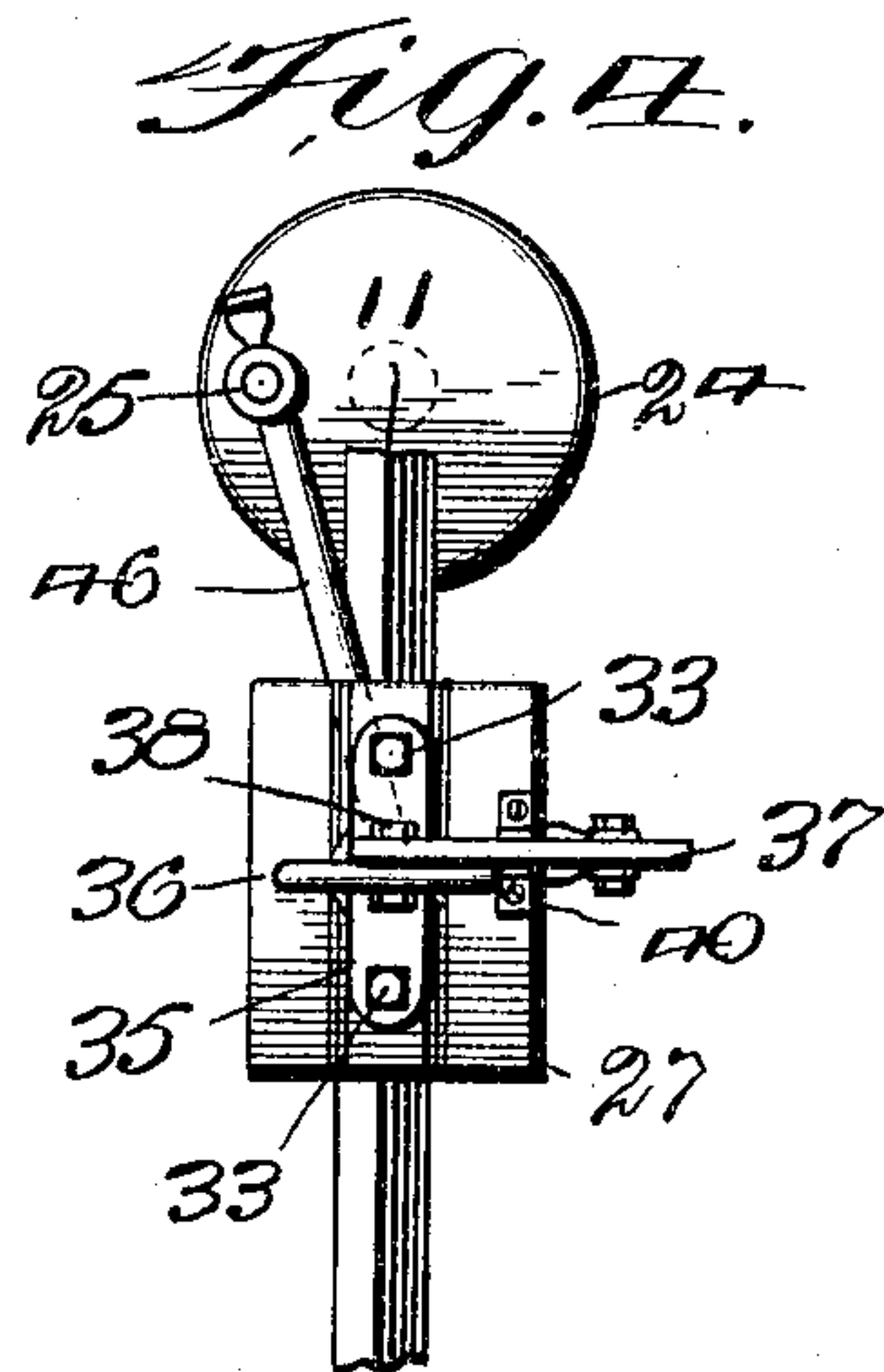
2 SHEETS—SHEET 2.



*Fig. 2.*



*Fig. 3.*



*Fig. 4.*

Witnesses  
*J. C. Barry.*  
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by

*Inventor*  
*Fannie C. Roop*  
*Administratrix*  
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# UNITED STATES PATENT OFFICE.

FANNIE C. ROOP, OF PHILADELPHIA, PENNSYLVANIA, ADMINISTRATRIX  
OF OLIVER ROOP, DECEASED.

## MACHINE FOR STUFFING CUSHIONS.

SPECIFICATION forming part of Letters Patent No. 794,467, dated July 11, 1905.

Application filed December 12, 1904. Serial No. 236,422.

*To all whom it may concern:*

Be it known that OLIVER ROOP, deceased, having been a citizen of the United States, and a resident of the city of Philadelphia, State of Pennsylvania, did invent certain new and useful Improvements in Machines for Stuffing Cushions, of which I, FANNIE C. ROOP, administratrix of the estate of said OLIVER ROOP, make the following full, clear, and complete disclosure.

The object of the invention is to provide a machine for stuffing cushions and similar articles that will be efficient in action, simple in construction, and at the same time making a saving in the time usually required and will effect a saving in the labor expended.

Briefly, the invention comprises a rammer or plunger which is adapted to pack the filling material firmly within the bag or cushion-cover, said plunger being so arranged that as the bag or cover fills the same will yield and have a continuous upward movement in addition to this reciprocating movement, so that the filling material will be packed evenly for the entire length of the body of the cushion.

The invention also comprises means for feeding the filling material into the bag or casing, so that the same may be continuously acted upon by the rammer or plunger. For a full, clear, and exact description of this form of the invention reference may be had to the following specification and to the accompanying drawings, forming a part thereof, in which—

Figure 1 is a front elevation of the improved machine complete. Fig. 2 is a transverse sectional view of the means for reciprocating the plunger or rammer vertically. Fig. 3 is a transverse sectional view of the plunger or rammer and also of the clamp engaging the same, showing the means for causing and removing the pressure between the parts of the clamp and the plunger; and Fig. 4 is an elevation showing the details of the means for reciprocating the spindle.

Referring to the drawings, the numeral 1 indicates a series of uprights or posts which form the vertical members of a rectangular frame for supporting the parts of the im-

proved machine. These uprights are connected at suitable points by horizontal bars 2 and 3, which hold the uprights 1 in their relative positions and form supports for the bearings, &c., of the revoluble parts of the machine. The supports 1 at the front of the machine are also engaged by a vertically-adjustable table 4, which is supported upon sleeves 5, the latter being retained adjustably in position by means of the hand-operated spring-pawls 6. The table 4 is adapted to support and carry a suitable mold 7, which is preferably made in the form of two hinged parts the inner sides of which have recesses which are substantially the shape of the main body portion of the cushion 8 which is being filled with the material.

Carried by one of the upper horizontal bars or supports 2 is a vertical bearing 9, and attached to the lower side of the horizontal bar 3 is another vertical bearing 10. Through these bearings pass an angular bar 11, preferably square in cross-section. Said rod is adapted to project downwardly into the recesses of the mold 7 and into the cushion-casing 8, thereby forming a plunger or rammer, as indicated at 12. The lower end of the bearing is somewhat reduced in external diameter, as indicated at 13, to allow the end of the cushion-cover 8 to be attached thereto. The interior of the bearing 10 is somewhat enlarged and communicates with a feed-pipe 14 for the purpose of supplying the filling material to the interior of the bag or cushion cover 8. In order to firmly pack the filling material within the cushion or cover 8, the rod 11, and therefore its lower end forming the rammer 12, is reciprocated vertically, and the filling, such as sawdust or other granular material, is inserted into the cushion. The means for providing this reciprocating motion is described as follows: Upon the transverse bars or supports 2 are placed suitable bearings 18, through which pass a horizontal shaft 19. The shaft 19 carries intermediate of its ends fast and loose pulleys 20 and 21, respectively, which are adapted to be engaged by a driving-belt 23. The forward end of the shaft 19 has rigidly



attached thereto a crank-disk 24, from which projects a suitable crank-pin 25. The crank-pin 25 is connected with the vertical reciprocating rod 11 in the following manner: Two  
 5 separable jaws or plates 26 and 27 having V-shaped grooves 28 and 29 therein are adapted to embrace said rod 11, the groove 28 being provided with a recess, in which is retained a  
 10 facing of fiber 30 or other suitable frictional material. The groove 29 on the plate or jaw 27 is provided with a similar recess, in which is first placed an L-shaped plate 31 and also a  
 facing 32 of fiber or other similar material.

As means for adjusting the relation of the  
 15 L-shaped plate 31 in relation to the jaw 27 I provide screws 33 at the upper and lower ends of said jaw 27. These screws pass through low boxes or projections 34, upon which rests a spring-plate 35. Passing through suitable  
 20 openings in the jaws 26 and 27 is a U-shaped bar or support 36, to which is pivoted a cam-lever 37 by means of a bolt or other bearing 38. The cam-lever 37 has a slightly-flattened  
 25 portion 39, which is adapted to bear against the central portion of the plate 35 when the lever is pulled outwardly in a position shown in Fig. 3. When the said lever 37 is pushed  
 inwardly, the more rounded portion of the end thereof will force the plate 35 inwardly,  
 30 and thereby cause the jaw 27 to engage the rod 12 with suitable pressure.

As means for holding the lever 37 in its operative position are provided spring-jaws 40, which are fastened to the plate 27 and frictionally engage the lever 37 when the same is  
 35 forced inward. When the lever 37 is in its inner position, the requisite pressure will be maintained between the jaws 26 and 27 and the rod 11. As means for maintaining the  
 40 support 36 in engagement with the jaws 26 the usual set-nuts 44 are provided. From the rear of the jaw 26 projects a stud or bearing 45, which is connected with the crank-pin 25 on the disk 24 by means of a link or pitman 46.

It will now be seen that as the shaft 19 is rotated the crank-disk 24 will also be rotated therewith, which will communicate a reciprocating motion to the jaws 26 and 27 through  
 45 the crank-pin 25, the pitman 46, and bearing 45.

The means for supplying the filling to the bag or cushion-casing 8 comprises the following parts: Beneath the machine is placed a box or reservoir 47, into which projects a conduit  
 55 or pipe 48, which connects with a centrifugal blower 49. The pipe 48 continues through said blower and enters a hopper 50. The lower end of the hopper 50 is attached to the pipe or conduit 14, which connects at its lower end  
 60 with the interior of the bearing 10. The centrifugal blower 49 is driven through the means of a suitable pulley 53, carried by the shaft 19, and by the driving-belt 54. Carried by the rod 11 is an adjustable stop 51, which is adapted  
 65 to engage with the upper end of an elastic

cushion or bushing 52, of rubber or similar material, which rests upon the bearing 9. This cushion is adapted to form a yielding stop for the rod 11 when the jaws of the clamp are released and said rod thereby allowed to  
 70 drop, so that the plunger or rammer 12 may be brought into the lower portion of the bag or casing 8.

The operation of the parts of the improved machine as thus described is as follows: Assuming that the bag or cushion 8 has been  
 75 placed in position within the mold 7 and the parts thereof closed and the opening in the casing 8 has been placed about the lower end of the bearing 10, the lever 37 is then forced  
 80 inwardly, which will produce the required pressure to cause the facings 30 and 32 to frictionally engage the surfaces of the rod 11. The machine is then started by causing the belt 23 to be shifted unto the fast pulley 20.  
 85 The rotation of the shaft 19 will then cause the jaws 26 and 27, which embrace the rod 11, to reciprocate vertically. As the blower 49 is now also in operation, the filling material will be withdrawn from the reservoir 47 and  
 90 carried into the hopper 50, from whence it will pass through the pipe 14 into the interior of the bearing 10 and thence through the lower end thereof into the interior of the bag or casing 8 through the space between  
 95 said bearing and the sides of the plunger or rammer 12. The filling material will therefore be continuously fed to said bag or casing and as the rammer 12 reciprocates will be firmly packed into position. As the bag  
 100 or casing 8 fills it is obvious that the portion of the filling material to be rammed into position reaches a higher and higher level within the bag or casing; but the rammer is accommodated to this change in level by reason of  
 105 the fact of the frictional engagement of the reciprocating jaws 26 and 27 with the rod 11—that is to say, when the rammer 12 strikes the material within the casing 8 with a force above  
 110 a certain amount the rod 11 will slide within said jaws and assume a reciprocating position slightly higher than its previous one, and as the casing fills the position of the rammer 12 will be constantly changed until the said casing is sufficiently filled.  
 115

It will thus be seen that after the machine is once started the filling material is automatically supplied to the interior of the casing and rammed home without any further manipulation, thus providing a hard, firm, and  
 120 even packing for the cushion or other article which is being manufactured.

Having thus described one form of this invention, it will be seen that a machine has been produced which after once being started  
 125 is automatic in its action and causes the material to be placed within the casing or bag and rammed or packed into position with a minimum of time and labor and with the best result in the finished product; but it will also  
 130



be obvious that certain changes may be made in the form and arrangement and proportion of parts and mechanical equivalents may be substituted without departing from the spirit and scope of the invention; but

What is claimed, and desired to be protected by Letters Patent of the United States, is—

1. In a filling and packing machine, the combination with a reciprocating plunger or rammer, means for giving a positive downward thrust to said rammer, and means for allowing the recession of said rammer as the material in the receptacle being filled ascends in height.

2. In a filling and packing machine, the combination with a reciprocating plunger or rammer, means for positively reciprocating said plunger or rammer in both directions, a connection between said reciprocating means and rammer, including frictionally-engaging parts for allowing the recession of said rammer as the material in the receptacle being filled reaches a higher point.

3. In a filling and packing machine, the combination with a reciprocating plunger or rammer, a slidable clamp frictionally engaging said plunger or rammer and means for reciprocating said clamp.

4. In a filling and packing machine, the combination with a reciprocating plunger or rammer, of a plurality of jaws engaging said rammer frictionally, means for adjusting the pressure between said jaws and said rammer and means for reciprocating said jaws.

5. In a filling and packing machine, the combination with a reciprocating plunger or rammer, of a pair of jaws engaging said rammer, means for drawing said jaws together and means for reciprocating said jaws.

6. In a filling and packing machine, the combination with a reciprocating plunger or rammer, of a pair of jaws embracing said plunger, means for yieldingly and adjustably drawing said jaws together and means for reciprocating said jaws.

7. In a filling and packing machine, the combination with a plunger or rammer, a slidable clamp frictionally engaging said rammer and a crank and pitman connected with said clamp for reciprocating the same.

8. In a filling and packing machine, the combination with a plunger or rammer, of jaws embracing said rammer, connections between said jaws, and means for drawing said jaws together with spring tension and to release

the engagement between said jaws and rammer.

9. In a filling and packing machine, the combination with the plunger or rammer, of jaws inclosing said rammer, a support carried by one of said jaws, a rammer pivoted upon said support, a spring-plate carried by the other of said jaws and adapted to engage said rammer for varying the pressure between said jaws and said rammer.

10. In a filling and packing machine, the combination with a plunger or rammer, a pair of jaws frictionally engaging said plunger or rammer, said jaws having contact-faces of fibrous material, means for varying the pressure between said contact-faces and said plunger, and means for reciprocating said jaws.

11. In a filling and packing machine, the combination with the plunger or rammer, of a hollow bearing, said bearing being open at its lower end and means for supplying the filling material to said bearing.

12. In a filling and packing machine, the combination with a plunger or rammer, of a sleeve surrounding the same, said sleeve being open at one end and means for supplying filling material to the interior of said sleeve.

13. In a filling and packing machine, the combination with a plunger or rammer, of a sleeve surrounding the same and adapted to have the article to be filled attached thereto and means for supplying filling material to the interior of said sleeve, said sleeve having communication at one end with the article to be filled.

14. In combination with a filling and packing machine, an angular plunger or rammer, a sleeve or bearing surrounding the same and open at one end, said sleeve being adapted to have the article to be filled attached thereto and means for supplying the filling material to the interior of said sleeve.

15. In combination with a filling and packing machine a reciprocating plunger or rammer therefor, a stop carried by said rammer and an elastic cushion adapted to be engaged by said stop.

In witness whereof I have hereunto set my hand this 7th day of December, A. D. 1904.

FANNIE C. ROOP,

*Administratrix of the estate of Oliver Roop, deceased.*

Witnesses:

GEO. A. WILLMANNNS,

EDW. W. VAILL, Jr.