

No. 854,140.

PATENTED MAY 21, 1907.

L. B. BARON.
CIGARETTE MAKING MACHINE.

APPLICATION FILED MAY 7, 1906.

5 SHEETS—SHEET 1.

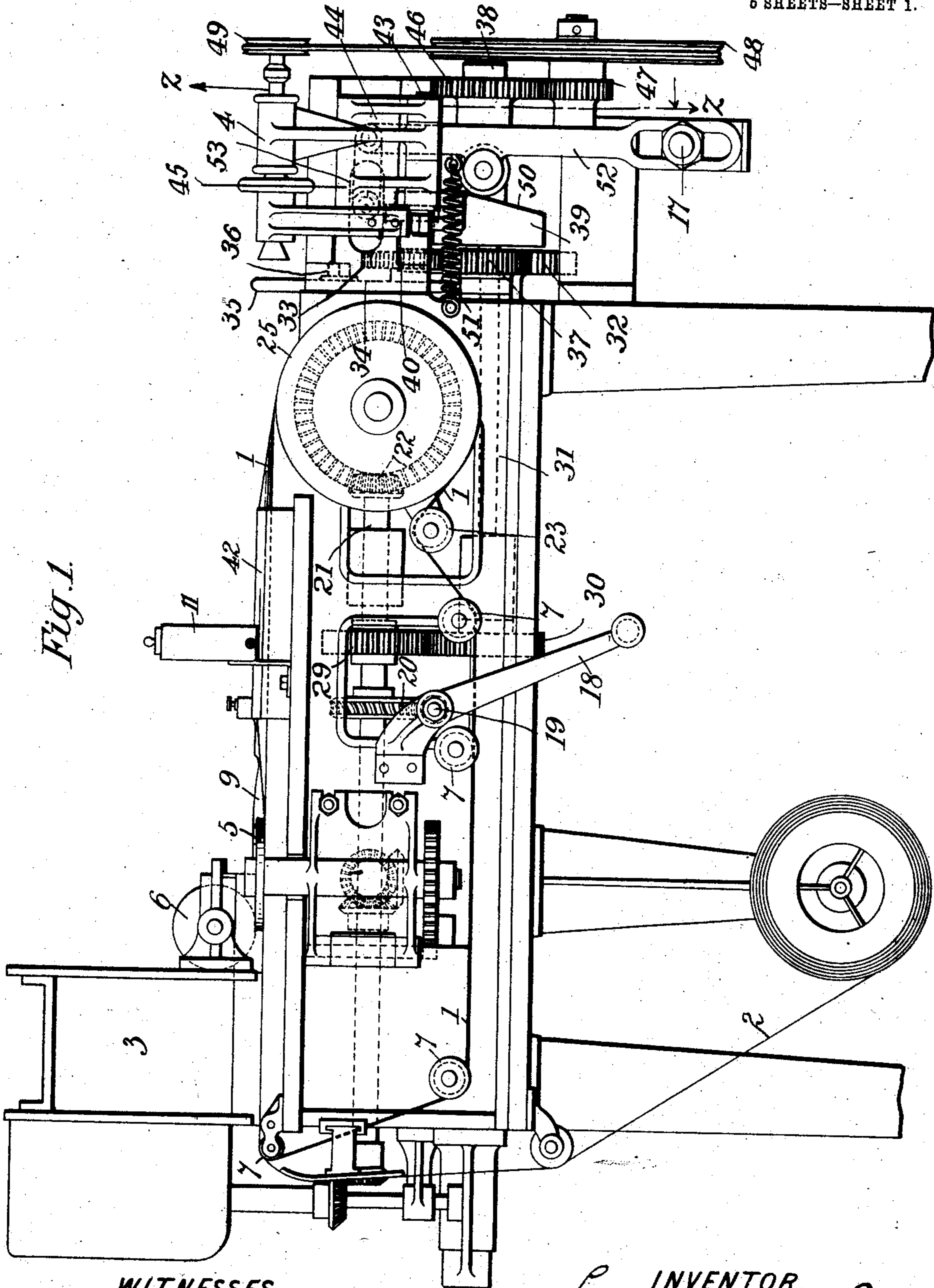


Fig. 1.

WITNESSES.

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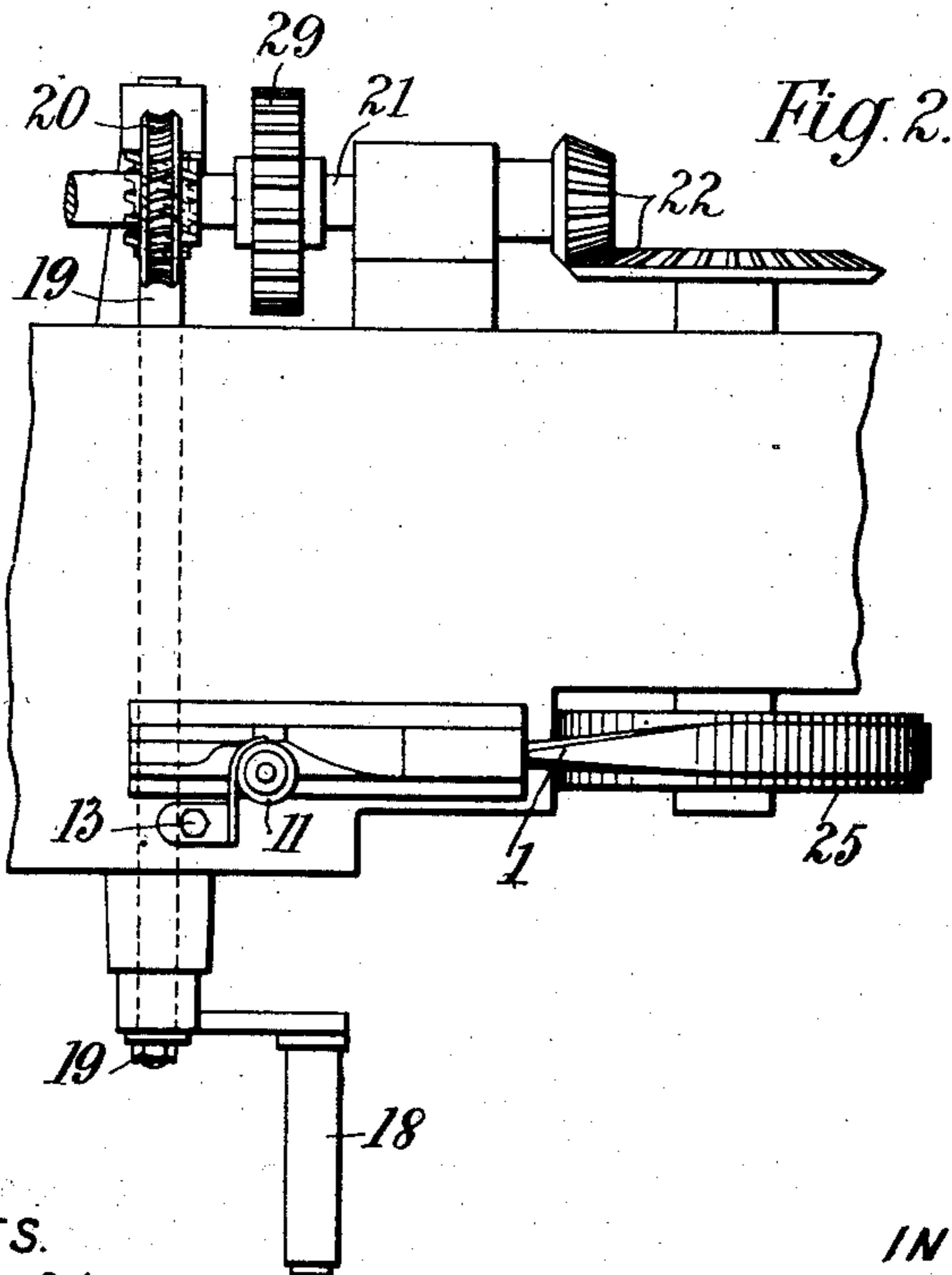
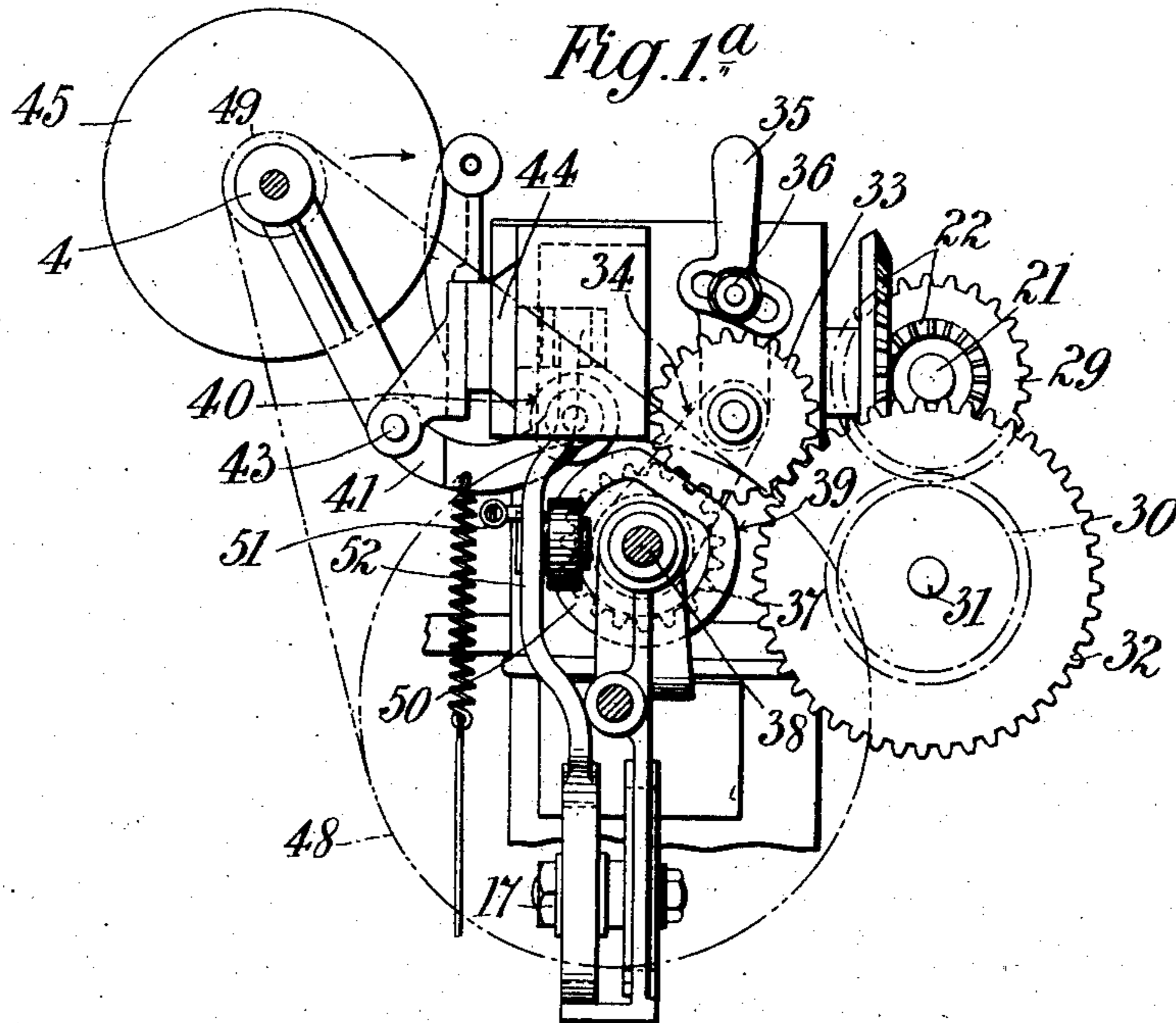
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5 SHEETS—SHEET 2.



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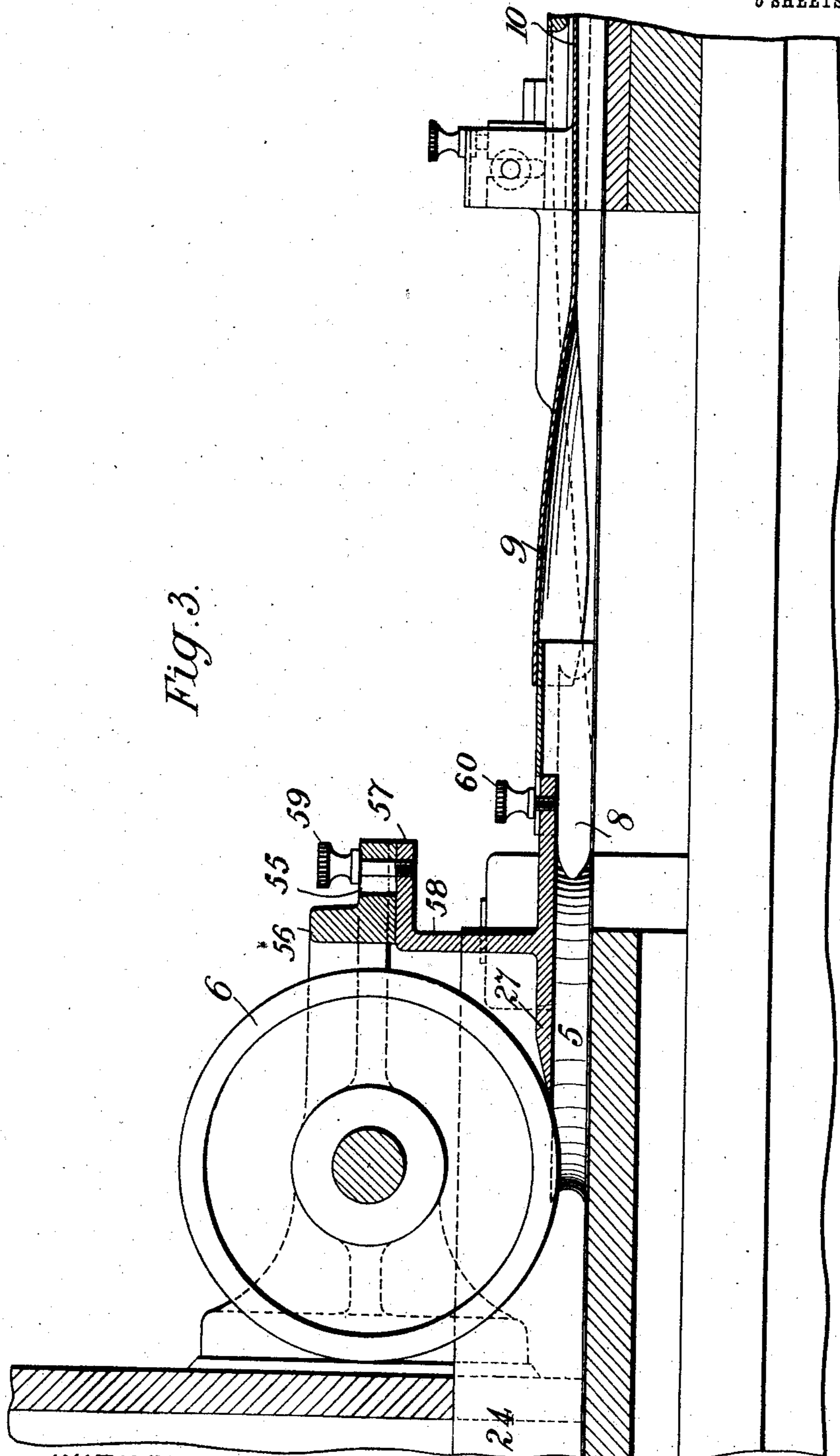
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WITNESSES.

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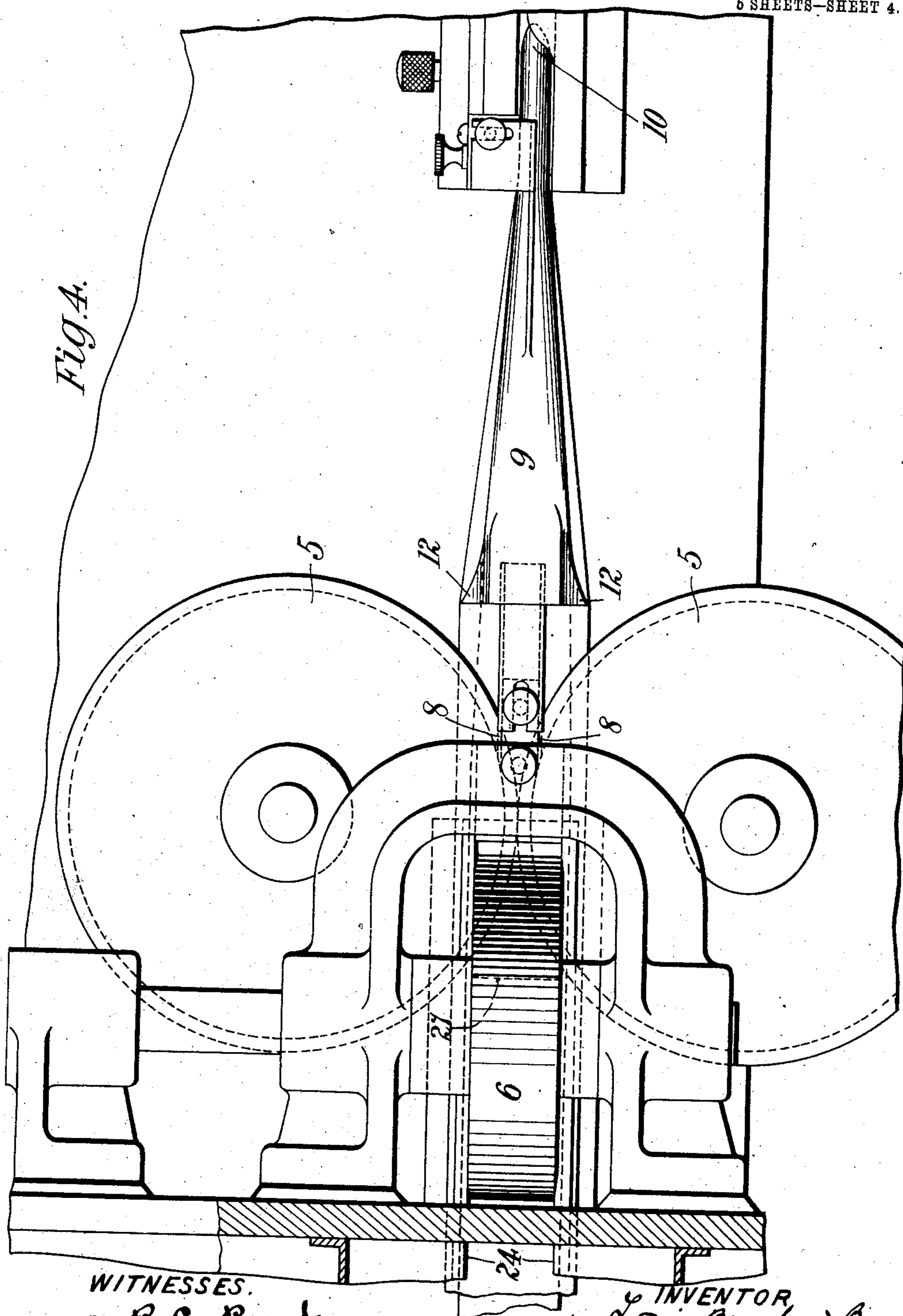
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WITNESSES.

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5 SHEETS—SHEET 5.

Fig. 5.

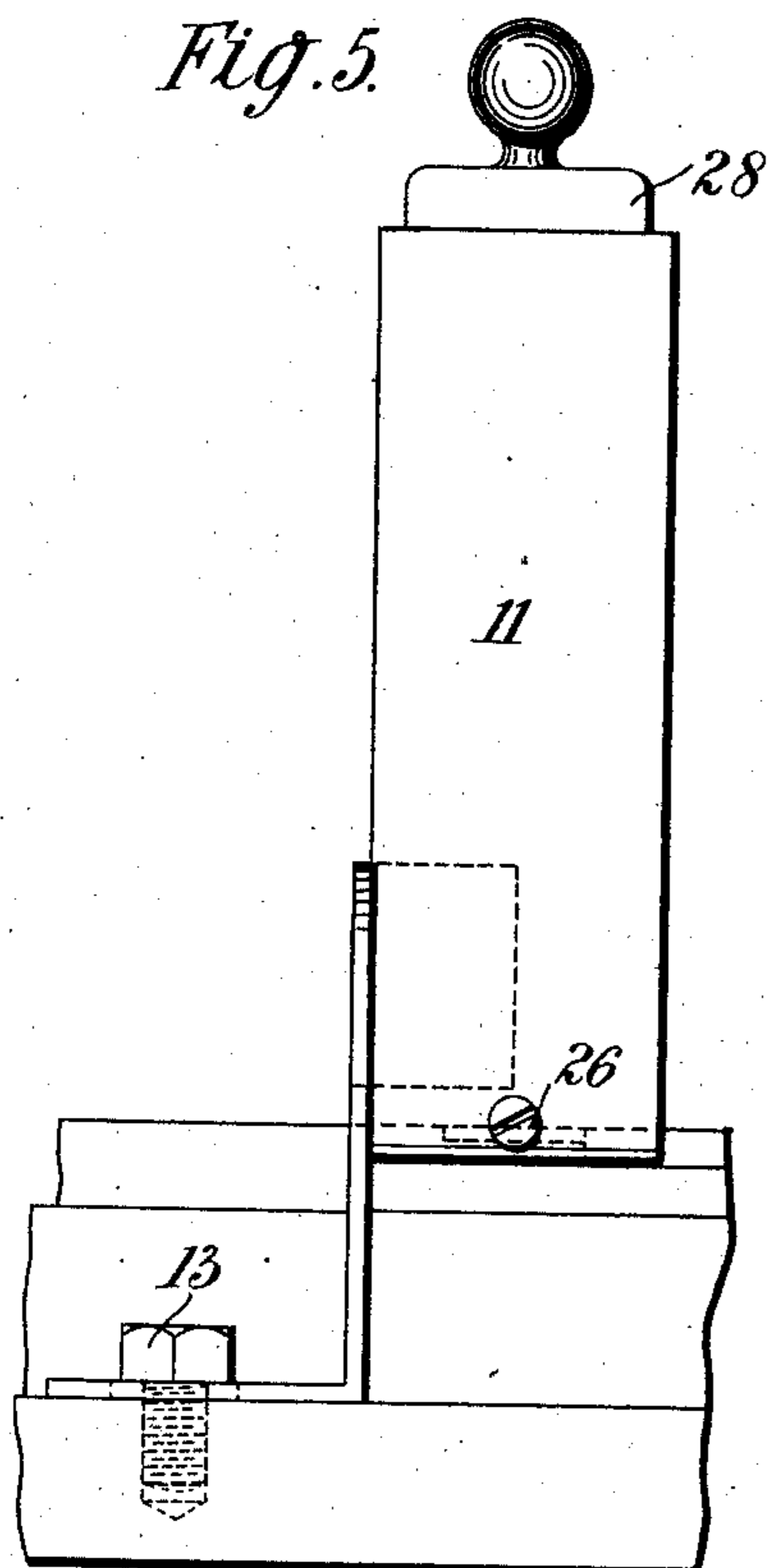


Fig. 7.

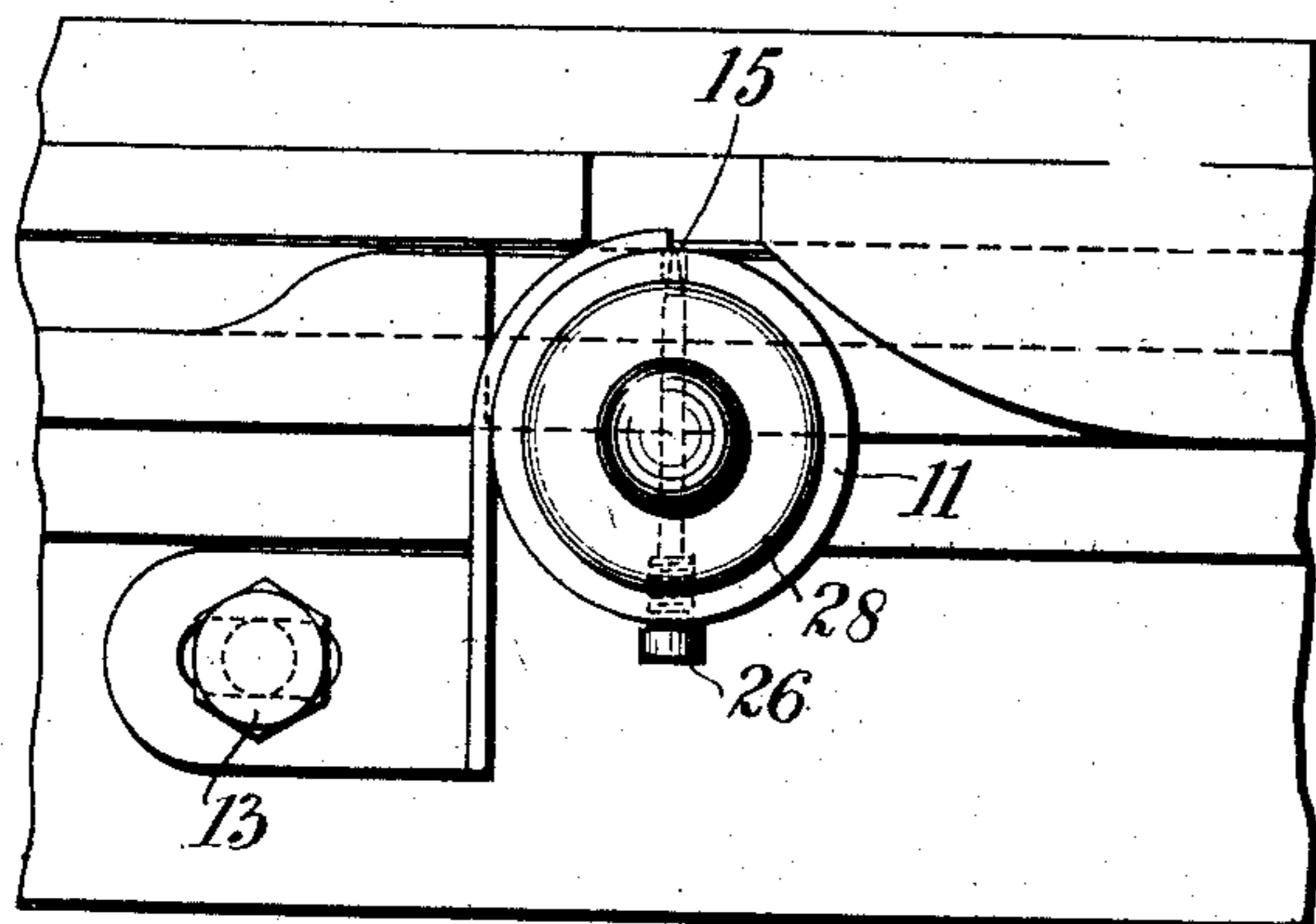
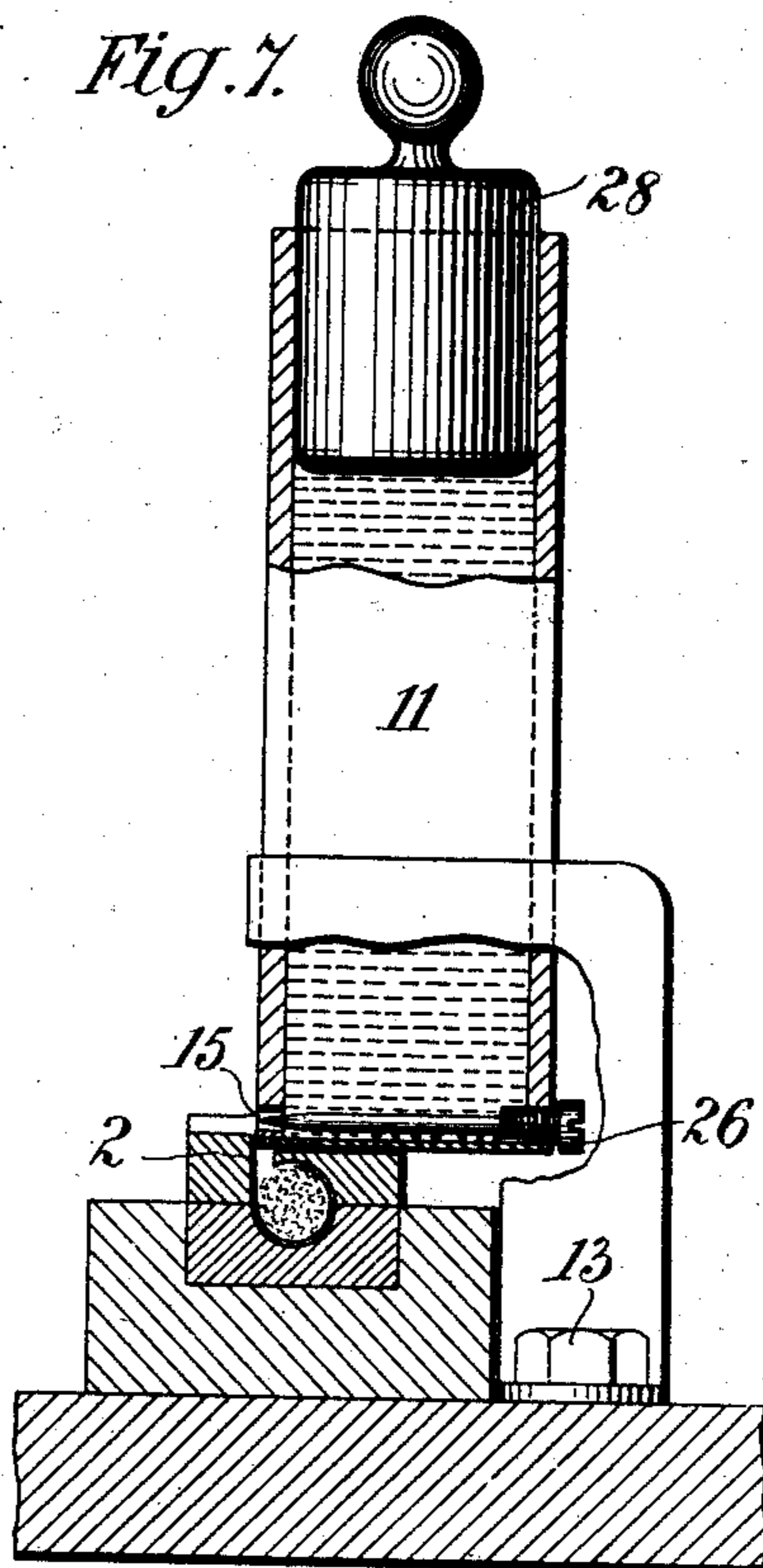


Fig. 6.

WITNESSES.

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UNITED STATES PATENT OFFICE.

LOUIS BERNHARD BARON, OF LONDON, ENGLAND.

CIGARETTE-MAKING MACHINE.

No. 854,140.

Specification of Letters Patent.

Patented May 21, 1907.

Application filed May 7, 1906. Serial No. 315,647.

To all whom it may concern:

Be it known that I, LOUIS BERNHARD BARON, engineer, a citizen of the United States, residing at 5 St. James's Place, London, England, have invented a certain new and useful Improvement in Cigarette-Making Machines, of which the following is a specification.

In specification 718813 of Letters Patent of 20th January, 1903 is described an effective and satisfactory machine for the manufacture of cigarettes in large quantities and where steam or other driving power is available. The present invention relates to a modified construction of machine of the general class therein described but of smaller size and weight and with less capacity for output but capable of being worked by hand power thus rendering it suitable for use where a very large output is not required or where steam or like power is not available.

The accompanying drawings illustrate so much of the machine as is necessary to define the present invention and in same Figure 1 is a side elevation. Fig. 1^a is an end elevation on line *z z* thereof. Fig. 2 a partial plan view thereof. Fig. 3 a side sectional elevation on a larger scale of the feed and compression wheels and feed tube. Fig. 4 a plan view thereof. Fig. 5 a rear elevation of the pasting device. Fig. 6 a plan view thereof, and Fig. 7 a side sectional elevation of the same.

It has heretofore been proposed to compress the tobacco directly upon the intended paper wrapper but owing to the puncturing of the paper no successful machine with such construction has been produced and the result has been that in commercial practice it has been customary to compress the tobacco while traveling on a steel, leather, cotton or like endless band or tape and after such compression to pass it on to the paper traveling on and with a second like endless band or tape rising up from beneath the machine and traveling through the paper folding devices so as to deliver the continuous tobacco rod so formed and wrapped to the cutting off mechanism.

According to the present invention but one endless tape or band 1 is employed and it with the paper 2 travels between suitable side plates 24 forming the feed trough beneath the ordinary feed hopper 3 the whole length of the machine, the paper when wrapped and pasted about the tobacco rod

passing to the cutting mechanism 4 while the endless tape 1 returns around the main driving wheel 25 and over tension pulley 23 and guide pulleys 7 as most clearly seen in Fig. 1.

For the purpose of effecting the first compression and to feed the tobacco to the horizontal compression rollers 5 it has been customary to employ a grooved vertical feed wheel which partially forms the rod but according to the present invention it is proposed to use a flat faced vertical wheel 6 extending between the outer edges of the horizontal compression wheels 5 to a point close to where such wheels contact and to provide a beveled scraper plate 27 which will prevent wheel 6 carrying up any of the tobacco and at the same time cover the space between wheels 5 and prevent the tobacco from rising out from between them. The beveled or chisel edged scraper plate 27 is capable of longitudinal adjustment so as to permit of wear being taken up. This end may be secured by forming a slot 55 in frame 56 against which the upper end 57 of the arm 58 carrying said plate is adjustably held by thumb screw 59.

As the tobacco rod leaves the compression wheels it passes between adjustable covered scrapers 8 which are shown as being held in the desired position by thumb screw 60 engaging with the outer part of plate 27. The arrangement prevents outward and upward travel and compels all the tobacco to travel forward and into an adjustable curved and tapered tongue or cover 9 provided with outwardly flared ends 12 contacting with the paper and causing any loose particles of tobacco to be carried forward through the tongue which extends into and conducts it to the usual paper folding or wrapping device 10 and thence past the gumming or pasting device now to be described.

In cigarette machines it has been customary to employ a horizontal paster wheel the surface of which carries forward to the upstanding edge of paper a certain amount of paste and this method is efficacious where there is a rapid travel of the rod and a long length of pressing and drying tube beyond the paster wheel, but according to this invention where the machine is short and the travel more slow it is preferred to employ a liquid paste or gum fed directly to the upstanding edge of paper from an adjustable reservoir 11 mounted on the machine and capable of adjustment by means of set screw 13 so that the

paste or gum delivery orifice 15 can be made to correspond with the position of the up-standing edge of paper 2 as most clearly seen in Fig. 7. Where the gum or paste is not sufficiently liquid to flow by its own weight it may be forced out by a superposed weight 28 and the flow can be regulated or at once checked by a tapered screwed spindle 26 in the feed orifice. The paper being turned down and the tobacco rod wrapped in the usual manner the continuous wrapped tobacco rod passes through the drying tube 42 (see Fig. 1) to the cut off mechanism 4 which is of the usual construction except that it is adjustably mounted at 17 so as to enable the length of cigarette cut to be varied as desired.

As shown in the drawings (see Figs. 1 and 1^a) the construction and mode of operation of the cut off mechanism is as follows:—Mounted on shaft 21 is a gear 29 engaging with gear 30 on shaft 31 which at its outer end carries a further gear 32 which engages with gear 33 carried in a movable frame or link 34 adjusted in the desired position by handle 35 and set screw 36. Gear 33 engages in turn with gear 37 on shaft 38 which also carries a cam 39 upon which rests the roller 40 of arm 41 of the cut off 4. Arm 41 is pivoted at 43 to part of the slide 44 hereinafter described and carries at its upper end the circular knife 45 driven from shaft 38 through gears 46 and 47 and pulleys 48 and 49 in the well known manner. Shaft 38 also carries a cam 50 against which by spring 51 the roller on arm 52 is kept in contact. The top of arm 52 is connected by link 53 with slide 44 the arrangement being such that as cam 50 revolves the slide and circular knife have a longitudinal travel the length of which can be varied by varying the pivot or fulcrum point at 17. It is of course necessary that the cam 39 should act at the proper time to advance and withdraw knife 45 and when varying the length of the cigarette to be cut it is necessary to correspondingly adjust the speed of shaft 38 and this can be effected by changing the gear 32 for a larger or smaller one as may be desired and readjusting movable gear 33 so as to engage therewith.

Although the machine described can be driven by steam or like power it is more especially intended to be worked by hand power and this can be effected by means of crank 18 attached to countershaft 19 driving through gears 20 and shaft 21 and gears 22 the main driving wheel 25.

What is claimed is:—

1. In cigarette machines and in combination tobacco feeding devices, an endless feed belt beneath same and passing beneath the compression and wrapping mechanism, a paper band upon and traveling the full length of the feed belt, a flat faced compression wheel above the paper, two horizontal compression wheels in close proximity to the vertical com-

pression wheel, an adjustable chisel edged scraper plate adapted to make contact with the vertical compression wheel close to the point of greatest compression of the tobacco thereunder and also forming a cover over the feed side of the horizontal compression wheels, and means for wrapping and pasting the paper about the tobacco and cutting off the cigarette rod formed, substantially as described.

2. In cigarette machines and in combination tobacco feeding devices, an endless feed belt beneath same and passing beneath the compression and wrapping mechanism, a paper band upon and traveling the full length of the feed belt, a flat faced compression wheel above the paper, two horizontal compression wheels in close proximity to the vertical compression wheel, an adjustable chisel edged scraper plate adapted to make contact with the vertical compression wheel close to the point of greatest compression of the tobacco thereunder and also forming a cover over the feed side of the horizontal compression wheels, scraper plates capable of longitudinal adjustment in plane with the tobacco feed and adapted to make contact with the horizontal compression rollers, an adjustable tapered tongue with outwardly flared ends adapted to collect and deliver to the tobacco rod any fine particles of tobacco which has passed outside the scraper plates, and means for wrapping and pasting the paper around the tobacco and cutting off the cigarette rod formed, substantially as described.

3. In cigarette machines and in combination, tobacco feeding devices, an endless feed belt beneath same and passing beneath the compression and wrapping mechanism, a paper band upon and traveling the full length of the feed belt, a flat faced compression wheel above the paper, two horizontal compression wheels in close proximity to the vertical compression wheel, an adjustable chisel edged scraper plate adapted to make contact with the vertical compression wheel close to the point of greatest compression of the tobacco thereunder and also forming a cover over the feed side of the horizontal compression wheels, scraper plates capable of longitudinal adjustment in plane with the tobacco feed and adapted to make contact with the horizontal compression rollers, an adjustable tapered tongue with outwardly flared ends adapted to collect and deliver to the tobacco rod any fine particles of tobacco which has passed outside the scraper plates, an adjustable pasting device delivering the gum or paste directly from the receptacle to the paper, and means for cutting off the cigarette rod formed, substantially as described.

4. In cigarette machines and in combination, tobacco feeding devices, an endless feed belt beneath same and passing beneath the

compression and wrapping mechanism, a paper band upon and traveling the full length of the feed belt, a flat faced compression wheel above the paper, two horizontal
 5 compression wheels in close proximity to the vertical compression wheel, an adjustable chisel edged scraper plate adapted to make contact with the vertical compression wheel
 10 close to the point of greatest compression of the tobacco thereunder and also forming a cover over the feed side of the horizontal compression wheels, scraper plates capable of longitudinal adjustment in plane with the tobacco feed and adapted to make contact
 15 with the horizontal compression rollers, an adjustable tapered tongue with outwardly flared ends adapted to collect and deliver to the tobacco rod any fine particles of tobacco, which has passed outside the scraper plates,
 20 means for wrapping and pasting the paper around the tobacco rod and an adjustable cut off mechanism by which the length of cigarette cut from the rod can be varied, substantially as described.

25 5. In cigarette machines and in combination, tobacco feeding devices, an endless feed belt beneath same and passing beneath the compression and wrapping mechanism, a paper band upon and traveling the full
 30 length of the feed belt, a flat faced compression

wheel above the paper, two horizontal compression wheels in close proximity to the vertical compression wheel, an adjustable chisel edged scraper plate adapted to make contact with the vertical compression wheel 35 close to the point of greatest compression of the tobacco thereunder and also forming a cover over the feed side of the horizontal compression wheels, scraper plates capable of longitudinal adjustment in plane with the tobacco feed and adapted to make contact 40 with the horizontal compression rollers, an adjustable tapered tongue with outwardly flared ends adapted to collect and deliver to the tobacco rod any fine particles of tobacco 45 which has passed outside the scraper plates, an adjustable pasting device delivering the gum or paste directly from the receptacle to the paper, and an adjustable cut off mechanism by which the length of cigarette cut 50 from the rod can be varied, substantially as described.

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

LOUIS BERNHARD BARON.

Witnesses:

WM. H. BELL,
 HY. W. DANBURY.