

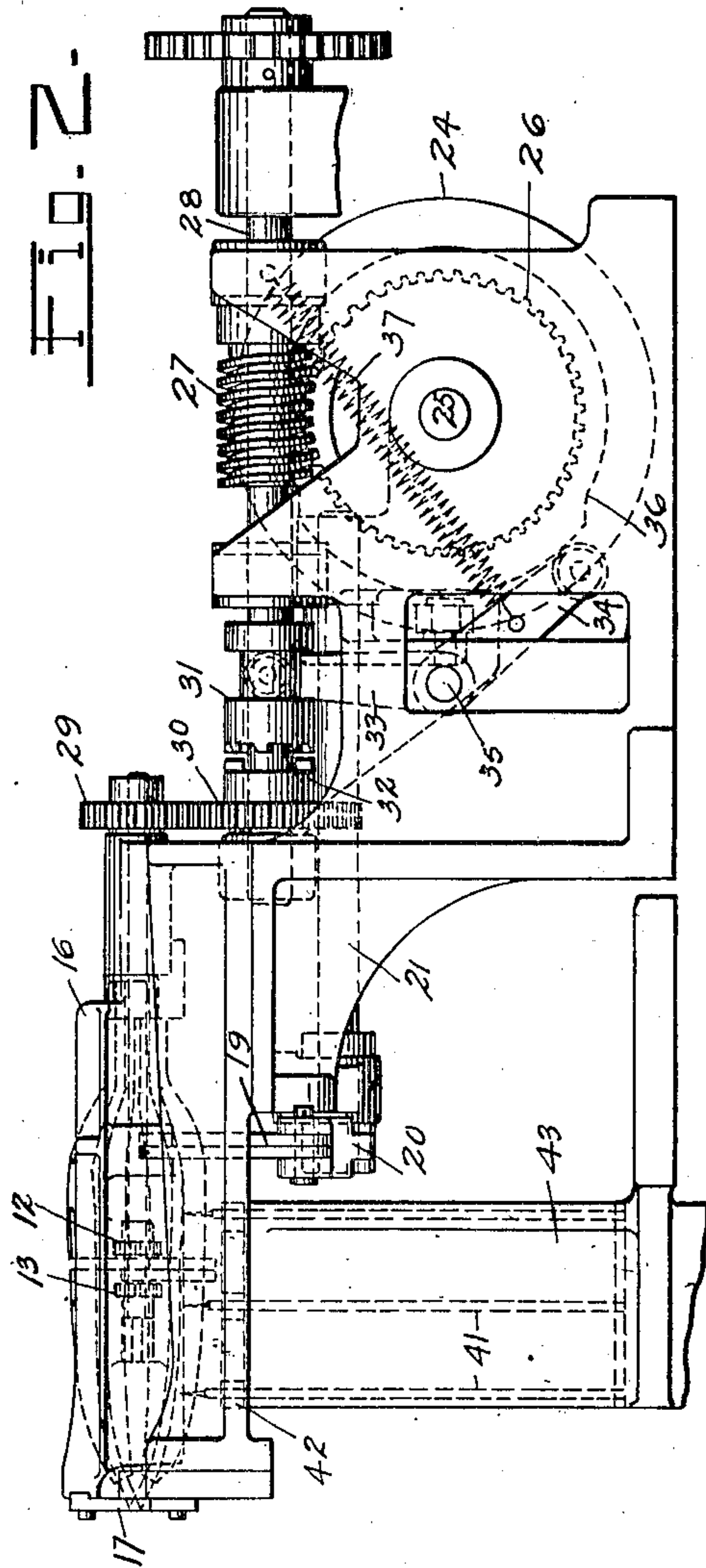
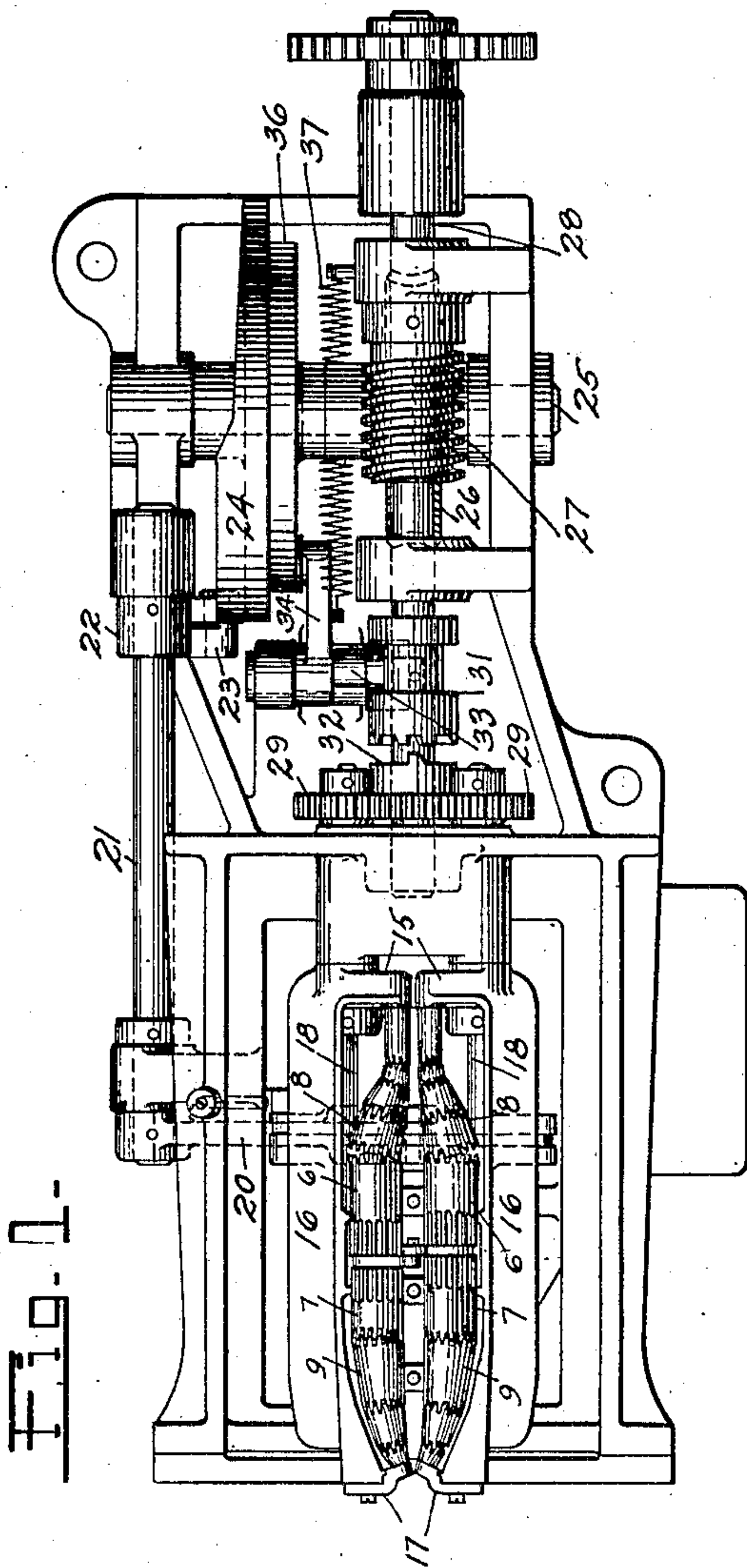
No. 851,681.

PATENTED APR. 30, 1907.

W. S. LUCKETT.
CIGAR MACHINE.

APPLICATION FILED JUNE 26, 1906.

3 SHEETS—SHEET 1.



ATTEST
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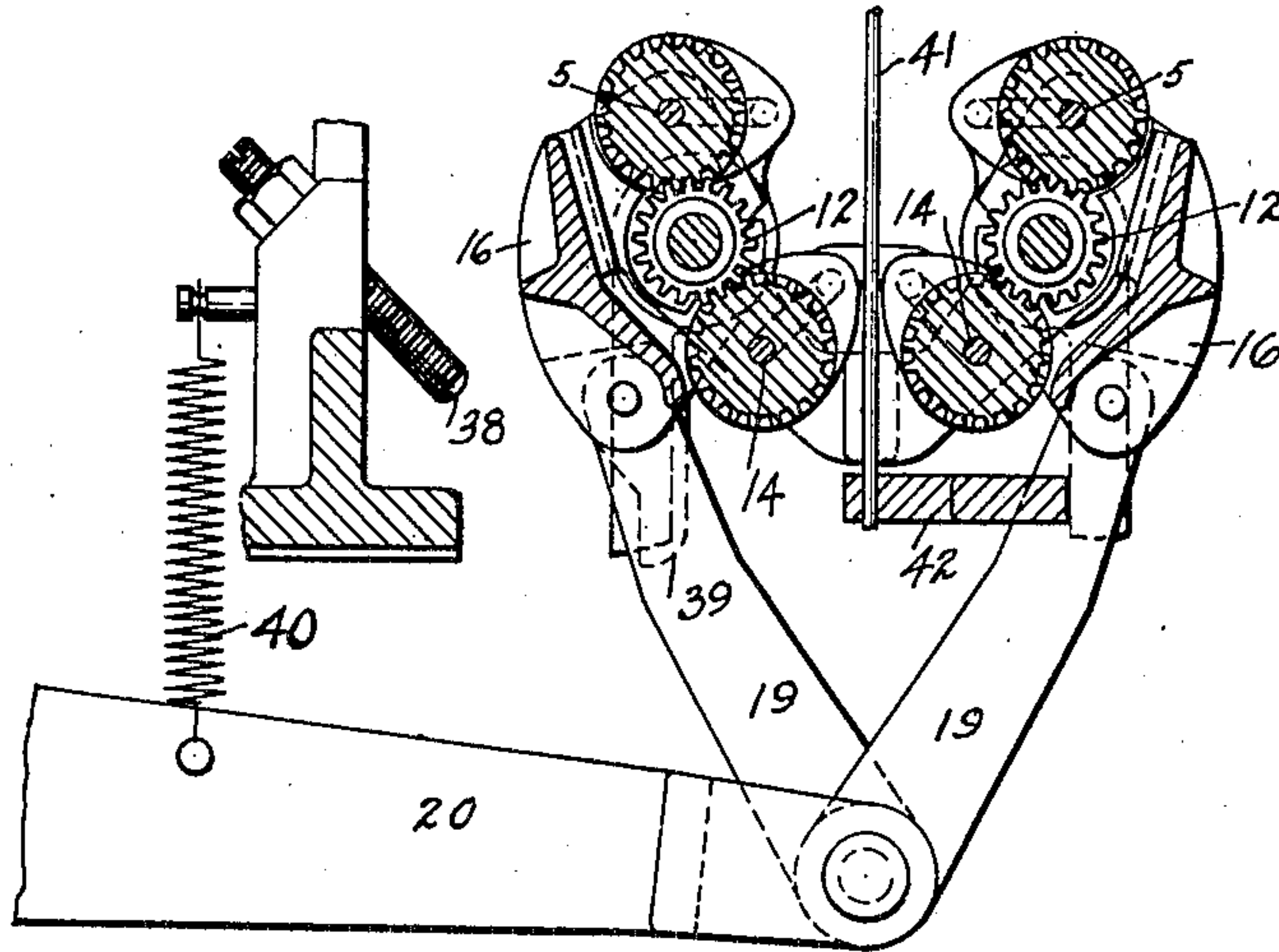


Fig. 3.

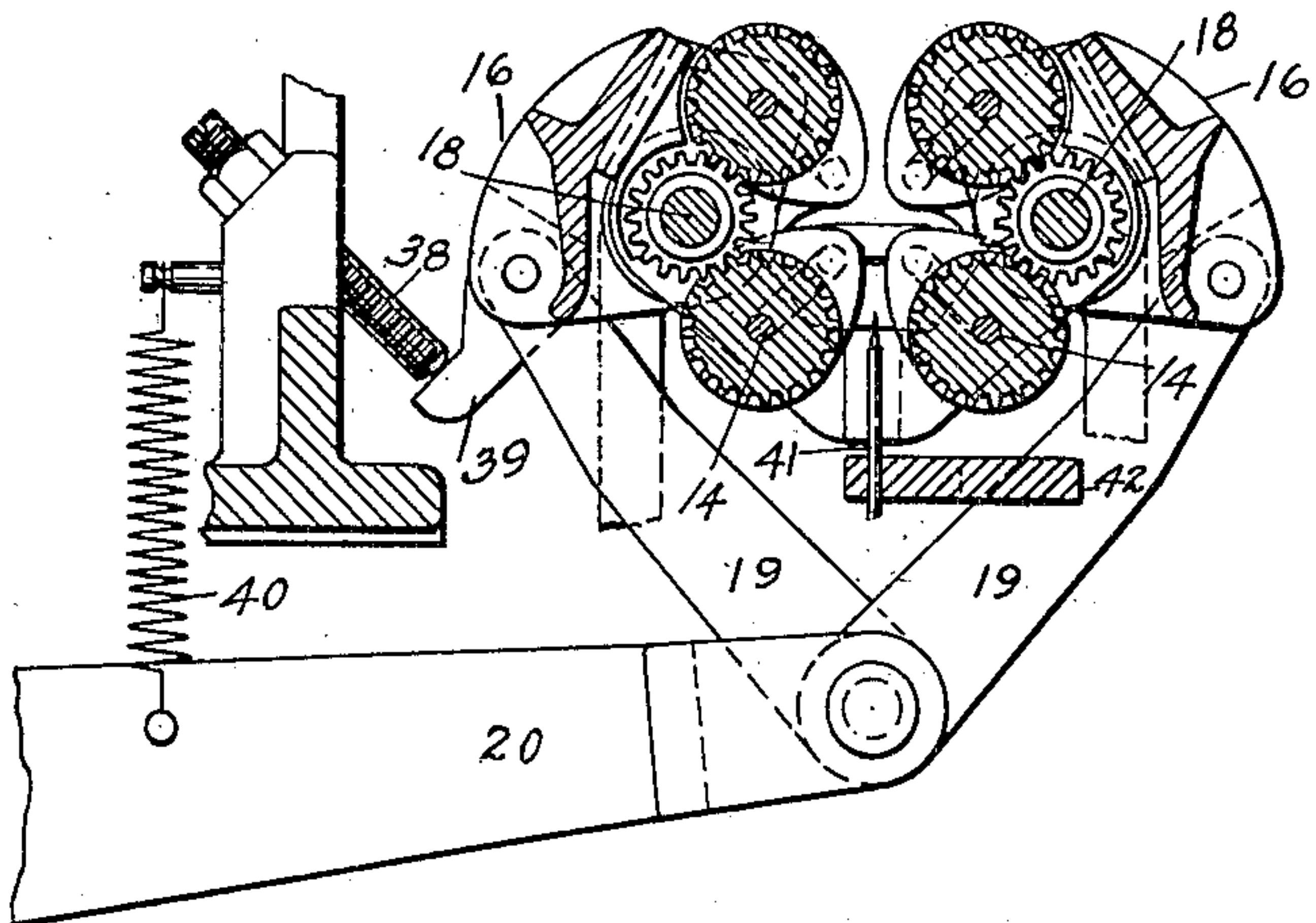


Fig. 4.

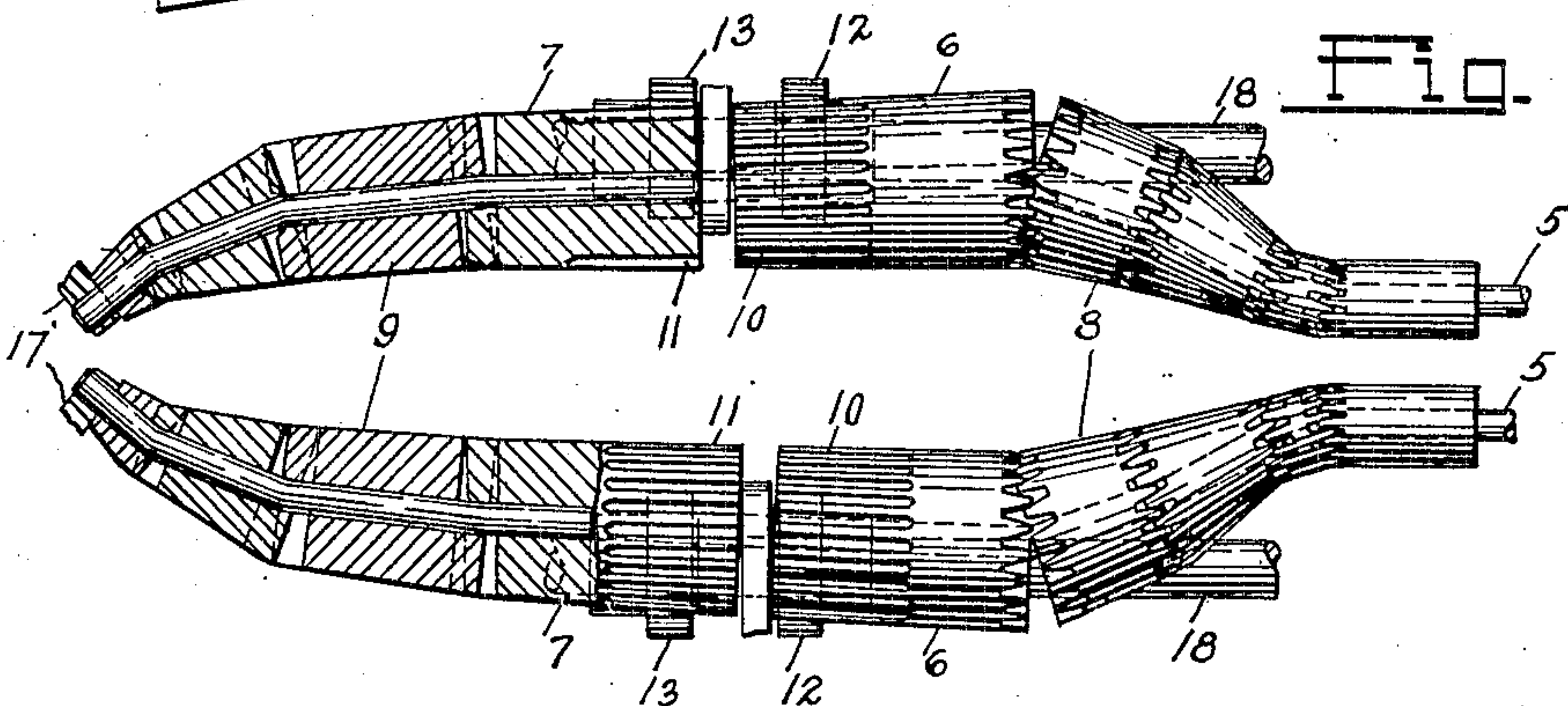


Fig. 5.

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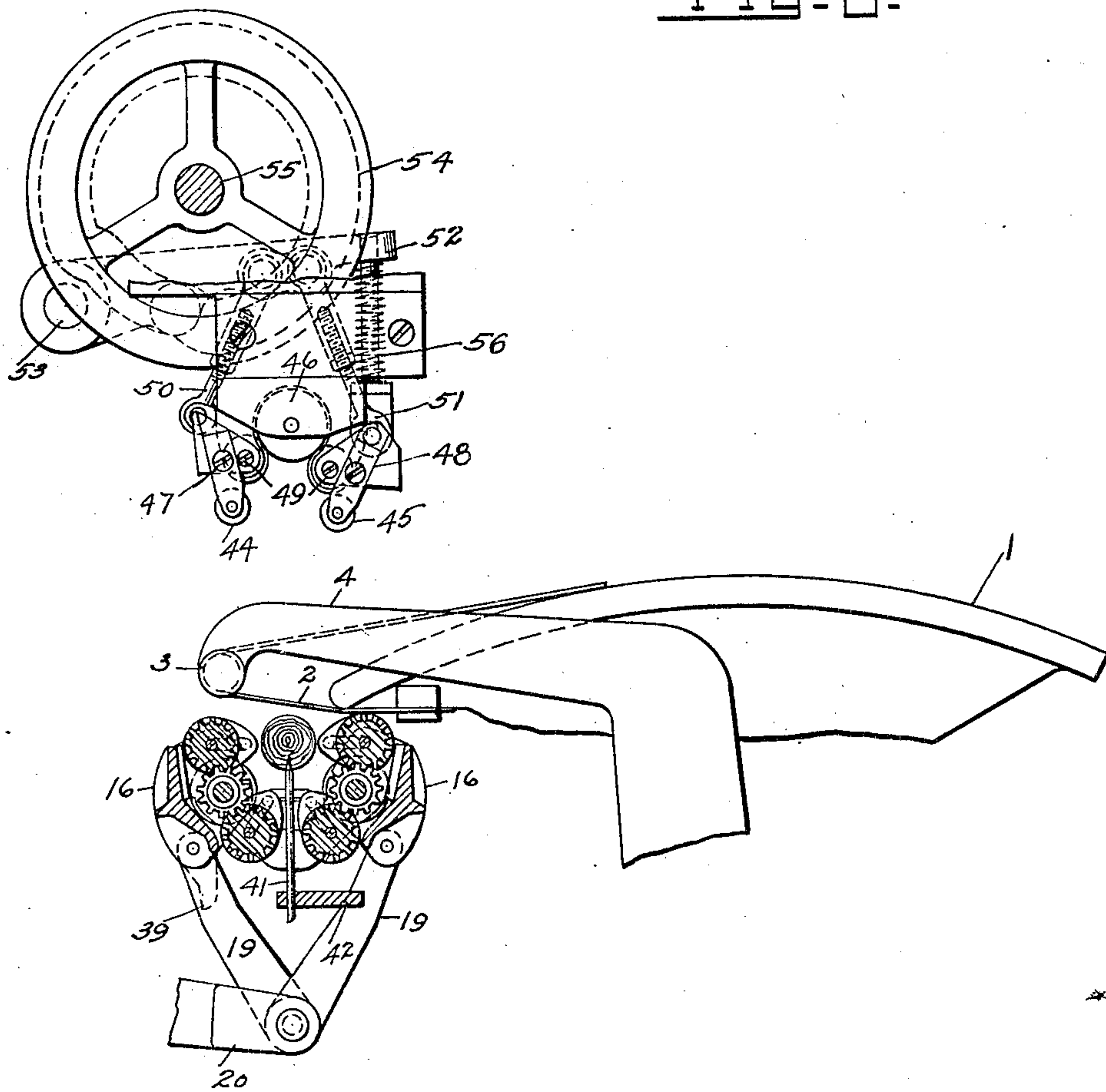
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3 SHEETS—SHEET 3.

Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM S. LUCKETT, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO INTERNATIONAL CIGAR MACHINERY COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

CIGAR-MACHINE.

No. 851,681.

Specification of Letters Patent.

Patented April 30, 1907.

Application filed June 26, 1906. Serial No. 323,416.

To all whom it may concern:

Be it known that I, WILLIAM S. LUCKETT, a citizen of the United States, residing at East Orange, county of Essex and State of New Jersey, have invented certain new and useful Improvements in Cigar-Machines, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to certain improvements in cigar machines.

In making cigars of the type known as "fresh bunch" cigars, the bunch is made and then the wrapper is applied while the bunch is "green" or fresh. In making cigars of this character by machinery, difficulty has been experienced in producing bunches of the proper shape and in which the filler tobacco is evenly distributed in the bunch. Where these bunches are made by hand, the cigar-maker manipulates the bunch by rolling it on his rolling table, this movement tending to shape the bunch and also to distribute the material, so that all parts of the bunch will be of even density.

The present invention has for its object to produce an improved mechanism for use in cigar machines for making fresh bunch cigars in which the bunch shall be properly shaped and the material properly distributed between the bunch forming and wrapper applying operations.

With this and other objects in view, the invention consists in certain constructions and in certain parts, improvements and combinations such as will be hereinafter fully described and then specifically pointed out.

Referring to the drawings—Figure 1 is a plan view of one embodiment of the improved shaping mechanism. Fig. 2 is a side elevation of the construction shown in Fig. 1. Fig. 3 is a sectional elevation showing the shaping mechanism in position to receive a bunch. Fig. 4 is a similar view showing the shaping mechanism closed. Fig. 5 is a view on a large scale of the upper pair of shaping rolls. Fig. 6 is a diagrammatic view illustrating the relative positions of the bunch forming, shaping and wrapping mechanisms.

Constructions embodying the invention will usually be employed in organized machines for making cigars, that is, machines which are supplied with bunch making and

wrapping mechanisms. When the invention is so employed, the bunch making mechanism used may be of any suitable type. In the construction illustrated, the bunch making mechanism is of the ordinary Chianti belt type, that is to say, it embodies a rolling table indicated at 1 with which coöperates a rolling apron or belt 2, the bunch being moved over the table and inclosed in a binder by means of a loop forming roll 3 supported in swinging arms 4. As this type of bunch forming mechanism is well-known, the illustration thereof is merely diagrammatic. In the best constructions, however, the bunch forming mechanism, whatever be the construction employed, will be arranged so as to deliver the bunch directly into the shaping mechanism.

The shaping mechanism by which the bunch is shaped and manipulated may be variously constructed, but will be of what may be termed the rotary type, that is to say, it will employ one or more shaping rolls. In the best constructions, a plurality of rolls will be employed. In the construction illustrated, the shaping mechanism consists of four rolls arranged in pairs.

Referring more particularly to Figs. 3, 4 and 5, each of the two upper rolls is mounted on a support consisting of a bent rod 5. While the construction of the rolls may be varied, as shown, each of these upper rolls is provided with a central driver which consists of two roll sections 6, 7 and a plurality of end sections marked 8, 9. These end sections are intergeared with each other and with the drivers 6, 7, as clearly indicated in Fig. 5. Each of the driver roll sections 6, 7 is, in the particular construction illustrated, provided with gear teeth, indicated at 10, 11, these teeth being in mesh with driven pinions 12, 13. The lower shaping rolls are duplicates of the upper rolls, so far as the construction is concerned, that is to say, they embody a central driving section and intergeared end sections, these sections being supported on bent rods 14. The central driving sections of these rolls are provided with gear teeth 10, 11 in mesh with the gears 12, 13 before referred to.

The shaping rolls may be mounted in any approved manner, but where a plurality of rolls are employed, as in the particular ma-

chine illustrated, they will, in the best constructions, be so mounted as to open to receive the bunch and to close after the bunch has been inserted thereinto. In the particular machine illustrated, the rods 5 are supported at one end in arms 15 which are formed in one piece with swinging frame pieces 16, the other end of the rods being carried by brackets 17 which are fast on these swinging frame pieces. These frame pieces are supported and swing on shafts 18, these being the shafts which carry the driving gears 12, 13 before referred to. These swinging frame pieces 16 are connected by links 19 to a lever 20, this lever being mounted on a rock shaft 21 suitably supported in the frame of the machine. This rock shaft is provided with a hub 22 from which extends an arm 23, this arm carrying a roll which coöperates with a face cam 24 mounted on a shaft 25. This shaft 25 is provided with a worm gear 26 which is in mesh with a worm 27 on a shaft 28 which is the main driving shaft of the mechanism. The cam 24 is timed so as to provide a rocking movement of the shaft 21 at the proper times to cause the shaping rolls to be opened and closed to receive and discharge the bunch. The supporting rods 14 of the lower shaping rolls are rigidly mounted in the main frame of the machine.

The shafts 18 which carry the driving gears 12, 13 may be operated in any approved manner. In the construction illustrated, these shafts are provided with gears 29 which are in mesh with a gear 30, this gear being loosely mounted on the shaft 28 before referred to. This gear 30 may be clutched to and unclutched from the shaft 28 by any suitable means, the construction illustrated embodying a sliding clutch collar 31 feathered to the shaft 28, this collar engaging a toothed hub 32 to which the gear 30 is fast. The sliding collar 31 is, in the particular machine illustrated, operated by means of a bell-crank 33, 34, this bell-crank being mounted on a shaft 35. The arm 33 carries a roll which engages with a groove in the clutch collar 31 and the arm 34 carries a roll which runs on the surface of a cam 36 mounted on the shaft 25 before referred to, the arm 34 being held up against the cam by means of a spring 37, or in any other suitable manner.

With the construction so far described, it will be understood that, as has been indicated, the upper rolls are swung open at the proper time, as indicated in Fig. 3, to enable a bunch to be deposited by the bunch forming mechanism into the space between the rolls, after which the rolls are closed to operate upon the bunch, the closed position being indicated in Fig. 4. If desired, a stop screw 38 may be employed to limit the amount of closing movement given the rolls, this screw operating in connection with a lug 39 on one of the frames 16. In this connection it may

be remarked that the cam 24, in the particular construction illustrated, only operates the rock shaft 21 to move the lever 20 to open the rolls, the closing movement of the lever 20 being produced by a suitable spring, as 40.

The roll sections are shaped so as to correspond generally with the outline which it is desired that the bunch after manipulation shall assume. Each roll section corresponds, therefore, substantially in diameter and contour with the section of the bunch with which it is in contact. The bunch is, therefore, thoroughly worked up and manipulated, so as to cause the filler tobacco to be properly distributed in such a way as to fill out the binder and at the same time cause the filler tobacco to be of substantially even density throughout the bunch, that is to say, the bunch after manipulation is not hard in one place and soft in another.

After the bunch has been manipulated by the shaping rolls and the rolls have been opened, it is delivered. In the particular construction illustrated, it is delivered directly to a wrapping mechanism by which the wrapper is applied to it, this wrapping mechanism being located over the manipulating rolls. When this form of construction is employed, the delivery may be effected in any suitable manner. In the construction illustrated, it is effected by means of lifter pins 41, these pins working through a guide 42 located beneath the shaping rolls and carried by a slide 43 which may be moved from any suitable moving part of the machine.

The wrapping mechanism employed may be of any approved type. In the construction illustrated, it consists of a set of three rolls 44, 45 and 46, the roll 46 being a stationary roll, and the rolls 44, 45 being mounted in swinging frames 47, 48, the pivotal points of these frames being indicated at 49. The frames are swung so as to open and close the rolls to receive and discharge the bunch by means of links 50, 51 which are connected to a lever 52, this lever being pivoted at 53 to any suitable part of the machine. The lever is operated to open the rolls by means of a cam 54 mounted on a shaft 55 suitably supported in the frame of the machine, that movement of the lever which closes the rolls being produced by a spring 56. As any type of wrapping mechanism may be used, the illustration in the present case is mainly diagrammatic.

Changes and variations may be made in the construction by which the invention is carried into effect. The invention is not, therefore, to be limited to the specific construction herein shown and described.

What is claimed is:—

1. The combination with a bunch forming mechanism, of a wrapping mechanism, and a rotary shaping mechanism located therebe-

tween, said mechanism comprising one or more rolls made up of positively driven shaped sections whereby each part of the bunch moves at the same surface speed as that of its driving sections.

2. The combination with a bunch forming mechanism, of a wrapping mechanism, and a rotating shaping mechanism located therebetween, said mechanism comprising one or more rolls made up of intergeared shaped sections, a bent support on which the sections of each roll are mounted, and means for driving the sections.

3. The combination with a bunch forming mechanism, of a wrapping mechanism, a rotating shaping mechanism located between said mechanisms comprising a series of rolls, each roll being made up of a bent roll support and intergeared shaped sections, and gearing for positively driving the sections of each roll.

4. The combination with a bunch forming mechanism, of a rotating shaping mechanism, said mechanism comprising a series of rolls, each roll being made up of intergeared shaped sections and a bent support, means

for positively driving the roll sections, and means for opening and closing the rolls.

5. The combination with a bunch forming mechanism, of a rotating shaping mechanism, said mechanism comprising a series of rolls, each roll being made up of intergeared shaped sections and a bent shaft, means for positively driving the roll sections, means for opening and closing the rolls, a wrapping mechanism, and means for transferring the shaped bunches thereto.

6. A shaping roll comprising a central driver, a plurality of intergeared end sections, and a bent roll support.

7. A shaping roll comprising a central driver comprising two independently driven sections, a plurality of intergeared end sections, and a bent roll support.

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing witnesses.

WILLIAM S. LUCKETT.

Witnesses:

J. W. SLAUGHTER,
N. H. GLOSSFORD