May 9, 1933. H. J. GOSS 1,908,291

MACHINE FOR ASSEMBLING STRIP SECTIONS AND BOX BLANKS

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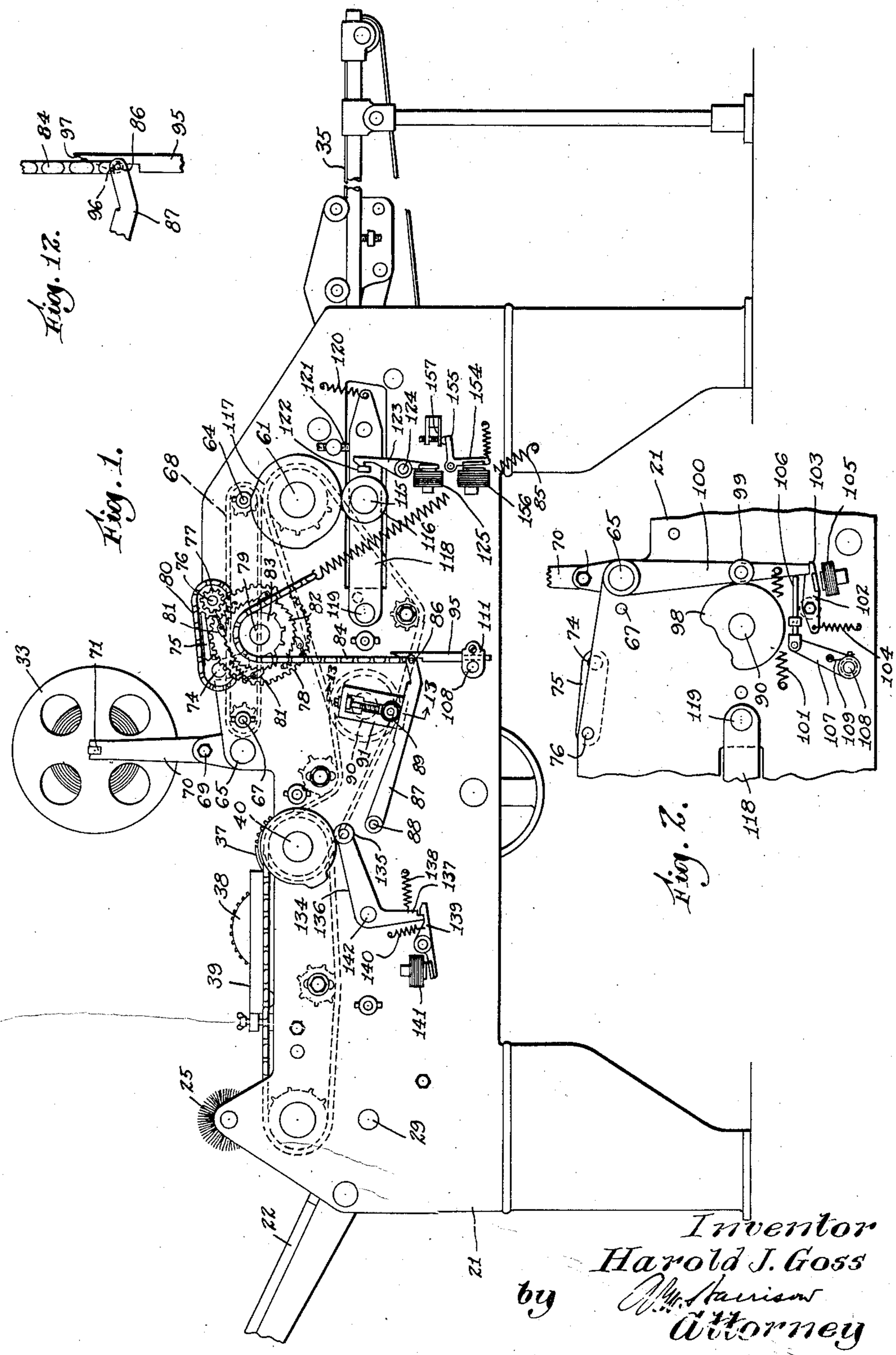

Fig. 1.

Fig. 12.

Fig. 2.

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MACHINE FOR ASSEMBLING STRIP SECTIONS AND BOX BLANKS

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Fig. 3.

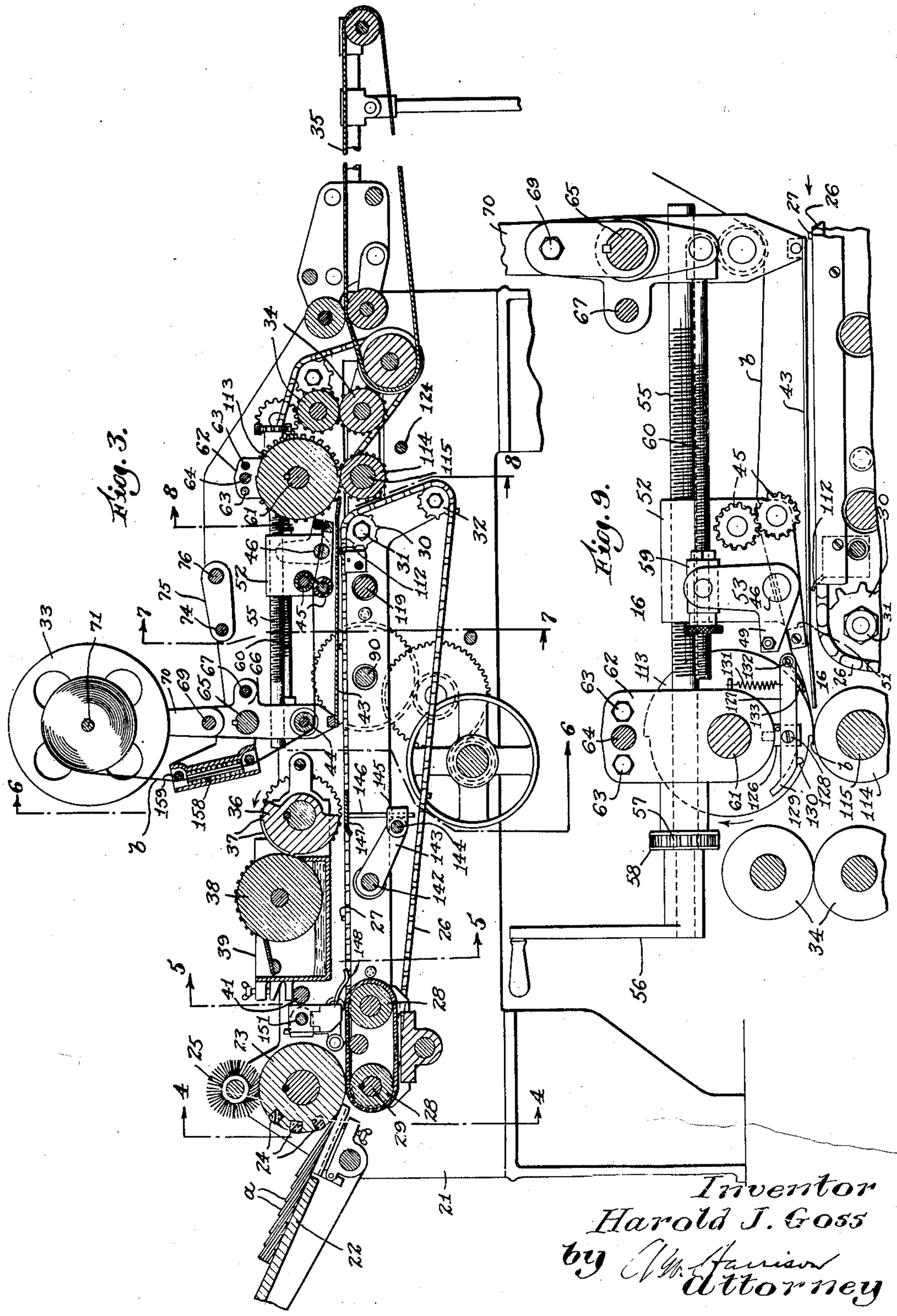

Fig. 9.

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MACHINE FOR ASSEMBLING STRIP SECTIONS AND BOX BLANKS

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Fig. 4.

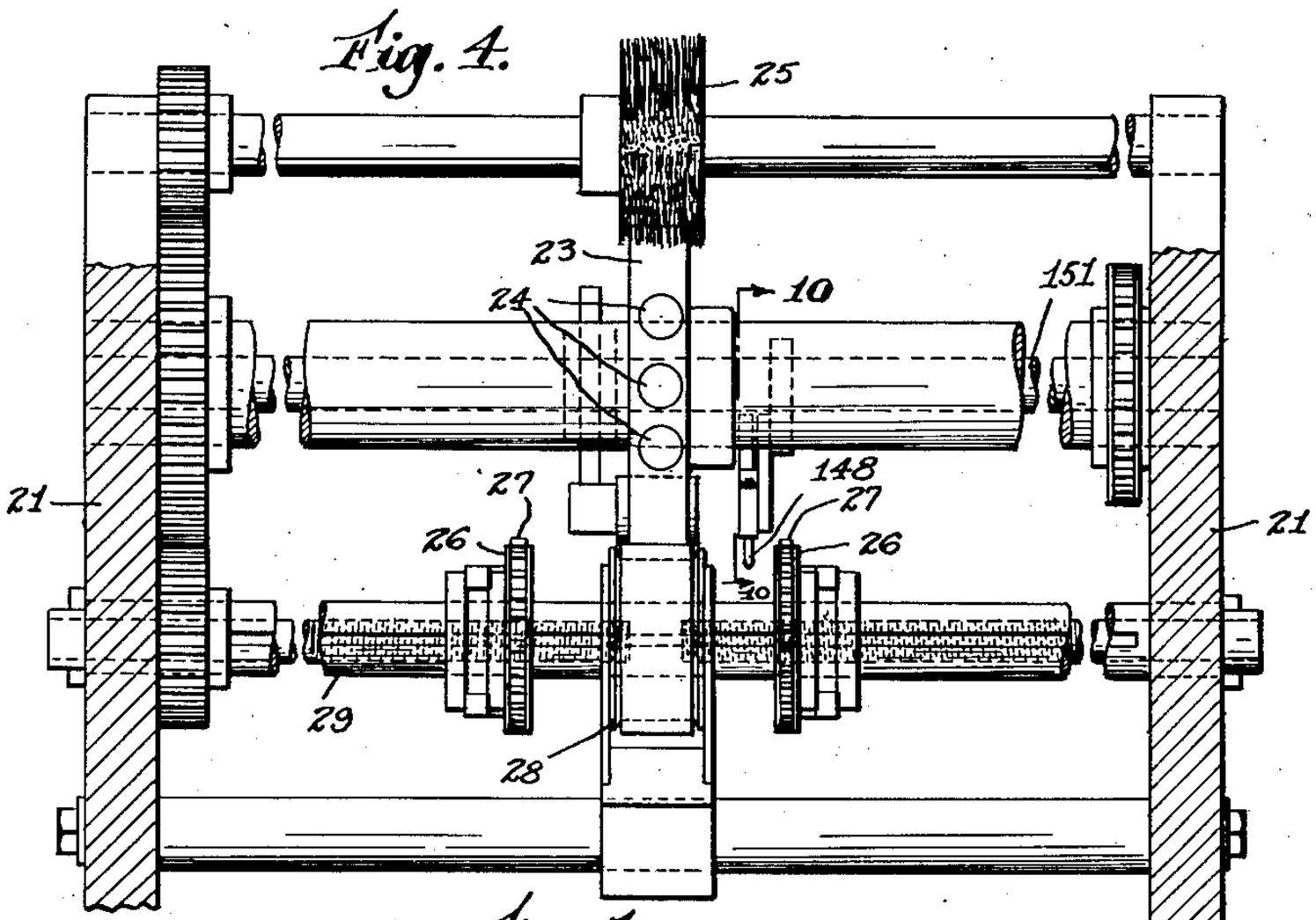


Fig. 5.

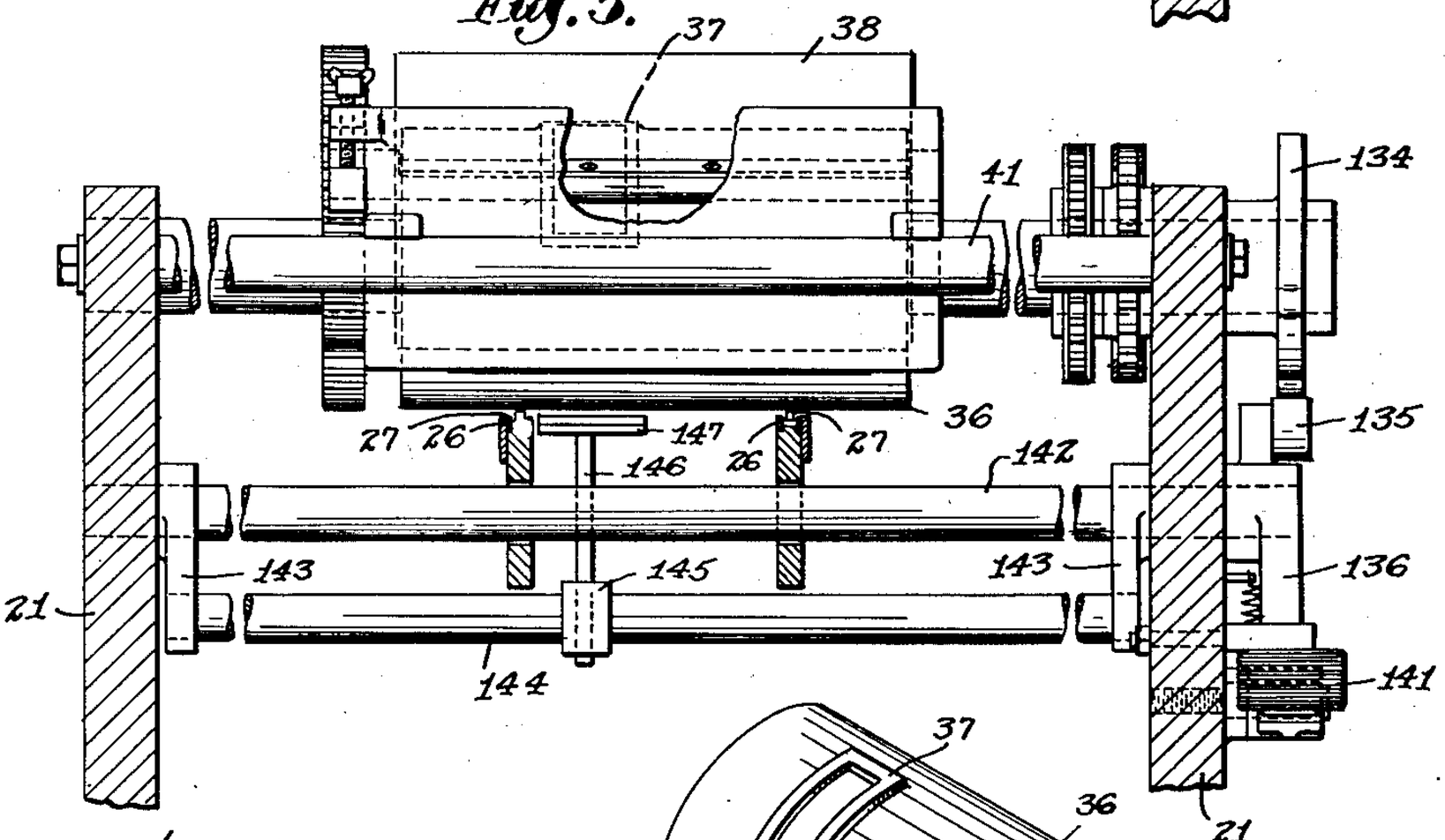
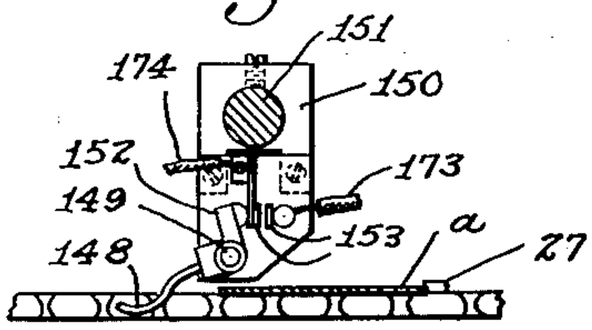


Fig. 10.



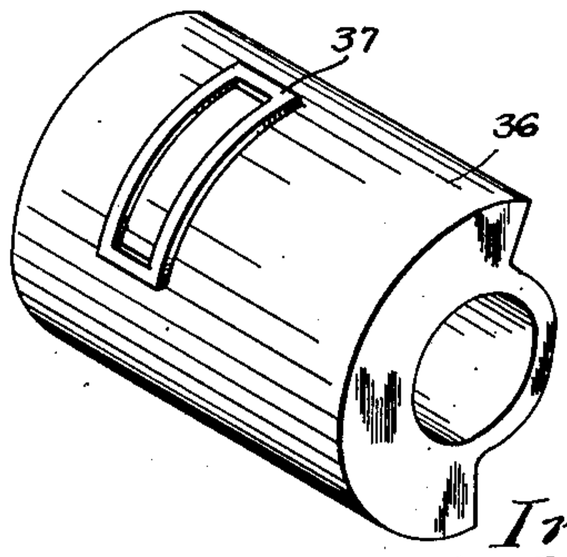


Fig. 11.

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MACHINE FOR ASSEMBLING STRIP SECTIONS AND BOX BLANKS

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Fig. 6.

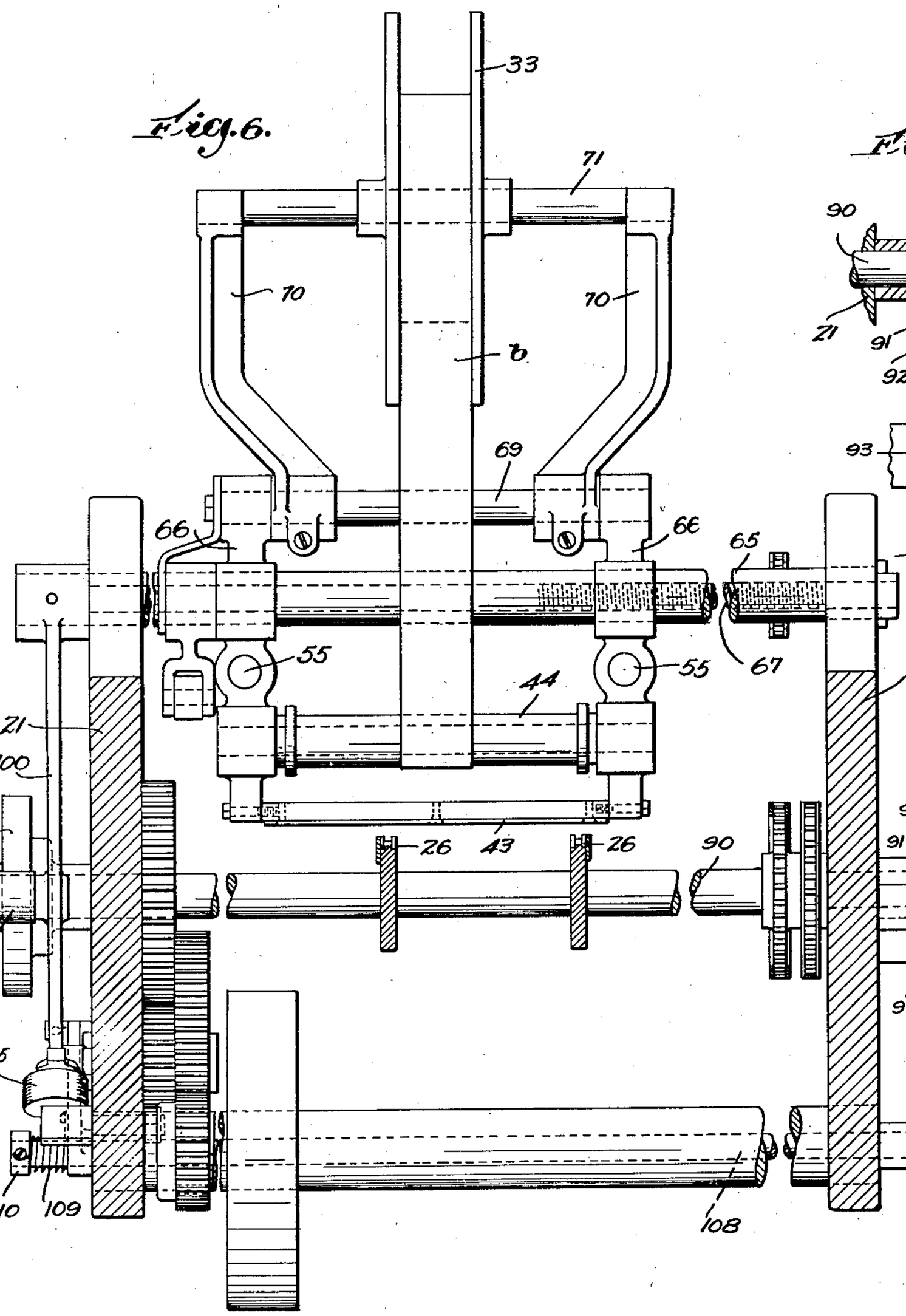
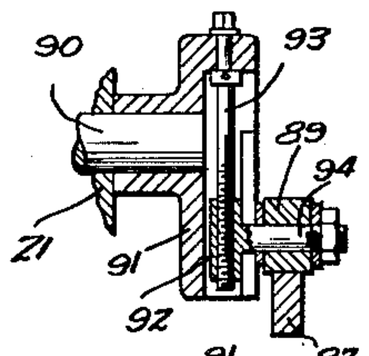


Fig. 13.



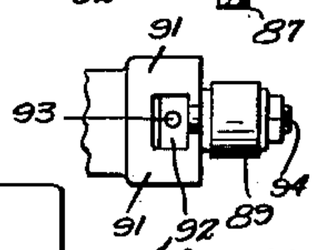


Fig. 14.

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Fig. 7.

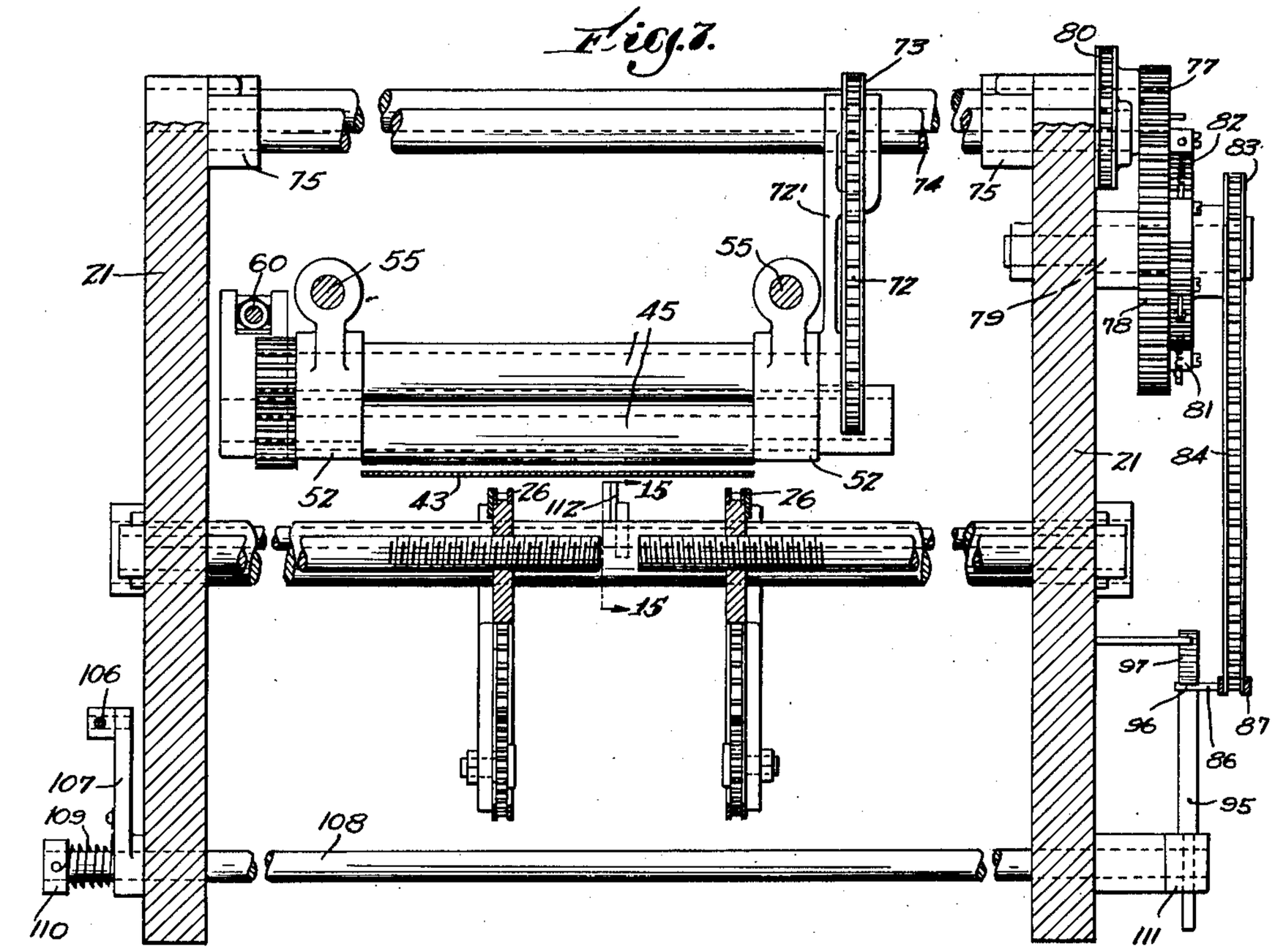
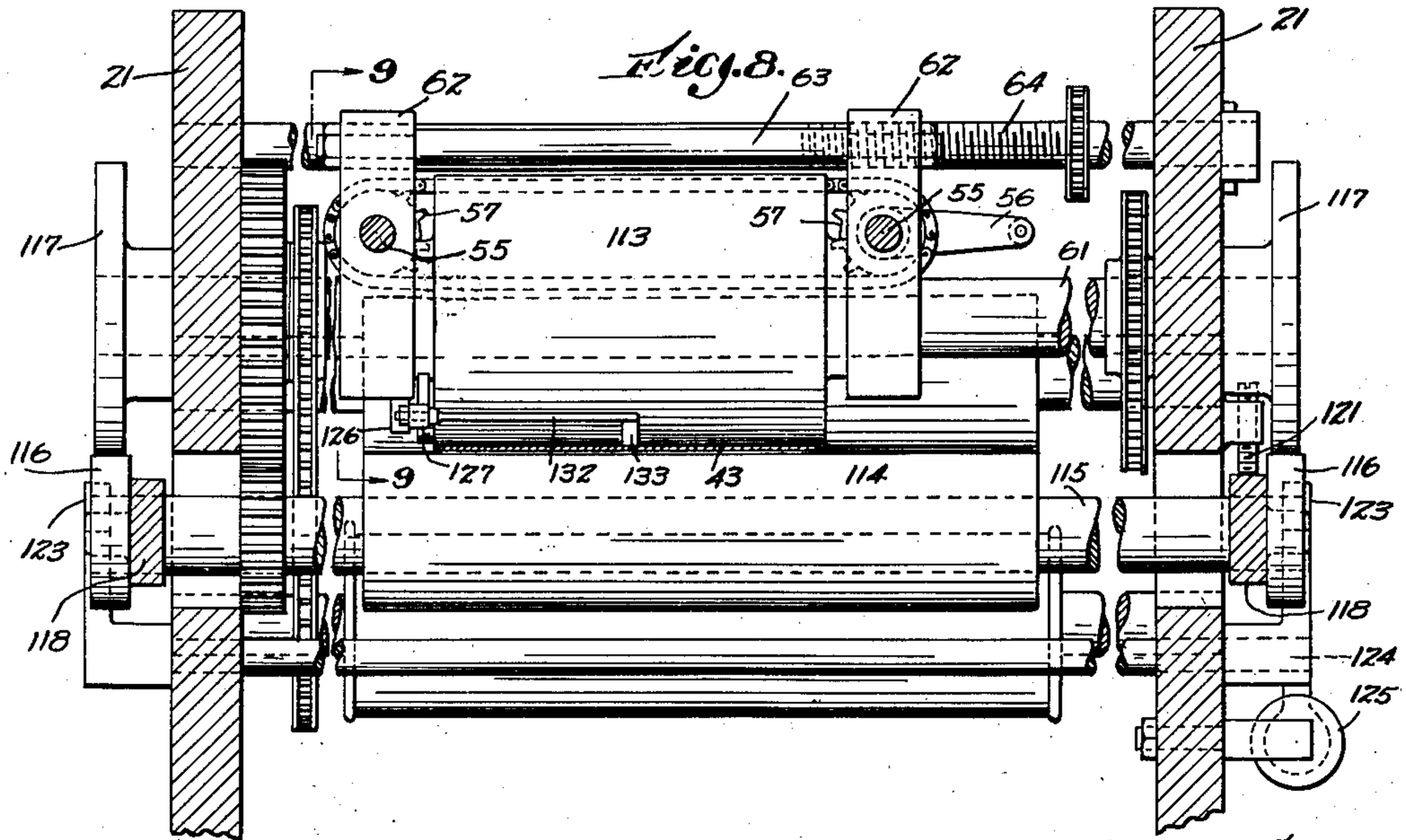


Fig. 8.



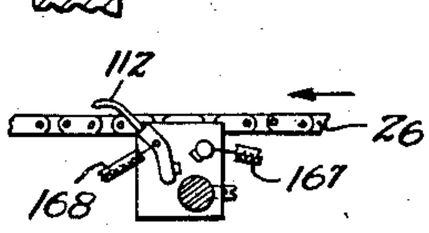


Fig. 15.

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MACHINE FOR ASSEMBLING STRIP SECTIONS AND BOX BLANKS

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Fig. 16.

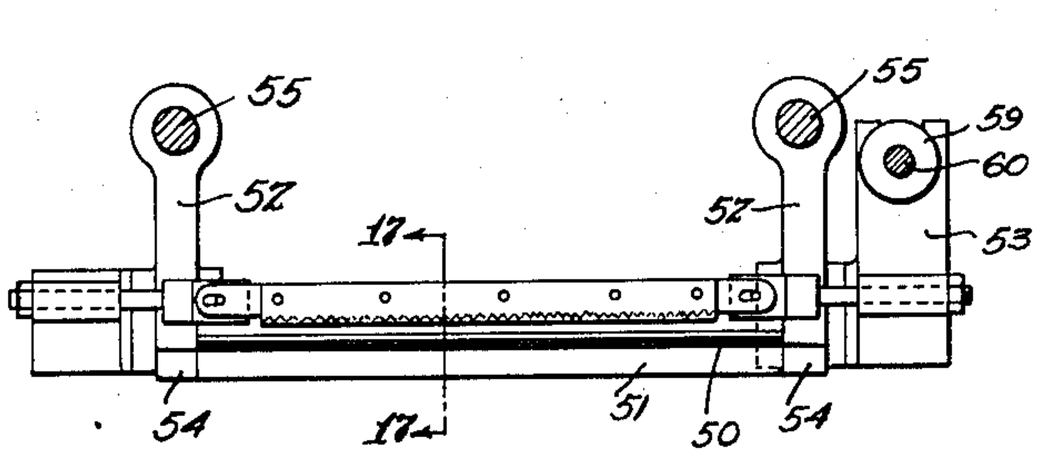


Fig. 17.

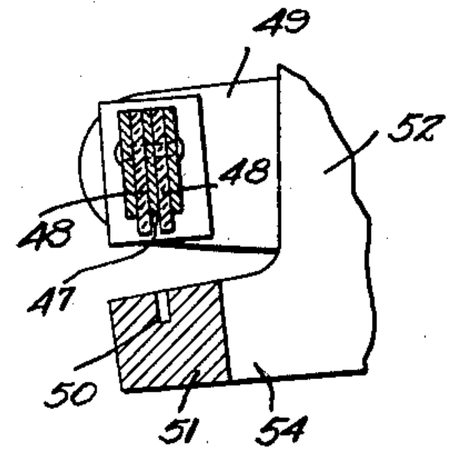


Fig. 18.

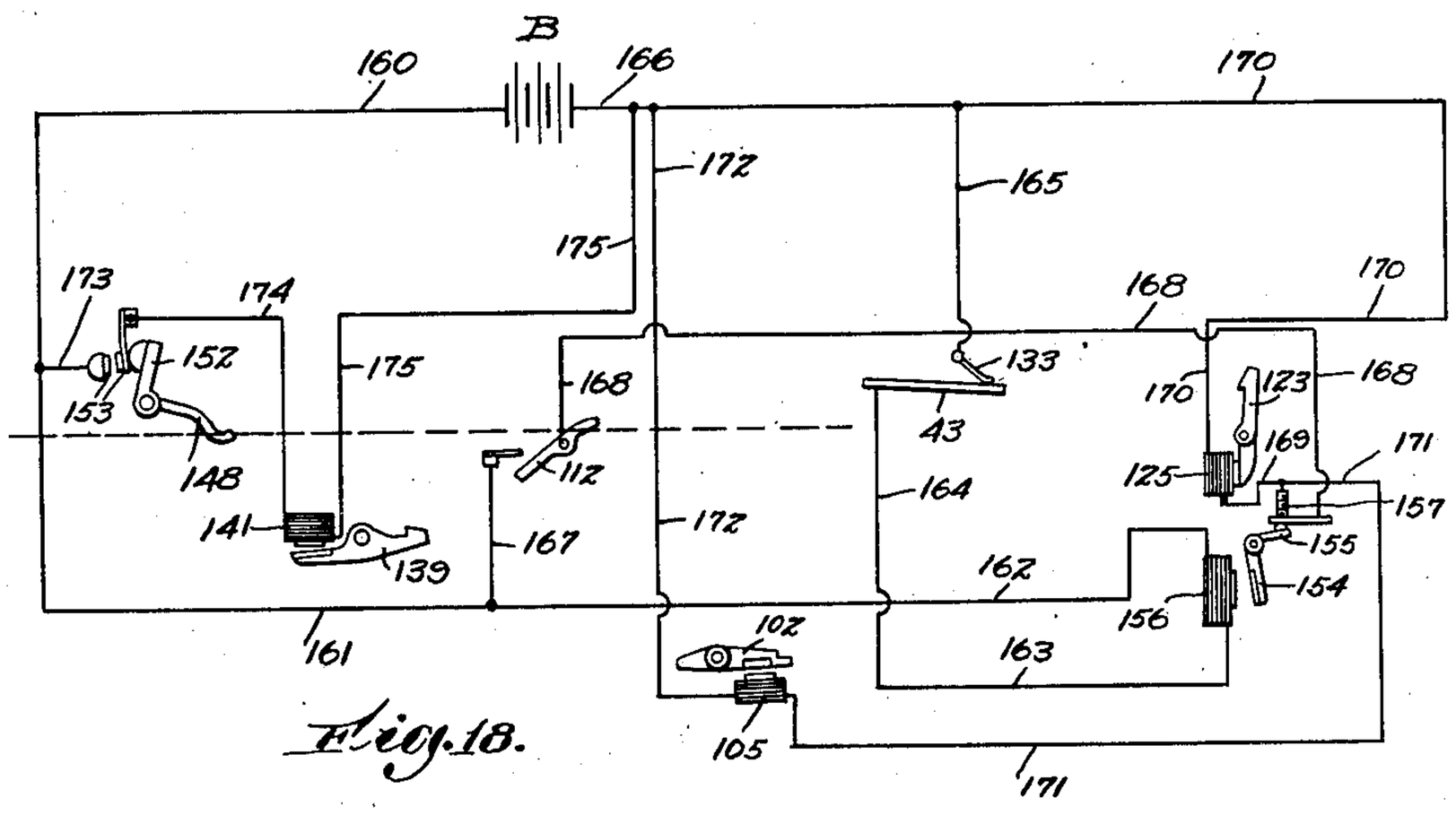


Fig. 19.

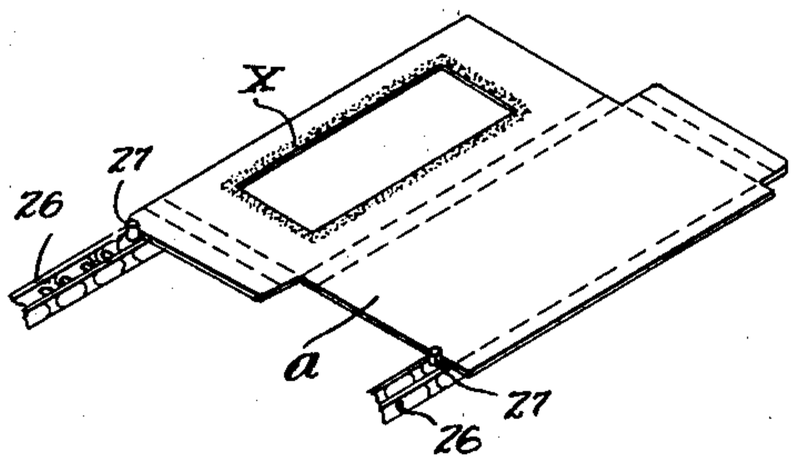
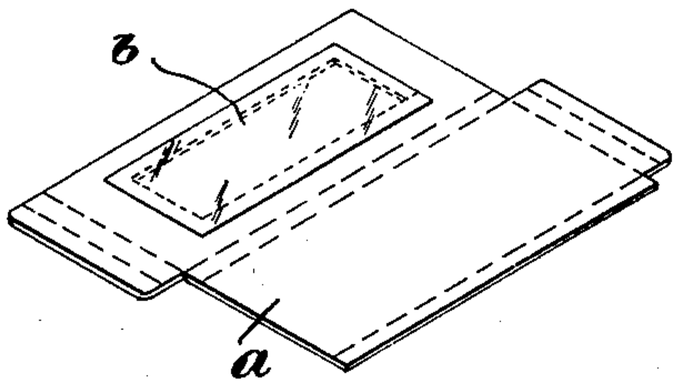


Fig. 20.



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UNITED STATES PATENT OFFICE

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MACHINE FOR ASSEMBLING STRIP SECTIONS AND BOX-BLANKS

Application filed January 22, 1931. Serial No. 510,398.

This invention relates to box-making machinery, and has particular reference to the production of box-blanks having transparent portions, which blanks are adapted to be then converted into receptacles, the contents of which may be seen through so-called windows.

Several attempts have been made to produce such blanks, one being by means of a machine which draws a strip of transparent material from a supply roll and applies it to the blanks and effects severance of the strip in such manner that each section applied to a blank is of a length practically equal to that of the blank and greatly exceeding the area of the aperture in the blank that is to be covered, the excessive material being, therefore, equivalent to so much waste.

The principal object of my invention is to provide a machine of high speed and continuous in operation, which severs a strip of transparent material into sections of no greater area than required to slightly overlap the margins of apertures in box blanks, and automatically affix such sections to the blanks in correct locations while the latter are traveling.

Another object is to provide a machine of the type just referred to and in which the operations of the various parts thereof are controlled by the correct supply of blanks to be operated upon.

Another object is to provide a machine of the type referred to, which is capable of operating on blanks of widely different sizes and shapes both as to the blanks themselves and the apertures therein.

With said objects in view, and others hereinafter explained, the invention consists in the construction and combination of parts substantially as hereinafter described and claimed.

Of the accompanying drawings:—

Figure 1 is a side elevation of the machine.

Figure 2 is a detail view looking from the other side of the machine.

Figure 3 represents a longitudinal section of the machine.

Figure 4 represents a section on line 4—4 of Figure 3.

Figure 5 represents a section on line 5—5 of Figure 3.

Figure 6 represents a section on line 6—6 of Figure 3.

Figure 7 represents a section on line 7—7 of Figure 3.

Figure 8 represents a section on line 8—8 of Figure 3.

Figure 9 represents a section on line 9—9 of Figure 8.

Figure 10 represents a section on line 10—10 of Figure 4.

Figure 11 is a detail perspective of the glue-applying segment.

Figure 12 is a detail elevation of a part of the mechanism shown in Figure 1.

Figure 13 represents a section on line 13—13 of Figure 1.

Figure 14 is a top plan view of the parts shown in Figure 13.

Figure 15 represents a section on line 15—15 of Figure 7.

Figure 16 represents a section on a line connecting the numerals 16—16 of Figure 9, said line being omitted to avoid confusion.

Figure 17 represents a section on line 17—17 of Figure 16.

Figure 18 is a diagram illustrating the switches and electrical connections.

Figure 19 is a perspective view illustrating a travelling blank which is to have a section of cellophane applied to it.

Figure 20 is a perspective view of a completed piece of work.

Similar reference characters designate similar parts or features in all of the views.

Referring first to Figures 1 and 3, the frame of the machine as a whole is illustrated at 21, said frame at one end having a table 22 for a pile of blanks *a*, said blanks being taken from the table singly and successively by a feed roll 23 having friction plugs 24. The usual brush for this well-known type of feeder is illustrated at 25.

Each fed blank is deposited on a pair of chains 26 having, at properly spaced intervals, pins 27 to engage the rear edges of the blanks (Figure 19) and convey them through the machine without stopping at any point. At the blank-receiving end, said chains are

supported by pulleys 28 carried by shaft 29, and at the other end are engaged by sprockets 30 of a driven shaft 31. The chains also engage suitably mounted idle sprockets 32. The intermediate portions of the upper stretches of the chains travel along guide bars as is customary in box machines employing blank-carrying chains. Also as is customary in such machines, the chains and all parts immediately associated therewith are adjustable to provide for operating on blanks of different sizes or shapes. One of the usual right and left hand threaded screws for effecting the lateral adjustment is indicated by dotted lines in Figure 4.

Although the machine is designed specially for affixing sections of a strip of cellophane to apertured box blanks, it might be employed for other material than cellophane. Therefore, said material will hereinafter be chiefly referred to as a strip, and sections thereof. Said strip is indicated at *b*, and it is drawn from a supply reel 33. It is treated and cut into sections, and the latter affixed to the blanks *a*, by mechanisms to be described hereinafter, and the assembled blanks and sections (Figure 20) pass between squeeze or pressure rolls 34 (Figures 3 and 4) onto a suitable stacker belt 35.

The adhesive employed, hereinafter referred to by the term glue, is applied to each passing blank by a rotary segment 36 (Figures 1 and 11) having an applier 37 the shape and size of which corresponds with a narrow area surrounding the margins of the apertures in the blanks (Figures 19 and 20) which are to be operated on by the machine. Said applier 37 takes glue from a roll 38 rotating in a glue tank 39. The segment 36 which has the applier 37 is keyed on a shaft 40, and is removably mounted thereon so that a segment having an applier of another shape or size may be substituted therefor when differently apertured blanks are to be operated upon by the machine.

The frame of the glue tank 39 at one is supported by a tie rod 41, and other portions are supported by the shaft 40. A suitable screw engages a suitable portion projecting from the sleeve of the segment 36 to enable said segment to be adjusted along its shaft 40.

The blanks carried by the chains pass under a plate 43 while the strip *b* is travelling in a path above the plate, said strip leading down from the reel and passing under a guide roll 44, and being drawn along by feed rolls 45 and fed through a slot in a rock shaft 46 to position to be cut by a rocking knife 47 actuated as presently described. Said knife which is serrated as shown in Figure 16, is clamped between strips 48 of yieldable material such as soft rubber the purpose of which will be presently explained. Said knife and strips are carried by two arms 49 (Fig. 9) of the rock shaft 46. A recess 50 in a cross bar 51, which connects arms 54 of two blocks 52 (Figs. 16 and 17) receives the lower edge of the knife when the latter descends. Each time that the knife descends, the elastic strips 48 coact with the upper surface of the anvil bar 51 in gripping the strip *b* to hold it not only during the cutting operation of the knife but also to hold it by its rear end temporarily during the operation of the roll 113 hereinafter described.

The blocks 52 are mounted on two screw rods 55 (Figs. 9 and 16) one of which has a crank 56, and each rod has a sprocket 57 (Fig. 8) the two sprockets being connected by a chain 58, whereby actuation of the crank may effect any desired adjustment of the blocks 52 and the various parts supported thereby, including the knife and anvil bar, in a direction longitudinally of the machine.

To rock the shaft 46 and its arms which carry the knife, one end of the shaft has an arm 53 (Figs. 9 and 16) connected by an adjustable coupling 59 with a screw-threaded pitman 60, actuated as hereinafter described.

A shaft 61 (Figs. 1, 3, and 9) is mounted in bearings in the frame of the machine, and adjustable along said shaft are two brackets 62 connected by the rods 63. A screw 64 (Fig. 8) mounted in one side frame member enters one of the brackets 62. A shaft 65 (Fig. 3) supported by side members of the frame has two brackets 66 (Fig. 6) mounted thereon but not keyed thereto. The screws 55 pass through said brackets, and said brackets support the plate 43 and the guide roll 44. A screw 67 enters one of the brackets. An endless chain 68 indicated by dotted lines in Figure 1 engages sprockets carried by the two screws 64, 67, whereby a suitable crank connected to either one of them may be actuated to effect lateral adjustment of the whole unit of the parts of the machine which supply and feed the strip of cellophane to suit the requirements of different kinds or sizes of blanks.

Mounted in the upper ends of the brackets 66 (Figs. 3 and 6) is a fixed rod 69 to which are fixed two upright arms 70 which support a rod 71 on which the reel 33 is rotatably mounted, usually with friction means to prevent unduly-free rotation.

The two strip-feed rolls 45 are geared together by suitable pinions as illustrated by Figure 7, and one of them has a sprocket connected by a chain 72 with a sprocket 73 carried by a shaft 74, the ends of which are mounted in bearings in the ends of two arms 75 pivotably supported on a shaft 76 (Figs. 1 and 3). Said shaft 76 has a pinion 77 meshing with a gear 78 carried by a stud shaft 79. When the shaft 79 is actuated as presently described, power is transmitted to the shaft 76 and from it to the shaft 74 by means of a chain 80 mounted on sprockets carried by the said two shafts, and from

the shaft 74 to the rolls 45 by the chain 72. The reason for this structure is to provide for the transmission of power from the shaft 76 which is always in one position, to the feed rolls 45 regardless of the adjusted position of said rolls longitudinally of the machine. When such adjustment is effected, the arms 75 carrying the intermediate shaft 74 swing up or down. To maintain the proper distance between said shaft 74 and the sprocket of the feed rolls so as to keep the chain 72 taut, a suitable spacing connection rod is employed alongside the chain 72 as illustrated at 72′ in Figure 7.

In order to drive the feed rolls 45 intermittently and to different degrees of rotation according to the length of the sections which are to be cut from the strip *b*, the machine includes the following mechanism:

The gear 78 has a plurality of pawls 81 (Figs. 1 and 7) which are suitably spring-pressed in engagement with the teeth of the ratchet 82 mounted loosely on the stud shaft 79. Combined with said ratchet is a sprocket 83 over which a chain 84 extends. A spring 85 connects one end of the chain with a suitable fixed point, and the other end of the chain engages a pin 86 which projects laterally from the end of an arm 87 which is pivoted at 88 to the frame of the machine.

Acting like a cam on the upper surface of the arm 87, is a roll 89 (Figs. 1, 6, 13 and 14) which is carried by the shaft 90. To enable said roll to be adjusted relatively to the shaft, said shaft has a casting 91 secured to it, said casting having a recess in which is slidably mounted a block 92 which is internally threaded for the screw 93, and which has a pin 94 on which the roll 89 is mounted. By means of the screw 93, the block and its pin 94 and the roll 89 may be adjusted relatively to the axis of rotation of the shaft 90 so that a greater or lesser degree of movement may be imparted to the arm 87 and consequently, through the chain 84 and other parts described, a longer or shorter length of the strip *b* is fed by the rolls 45 to position to be severed by the cutting member. In other words, the length of feed of the strip *b*, to vary the length of the sections cut therefrom, is altered by varying the radial position of the roll 89. It is to be understood, however, that during the downward swing of the arm 87 the chain 84 is causing the ratchet 82 to ride idly past the pawls 81, said downward movement of the arm merely serving to determine the point at which the return or upward movement thereof is to begin. Said return movement, effected by the spring 85, causes the teeth of the ratchet to act on the pawls 81 to effect rotation of the gear 78 and, through the mechanism described, cause the rolls 45 to feed the strip. Therefore, it will be understood that the actual feed of the strip is caused by the spring 85 and consequently the feed is a yielding one so that no mutilation of the strip or cluttering up of the parts will occur if anything happens to obstruct the projected portion of the strip.

To temporarily detain the arm 87 in its lower position so that no feed of the strip will occur if there should be no blank approaching position to receive a section cut from the strip, I provide a yieldable catch stem 95 (Figs. 1, 6, and 12) having a catch shoulder 96 to engage the pin 86, and an inclined or bevelled surface 97 above said shoulder. The magnetically controlled position or movement of said catch stem 95 will be described presently.

At the other side of the machine from the Figure 1 view, the shaft 90 has a cam 98 (Figs. 2 and 6) against which a roll 99 carried by an arm 100 of the rocker shaft 65 bears, a suitable spring 101 being provided to cause the arm 100 to swing to the left (Fig. 2) when the recess in the cam 98 is opposite the roll 99.

A rocking catch arm 102 having a shouldered tip 103 has a spring 104 connected to one end of it, the other end having a surface capable of being attracted by an electromagnet 105 the circuit for which will be described hereinafter A sliding pin 106 is mounted to present one end in the path of the arm 100 in the position illustrated by Figure 2, its other end being connected to an arm 107 which is mounted on one end of a small rock shaft 108 extending across the machine (Figs. 6 and 7). The connection of the arm 107 to the shaft 108 is a yielding one by means of a spring 109 coiled around the shaft and connected at one end to said arm and at the other end to a collar 110 secured to the end of said shaft. At the other end of said shaft 108 is a coupling 111 which supports the catch stem 95 in upright position (Fig. 1).

Under the plate 43 (Figs. 3, 7 and 15) is a pivoted arm 112 which, as will be described, serves as an electrical switch to control the magnet 105, said switch being in the path of movement of blanks carried along by the chains 26.

The shaft 61 (Figs. 3, 8 and 9) carries a roll 113 a portion of which is enlarged to form a segment which coacts with a roll 114 below it to transfer each blank from the carrier chains, and each strip section that has been applied thereto, over the aperture in the blank, to the rolls 34. The shaft 115 of the roll 114 has a roll 116 at each end (Figs. 1 and 8), said rolls being acted upon by cams 117 of the upper shaft 61. The shaft 115, with its rolls, is mounted in arms 118 of a rock shaft 119 and normally held by a spring 120 against an adjustable stop 121. Projecting from one of the arms 118 is a stud 122 to be engaged by a catch 123 pivoted at 124. An electro-magnet 125 the circuit for which

will be described, controls the operation of the catch 123.

A block 126 (Figs. 8 and 9) is secured to the bottom of one of the brackets 62, and to said block a lever 127 is pivoted at 128. One end of the lever 127 has a somewhat elongated finger 129 the outer face of which is curved and over which a pin 130 of the segment roll 113 rides. A spring 131 tends to hold the lever 127 in the position illustrated in Figure 9. From the other end of the lever 127, a small rod 132 extends to about the mid-length of the segment roll 113 (Fig. 8) and at its end has a spring finger 133 which extends partly under the segment roll and over the path of movement of the strip *b* when the latter is being advanced. The object of the mechanism just described is to ensure proper delivery of the strip *b* to ensure the following described operation.

It is to be understood that the gearing and other parts of the machine are properly timed to cause each feed of the strip to stop with its end in about the position illustrated by Figure 9, and to cause a blank to arrive under the strip and at the proper distance beyond it so that the strip section which is then cut off will properly register with the aperture in the blank which, of course, has had glue *x* applied to it around the margin of the aperture (Fig. 19). When the knife descends, the guide slot in the rock shaft 46 (Fig. 9) deflects the strip so that it properly lies on the anvil bar 51, and at about the same time the pin 130 of the segment feeder 113 engages the lever 127 and causes the spring finger 133 to lay the strip *b* smoothly onto the travelling blank and guide it so while the pin 130 is riding along the curved face 129 of the lever. Then by the cooperation of the surface of the segment 113 with the roll 114 the blank and section are pressed together and the completed article (Fig. 20) is delivered to the rolls 34. The timing is such that after each section of the strip has been cut off and applied as just described the strip is again advanced to a point with its front end slightly beyond the vertical plane of the axes of the segment and roll 114, so that when another blank arrives to receive a section of the strip, both will be grasped by the nip of the advancing edge of the segment with the roll 114 below it and fed along.

One end of the shaft 40 has a cam 134 (Figs. 1 and 5) which acts on a roll 135 carried by one arm of an elbow lever 136 the other arm 137 of which is notched, said lever having a spring 138 connected to it. A pivoted catch 139 having a spring 140 connected to it has a portion in position to be attracted by an electromagnet 141 the circuit for which will be described.

The elbow lever 136 is rigidly connected to one end of a rock shaft 142 (Figs. 3 and 5) which has two arms 143 which carry a rod 144. A clamp 145 secured to the rod supports the stem 146 of a plate 147. Through the mechanism described, the cam 134 acts to elevate the plate 147 intermittently in such time that as each blank fed by the pins of the chains approaches the plate, the blank will be raised in time to receive its glue *x* (Fig. 19) from the applier 37 (Fig. 11). If a fixed plate were to be employed in the location of the plate 147, it would have to be mounted close enough to the glue applier to ensure passage of each blank quite close to said applier, and then if the machine were to skip a blank, which is liable to happen, the plate would then be liable to accumulate glue from the applier and such glue on the plate would interfere with the travel of the next blank over it. To prevent any such accumulation on the vertically movable plate, it is not permitted to rise unless a blank is arriving over it. The means for effecting this will now be described.

A finger 148 (Figs. 3, 10 and 18) normally extends across the path of movement of the blanks, at a point between the feed roll 23 and the plate 147. Said finger is pivoted at 149 to a block 150 supported on a tie rod 151. An arm 152 of the pivoted finger serves, when a blank passes the finger and lifts it, to act as a switch arm to close an electrical circuit at the terminals 153, for a purpose hereinafter described.

Referring to Figures 1 and 18, an angle lever 154, 155, has a spring connected to it to normally hold the arm 154 away from the electromagnet 156 and to cause the arm 155 to maintain a circuit-controlling switch 157 in closed condition.

When the strip *b* is cellophane, it is sometimes desirable to heat it on its way to be severed. And the same may sometimes be true regarding other transparent material. Therefore, the machine as illustrated by Figure 3 has a suitably supported electric heater 158 with guide rolls 159 for the strip. Such a heater serves to ensure sufficient dryness of the strip to enable the glue that is employed on the blank to effect firm adhesion of each strip section to a blank. The heater also has the effect of smoothing out the strip if it leaves the supply roll in somewhat wrinkled condition.

In the following description of operation, an occasional reference to Figure 18, in connection with the other figures, will facilitate an understanding thereof. During the operation of the machine, each passing blank acts on the finger 148 to close a circuit from the source of energy at B through wiring 160, 173, 174, magnet 141 and wiring 175, 166. This results in the plate 147 being lifted as has been described.

When a blank acts on the switch 112, a circuit is completed from B through wiring 160, 161, 167, 168, switch 157, and divides so as

to pass not only through the wire 169 and magnet 125 and the wiring 170, 166, but also through the wiring 171, magnet 105, and the wiring 172, 166. Each rotation of the shaft 61 and its strip-feeding segment 113 causes the pin 130 (Fig. 9) to lift the end 129 of the lever 127 and lower the rod 132 and it finger 133 so that if no strip is in place a circuit will then be closed from B through the wiring, 160, 161, 162, magnet 156, wiring 163, 164, plate 43, finger 133 and wiring 165, 166, so that if the switch 112 is closed by the passage of a blank, the magnets 125, 105 will not be energized. This prevents the roll 114 and the under roll 34 from rising and, therefore, a passing blank carrying glue will not transfer any glue to the upper rolls. It also results in no cutting or feeding action being imparted to the strip *b*. Of course, in some instances, some of the wiring illustrated can be dispensed with by employing suitable grounding.

The relative timing of operation of the different parts of the machine is such that as each blank, carrying glue applied by the segment 36, approaches the combining rolls 113, 114, the said blank acts on the switch 112 and effects the closing of a circuit which starts the strip-feeding rolls 45 in operation to feed the desired length of the strip, the rolls then stopping and holding the strip. Then, as the blank nears the said combining rolls, the rocker arms 49 descend and the strip is clamped by the strips 48 gripping it against the anvil block 51 so that the portion of the strip which is between the now stationary rolls 45 and the strips 48 is held taut or under tension during the action of the serrated knife 47. As material such as cellophane is very thin, a straight-edged knife is liable to shift the material laterally during a cutting operation, whether the said operation is a shearing one or a chopping one, especially when the material is wide. Therefore I employ the knife 47 having an irregular or serrated edge which effects severance of the strip while the latter is held taut, without causing any such shifting of the cut section as would interfere with its accurate registration with the blank when the latter and the cut section of the strip are combined by the rolls 113, 114.

Figure 17 shows clamping strips 48 at both sides of the knife, but the strip 48 that is nearest to the pivot of the arms 49 and is therefore behind the knife, is the one that mainly coacts with the rolls 45 in holding the strip taut during the final downward movement of the rocker arms 49 and the cutting action of the knife. In other words, the knife is intermediate the rolls 45 and one of the clamping strips 48, and therefore said knife acts on a portion of the strip *b* that is being held from slipping.

Having now described my invention, I claim:—

1. In a machine having means for causing blanks to travel and means for successively severing sections of pre-determined length from a strip, means controlled by the presence of the strip material for severing a strip section, means controlled by the severing means for feeding the strip material, and means for effecting adhesive connection of the sections and blanks.

2. A machine for applying strip material to receptacle blanks, said machine having means for causing individual blanks to travel, means for completely cutting sections from a strip of material and affixing said sections to the blanks, and electrically controlled mechanism for preventing feed of the strip if no blank arrives in position to receive a section of the strip.

3. A machine for applying transparent material to receptacle blanks having apertures, said machine having means for causing individual apertured blanks to travel, means for applying adhesive to the blanks around the apertures thereof, means for completely cutting sections from a strip of transparent material and affixing said sections to the blanks with the margins of said sections overlying the adhesive on the blanks, and electrically controlled mechanism for preventing feed of the strip if no blank arrives in position to receive a section of the strip.

4. A machine for applying transparent material to receptacle blanks having apertures, said machines having means for causing individual apertured blanks to travel, means for successively and completely cutting a strip of transparent material into sections having an area but slightly exceeding the area of the apertures in the blanks, means for affixing said sections to the blanks over the apertures thereof and electrically controlled mechanism for preventing feed of the strip if no blank arrives in position to receive a section of the strip.

5. A machine for affixing sections of a strip of transparent material to portions of blanks, said machine having a cutter for the strip, and yieldable means for feeding the strip to the cutter.

6. A machine for affixing sections of a strip of transparent material to portions of blanks, said machine having a cutter for the strip, rolls to advance the strip toward the cutter, and a spring for actuating the rolls in strip-feeding direction.

7. A machine for affixing sections of a strip of transparent material to the apertured portions of blanks, said machine having means for feeding the blanks successively, means for applying glue to pre-determined areas of each blank, means for completely cutting the strip into sections, means for holding each section temporarily after it is

cut, and means for superimposing the sections and blanks.

8. A machine for affixing sections of a strip of transparent material to the apertured portions of blanks, said machine having means for feeding the blanks successively, means for applying glue to pre-determined areas of each blank, means for completely cutting individual sections from a strip, means for temporarily holding each section after it is cut, and means for causing each section to travel to position to be adhesively affixed to a blank.

9. A machine for affixing sections of strip material to blanks, said machine having means for causing blanks to travel, a serrated cutter for severing strip material into sections of predetermined length, and means in position to engage the rear-end portion of each severed section and hold it stationary during such severing, and means for registering the severed section with a traveling blank.

10. A machine for affixing sections of strip material to blanks, said machine having means engaging portions of blanks to cause them to travel, a serrated cutter for severing strip material into sections of predetermined length, means for combining each strip section with a blank, and friction means for ensuring registration of each severed section with a blank.

11. A machine for applying transparent strip material to blanks having apertures, said machine having means for feeding the blanks, and having means for feeding the strip and a serrated cutter for severing it into sections, means for temporarily holding the rear-end portion of each severed section, and means for effecting a junction of the forward end of each section with a blank while the latter is in motion.

12. A machine for combining sections of strip material with blanks, said machine having means for causing blanks to travel, feed rolls for causing the strip to travel, means coacting with said rolls to hold the fed strip taut, and serrated strip-severing means located between the feed rolls and the said strip-holding means.

13. A machine for combining sections of strip material with blanks, said machine having means for causing blanks to travel, feed rolls for causing the strip to travel, means coacting with said rolls to hold the fed strip taut, and an irregular-edged cutter in position to sever the strip while the latter is taut.

14. A machine for combining sections of a strip with blanks, said machine having means for causing blanks to travel, rolls for feeding the strip, clamping members coacting with said rolls to maintain the strip in stationary condition, and an irregular-edged cutter in position to act on the portion of the strip that is maintained stationary.

15. A machine for combining sections of a strip with blanks, said machine having means for causing blanks to travel, strip-feeding rolls and strip-clamping members relatively positioned to hold a portion of the strip from being shifted while being severed, and strip-severing means located between said feeding rolls and clamping members.

16. A machine for combining sections of a strip with blanks, said machine having means for causing blanks to travel, strip-feeding rolls and strip-clamping members relatively positioned to hold a portion of the strip from being shifted while being severed, and strip-severing means located between said feeding rolls and clamping members, the said clamping members being operable in time to release each severed strip-section and permit its registration with a blank.

17. A machine for combining sections of a strip with blanks, said machine comprising means for causing blanks to travel, feed rolls for causing the strip to travel, clamping members coacting with said rolls to hold a portion of the strip taut, a knife in position to act on the strip between said rolls and clamping members, means for actuating the clamping members to release each completely severed section of the strip, and means for combining each section with a blank.

18. A machine for combining sections of a strip with blanks, said machine comprising means for causing blanks to travel, feed rolls for causing the strip to travel, clamping members coacting with said rolls to hold a portion of the strip taut, a serrated knife in position to act on the strip between said rolls and clamping members, means for actuating the clamping members to release each completely severed section, and means for combining each section with a blank.

In testimony whereof I have affixed my signature.

HAROLD J. GOSS.