A. BOUCHER.

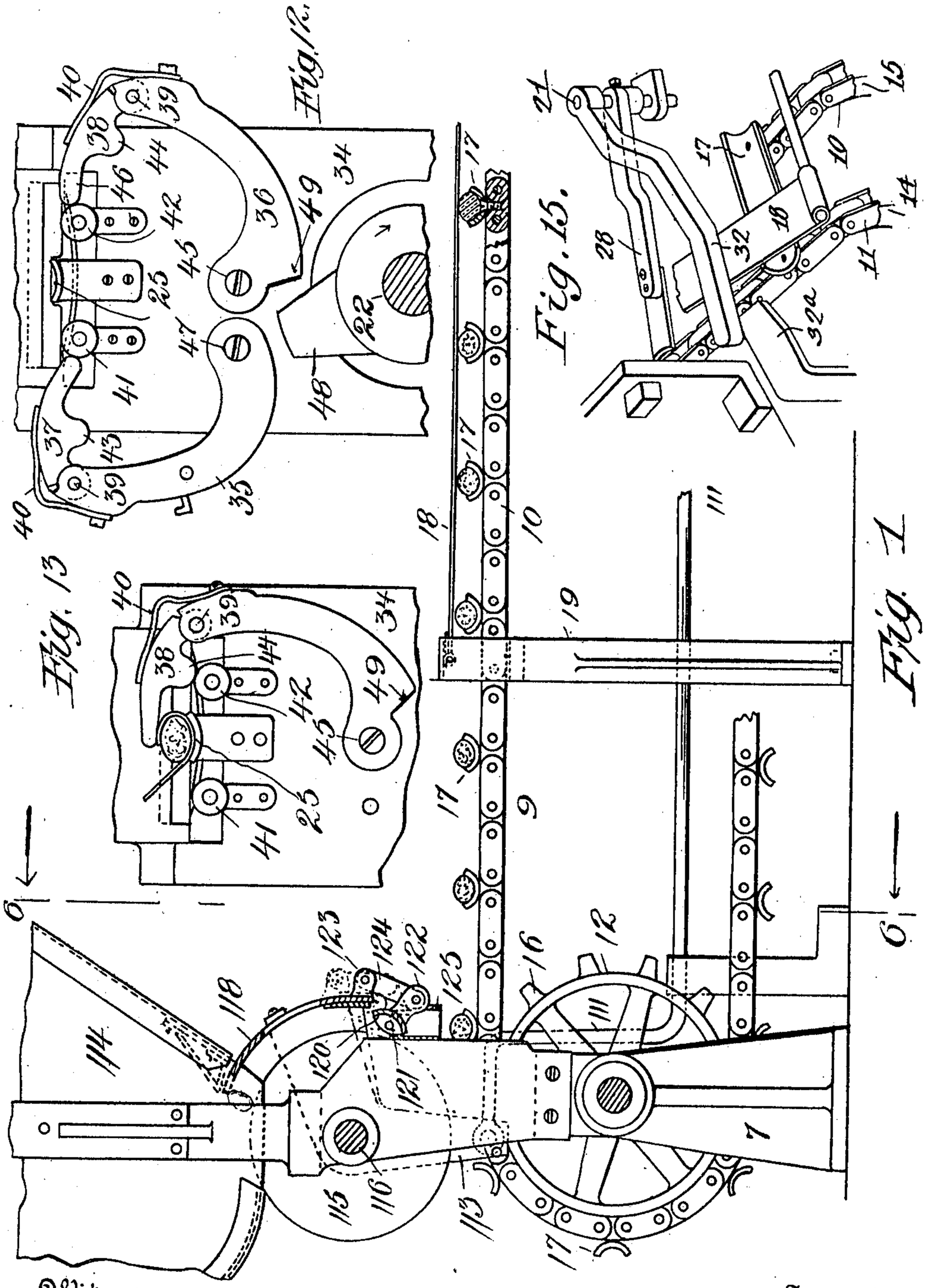
CIGARETTE TIPPING MACHINE.

APPLICATION FILED JAN. 31, 1908.

970,011.

Patented Sept. 13, 1910.

6 SHEETS—SHEET 1.



Witnesses:

W. M. Benjamin

Mae E. Foster

Inventor

Alexander Boucher

By his Attorney

Charles G. Hensley

A. BOUCHER.

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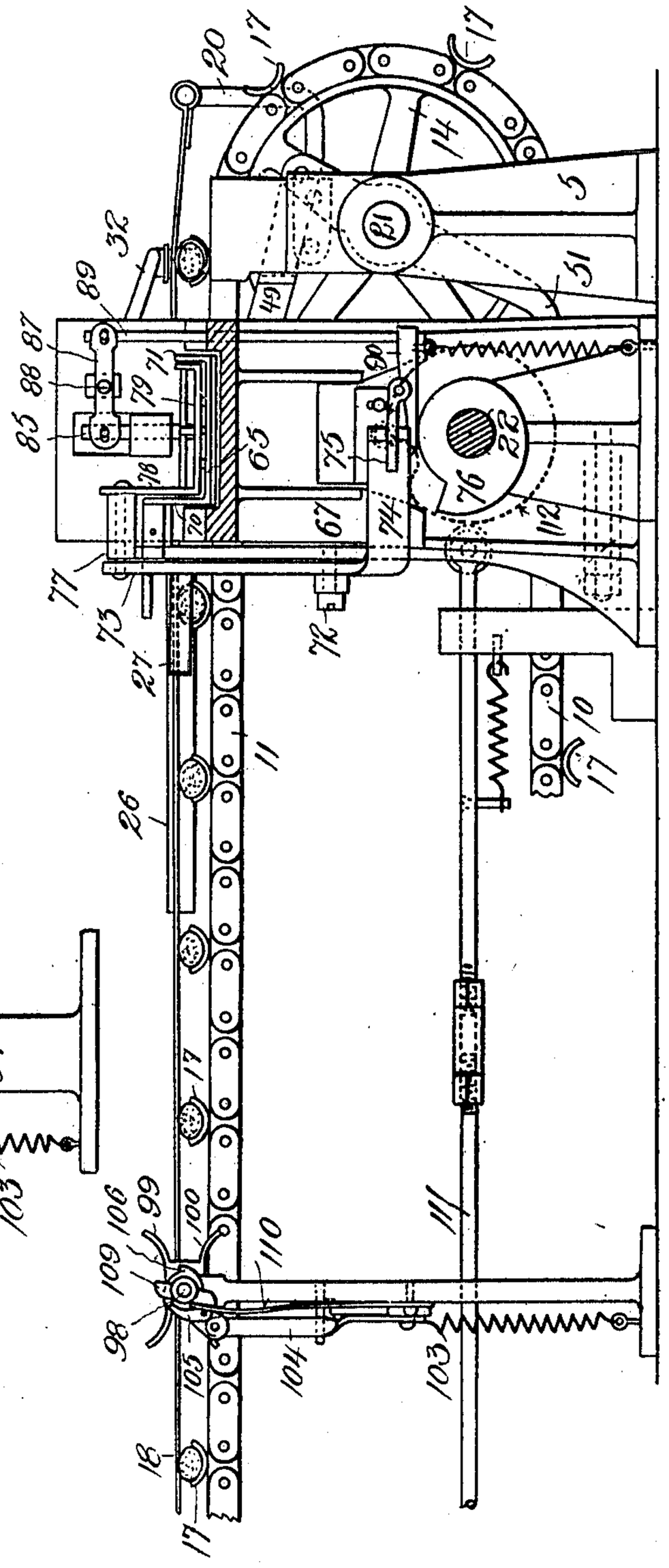

Fig. 12.

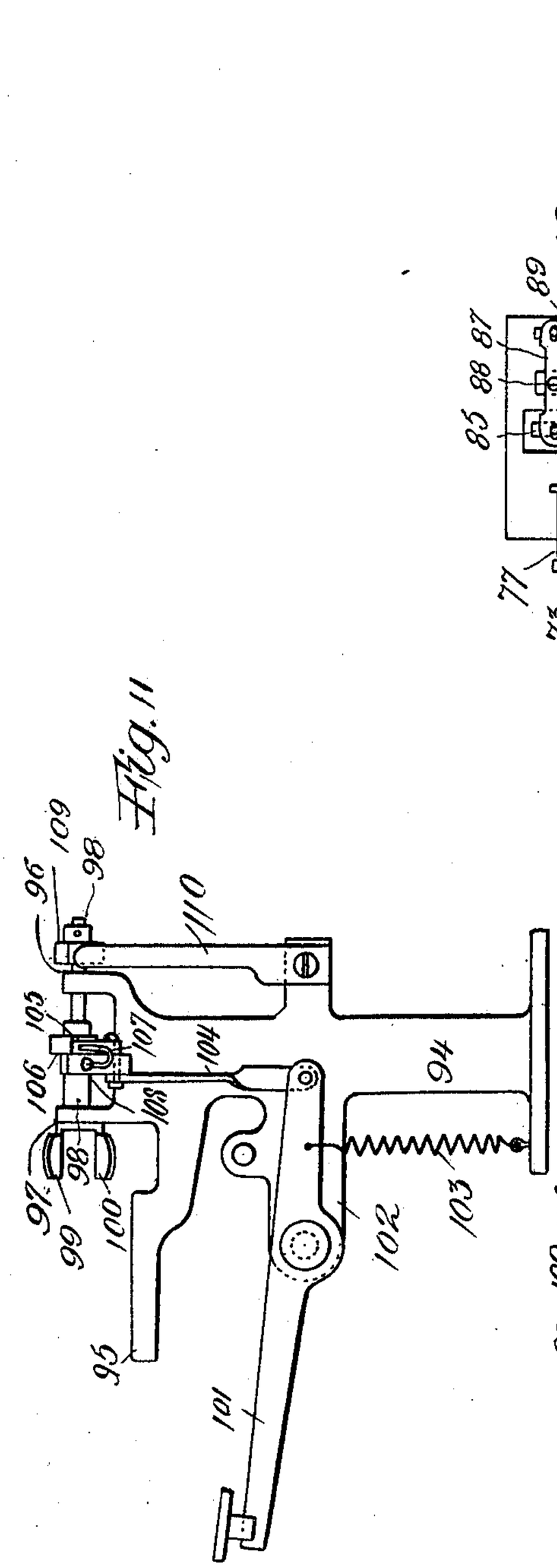

Fig. 11.

Witnesses:
W. F. Benjamin
Mae E. Foster

Inventor
Alexander Boucher
By his Attorney
Charles G. Hawley

A. BOUCHER.

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6 SHEETS—SHEET 3.

Fig. 14.

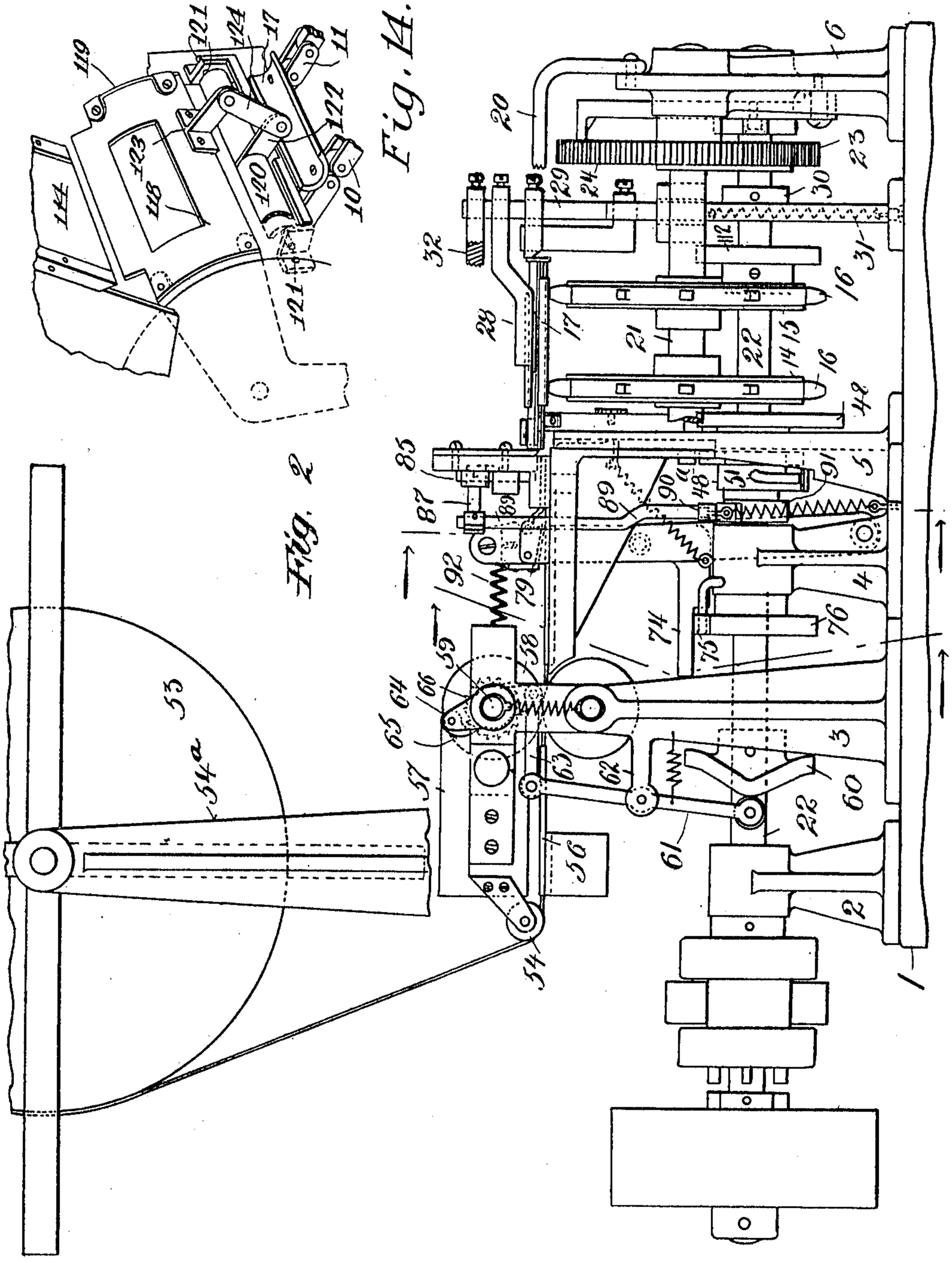

Fig. 2

Witnesses:
W. P. Benjamin
Mae E. Foster

Inventor
Alexander Boucher
By his Attorney
Charles G. Hunsley

A. BOUCHER.

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6 SHEETS—SHEET 4.

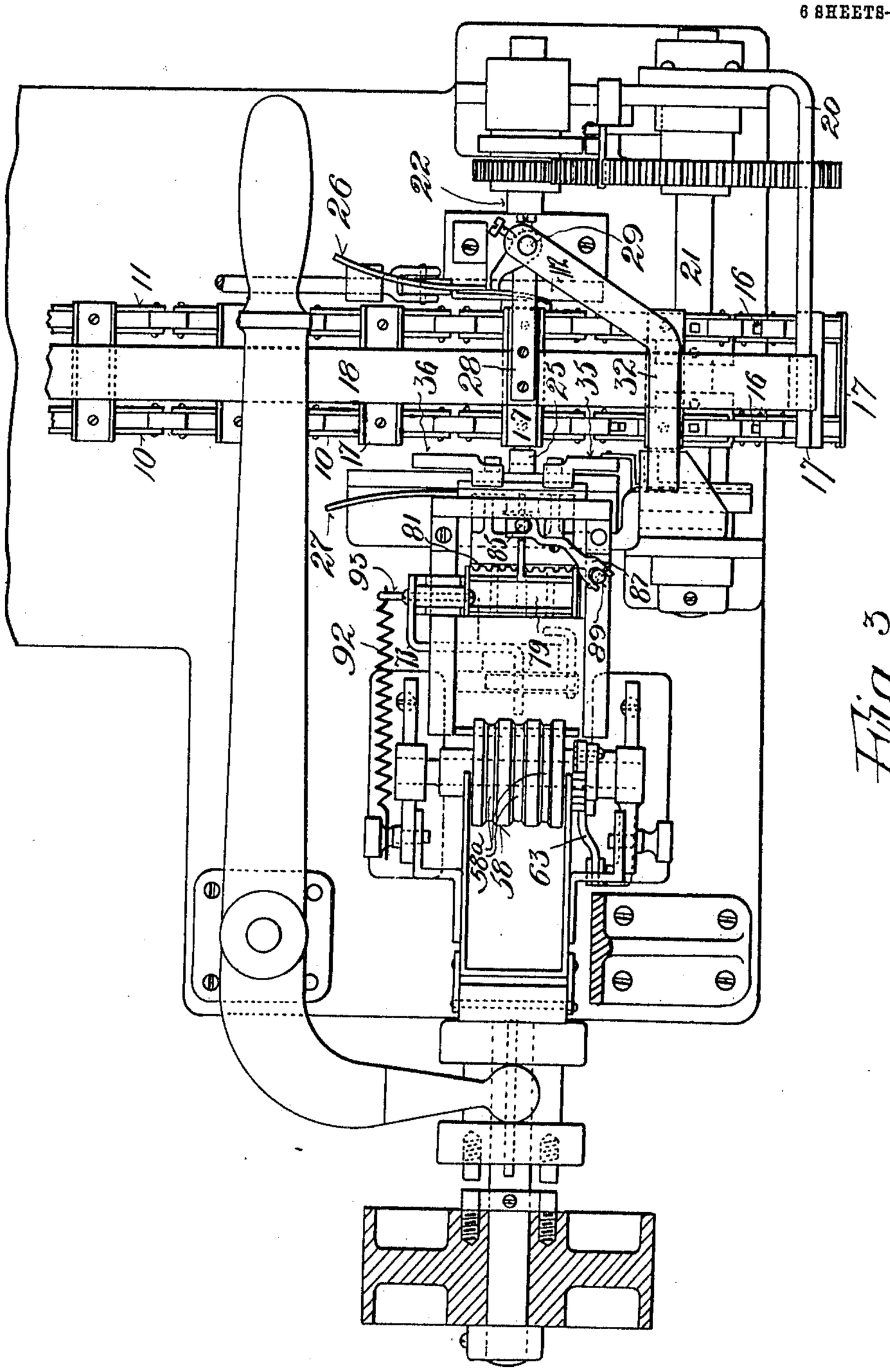

Fig. 3.

Witnesses:
W. W. Benjamin
Mae C. Foster

Inventor
Alexander Boucher
By his Attorney
Charles G. Hensley.

A. BOUCHER.

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6 SHEETS—SHEET 5.

Fig. 5

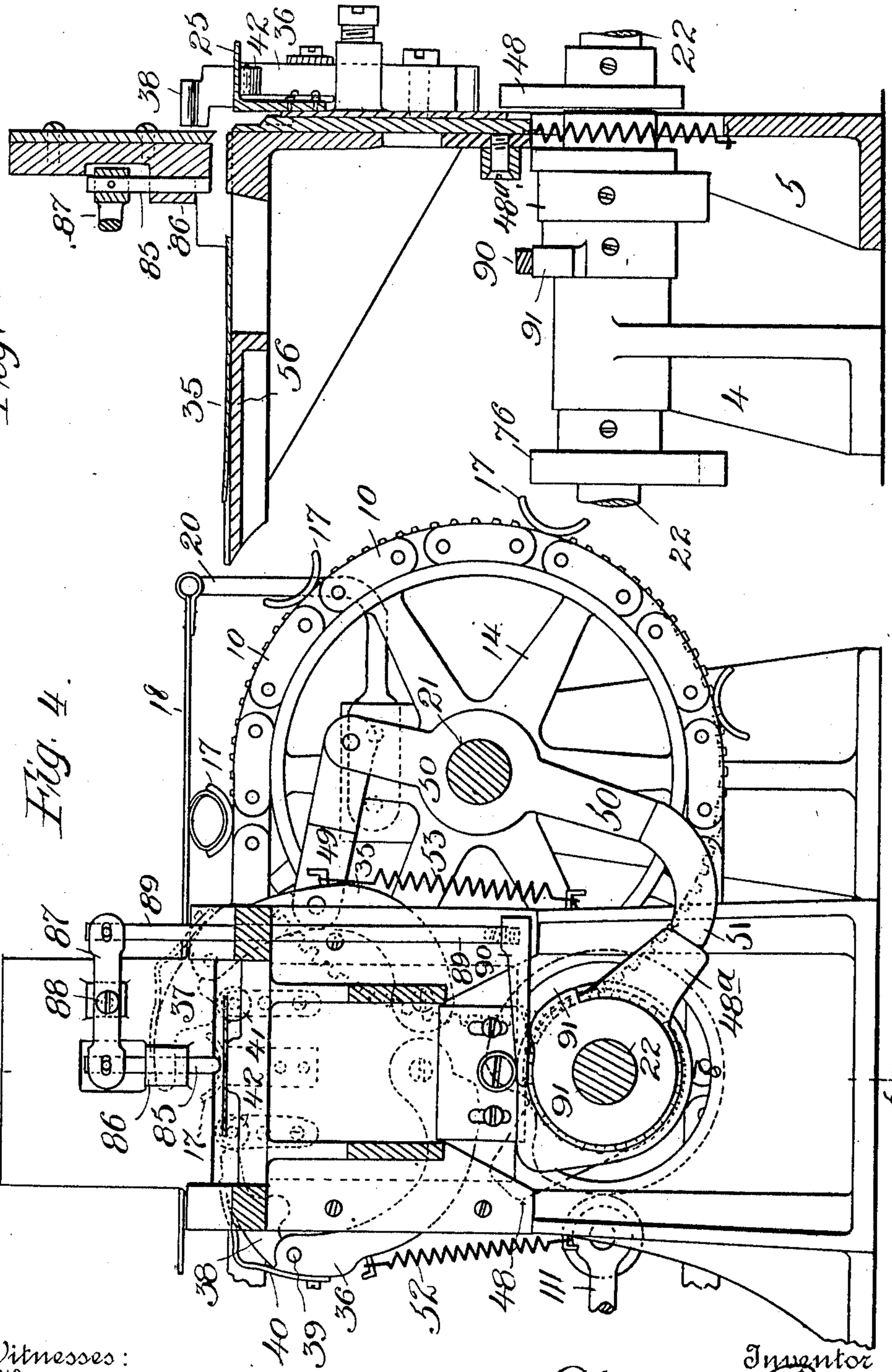

Fig. 4.

Witnesses:
W. F. Benjamin
Mae E. Foster

Inventor
Alexander Boucher
By his Attorney
Charles G. Hensley

A. BOUCHER.

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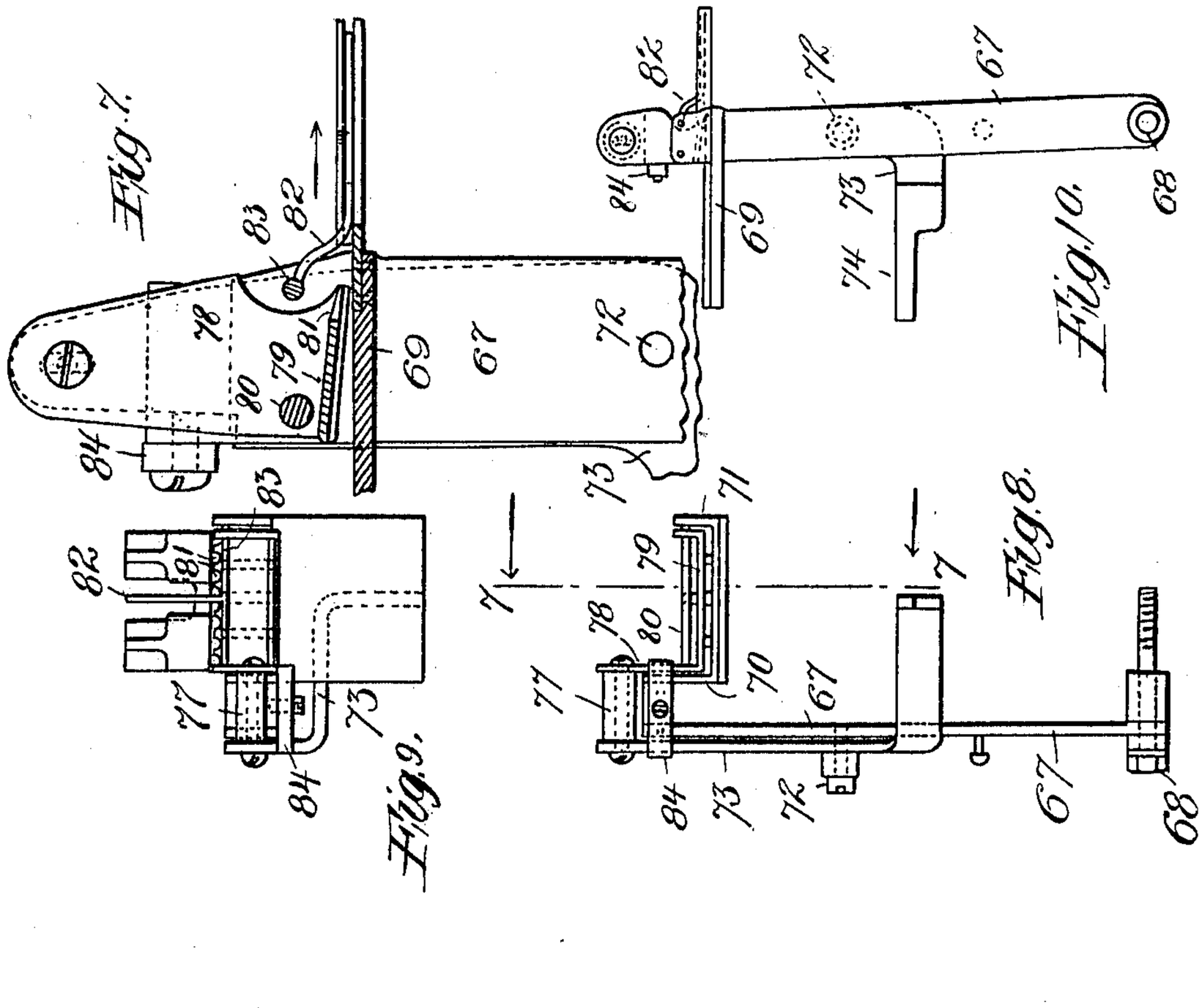
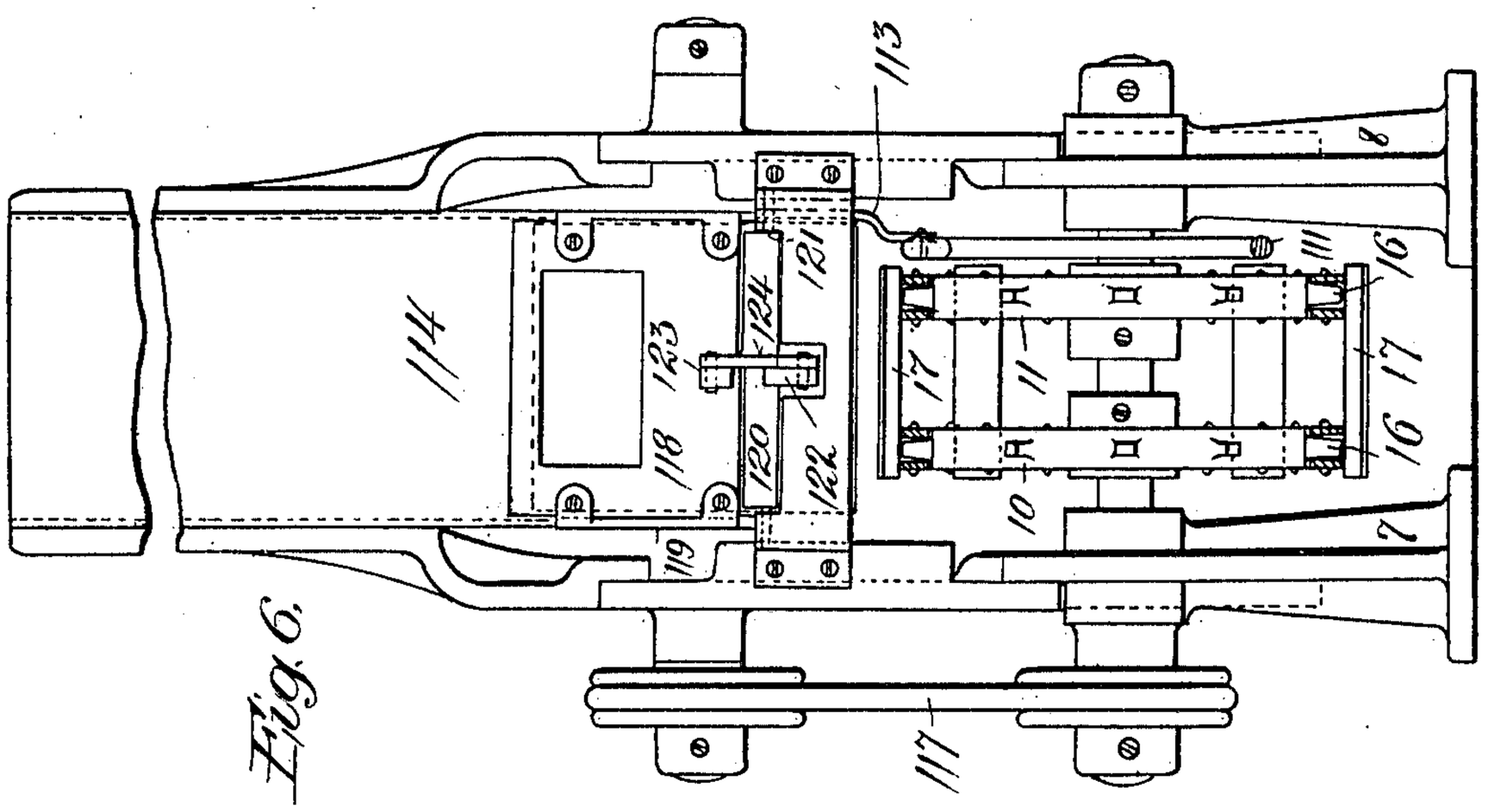
6 SHEETS—SHEET 6.





Witnesses:

A. D. Brest

Mae E. Foster

Inventor

Alexander Boucher

By his Attorney

Charles G. Hensley.

UNITED STATES PATENT OFFICE.

ALEXANDER BOUCHER, OF BOSTON, MASSACHUSETTS.

CIGARETTE-TIPPING MACHINE.

970,011. Specification of Letters Patent. Patented Sept. 13, 1910.

Application filed January 31, 1908. Serial No. 413,555.

To all whom it may concern:

Be it known that I, ALEXANDER BOUCHER, a citizen of the United States, and a resident of the city of Boston, county of Suffolk, and State of Massachusetts, have invented certain new and useful Improvements in Cigarette-Tipping Machines, of which the following is a specification.

My device is adapted to apply tips of cork or other material to the ends of cigarettes and belongs to the class of machines known as individual tippers, that is, where the cigarettes after being formed and cut into lengths are individually tipped and the present device is an improvement over the one shown in my U. S. Patent No. 887,761, dated May 19th, 1908.

The objects of the present device are to improve the speed and operation of the tipping means so that a more perfect operation is produced; to provide a device in which the relation of the various movements of different parts of the machine are more perfectly controlled; to improve the feeding of the tipping material; and to provide for rapidly reversing the position of the cigarettes on the carrier so that the overlapping of the tip will appear on the side of the cigarette opposite that on which the printing appears.

The details of one embodiment of my invention and the operation thereof will more fully appear hereafter.

In the drawings forming a part of this application, Figures 1 and 1ª are a side elevation of my improved machine, 1ª being in section on the line 1—1 of Fig. 4, Fig. 2 is a front elevation thereof, with the carrier removed for the purpose of illustration, Fig. 3 is a plan view of portion of the machine, Fig. 4 is a section on the line 4—4 of Fig. 5, Fig. 5 is a section on the line 5—5 of Fig. 4, Fig. 6 is a section on the line 6—6 of Fig. 1, Fig. 7 is a section on the line 7—7 of Fig. 8, showing the details of the cork feeder, Fig. 8 is a front elevation of the same, Fig. 9 is a plan view thereof, Fig. 10 is a side elevation thereof, Fig. 11 is an elevation of the device for turning the cigarettes when traveling on the carrier, Fig. 12 is an elevation, partly in section, showing the tipping members, and Fig. 13 is a similar view of one of the tipping fingers as it is acting on the cork tip, Figs. 14 and 15 are perspective views of some of the working parts.

Many of the features of my invention are more useful in making cigarettes of oval shape; which is the one most used at the present time, and as cork is the material most used for tipping I will refer to the tipping material as cork in the present case, though it is to be understood that other materials could be used. The material applied to the end of the cigarette I will refer to as the tip.

In the construction of my machine I have used a base 1, as a foundation for the whole device and upon this base I have placed various standards 2, 3, 4, 5, 6, 7 and 8, upon which various parts of the mechanism are mounted. In the present construction I have a hopper which supplies the separate cigarettes to a conveyer or carrier which presents each cigarette to a position to be acted upon by a tipping mechanism for the purpose of applying the tips. The carrier 9, in the present instance consists of two continuous parallel chains 10 and 11 which travel around a pair of sprockets at each end of the machine, which I have numbered 12, 13, 14, and 15, and with the teeth 16 of which sprockets the various links of the chains engage. It will be noticed that the pairs of sprockets at the opposite ends of the machine are mounted on common shafts so that the links of the two chains will travel parallel, and that by having this chain and sprocket connection between the shafts they move synchronously and the different movements will be properly timed so that the cigarettes on the carrier will always be presented to the tipper exactly, which may not be the case if the carrier were a belt, and liable to slip on the pulleys. The chains here used may be ordinary bicycle chains. The chains forming the carrier are provided at regular intervals with a number of holders 17 which are semicircular in cross section and on which the hopper is adapted to deliver the cigarettes to be tipped. The holders lie transversely of and are secured to the two chains. In order to keep the cigarettes from being displaced on the carrier through lashing of the latter I provide an apron 18 of flexible material which is supported above the carrier upon brackets 19 and 20 so that the cigarettes will not be jarred from their holders while moving on the carrier and while being tipped. The carrier is moved intermittently so as to present each cigarette to the tipping mechanism and hold it there while the tip is be-

ing applied and I provide various devices for positioning the cigarettes on the holders, for gripping the cigarette while being tipped and for finally pressing the seam of the tip to complete the tipping as will appear hereinafter.

By reference to the end of the machine having the tipping mechanism it will be seen that there are two shafts 21 and 22 on which various cams and mechanical appliances are provided and power is transmitted from the power shaft 21 to shaft 22 by the meshing gears 23 and 24 so that they move synchronously.

I will now describe the construction of the tip applying mechanism. The pair of knives by which the tip is severed is similar to that shown in my application referred to and I will therefore not describe it in detail here. It is sufficient to say that there is an upper stationary and a lower movable blade between which the cork strip is fed and by the upward movement of the lower blade the cork is severed at the end of the cigarette; and as in my former case the cork is fed in the longitudinal direction of the cigarette and is of sufficient width to surround the end thereof and slightly overlap on its edges. At each operation of the machine the carrier is moved a distance equal to the space between the holders, and so presents the projecting end of the cigarette over the resting plate 25 where it remains while the tip is being applied, and in order that the cigarette will project a proper distance beyond the holder *i. e.* sufficient to allow the tip to be applied, I provide guides 26 and 27 (see Fig. 3) which are preferably resilient near their outer ends, and when the cigarettes move between these guides they will be moved into proper position on their holders. When the cigarette is brought into position over the plate 25 a gripping arm 28 presses down on the flexible apron and cigarette, holding the latter in place during the tipping, and the gripper moves away after the tipping has been completed. The gripping finger 28 is carried upon a vertical rod 29 which is moved up and down by a cam 30 on shaft 22 and a spring 31. Another finger 32 of greater length than the finger 28 (see Fig. 3) is carried by the same rod 29 and is pressed on the cigarette after it moves from the plate 25 to its next successive position and the purpose of this finger is to finally press the seam of the cork tip and and perfect the adherence thereof to the cigarette. The cork strip is intermittently fed out between the knife edges by means which will appear herafter, over the plate 25 and under the end of the cigarette sufficient to form a cigarette tip. When the cork and cigarette are thus placed the lower knife is moved upwardly, and by reason of its curved cutting edge it begins to cut the cork strip 33 from its outer edges toward the middle, at the same time carrying the edges up ready to be applied to the cigarette. As will appear, the cork when presented to the cigarette has been supplied with paste. As the knife completes its cutting certain members come into operation and wrap the tip around the end of the cigarette with the edges overlapping, forming a seam. The lower knife plate 34 has pivoted thereto a pair of arms or levers 35 and 36, each of which is provided with a finger 37, 38 fulcrumed at 39 and pressed down by springs 40 carried upon the arms. Rollers 41 and 42 are placed on each side of, and slightly below the plate 25, on which the shoulders 43 and 44 of the fingers contact. As will be seen the fingers 37 and 38 normally lie out of the path of travel of the cigarettes. When the tip has been severed and partly secured to the cigarette as described there are two free ends to be secured upon the cigarette and overlapped. The arm 36 is first rocked, as will appear, upon its fulcrum 45 when the shoulder 44 will move over roller 43 raising the finger 38 upwardly against the action of spring 40. The end 46 of the finger will then press one of the free ends of the cork tip upon the cigarette and then be removed. The arm 35 will then be rocked on its fulcrum 47 and the same function will be performed by the finger 37 upon the opposite free end of the tip, this time causing the ends to overlap and adhere to the cigarette. The cigarette then moves upon the carrier to its next successive position when the pressing finger or foot 32 will further press the seam of the tip when the tipping will be completed and the cigarette is ready to be discharged by the carrier.

The arms 35 and 36 are operated as follows: The cam 48 on shaft 22 (see Fig. 13) trips against the shoulder 49 of arm 36 and rocks it on its fulcrum to cause the finger operation described. The arm 35 is connected by a link 49ª to a lever 50 which is fulcrumed on shaft 21. The lower end 51 of this lever is also disposed in the path of a cam so that the lever 50 will be rocked and the arm 35 operated. Springs 52 and 53 return the arms.

The means for feeding the cork to the tipping appliance is preferably placed between the latter and the paste roller.

While my new cork feeding mechanism is especially important as used on the present machine, it may also be used to advantage on other machines.

The cork strip is fed from the spool 53 on the bracket 54 around the roller 55 and over a plate 56. The paste pot 57 has a paste roller 58 journaled upon a shaft 59 so as to deposit paste upon the upper side of the cork as it travels beneath the paste roller and the roller is intermittently rotated by a cam

movement. The cam 60 carried on the shaft 22 rocks the lever 61, pivoted on bracket 62, and through a link 63 the arm 64 and pawl 65 are moved, to impart movement to the paste roller through engagement with the ratchet wheel 66. When the cork leaves the paste roller it travels through a feeding device which feeds the cork a given amount at each action. This involves a means for feeding the cork forward and a gripper to hold the cork while the feeding member returns. The details of the feeding device are as follows, reference being had more particularly to Figs. 7 to 10. A rocking member 67 is fulcrumed at 68 to a suitable support and has a plate 69 disposed on the plane of the plate 56 and over the plate 56 and over the plate 69 the cork travels, the plate 69 moving forward with the member 67 when the latter rocks on its fulcrum. The plate 69 as will be seen is to one side of the member 67 and is supported by a plate 70 which, together with the opposite flange 71 forms the guides for the edges of the cork while it is passing through the feeder. The rocking member is provided with means which will grip the cork when the rocking member is moved forward and which will be released when it is about to be returned. In the device as I have used it this gripping means also rocks the member 67. Fulcrumed to the member 67 at 72 is a curved lever 73, the rearward end 74 of which is rocked by a finger 75 (see Fig. 1ª) which engages on the periphery of cam 76. The upper end of the lever 73 is provided with a lateral post 77 which carries a rocking member 78. Extending laterally from the lower end of the member 78 is a plate 79 which is disposed a sufficient distance above the plate 69 to allow the cork to pass between. The member 78 is pivoted by a pin 80 to the plate 70 preferably to the rear of the center of the member 78 and near its lower end. The forward edge of plate 79 I have provided with serrations 81 to better grip the cork. A pin 82, hung on a cross pin 83 drops upon the cork and assists in keeping it in place. A cross piece 84 is carried by the member 67 and against which the lever 73 engages on its return movement.

For the purpose of holding the cork while the feeding means is returning after each feed I provide a presser foot, shown more clearly in Fig. 4. A presser foot 85 is guided by a bracket 86 and is adapted to be pressed downward to grip the cork against the under support. The foot 85 is moved by a lever 87 which is fulcrumed at 88 and connected with a rod 89. The lower end of rod 89 is provided with a foot 90 which is moved by cam 91 carried on shaft 22. The operation of the feeding mechanism is as follows: The rocking member 67 is in an upright position, when the cam 76 will engage the arm 75 and rock the lever 73 when by reason of the latters fulcrum the cross bar 77, the plate 78 and gripping plate 79 will be rocked. As the plate 78 is fulcrumed at 80 the forward end of plate 79 having the teeth or serrations will rock downward, and engage the cork against the plate 69. A continuance of the rocking of lever 73 will then cause the feeding member 67 to rock from its lower end, when the cork will be carried forward sufficient to provide material for one tip. The presser foot 85 is then moved down upon the cork by the cam and lever action to grip the cork and hold it during the return of the feeding mechanism, to prevent the latter from withdrawing the cork from its advanced position. As soon as the cam 76 releases the lever 73 a spring 92 connected with a pin 93 on the lever 73 and to the frame, carries the lever 73 back, and when it strikes the cross piece 84 it also carries the feeding member 67 back to its former position. The commencement of such movement causes the plate 79 to be released from the cork.

It is common in cigarette making to stamp or print a name, initial or other matter on the cigarette and this is done on the paper before the cigarette is made so that when the cigarettes are placed in the tipping machine, the printing appears on the cigarettes. It is necessary in order to preserve a neat appearance to apply the cork tip to the cigarette with the overlapping seam of the cork on the side opposite the printing so I have provided a simple and efficient means which is disposed in the path of the cigarettes as they travel on the carrier, by which the operator may turn over the cigarette if it should come on the carrier with the printed side up. This mechanism and its application to my machine is shown in Figs. 1ª and 11. As was explained the form of cigarette generally made is oval, and my present device is more adapted for such. A standard 94 is placed on the bed of the machine, near the carrier and opposite one of the stopping points of one of the cigarette holders. The standard has a plate 95 extending laterally therefrom to form a support for the carrier. Supported by journals 96 and 97 on the standard is a shaft 98, which is in axial alinement with a cigarette on the carrier in one of its stopping positions and on the outer end of this shaft are parallel plates 99 and 100 having diverging ends which are slightly farther apart than the flat sides of the cigarette, and between which each of the projecting ends of the cigarettes on the carrier are adapted to rest during one of the operations of the tipper. I provide hand operated means for the turning of shaft 98 and plates 99 and 100. It consists of a finger lever 101 fulcrumed to a bracket

102 and held by a spring 103. The shaft 98 has an arm 108 loosely journaled thereon which is connected by a link 104 with one end of the lever 101. A dog or pawl 105 which is carried by the arm 108 is forced into engagement with a ratchet 106 on the shaft having but two places for engagement with the pawl. A cam block 109 is carried on the shaft 98 which has two inclined surfaces which are engaged by the flat spring 110. When a cigarette is moved by the carrier between the plates 99 and 100 if it is positioned with the printing up the operator simply presses the finger lever, when the pawl which engages the ratchet will start the shaft and plates revolving. When the shaft is thus turned about a quarter of a revolution the spring 110 acting on the inclined end of cam 109 will quickly turn the shaft the rest of a half turn until the long flat side of the cam 109 rests against the spring 110. If the operator moves the level slowly the cigarette might be displaced from its holder and the rapid completion of the turn by the cam and spring prevents this.

The hopper and its mechanism contains features of novelty and provide efficient means for delivering the cigarettes to each of the holders on the carrier. A long rod 111 is supported upon suitable brackets, with one end in the path of a cam 112 on shaft 22 which reciprocates the rod to rock an elbow lever 113. The reservoir 114 in which the cigarettes are supplied acts as a hopper to discharge the cigarettes in a passage between a drum 115, which is revolved on shaft 116 by a belt 117, and a circular movable guard 118. The guard 118 is carried on an arm of the lever 113 and on the arm 119 each of which rock on the shaft 116 and prevent the cigarette from dropping out of the passageway. A tumbling separator plate 120 of circular shape in cross section corresponding to the form of the cigarettes is pivoted upon pins 121 at its ends to suitable supports. A short arm 122 on the plate 120 and a short arm 123 on plate 118 is connected by a link 124. The cigarettes drop on the top of the rotating drum 115 and are worked by the rotation of the drum toward the passageway between the drum and movable plate 118. If the cigarette should be on its oval edge the end of plate 118 will tip it over so as to be moved into the passageway, which is large enough to allow the cigarettes to pass through edgewise only. The rod 111 rocks the lever 113 and with it the plate 118 working the cigarettes down the passageway. When the plate or separator 120 is turned as shown in Fig. 1 a cigarette falls upon the convex side and upon the upward movement of the circular plate 118, the lever and link connections 122, 123 and 124 rock the separator on its axis 121 and when it turns over the cigarette will be dropped through the passageway 125 to the holder on the carrier, below it. During the time the cigarette is being discharged the separator prevents any further cigarettes from dropping below it.

The operation of my invention will be understood from the description. The individual cigarettes are disposed on the different holders of the carrier which carry them toward the tipper. In the meantime they move into the turner and remain there a short period. If the cigarette appears with printed side up the operator simply presses the finger lever 101 when the cigarette will be turned over. If it is printed side down the operator does not move the finger lever. The cigarettes are then carried on their holders, being prevented from being displaced by the apron 18, until one of the projecting ends of the cigarettes comes over the plate 25 when the cork which has been fed over the plate 25 is cut by the upward movement of the curved edge of the lower knife. The spring actuated fingers then come separately into operation and press, by spring action, the separate ends of the tip on the cigarette with ends overlapping. While the tip is being applied the cigarette is being held in place by the pressing finger 28. When the tipping fingers have finished they move down and away from the cigarettes. After that the presser 28 is released and the carrier moves to its next successive position presenting another cigarette for tipping. Upon the next operation the finger 32 will press on the cork seam of the cigarette which has come from the tipper and press the seam perfectly together when the entire tipping is completed.

The machine may be made very compact and light so that the parts may operate very fast and tip a great many cigarettes.

The various features of improvement and new combinations of elements will fully appear in the claims.

Having described my invention what I claim is:

1. In a cigarette tipping machine the combination with a plate, of means for presenting cigarettes successively for tipping, with their ends projecting over said plate, means for feeding a piece of tipping material over said plate and longitudinally of the cigarette and means for applying the tipping material to the cigarette comprising a plurality of retractable elements normally lying below the path of the cigarettes and means for moving said retractable elements to cause them to engage the tipping material while the cigarette is held over the said plate.

2. In a cigarette tipping machine, the combination with a stationary plate, of a carrier adapted to present the ends of cigarettes

successively over the said plate and retain the same there during tipping, means for feeding a piece of tipping material to said plate and longitudinally of the cigarette and means for cutting and applying said tipping material to the end of the cigarettes.

3. In a cigarette tipping machine, the combination of an intermittently moving carrier adapted to successively present cigarettes to a position for tipping, means for cutting and applying tips to the cigarettes when presented by the carrier, and an operating element provided with a plurality of presser fingers, one of which is adapted to hold the cigarette while being tipped and the other being adapted to press the seam of the tip after the cigarette passes from the tip applying means.

4. In a cigarette tipping machine, a carrier having holders for cigarettes and adapted to present the projecting ends of the cigarettes successively for tipping, means for cutting and applying tips to the cigarettes ends thus presented and a flexible apron above the carrier, adapted to prevent the dislocation of the cigarettes on the carrier during their travel to the tipper.

5. In a cigarette tipping machine, the combination of a plate, a carrier adapted to be moved and bring the cigarettes successively over the said plate for tipping, with the cigarette projecting beyond the carrier, means for feeding the end of a strip of tipping material to the cigarette end, means for cutting the tipping material to provide a tip for the cigarette and means for attaching the tip to the cigarette, including a rocking arm having a spring pressed finger fulcrumed thereto adapted to press the tip on the cigarette through its spring action and means for operating said rocking arm.

6. In a cigarette tipping machine, the combination of a plate, a carrier adapted to present cigarettes successively to a tipping device, with the cigarettes ends projecting over the said plate, means for feeding a strip of tipping material to the cigarette ends and means for cutting the same and means for applying the free ends of the severed strip to the cigarette comprising in its construction a rocking arm having a finger fulcrumed thereto and pressed by a spring and means for rocking said arm whereby said finger will press the end of said tip on the cigarette through the action of the spring.

7. In a cigarette tipping machine, the combination of a carrier, a plate, said carrier being adapted to present cigarettes with their ends projecting over said plate and means for tipping the cigarettes when presented over the said plate, comprising means for feeding a strip of tipping material longitudinally of the cigarette and means for cutting said strip and a plurality of rocking arms adapted to press the free ends of the tip on the cigarette and means for alternately operating said arms.

8. In a cigarette tipping machine, the combination of a carrier adapted to present cigarettes successively to a tipping device, means for feeding a strip of tipping material to the cigarette, means for cutting the same, and means for applying the free ends of the severed tip to the cigarette, comprising in its construction a rocking arm having a finger fulcrumed thereto and pressed by a spring, means with which said finger engages to guide the finger into position to press the tip and means for rocking said arm to a position whereby the said finger will be caused by its spring action to engage the tip end and press the same on the cigarette.

9. In a cigarette cork-tipping machine, the combination with tipping mechanism, of means for feeding cigarettes thereto, a device provided with a movable element adapted to engage and turn the cigarettes as they are fed to said tipping mechanism, and means for operating said element.

10. In a cigarette cork-tipping machine, the combination with tipping mechanism, of means for carrying cigarettes spaced apart and delivering them to said tipping mechanism, a device located in the path of movement of the cigarettes and having a rotary shaft adapted to engage the cigarettes, and means for operating said shaft to partly rotate the cigarettes.

11. In a cigarette cork-tipping machine, the combination with tipping mechanism of means for carrying cigarettes thereto, a manually operated device adapted to engage any of the cigarettes as they are fed to said tipping mechanism to partially rotate the same.

12. In a cigarette tipping machine, the combination of a carrier, a plate, said carrier being adapted to present the ends of the cigarettes over said plate, means for feeding a strip of tipping material to the cigarette and means for severing a piece of the tipping material and means for applying the free ends of the tip to the cigarette comprising a plurality of rocking arms, normally below the path of the cigarette, a spring pressed finger fulcrumed to each of said arms and means for alternately rocking said arms to present said fingers over the ends of the tips, whereby the spring pressed fingers will press the ends of the tip to the cigarette.

13. In a cigarette tipping machine, means for tipping the cigarettes, a carrier adapted to present the cigarettes to the tipping means and means disposed in the path of the cigarettes by which said cigarettes may be turned over while on the carrier.

14. In a cigarette tipping machine, means for tipping the cigarettes, a carrier moving

intermittently to successively present cigarettes to the tipping means and means disposed at one of the stopping positions of the cigarettes and in the path thereof, by which the cigarettes are adapted to be turned over on said carrier.

15. In a cigarette tipping machine, means for tipping cigarettes, a carrier adapted to present the cigarettes with their ends projecting beyond the carrier, to the tipping means, a plurality of plates disposed so that the projecting ends of the cigarettes on the carrier will pass between the plates and means for turning said plates for turning over the cigarettes on the carrier.

16. In a cigarette tipping machine, means for tipping cigarettes, a carrier moving the cigarettes with their ends projecting, to the tipping means, a plurality of plates disposed so that the projecting ends of the cigarettes on the carrier will pass between the plates, a lever adapted to turn said plates and a spring operated cam adapted to complete a half turn of the plates, whereby the cigarette may be turned over on the carrier.

17. In a cigarette tipping machine, means for tipping the cigarettes, a carrier moving the cigarettes with their ends projecting, to the tipping means, a plurality of plates carried on a lateral shaft, the plates being disposed so that the cigarette ends will enter between the said plates, a hand operated lever having a pawl adapted to start the rotation of the said shaft and a spring operated cam adapted to complete a half turn of the shaft, whereby the cigarette will be turned over on the carrier.

18. In a cigarette tipping machine, means for successively presenting cigarettes for tipping, retracting means for feeding a strip of tipping material longitudinally of the cigarettes, means adapted to apply paste to the tipping material so as to leave an unpasted portion, and a presser foot adapted to engage the unpasted portion of the tipping material and hold the same during the return action of the retractable feeding element.

19. In a cigarette tipping machine, means for successively presenting cigarettes for tipping, reciprocating means for feeding a strip of tipping material longitudinally of the cigarettes, means for applying paste to the tipping material so as to leave a portion thereof unpasted, means for cutting the tipping material when it has been fed forward and a presser foot adapted to grip the unpasted portion of the tipping material, between the feeding and cutting devices, and means whereby the said presser foot will be actuated to grip the tipping material when the latter has been fed forward by the feeding means and hold the same until the return of the feeding means.

20. In a cigarette tipping machine, means for tipping cigarettes and means for intermittently feeding a strip of tipping material to the tipping means, comprising a rocking arm having a plate, a second plate carried by said arm and adapted to be rocked, between which plates the tipping material is adapted to be gripped, a lever fulcrumed to said arm and adapted to rock said second plate and means for rocking said lever to rock the said second plate and the said arm.

21. In a cigarette tipping machine a carrier adapted to convey cigarettes to a tipping device and means for applying cigarettes to the carrier, comprising a hopper, a revolvable drum and an oscillating guard, spaced apart and so disposed as to permit the cigarettes from the hopper to pass between them and a cut off for controlling the discharge of the cigarettes to the carrier.

22. In a cigarette tipping machine a carrier adapted to convey cigarettes to a tipping device and means for supplying cigarettes to the carrier, comprising a hopper, a revolvable drum and oscillating guard, spaced apart and so disposed as to receive in the passageway between them the cigarettes from the hopper and a cut off near the discharge end of the said passageway for controlling the discharge of the cigarettes to the carrier.

23. In a cigarette tipping machine, a carrier adapted to convey cigarettes to a tipping device and means for supplying cigarettes to the carrier comprising a receptacle, a revolving drum and an oscillating guard, between which guard and drum the cigarettes are adapted to pass a plate engaging the cigarettes which pass between the guard and drum, adapted to be turned over, means for oscillating the guard and means whereby the oscillation of the guard will rock said plate to discharge cigarettes on the carrier.

24. In a cigarette tipping machine, the combination of a tipping device, a carrier adapted to convey cigarettes to the tipping device, with their ends projecting beyond the carrier and a stationary guard disposed so as to contact with the cigarettes on the carrier and position them ready for tipping.

Signed this 24th day of January, 1908.

ALEXANDER BOUCHER.

Witnesses:
FRANCIS A. MCCARTHY,
WILLIAM H. BRIC.