

No. 711,882.

Patented Oct. 21, 1902.

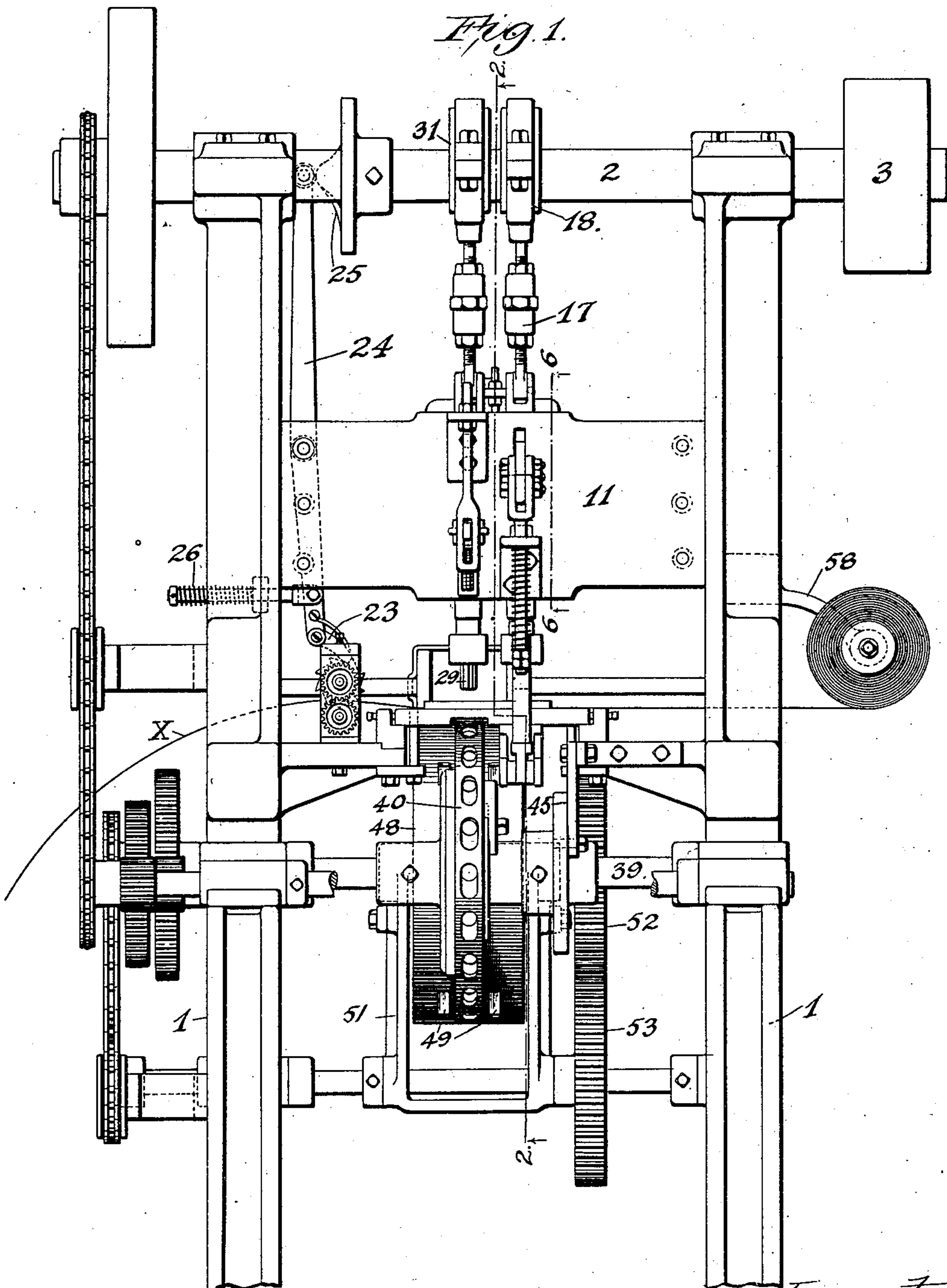
H. D. SEEKAMP & A. H. HAMPE.

MACHINE FOR FORMING AND APPLYING TAGS ON PLUG TOBACCO.

(Application filed Oct. 30, 1901.)

(No Model.)

4 Sheets—Sheet 1.



Attest
Jm H. Scott
Clerk

Inventors.
Herman D. Seekamp
Albert H. Hampe
by *Bakerwell & Cornwall*
Attys.

No. 711,882.

Patented Oct. 21, 1902.

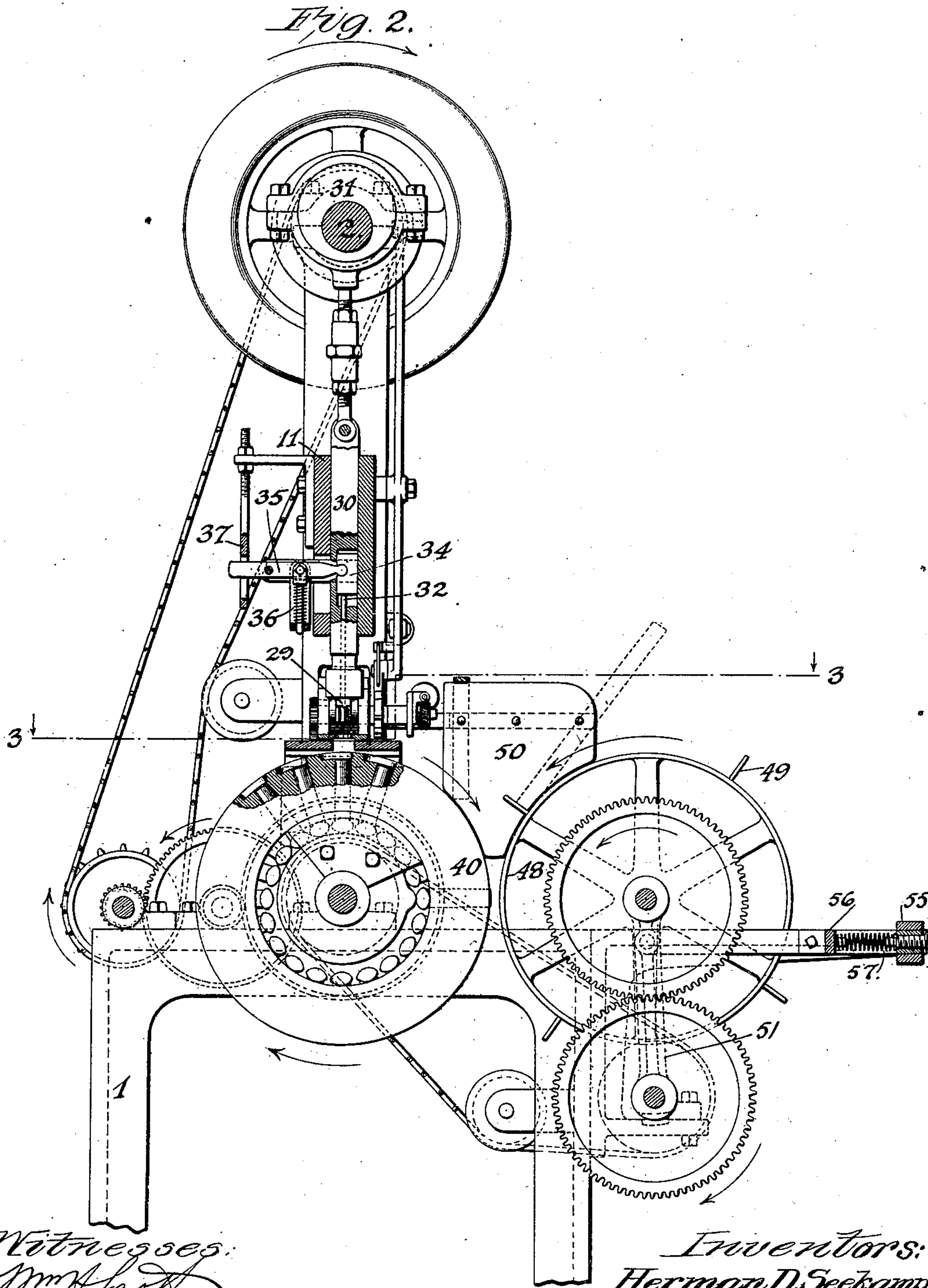
H. D. SEEKAMP & A. H. HAMPE.

MACHINE FOR FORMING AND APPLYING TAGS ON PLUG TOBACCO.

(Application filed Oct. 30, 1901.)

(No Model.)

4 Sheets—Sheet 2.



Witnesses:
J. H. Scott
George B. Kewell

Inventors:
Herman D. Seekamp,
Albert H. Hampe,
by B. Kewell & Cornwall
Attys.

No. 711,882.

Patented Oct. 21, 1902.

H. D. SEEKAMP & A. H. HAMPE.

MACHINE FOR FORMING AND APPLYING TAGS ON PLUG TOBACCO.

(Application filed Oct. 30, 1901.)

(No Model.)

4 Sheets—Sheet 3.

Fig. 3.

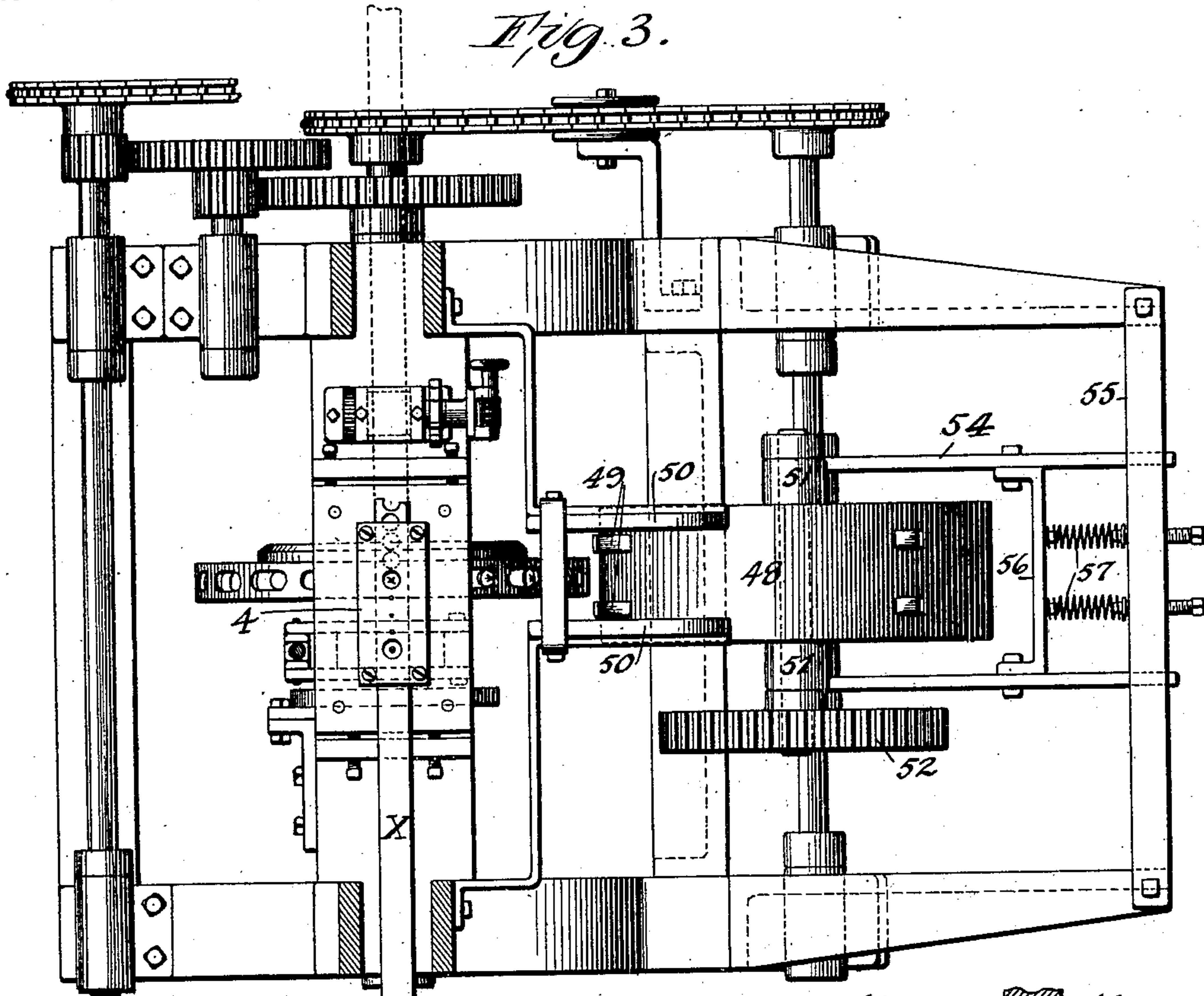


Fig. 4.

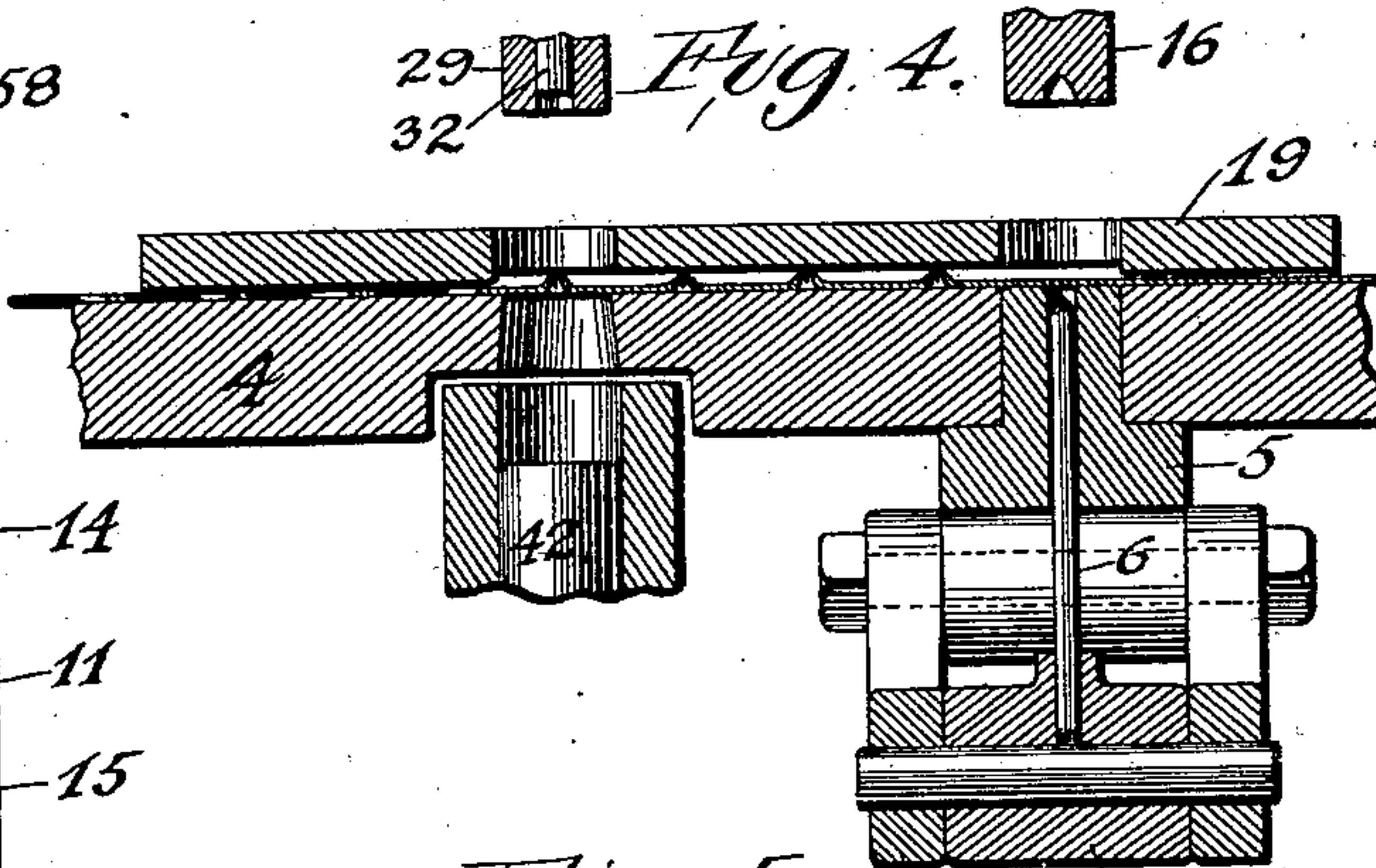


Fig. 6.

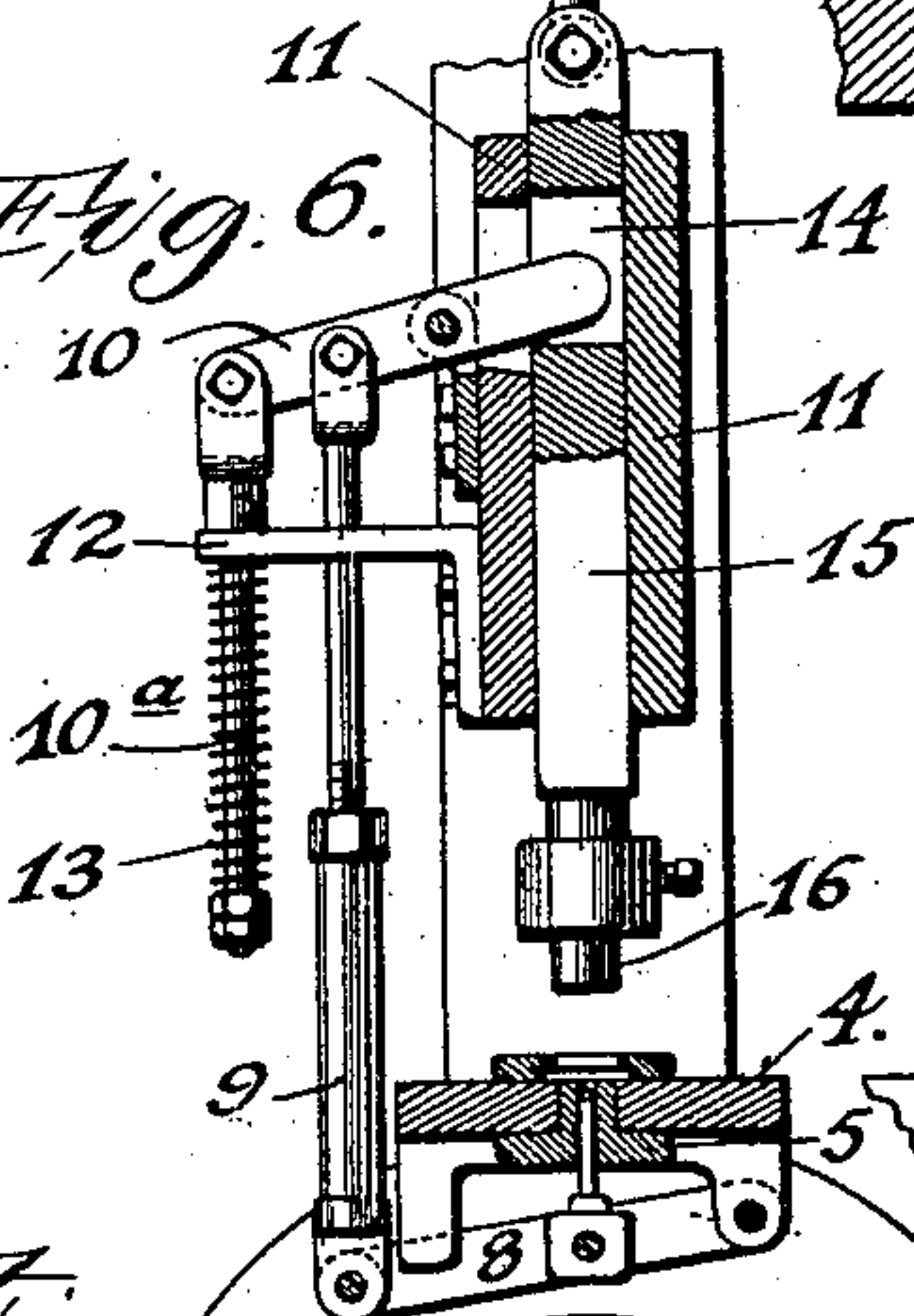
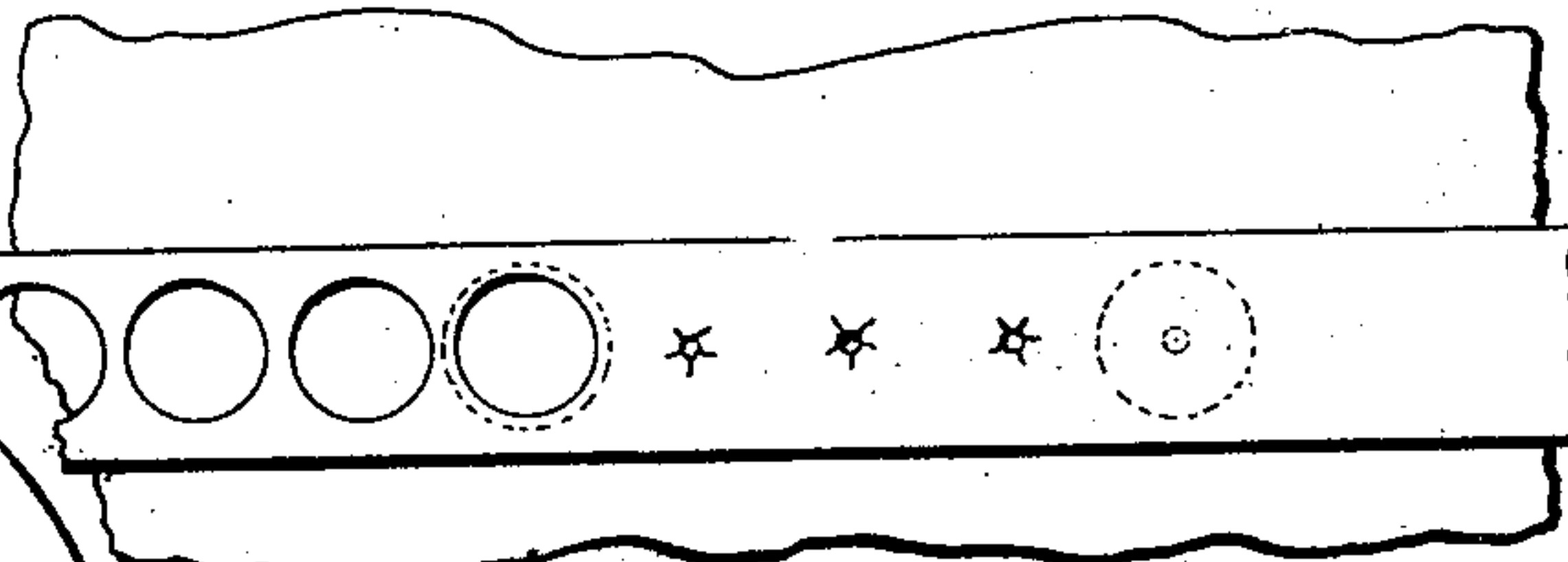


Fig. 5.



Attest:
Wm. H. Ford
George Bakewell

Inventors:
Herman D. Seekamp,
Albert H. Hampe,
by Bakewell & Cornwall Attys

H. D. SEEKAMP & A. H. HAMPE.

MACHINE FOR FORMING AND APPLYING TAGS ON PLUG TOBACCO.

(Application filed Oct. 30, 1901.)

(No Model.)

4 Sheets—Sheet 4.

Fig. 7.

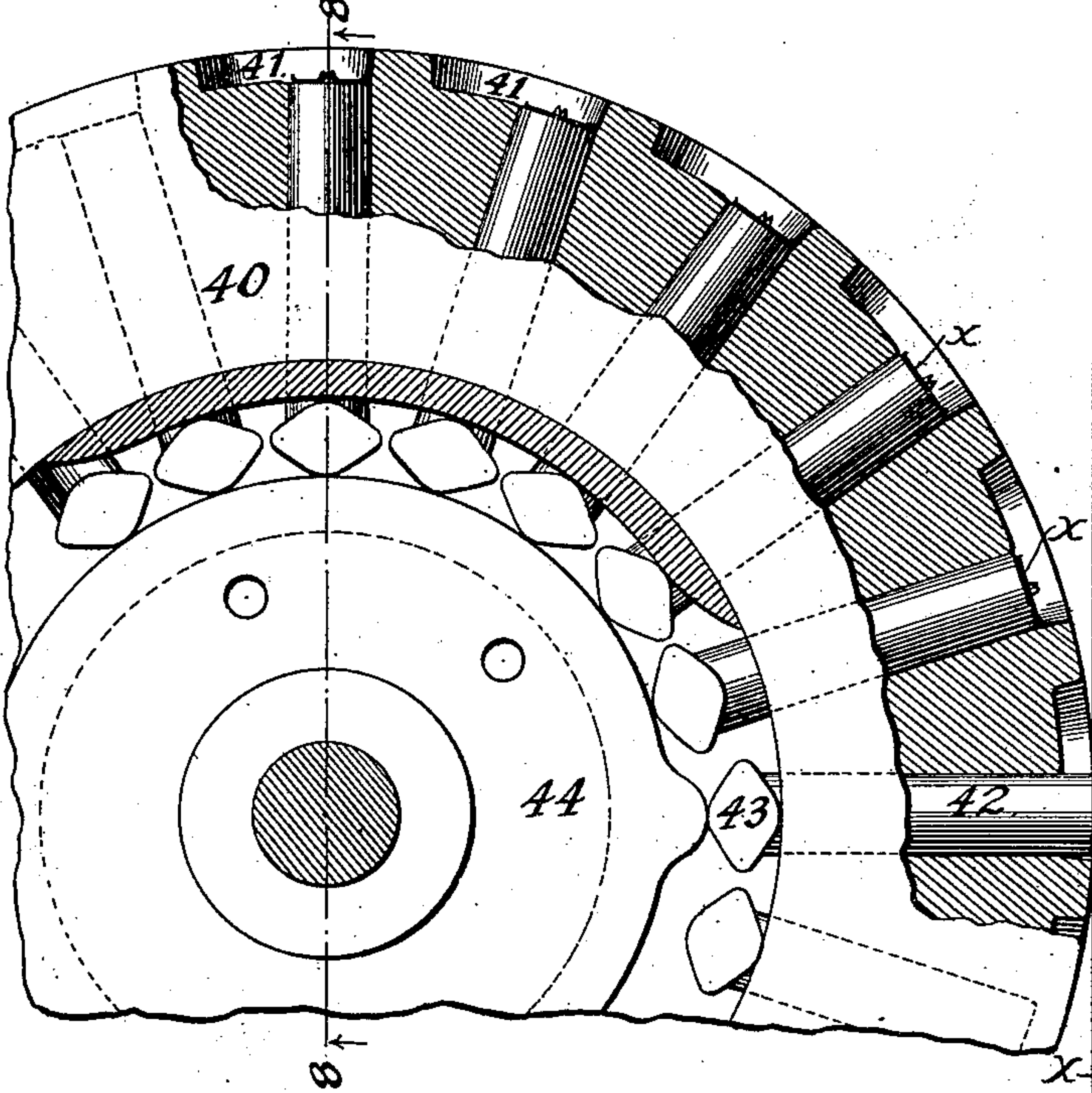


Fig. 8.

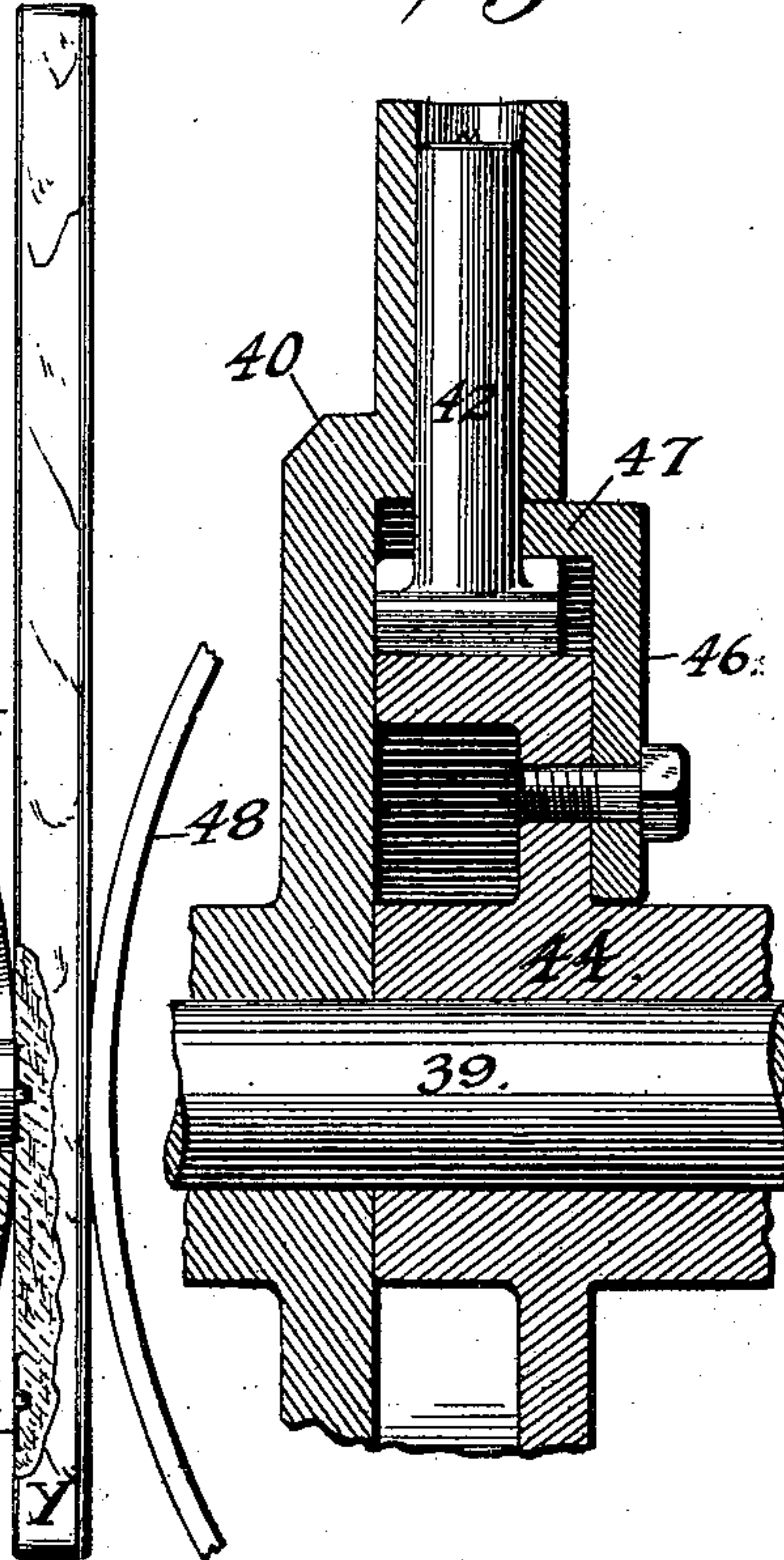


Fig. 9.

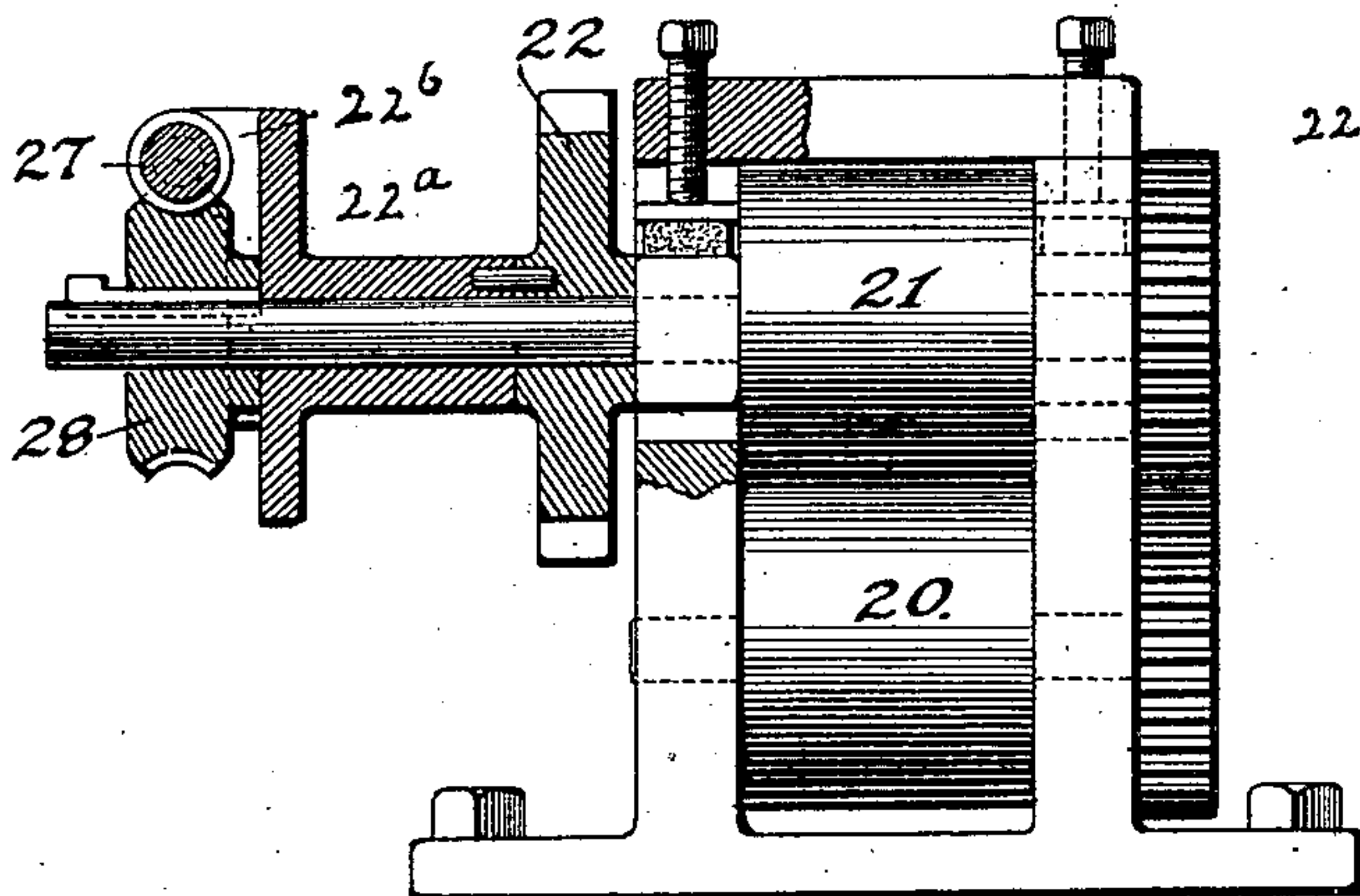
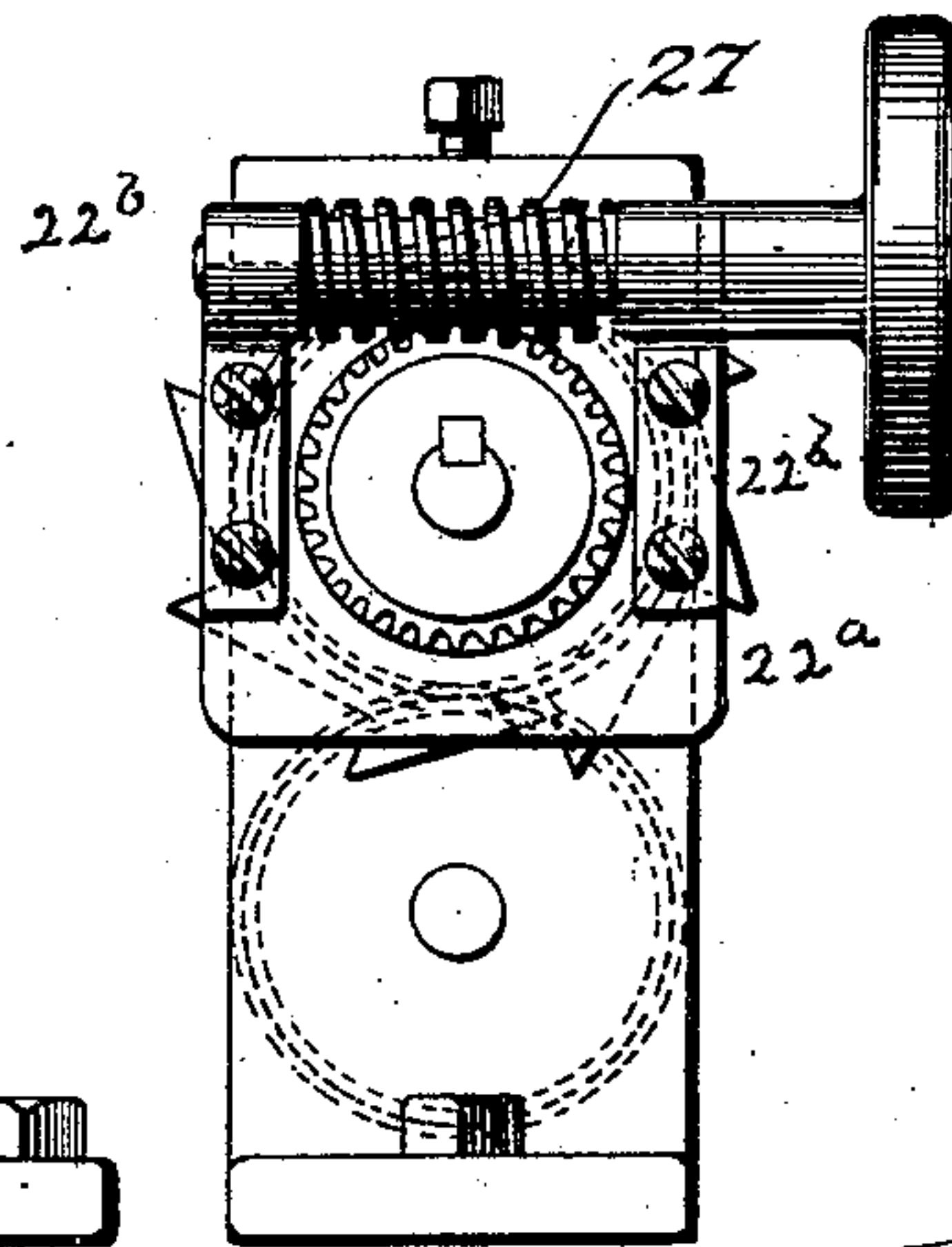


Fig. 10.



Attest:
J. M. A. C. H.
George F. Bakerwell

Inventors:
Herman D. Seekamp,
Albert H. Hampe,
by Bakerwell & Cornwell
Attys

UNITED STATES PATENT OFFICE.

HERMAN D. SEEKAMP AND ALBERT H. HAMPE, OF ST. LOUIS, MISSOURI,
ASSIGNORS TO WILLIAM F. LITTLE AND SAID SEEKAMP, OF ST. LOUIS,
MISSOURI.

MACHINE FOR FORMING AND APPLYING TAGS ON PLUG-TOBACCO.

SPECIFICATION forming part of Letters Patent No. 711,882, dated October 21, 1902.

Application filed October 30, 1901. Serial No. 80,521. (No model.)

To all whom it may concern:

Be it known that we, HERMAN D. SEEKAMP and ALBERT H. HAMPE, citizens of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Machines for Forming and Applying Tags on Plug-Tobacco, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevational view of our improved machine. Fig. 2 is a sectional view approximately on line 2 2, Fig. 1. Fig. 3 is a horizontal sectional view on line 3 3, Fig. 2. Fig. 4 is an enlarged sectional view through the die-block, showing the lower ends of the plungers thereabove. Fig. 5 is a plan view showing the blank in position upon the die-block. Fig. 6 is a sectional view on line 6 6, Fig. 1. Fig. 7 is a detail view showing manner of applying punched tags to the plug of tobacco. Fig. 8 is a sectional view on line 8 8, Fig. 7. Fig. 9 is a side elevational view, partly in section, of the feeding-rollers. Fig. 10 is an end elevational view of said feeding mechanism, showing the manner of adjusting the blank with respect to the die-punches.

This invention relates to a new and useful improvement in a machine for forming and applying tags to plug-tobacco, the primary object being to perform the two operations in a single machine, the punched tags being applied to the plug of tobacco with their feathered edges inwardly.

The tag-blanks are usually made in strips and sometimes contain emblems or printed matter at intervals, which are to appear on each tag. Due to irregularities in the printing of these emblems they are not uniformly spaced apart, and means must be provided for compensating for these differences while the machine is in operation, and one of the objects of my invention is to do this in a simple and effective manner. Where no special emblem or printed matter is to appear on a tag, the feeding mechanism of the blank can

be so adjusted as to most advantageously punch the tag.

In the punching of the tag the blank is operated upon at intervals, the attaching-bur being first bent or produced and the burred tag being then punched from the blank, or, if the tag is to have attaching-legs, the tag is punched and the legs bent at right angles thereto, as will be well understood. The formed tag is then delivered onto a carrier, and when opposite a plug of tobacco which is fed into the machine a plunger forces the tag onto the face of the plug of tobacco, the plug receiving the desired number of tags, after which it is discharged from the machine.

Our invention consists in the construction, arrangement, and combination of the several parts, all as will hereinafter be described, and afterward pointed out in the claims.

In the drawings, 1 indicates the side frames, which are connected together at appropriate points by suitable cross-pieces.

2 indicates the main driving-shaft of the machine, upon one end of which is arranged a pulley 3. This shaft also carries two eccentrics for operating the plungers, a side-face cam for operating the feed mechanism, and a sprocket over which passes a chain for driving the tag-carrier, which in turn imparts motion to the plug-support in the form of a platen-drum.

4 indicates a die-block supported by the side framing in an appropriate manner, said die-block being provided with a plurality of openings, through which operate appropriate plungers. Referring now to Figs. 3, 4, and 6, it will be observed that one of these openings contains a bushing 5, through which operates a bur-forming rod 6, said rod being carried by a block 7, swung between two levers 8, which are pivotally mounted under the die-block. These levers have their outer ends connected to a link 9, said link being preferably composed of sections, whereby its length may be adjusted. The upper end of link 9 is connected to a lever 10, pivoted to a cross-framing plate 11. The outer end of lever 10 carries a rod 10^a, which passes through a bracket 12, the lower end of said rod having

a head or enlargement, which may be formed by nuts, between which and the bracket 12 is introduced a spring 13. By using nuts the tension of the spring may be regulated, the said tension locking the nut against which the spring is seated in position.

The inner end of lever 10 is received by a slot 14 in a plunger 15, said plunger carrying at its lower end the usual head, in which is arranged a forming-die 16. This forming-die, as shown in Fig. 4, is recessed in its under face and in operation is designed to contact with the blank to hold the same in position while the bur-forming rod 6 pierces the blank for the purpose of forming the bur. Plunger 15 is connected by an adjustable link 17 to a cam-strap arranged on a cam 18, carried by the shaft 2. By this construction it will be obvious that as the shaft 2 is operated the plunger 15 is reciprocated, its downward movement permitting, by reason of the length of the slot 14, the bur-forming rod to remain stationary. As the die 16 is approaching the blank plunger 15 engages the inner end of lever 10 and forces the bur-forming rod 6 upwardly and with it the blank to a slight extent, because the die 16 has been descending and will engage the blank to hold it while the bur-forming rod 6 is performing its operation of piercing the blank. As the plunger 15 rises the spring 13 causes the rod 6 to descend until a shoulder on the rod 10^a comes in contact with the bracket 12, arresting the movement of the parts. The plunger 15 now continues its upward movement, and during this idle movement of the plunger the feeding mechanism operates to advance the blank a predetermined distance. In order to prevent the blank, which is indicated at X, from following the plunger 15, we provide a stripping-plate 19, which stripping-plate is arranged above the blank and perforated for the passage of plunger 15.

The blank referred to above is operated upon by an attachment arranged to one side of the die-plate, and this attachment consists of two rollers 20 and 21, (see Fig. 9,) which are geared together, the upper roller 21 being preferably held in yielding contact with the blank by means of set-screws, between which and the bearing-box of the roller are interposed springs or rubber cushions. One of these feed-rollers—as, for instance, roller 21—has a ratchet 22 locked to its shaft, which ratchet coöperates with a pawl 23 on the lower end of a lever-arm 24, said lever-arm being preferably pivoted to the bearing-plate 11 and bearing at its upper end against a side-face cam 25, mounted upon the shaft 2. A spring 26 is employed for retracting the lower end of the lever-arm in order that the pawl may engage a different tooth at each vibration of the lever-arm.

Where emblems or printed matter appear on a blank, it is desirable that the plungers operate upon the blank at proper places, and in order to adjust the feed of the blank we

conjoin a flanged collar 22^a to the ratchet-wheel 22, mounted in bearings 22^b, upon the flange of which is arranged a hand-operable screw 27. This screw 27 meshes with a worm 28, keyed to the shaft of roller 21. By turning the screw 27 the ratchet may be circumferentially adjusted with respect to the roller 21, and as the stroke of the pawl is the same at every operation it follows that the adjustment of the ratchet will cause the feed-roller 21 to advance the blank or permit said blank to lag, depending upon whether it is desired to affect a forward or backward adjustment of the blank with respect to the dies.

29 indicates a tag-forming die which passes through an opening in the stripping-plate and punches the blank, forcing the tag through the die-plate and onto the die-carrier. This shaping-die is arranged upon the lower end of the plunger 30, (see Fig. 2,) which is operated through the medium of an adjustable link by an eccentric 31, arranged upon the driving-shaft 2. This shaping-die contains a stripping-rod 32, which stripping-rod is carried by a block 34, slidably arranged in the plunger 30. This block is mounted through the medium of a ball-and-socket joint upon the inner end of a lever 35, which lever is pivoted near its outer end to lugs extending from the plunger 30. The inner end of the lever is held upwardly by a spring 36. The outer end of the lever extends through a slot in the lower end of an adjustable post 37, mounted in a bracket on the framing-plate 11. The operation of this stripping-rod is as follows: As the plunger descends the rod and lever 35 are carried downwardly with the plunger, and just after the tag is punched by the die the continued downward movement of the plunger causes the lever 35 to contact with the bottom wall of the slot in the post 37. The outer end of lever 35 being arrested causes the stripping-rod 32 to be forced downwardly and strip the tag from the die. To facilitate the discharge of the tag through the opening in the die, the walls of said opening are preferably formed diverging, as shown in Fig. 4. The upward movement of the plunger will carry the outer end of lever 35 away from the bottom wall of the slot in the post and permit the spring 36 to restore the stripping-rod to its normal or retracted position.

39 indicates a shaft mounted in the side framing, which is driven by appropriate gearing. This shaft carries a flanged disk 40, in whose periphery are formed elongated pockets 41. Radial openings are formed in the flange of the disk, said openings communicating with one end of the pockets above mentioned.

42 indicates plungers arranged in these radial openings, said plungers being provided with lateral enlargements forming heads 43 on their inner ends. These plungers in a retracted position have their outer ends flush with the inner walls of the pockets 41.

44 indicates a stationary cam coöperating

with the plungers 42, said cam having a radial enlargement at one point, as shown in Fig. 7. This cam is preferably in the form of a disk which provides a bearing for the shaft 39. In order to hold the cam stationary, a plate 45 is arranged upon an inward extension in the side framing, as shown in Fig. 1.

46 indicates a plate screwed to the stationary cam and provided with a flange 47, extending inwardly under the flange of the disk 40 and coöperating with the outer faces of the plunger-heads to insure the retraction of said plungers as they approach the opening in the die-plate. The disk 40 is arranged so that its pockets 41 are successively brought under the opening in the die-plate, through which the formed tags are discharged, as shown in Fig. 4. The length of the pockets 41 serves to compensate for inequalities in the manufacture of the machine and play of the parts resulting from wear. It, however, is intended to have a pocket under the die-plate to receive the formed tags at each operation of the plunger 30, and as the disk is rotated these tags fall by gravity into one end of the pocket in line with the plungers, as shown in Fig. 7. A continued rotation of the disk forces the plungers outwardly, so that the tags in advance thereof are pressed into the plug of tobacco which is being fed between the disk 40, which for the sake of distinction will be termed the "tag-carrier," and a platen-roller, (marked 48 in the drawings.) The plug of tobacco is indicated at Y in Fig. 7, and the tags to be attached thereto are marked x.

48 indicates a platen-roller which is preferably of the same diameter as the tag-carrying disk 40 and is likewise driven at the same speed as said disk. This platen-roller carries peripheral supports 49, which are arranged in pairs, so as to pass on each side of the tag-carrying disk, said projections being sufficiently close together to support the plug of tobacco.

50 indicates wings between which the plug of tobacco is introduced onto projections 49.

As shown in Figs. 1, 2, and 3, the platen-roller is mounted in the end of a swinging yoke 51, said roller carrying a gear 52 on the end of the shaft, which meshes with a gear 53 on the shaft upon which the yoke is pivoted. In this manner, irrespective of the position of the free end of the yoke, the gears constantly remain in mesh.

54 indicates a frame connected at one end with the yoke and being mounted so as to slide through openings in a cross-piece 55 of the framing of the machine. This frame carries a cross-bar 56, between which and the cross-bar 55 are interposed springs 57, which force the platen-roller toward the tag-carrying disk.

58 indicates a bracket upon which is supported a roll of tag-blanks. Usually these blanks are made in short sections, and in or-

der to insure a continuous operation of the machine the ends of these pieces may be soldered or otherwise suitably attached together to form a long strip, which is wound upon a spool or mandrel, as is obvious.

The operation of the machine is evident from the foregoing description; but we will add that the two plungers operate simultaneously upon the blank, the bur being first formed, and as the feeding mechanism advances the blank step by step the tag-shaping die punches the completed tag out of the blank and puts it into one of the pockets in the tag-carrying disk. The disk rotates and gravity causes the tag to fall into one end of its pocket in line with the plunger. The plug of tobacco to be tagged is introduced between the platen and the tag-carrying disk, and when held firmly in position the tag-affixing plunger moves outwardly and presses the tag into the surface of the tobacco. Springs 57 hold the platen-roller against the tobacco, and their energies may be adjusted by regulating the tension of said springs. It will be observed that the feathered edge of the tag is presented upwardly in the pocket, and consequently when the tag is affixed to the tobacco this feathered edge is presented inwardly. The different mechanisms of the machine are so geared together that their operations occur at the proper time.

We are aware that many minor changes in the construction, arrangement, and combination of the several parts of our device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of our invention.

Having thus described our invention, what we claim, and desire to obtain by Letters Patent of the United States, is—

1. In an apparatus of the character described, the combination with a tag-forming mechanism, of a tag-carrier, and a plunger movably supported upon the tag-carrier for affixing the tag to a plug of tobacco; substantially as described.

2. In an apparatus of the character described, the combination with a tag-forming mechanism, of a tag-carrier, plungers in said tag-carrier for moving the tag outwardly onto a plug of tobacco, and a yielding platen; substantially as described.

3. In an apparatus of the character described, the combination with a tag-forming mechanism, of a carrier provided with pockets for the individual tags, a plunger arranged in the bottom of each pocket, and means for operating said plungers; substantially as described.

4. In an apparatus of the character described, the combination with a tag-forming mechanism, of a tag-carrying disk formed with pockets in its periphery, a portion of the bottom wall of said pockets being movable to force the tags onto a plug of tobacco; substantially as described.

5. In an apparatus of the character described, the combination with a tag-forming mechanism, of a disk provided with pockets in its periphery, into each of which is placed
5 a tag, the bottom wall of each of said pockets including a portion movable with relation to the disk, and a platen-roller between which and the tag-carrying disk the plug of tobacco is passed in receiving its tags; substantially
10 as described.

6. In an apparatus of the character described, the combination with a tag-forming mechanism, of a tag-carrying disk formed with pockets in its periphery, said pockets being
15 elongated in the direction of rotation of the disk, a plurality of plungers whose outer ends are normally flush with the bottom walls of their respective pockets, and a cam for coöperating with said plungers; substantially as
20 described.

7. In an apparatus of the character described, the combination with a tag-forming mechanism, of a tag-carrying disk provided with pockets in its periphery, said pockets
25 being elongated in the direction of rotation of said disk, a plunger for each pocket, whose outer end is normally flush with the bottom wall of its pocket, said plunger operating through the end of its pocket, means for rotating said disk, a cam for retracting said
30 plungers, and a cam for projecting said plungers; substantially as described.

8. In an apparatus of the character described, the combination with a tag-forming
35 mechanism, of a flanged disk formed with pockets in its periphery for receiving the stripped tags, plungers arranged in the flange of said disk, heads on the inner ends of said plungers, and a cam for operating with said
40 heads; substantially as described.

9. In an apparatus of the character described, the combination with a tag-forming mechanism, of a tag-carrier, and a platen-roller having supports for a plug of tobacco,
45 which supports straddle the tag-carrier; substantially as described.

10. In an apparatus of the character described, the combination with a tag-forming mechanism, of a tag-carrying disk, means carried by said disk for affixing the tags to a
50 plug of tobacco, a platen-roller provided with peripheral projections for receiving and supporting the plugs of tobacco, and guide-wing; substantially as described.

11. In an apparatus of the character described, the combination with a tag-forming mechanism, of a tag-carrying disk, means in
55 said disk for forcing the individual tags onto a plug of tobacco, a platen-roller provided with peripheral projections for supporting the plug of tobacco, a yoke in which said platen-roller is mounted, yielding means for forcing said platen-roller inwardly toward the
60 tag-carrying disk, and means for driving said tag-carrying disk and platen-roller at the same peripheral speed; substantially as described.

12. In an apparatus of the character described, the combination with a die-plate, of a plurality of tag-forming plungers which perform different operations upon the blank, and
70 means for causing said plungers to operate on said blank simultaneously; substantially as described.

13. In an apparatus of the character described, the combination with a die-plate over which the blank is fed, a bur-forming plunger, and a tag-cutting plunger, said plungers being operated simultaneously; substantially
80 as described.

14. In an apparatus of the character described, the combination with a die-plate over which the tag-blank passes, of a plunger operating above the die-plate, and a coöperating plunger beneath the die-plate, said last-
85 mentioned plunger being connected to and operated by the first-mentioned plunger; substantially as described.

15. In an apparatus of the character described, the combination with a die-plate over
90 which a tag-blank passes, of a reciprocating plunger operating above the die-plate, a bur-forming rod operating under the die-plate, and means connected to and operated by the said reciprocating plunger for actuating the
95 said bur-forming rod; substantially as described.

16. In an apparatus of the character described, the combination with a die-plate, of plungers connected together and moving in
100 opposite directions for forming a bur in the blank; substantially as described.

17. In an apparatus of the character described, the combination with a die-plate over which the blank passes, of a slotted plunger,
105 means for reciprocating the said plunger, a lever having one end located in the slot in the plunger, a bur-forming rod located beneath the die-plate, and connections between said lever and said bur-forming rod; substantially
110 as described.

18. In an apparatus of the character described, the combination with a die-plate over which the tag-blank passes, of a slotted
115 plunger arranged above the die-plate, a lever having one end received by the slot in said plunger, a spring coöperating with the other end of said lever, a lever pivoted to the underside of the die-plate, a link connected with said levers, and a bur-forming rod carried by
120 said last-mentioned lever; substantially as described.

19. In an apparatus of the character described, the combination with a die-plate over which the tag-blank passes, a plunger recip-
125 rocating above said die-plate and formed with a recess in its end, of a bur-forming rod mounted beneath the die-plate, means for positively forcing the bur-forming rod upwardly as the plunger descends, and means for yieldingly
130 forcing the bur-forming rod downwardly as the plunger ascends; substantially as described.

20. In an apparatus of the character de-

scribed, the combination with a die-plate, a stripping-block arranged thereabove, the tag-blank passing between said die-plate and stripping-block, a bur-forming mechanism for
 5 operating upon said tag-blank, and a cutting-die for severing the tag; substantially as described.

21. In an apparatus of the character described, the combination with a tag-carrying
 10 disk, having pockets in its periphery, said pockets being elongated in the direction of rotation of the said disk, of a die-plate arranged above said disk, and having a tapered opening in vertical alinement with the disk, over
 15 which opening the tag-blank is fed, and a plunger for severing the tag from its blank and delivering the same into the pocket in the tag-carrying disk; substantially as described.

22. In an apparatus of the character described, the combination with a tag-carrying
 20 disk provided with pockets, plungers mounted upon said disk and entering said pockets, and means for operating said plungers to affix a tag to a plug of tobacco, of a die-plate above
 25 said disk over which the tag-blank passes, means for effecting the travel of said blank over said die-plate, said die-plate being provided with an opening which registers with the pockets in the periphery of the tag-carrying
 30 disk, and a plunger for severing tags from the tag-blank, one of said tags being received by a pocket in the tag-carrying disk; substantially as described.

23. In an apparatus of the character described, the combination with a die-plate over
 35 which the tag-blank passes, of a plunger for punching a tag out of said blank, a stripping-plunger arranged in said first-mentioned plunger, and means for operating said stripping-plunger as the main cutting-plunger approaches the limit of its downward movement; substantially as described.

24. In an apparatus of the character described, the combination with a tag-forming
 45 mechanism, of a feeding mechanism for the tag-blank, said feeding mechanism comprising a feeding-roller, a ratchet-wheel for driv-

ing said roller, means for operating said ratchet-wheel, and means for adjusting the relation of the ratchet-wheel to the feeding-
 50 roller; substantially as described.

25. In an apparatus of the character described, the combination with a tag-forming mechanism, of a feeding mechanism for the
 tag-blank, the same comprising feeding-roll-
 55 ers between which the tag-blank passes, a ratchet-wheel loosely mounted on the spindle of one of said rollers, and means for adjustably locking said ratchet-wheel to said spindle; substantially as described. 60

26. In an apparatus of the character described, the combination with a tag-forming mechanism, of a feeding mechanism for the
 tag-blank, said mechanism comprising two
 65 oppositely-rotatable rollers, a ratchet-wheel loosely mounted on the spindle of one of said rollers, a worm conjoined to said ratchet-wheel, and a worm-gear fixed on the spindle with which said worm meshes; substantially
 70 as described.

27. In an apparatus of the character described, the combination with a tag-forming mechanism, of a feeding mechanism for the
 tag-blank, said feeding mechanism comprising
 75 two rollers one of which is yielding, means for regulating pressure on said feeding mechanism, a ratchet-wheel loosely mounted on the spindle of one of said rollers, means for driving said ratchet-wheel, a worm conjoined
 80 to said ratchet-wheel, a worm-wheel fixedly mounted on the spindle, and in mesh with said worm whereby when the worm is rotated the ratchet-wheel is rotatably adjusted with respect to the roller upon whose spindle it is
 85 mounted; substantially as described.

In testimony whereof we hereunto affix our signatures, in the presence of two witnesses, this 16th day of October, 1901.

HERMAN D. SEEKAMP.
 ALBERT H. HAMPE.

Witnesses:

GEORGE BAKEWELL,
 G. A. PENNINGTON.