

No. 698,867.

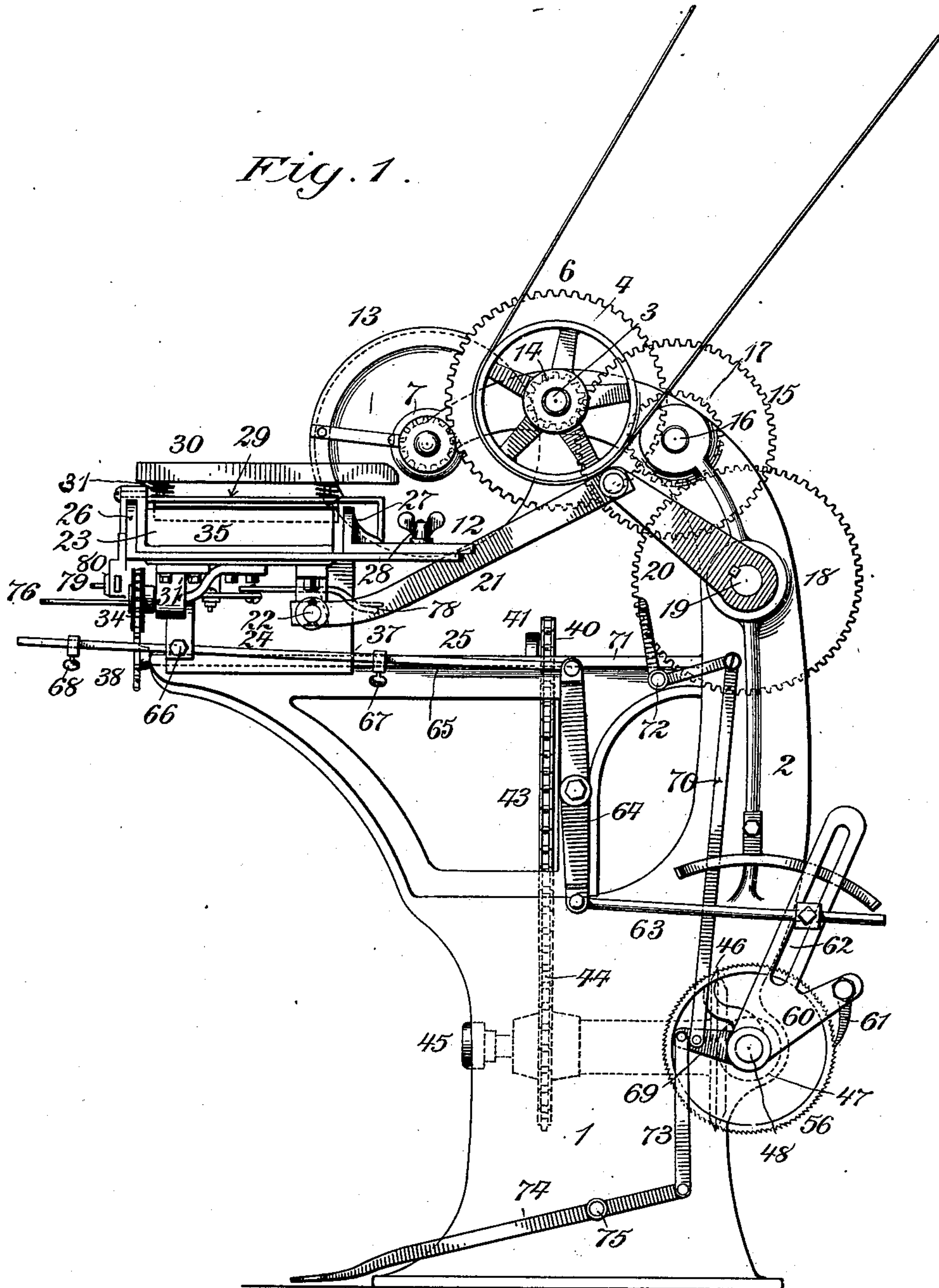
Patented Apr. 29, 1902.

M. A. SMITH.
CONFECTIONERY CUTTER.

(Application filed Dec. 15, 1900.)

(No Model.)

3 Sheets—Sheet I.



Witnesses
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C. A. Pierce.

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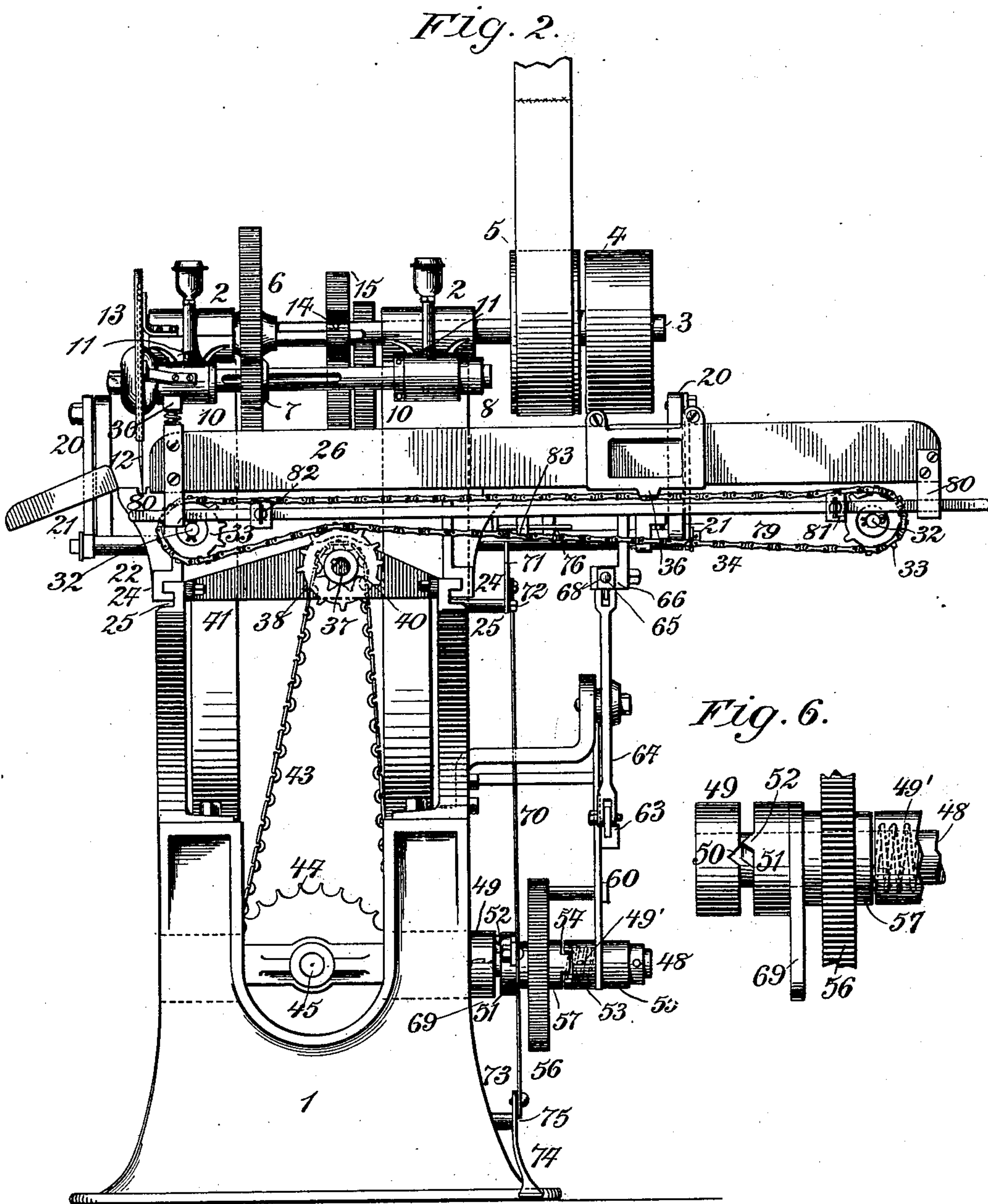
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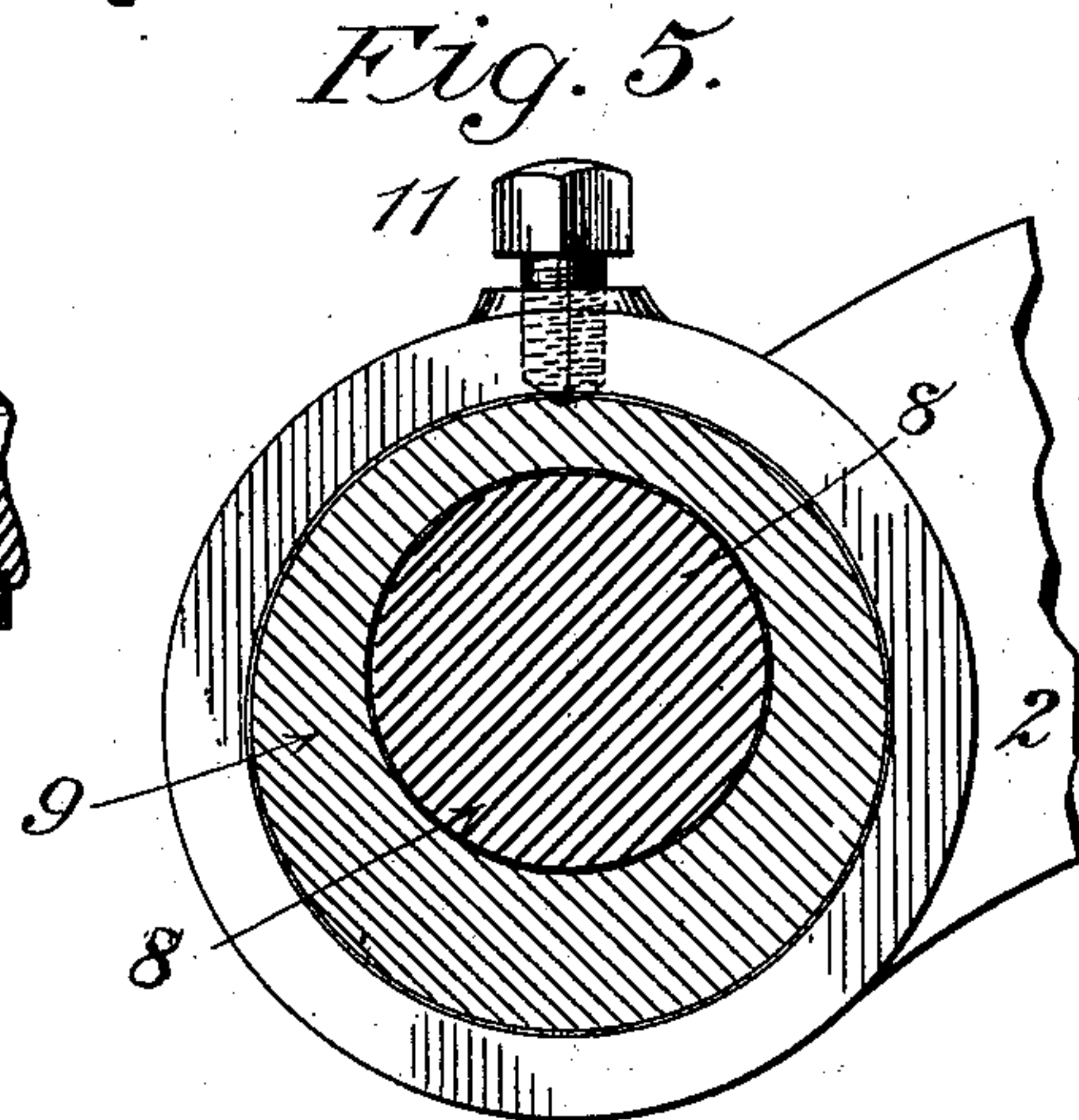
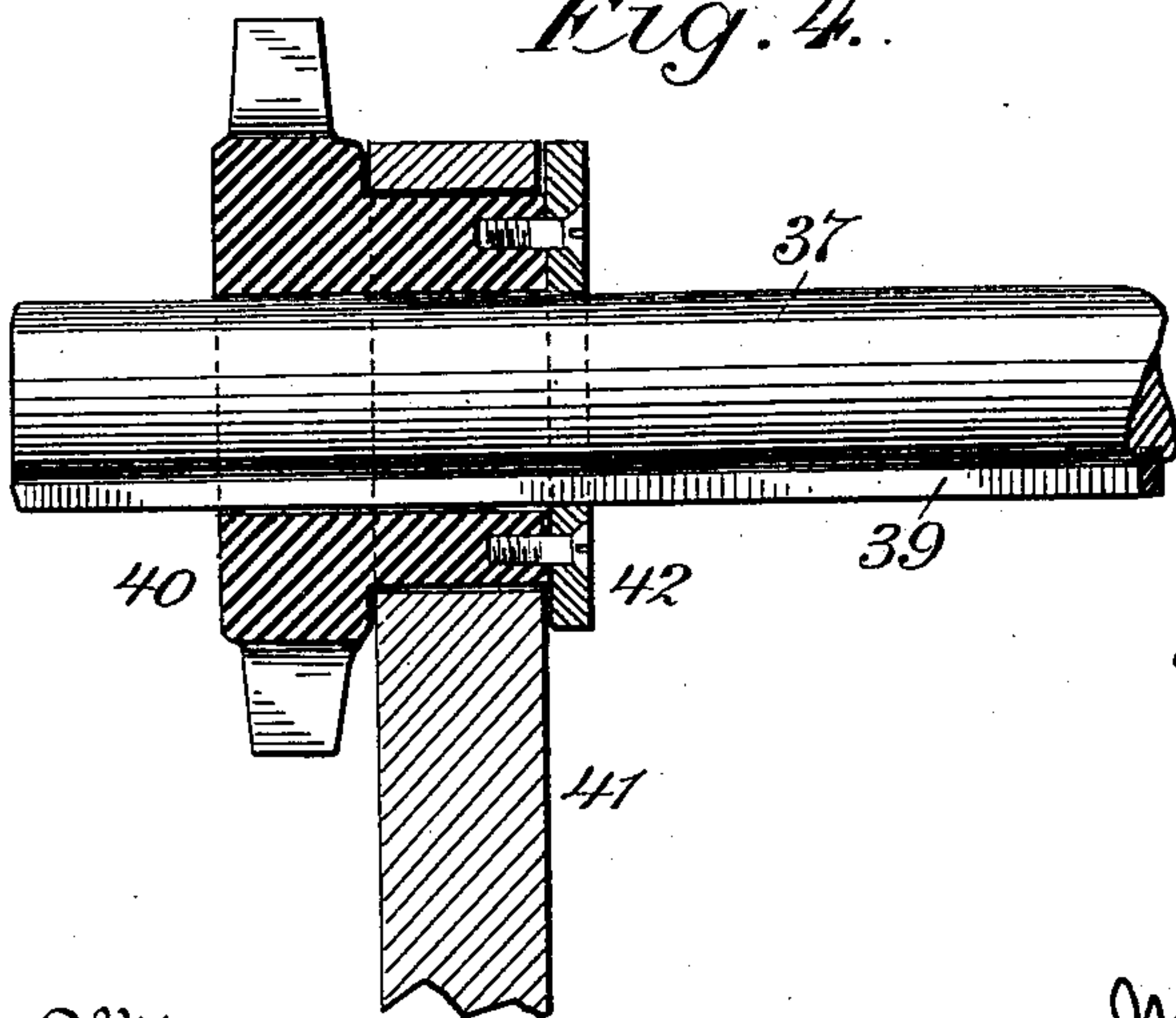
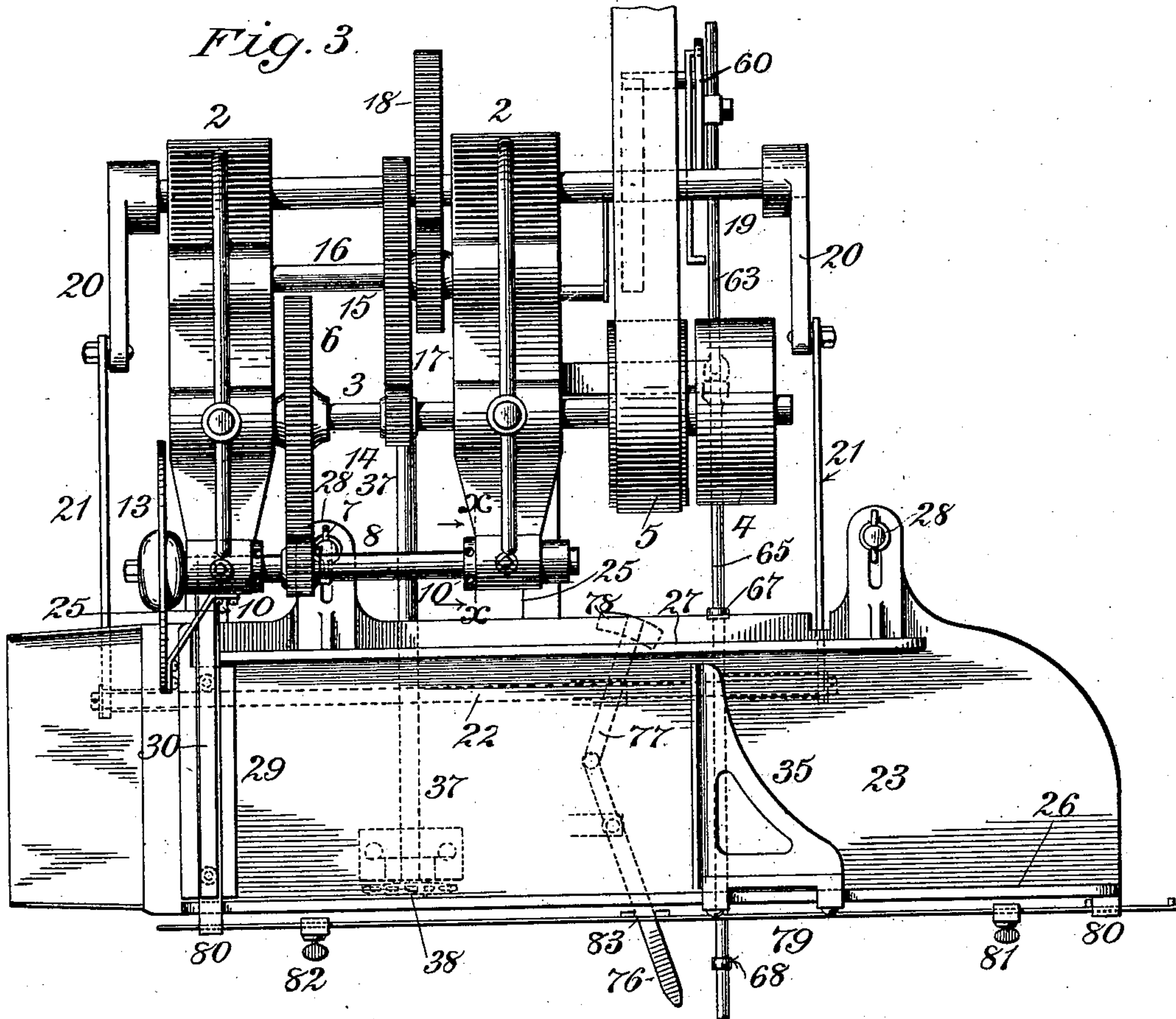
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

MYRON A. SMITH, OF NEW YORK, N. Y., ASSIGNOR TO INTERNATIONAL
MACHINE CO., OF NEW YORK, N. Y.

CONFECTIONERY-CUTTER.

SPECIFICATION forming part of Letters Patent No. 698,867, dated April 29, 1902.

Application filed December 15, 1900. Serial No. 39,975. (No model.)

To all whom it may concern:

Be it known that I, MYRON A. SMITH, a citizen of the United States, residing in the city, county, and State of New York, have invented
5 a new and useful Improvement in Confectionery-Cutters, of which the following is a specification.

My invention relates especially to means and mechanism for cutting or dividing plastic
10 or semiplastic confectionery into strips or bars, and has for its object the provision of an automatic machine designed for this purpose.

To attain the desired end, my invention consists in certain novel and useful combinations
15 or arrangements of parts and peculiarities of construction and operation, all of which will be hereinafter first fully described and then pointed out in the claims.

In the accompanying drawings, forming a
20 part hereof, Figure 1 is a side elevation of a machine embodying my invention. Fig. 2 is a front elevation thereof. Fig. 3 is a plan view. Figs. 4, 5, and 6 are detail views of some of the operating parts.

25 Similar numerals of reference wherever they occur indicate corresponding parts in all the figures.

1 is the main frame of the machine.

30 2 2 are arms extending upward from the frame 1 at the back thereof.

3 is a driving-shaft journaled in the arms 2 and bearing a fast and a loose pulley 4 and 5.

6 is a gear-wheel upon the shaft 3, the teeth whereof mesh with a gear 7, mounted upon a
35 shaft 8, journaled in eccentric boxes 9, (see Fig. 5,) adjustably mounted in the extremities of the arms 2. The inner faces of the eccentric boxes 9 are provided with rings 10, having holes therein for the reception of an adjusting
40 instrument wherewith said boxes may be partially rotated to raise or lower the shaft 8.

11 represents set-screws for retaining the boxes 9 in a fixed position.

Mounted upon the extremity of the shaft 8
45 is a circular cutting disk, knife, or saw 12, protected by a shield 13. By the arrangement of the boxes 9 cutting-disks of slightly-different diameters may be employed and the wear of the cutting-disks taken up by raising
50 or lowering the shaft 8 to suit requirements.

14 is a gear on the shelf 3, the teeth whereof engage with a gear 15, mounted upon a shaft 16, journaled in the arms 2. Upon the shaft 16 is a gear 17, which engages with a gear 18 upon a shaft 19, also journaled in the
55 arms 2. The object of thus compounding the gearing is to produce a uniformity and regularity of motion.

Mounted upon each extremity of the shaft 19 are cranks 20, to which are pivoted arms
60 21, passing to and being pivoted to a bar 22 beneath a table 23. This table is provided with supporting-pieces 24, which engage with ways 25 at the top of the main frame 1, wherein they may move freely, the table being given
65 a reciprocating movement when the crank-shaft 19 is rotated.

26 is a fixed front board of the table 23.

27 is a back piece adjustably held in place by thumb-screws 28.
70

29 is a material-holding block located at the end of the table 23 next to the cutting-disk. This holding-block carries a bar 30, mounted upon springs 31. As the table 23 approaches
75 the cutting-disk the bar 30 is pressed downward by its passing beneath the shaft 8, the block 29 being firmly held against the material upon the table during the cutting, preventing its displacement; but as the table
80 recedes after the cutting the material is released from the pressure of the block 29 in order to allow it to be fed along the table, as will presently be described.

Mounted in lugs 31' beneath the table 23 are shafts 32, bearing sprocket-wheels 33,
85 whereover passes a sprocket-chain 34.

35 is a movable feed-bracket carried by the front piece 26 of the table 23, said movable bracket having a finger 36, which is attached
90 to the chain 34.

Journaled beneath the table 23 is a shaft 37, bearing at its outer extremity a sprocket-wheel 38, which engages with the chain 34. This shaft 37 is provided with a spline or feather 39, as particularly illustrated in Fig.
95 4 of the drawings.

40 is a sprocket-wheel having a way therein through which the spline 39 passes. The hub of the wheel 40 is mounted in a cross-bar 41, fixed to the main frame 1 and is held
100

in place by a plate 42. A sprocket-chain 43 passes from the wheel 40 to a wheel 44, mounted upon a shaft 45 at the base of the main frame 1. By this arrangement the table 23 is free to reciprocate, the shaft 37 playing in the gear 40, yet said gear is so held as to cause the said shaft to rotate at the proper time in order to feed the material forward upon the table.

46 is a bevel-gear upon the shaft 45, engaging with a bevel-gear 47 upon a shaft 48, journaled in the main frame 1. The shaft 48 carries a collar 49, wherein is cut a V-shaped groove 50. Loosely mounted upon this shaft is a sleeve 51, carrying at one side a projecting rib 52, arranged to enter the groove 50.

57 is a sleeve carrying a ratchet-wheel 56, said sleeve being provided with lugs 53, arranged to enter depressions 54 in a collar 55, fixed upon the shaft 48.

49' is a spring which forces the sleeve 57 out of engagement with the collar 55 when the sleeve 51 is turned sufficiently to permit the rib 52 to enter the groove 50. Fixed to the collar 55 is an arm 60, bearing a pawl 61 and also having a slot 62, wherein is adjustably located the bearing of a rod 63, passing to a rock-arm 64, pivoted on the main frame. To the upper end of the rock-arm 64 is pivoted a rod 65, loosely passing through a bearing 66 beneath the table 23.

67 and 68 are adjustable stops upon the rod 65. When the machine is in operation, as the table reciprocates its inward movement will cause the bearing 66 to come in contact with the stop 67, raising the arm 60 and causing the pawl 61 to move upward upon the ratchet-wheel 56. As the table moves in the reverse direction the bearing 66 comes in contact with the stop 68, forcing the arm 60 and pawl 61 backward, turning the shaft 48, partially rotating said shaft through the sprockets 44, 40, and 38, and the chains 43 and 34 moving the feed-bracket 35 toward the left, forcing the material upon the table 23 forward. In order to regulate the amount of desired feed, the bearing of the rod 63 in the arm 60 may be raised or lowered.

From the sleeve 51 projects an arm 69, from which passes a rod 70 to a bell-crank 71, pivoted at 72. Also from the arm 69 downwardly extends a rod 73, pivoted to a treadle 74, which in turn is pivoted upon the main frame at 75. Beneath the table 23 is an arm 76, having an extension 77, carrying a cross-piece 78. At the front of the table is a rod 79, mounted in bearings 80 and provided with adjustable stops 81 and 82.

83 represents lugs upon the rod 79, between which the arm 76 extends. When the feeding-bracket 35 has been carried along the table to the stop 82, the projecting finger 36

comes in contact with the said stop, carrying the rod 79 to the left and through the medium of the arm 76 77 bringing the cross-piece 78 to the left. As the table 23 then moves inward this cross-piece 78 comes in contact with the bell-crank 71, throwing the arm 70 downward, thus turning the sleeve 51 so as to permit the rib 52 to enter the groove 50, permitting the sleeve 57 to be thrown out of engagement with the collar 55 by the spring therein, allowing the ratchet-wheel 56 to turn without actuating the shaft 48, and thereby entirely disconnecting the feeding mechanism. This permits the table to continue to reciprocate, but prevents any further feeding of the material thereon. To throw the feeding mechanism out of engagement by hand, the arm 76 may be moved at any time, as required. In returning the feeding-bracket to its initial position it is run backward by the hand until the stop 81 is reached, when the parts of the feeding mechanism will be in proper position for throwing into engagement by depressing the treadle 74.

Having now fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. In a machine of the character herein specified, the combination with the reciprocatable table and means for reciprocating the same, of the automatic material-feeding mechanism constructed as set forth; means for automatically regulating the amount of feed, and for automatically holding and stopping the feed, substantially as shown and described.

2. In a machine of the character herein specified, the combination with the reciprocatable table and feeding mechanism carried thereby, of an actuating-shaft beneath the table, a sprocket loosely mounted upon said shaft, and operating mechanism connected to said sprocket, substantially as shown and described.

3. The combination with the reciprocatable table and means for reciprocating the same, of a holding-block adapted and arranged to be depressed by contact with a fixed shaft beneath which it passes as the table reciprocates, substantially as shown and described.

4. The combination with the material-feeding mechanism, of a movable bar upon the material-carrying table engaging with said feeding mechanism, and connections between said bar and a ratchet-clutch which actuates the feeding mechanism.

Signed by me at New York this 20th day of June, 1900.

MYRON A. SMITH.

Witnesses:

JAMES RIDGWAY,
A. M. PIERCE.