Nov. 17, 1931. M. E. BOSLEY 1,832,524

MACHINE FOR AND METHOD OF FORMING WEATHER STRIPPING

Filed Feb. 8, 1928 10 Sheets-Sheet 1

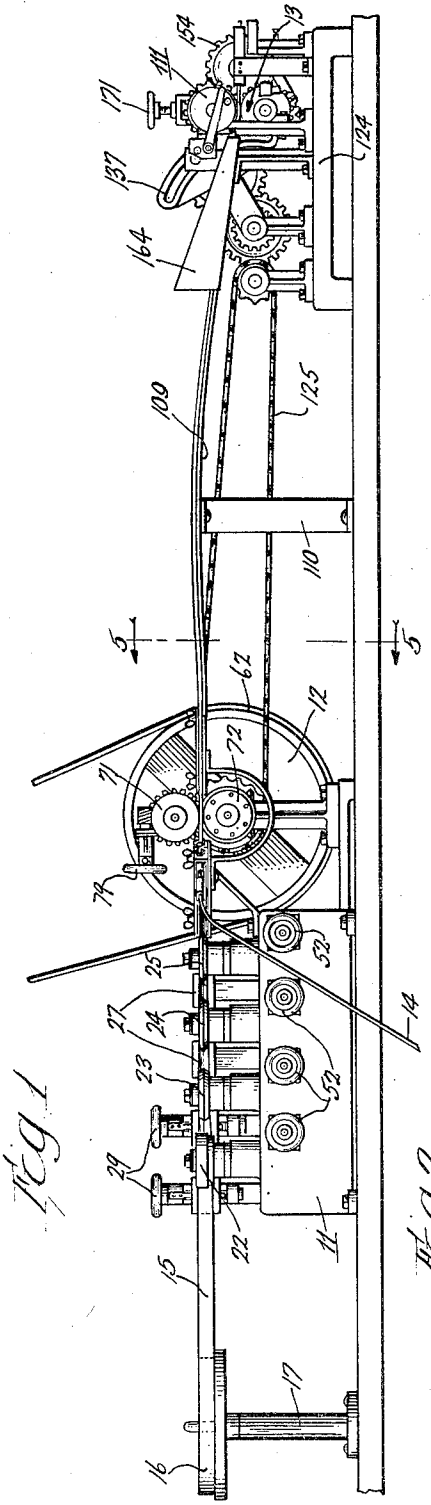


Fig. 1

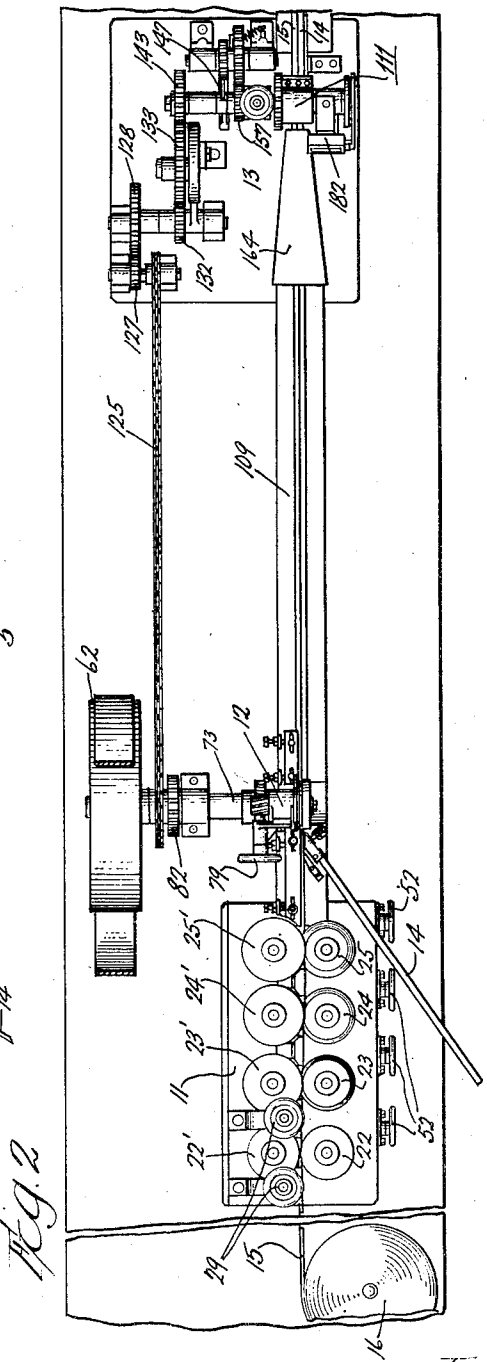


Fig. 2

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Nov. 17, 1931. M. E. BOSLEY 1,832,524

MACHINE FOR AND METHOD OF FORMING WEATHER STRIPPING

Filed Feb. 8, 1928 10 Sheets-Sheet 2

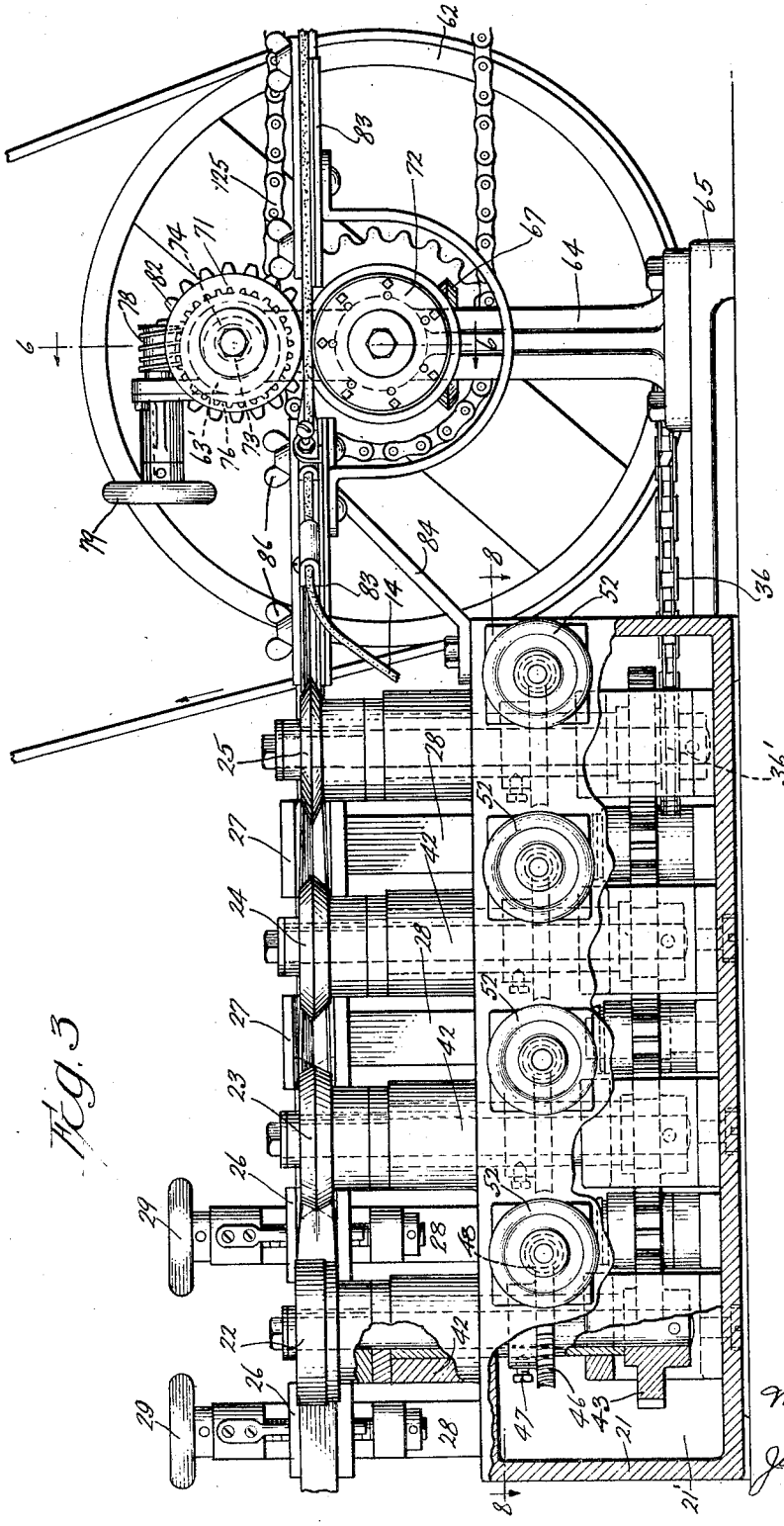


Fig. 3

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Nov. 17, 1931. M. E. BOSLEY 1,832,524

MACHINE FOR AND METHOD OF FORMING WEATHER STRIPPING

Filed Feb. 8, 1928 10 Sheets-Sheet 3

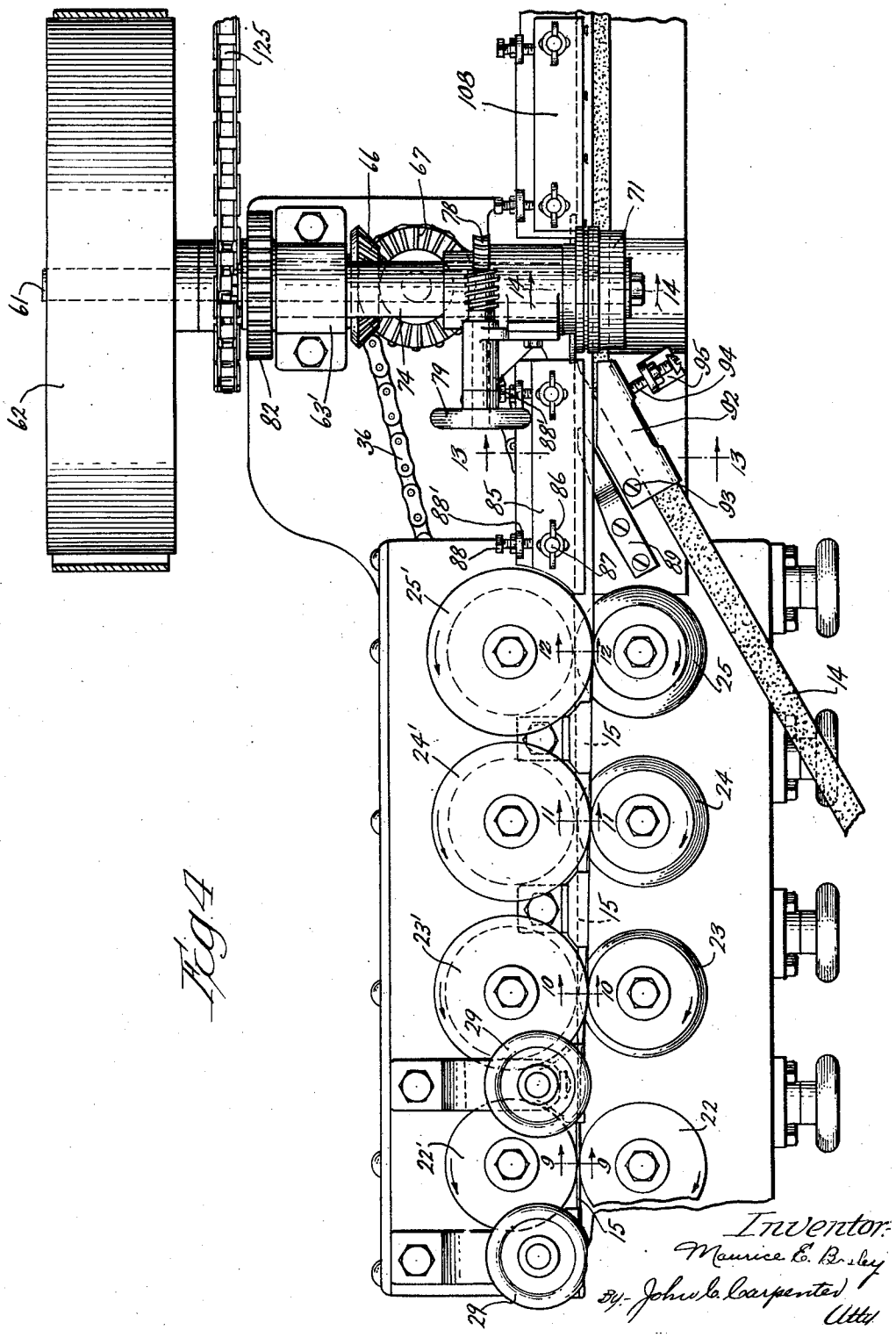


Fig 4

Nov. 17, 1931. M. E. BOSLEY 1,832,524

MACHINE FOR AND METHOD OF FORMING WEATHER STRIPPING

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Fig. 5

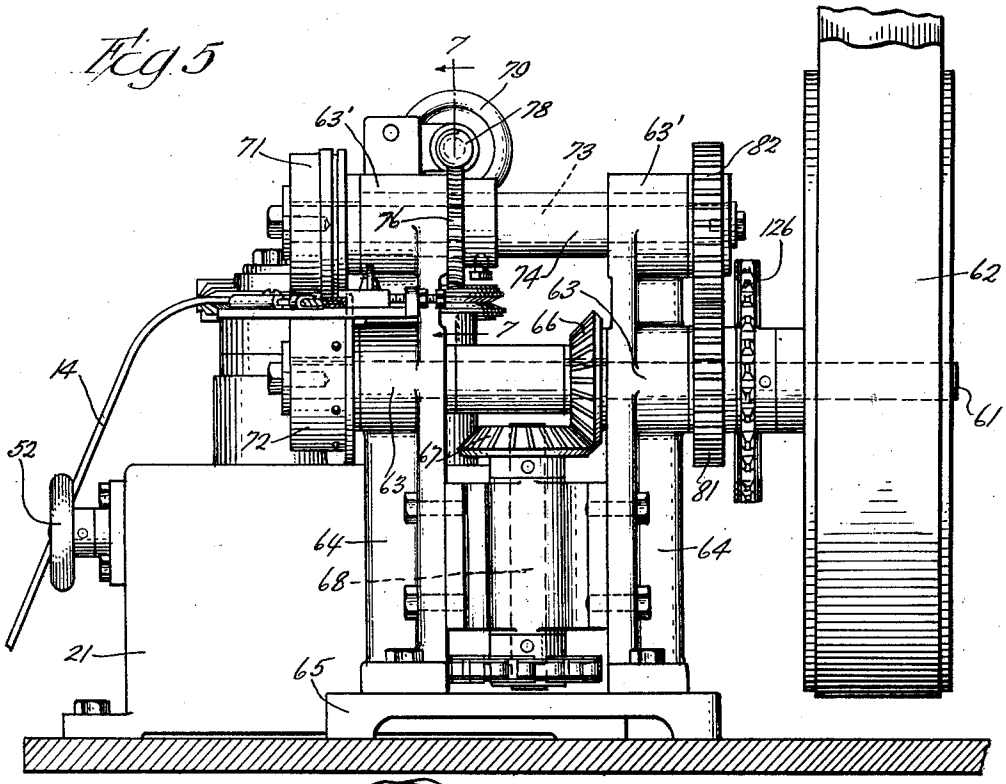
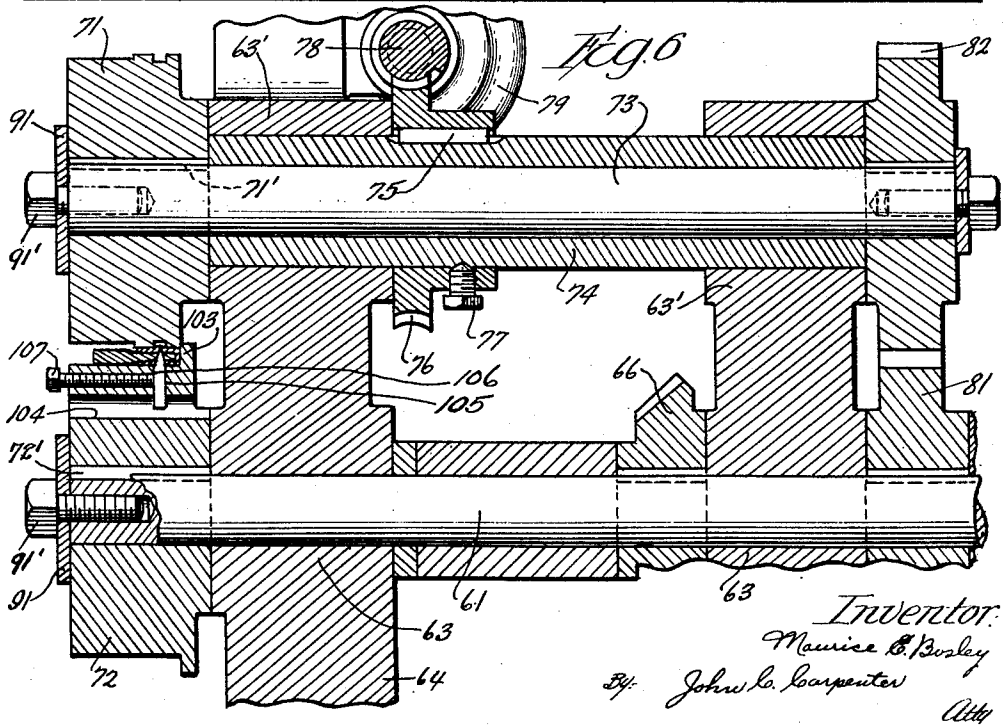


Fig. 6



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Nov. 17, 1931. M. E. BOSLEY 1,832,524

MACHINE FOR AND METHOD OF FORMING WEATHER STRIPPING

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Fig. 7

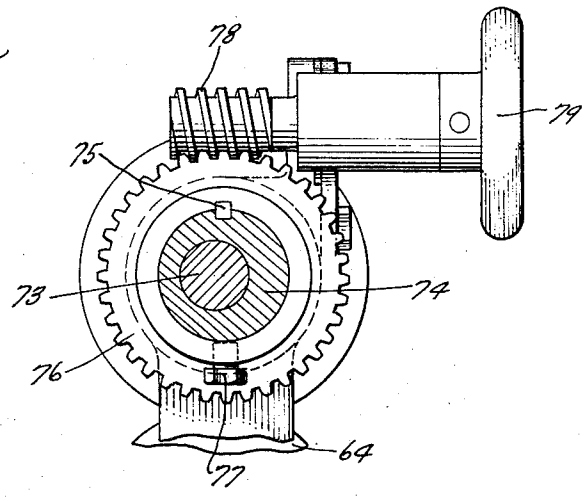
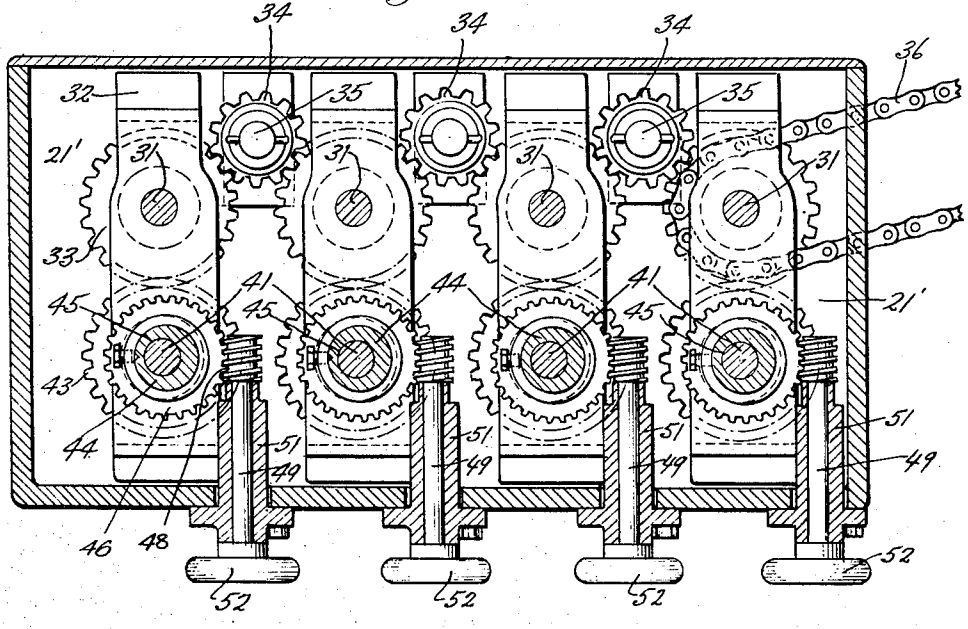


Fig. 8



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Nov. 17, 1931. M. E. BOSLEY 1,832,524

MACHINE FOR AND METHOD OF FORMING WEATHER STRIPPING

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Fig. 9

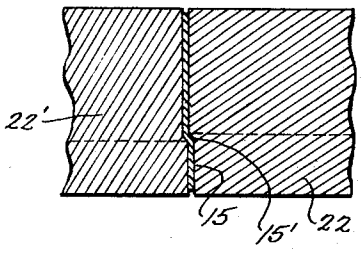


Fig. 10

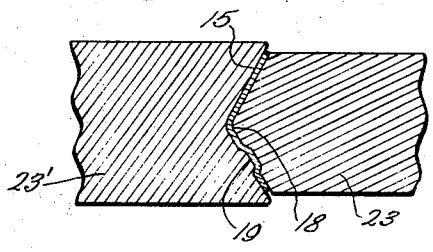


Fig. 11

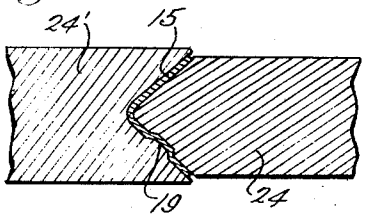


Fig. 12

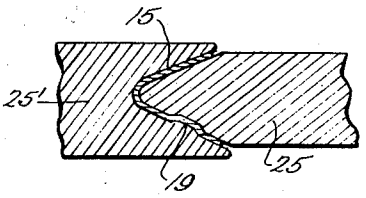


Fig. 13

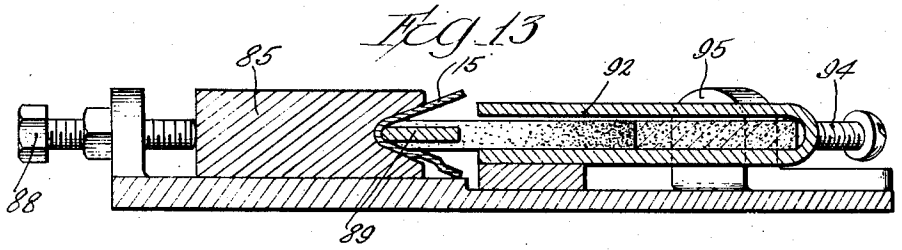


Fig. 14

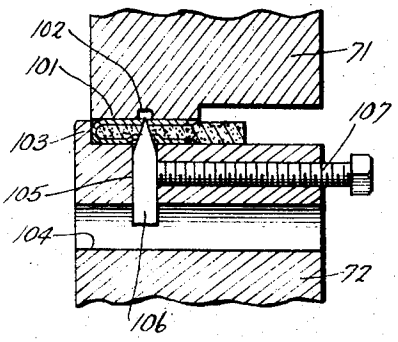
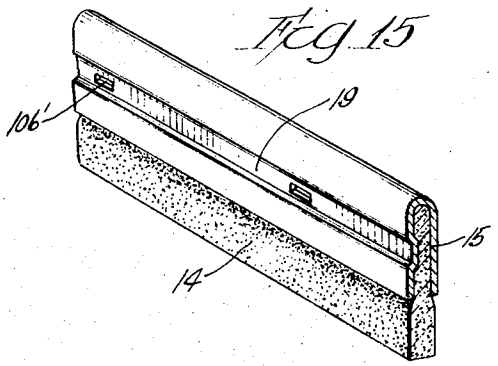


Fig. 15



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Nov. 17, 1931. M. E. BOSLEY 1,832,524

MACHINE FOR AND METHOD OF FORMING WEATHER STRIPPING

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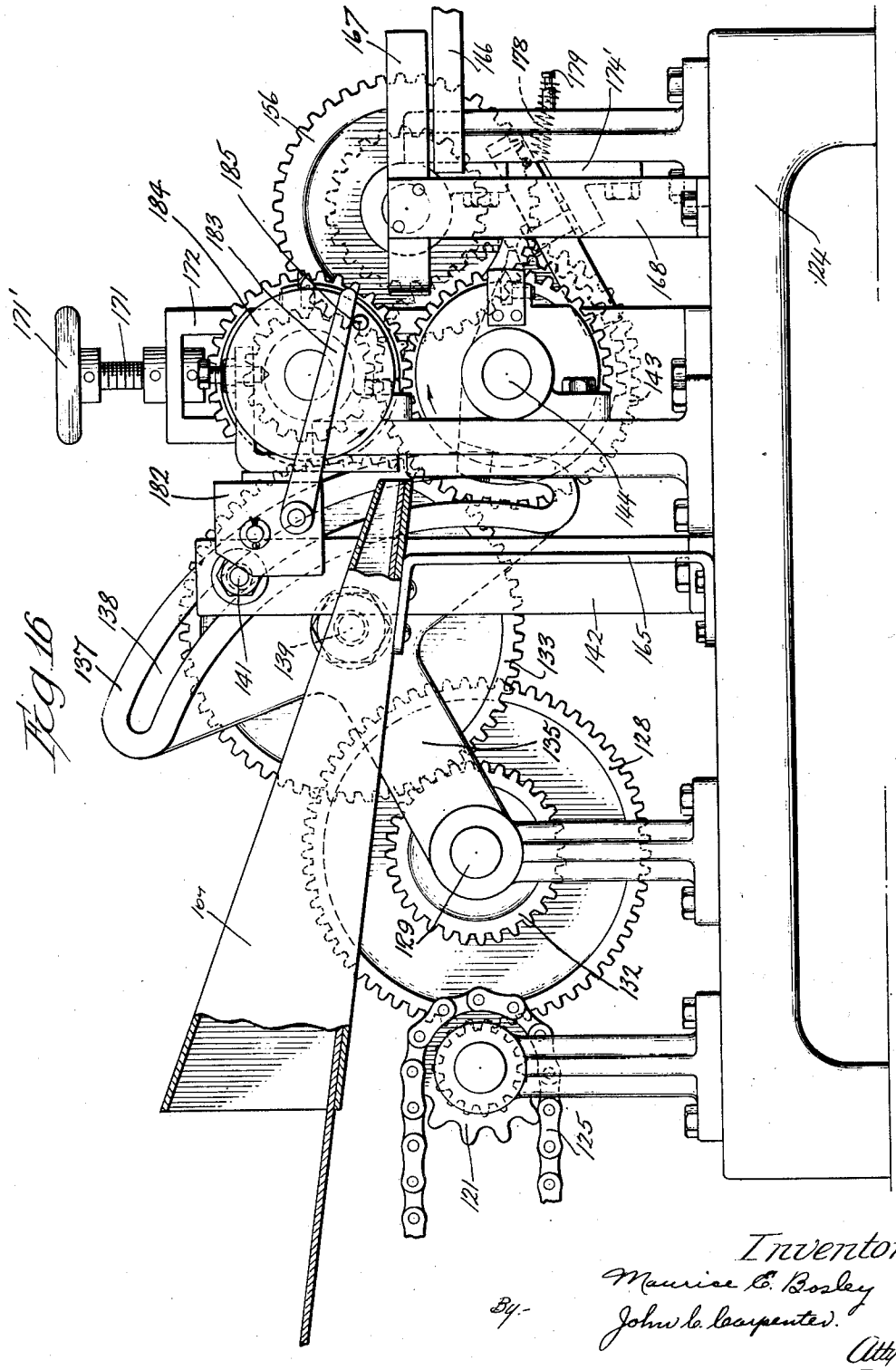


Fig. 16

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MACHINE FOR AND METHOD OF FORMING WEATHER STRIPPING

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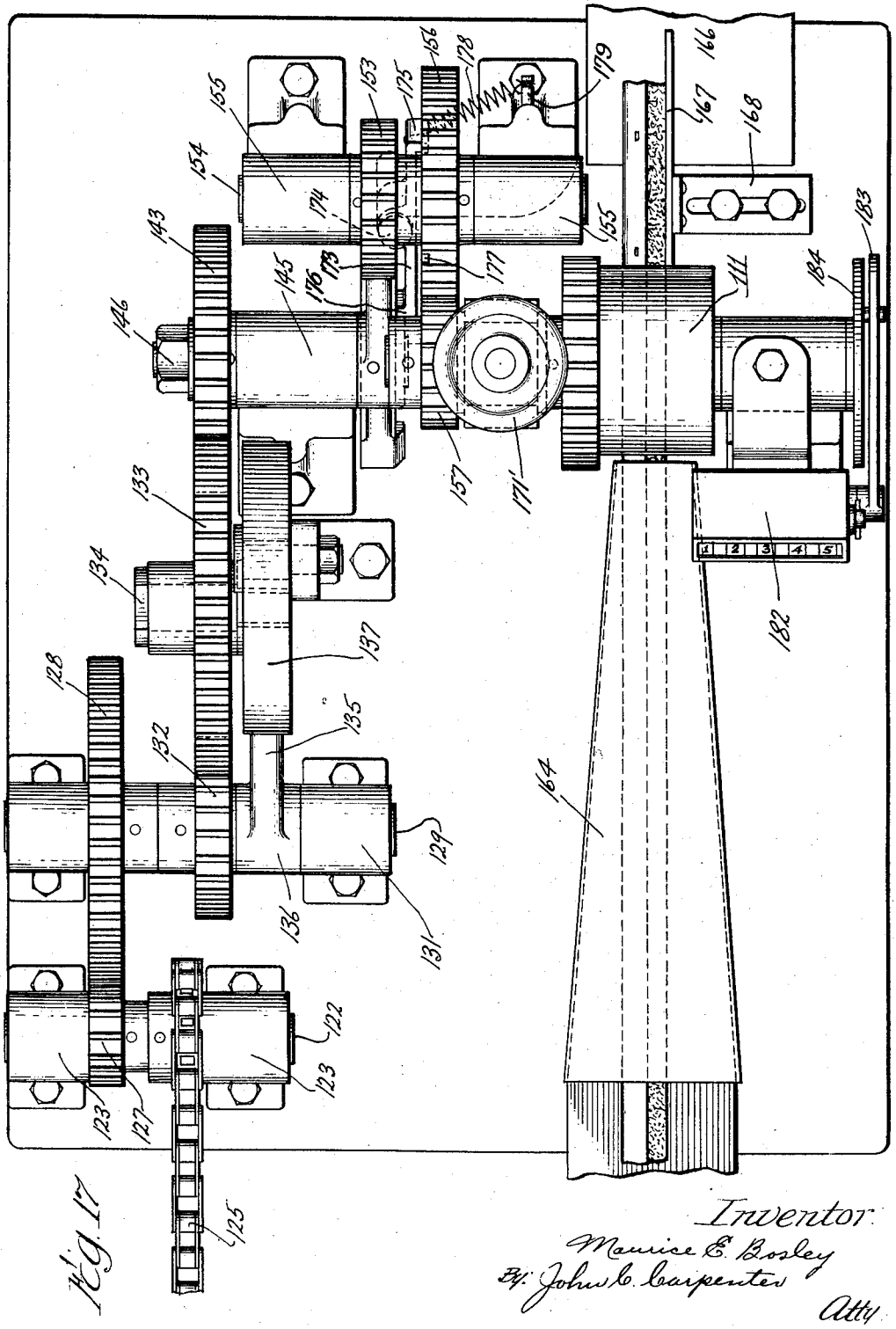


Fig. 17

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MACHINE FOR AND METHOD OF FORMING WEATHER STRIPPING

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Fig. 18

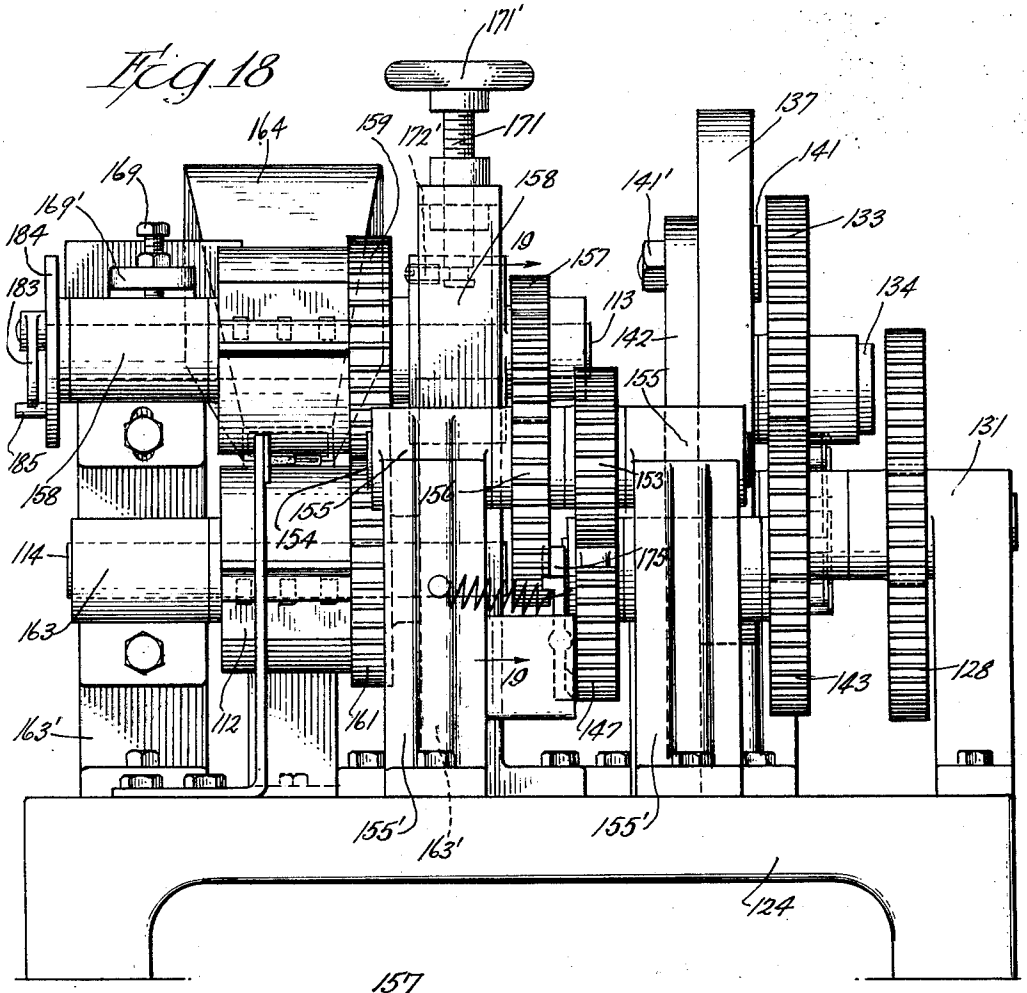
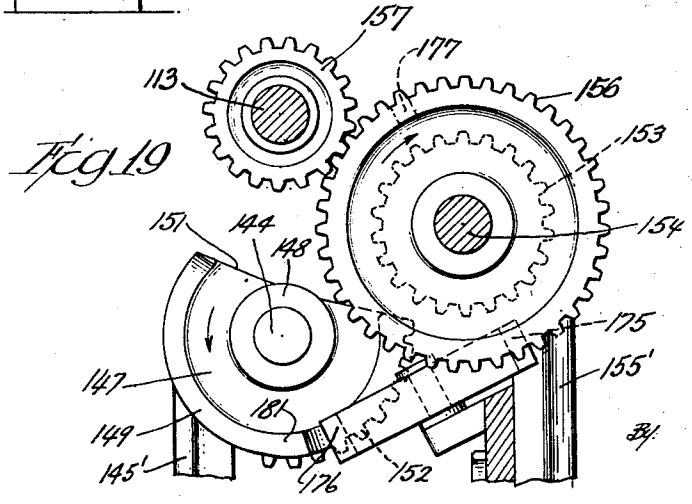


Fig. 19



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MACHINE FOR AND METHOD OF FORMING WEATHER STRIPPING

Filed Feb. 8, 1928 10 Sheets-Sheet 10

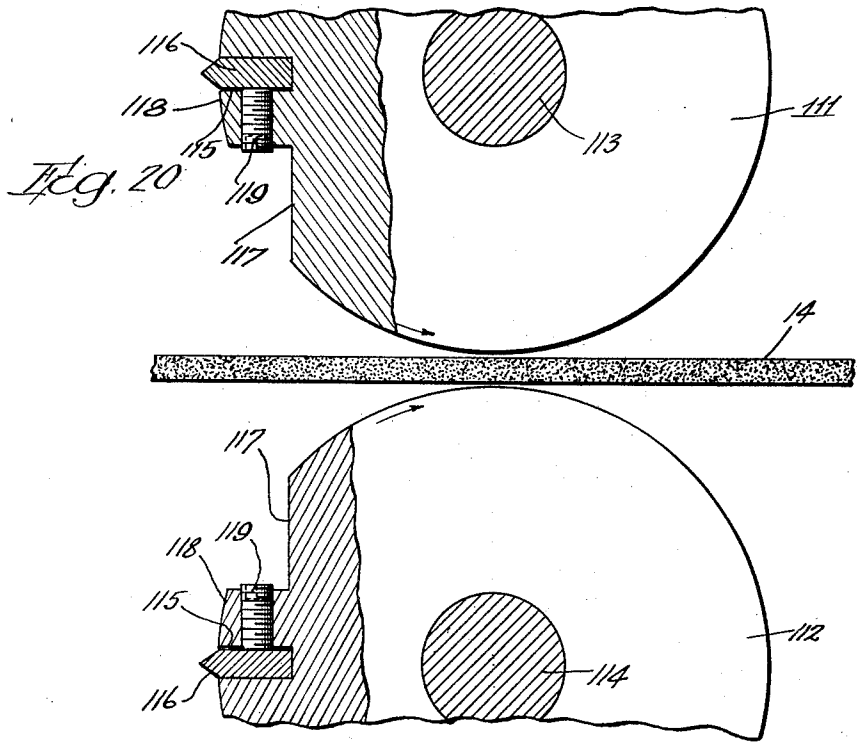


Fig. 20

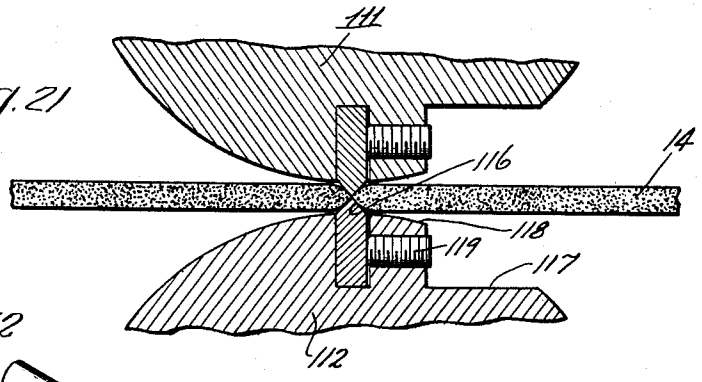
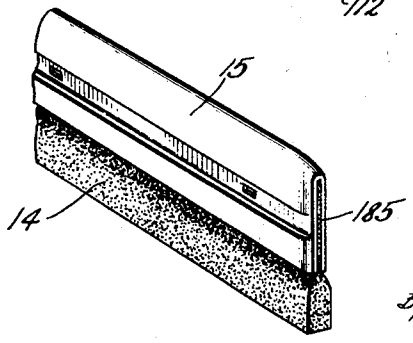


Fig. 21

Fig. 22



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Patented Nov. 17, 1931 1,832,524

UNITED STATES PATENT OFFICE

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MACHINE FOR AND METHOD OF FORMING WEATHER STRIPPING

Application filed February 8, 1928. Serial No. 252,926.

My invention relates in general to weatherstrip making machines and has more particular reference to a machine for forming a weatherstrip by assembling a folded metal strip upon the edge of a resilient weatherstrip portion and includes a mechanism for automatically cutting off the formed weatherstrip at predetermined intervals as it is formed.

Weatherstripping comprises a resilient strip of material adapted for disposal between the cooperating surfaces of movable closures, such as windows and doors, in order to tightly seal the intermediate crack between the closure members when the same are in closed position. The strip comprises a resilient sealing portion and an attaching flange, and the quality of the strip depends in large measure upon the uniformity of the assembled article.

Weatherstripping having an attaching flange formed of a folded metal strip has great utility for the reason that the metal edge may be arranged in close engagement upon the surface to which the weatherstrip is attached, and tends to hold the resilient weatherstrip portions more securely in engaged position. The use of a metal edging also eliminates the necessity of securing the weatherstrip edging to the resilient portion by means of stitching or seaming as is necessary when a weatherstrip is formed with a fabric attaching flange, the metal strip comprising the attaching flange being adapted to maintain its assembled position when once clamped upon the resilient weatherstrip portion without being otherwise secured thereto.

The principal object of the invention is the provision of a weatherstrip forming machine in which the operation of assembling the weatherstrip portions is entirely automatic, and which provides a uniform weatherstrip product.

Another important object is the provision in an improved machine for folding a metal strip and engaging the same along the edge of a resilient weatherstrip portion, to provide a weatherstrip having a metal attaching flange.

Another important object is the provision of improved forming rolls for folding a metal strip and having novel means for adjusting the rolls.

Another important object is the provision of improved means for assembling the folded metal edge and the resilient portions of a weatherstrip.

Another important object is the provision of improved means for securing co-operating weatherstrip portions together.

Another important object is the provision of a weatherstrip cutting mechanism adapted to automatically cut the formed weatherstrip into predetermined lengths as it emerges from the forming rolls of the machine.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings:

Figure 1 is a side elevation of a machine for forming and cutting metal bound weatherstripping and embodying my invention;

Fig. 2 is a top plan view of the devices shown in Fig. 1;

Fig. 3 is an enlarged side elevation of the strip folding and the weatherstrip assembling elements of the machine illustrated in Fig. 1, parts of which are shown in section to reveal details of construction;

Fig. 4 is a top plan view of the mechanisms illustrated in Fig. 3;

Fig. 5 is a vertical section taken substantially along line 5—5 of Fig. 1;

Fig. 6 is a vertical section taken substantially along line 6—6 of Fig. 3;

Fig. 7 is a vertical section taken substantially along line 7—7 of Fig. 5;

Fig. 8 is a horizontal section taken substantially along line 8—8 of Fig. 3;

Figs. 9, 10, 11, 12, 13, and 14 are views in vertical section taken substantially along lines 9—9, 10—10, 11—11, 12—12, 13—13 and 14—14 of Fig. 4;

Fig. 15 is a perspective view of a section of the weatherstrip formed by the machine of my invention;

Fig. 16 is an enlarged side elevation of the

weatherstrip cutting mechanism of the assembly illustrated in Fig. 1;

Fig. 17 is a top plan view of the mechanism illustrated in Fig. 16;

Fig. 18 is an end elevation of the mechanism illustrated in Fig. 16, viewed from the right;

Fig. 19 is a vertical section taken substantially along line 19—19 in Fig. 18;

Fig. 20 is an enlarged elevational view of the strip cutting rollers, parts of which are shown in section to reveal details of construction;

Fig. 21 is a partial view of the strip cutting rollers shown in Fig. 20, illustrating the cutting action of the knife blades; and

Fig. 22 is a perspective view of a portion of weatherstrip formed by the machine of my invention, showing a severed edge of the strip as cut by the strip cutting mechanism.

To illustrate my invention I have shown on the drawings a weatherstrip forming and cutting machine comprising a device 11 including a plurality of pairs of co-operating rollers adapted to engage a strip of metal successively and to fold it into a substantially V-shaped strip, an assembly device 12, including a pair of co-operating rollers, adapted to receive the folded metal strip from the device 11 and to receive a resilient weatherstrip portion from any convenient source and to secure the two portions together, the portions being assembled and passed between the rollers which clamp the V-shaped strip into locking engagement upon an edge of the resilient weatherstrip portion, and a device 13 adapted to cut the formed weatherstrip into sections of predetermined length.

The strip folding mechanism 11 comprises a supporting base 21 which provides a support for cooperating pairs of strip folding rollers 22 and 22′, 23 and 23′, 24 and 24′, and 25 and 25′, and a housing 21′ for suitable gear mechanisms for driving the strip folding rollers. The rollers 22′, 23′, 24′ and 25′ are suitably mounted upon the upper ends of vertical shafts 31, which are supported in alignment being suitably journalled in the top of the housing 21′ and in supporting cross members 32 disposed within the housing 21′, and the cooperating rollers 22, 23, 24 and 25 are secured to the upper ends of shafts 41 similarly journalled in alignment through the top of the supporting base 21 and through the cross members 32. Gears 33 are secured to the lower ends of the shafts 31 and are interconnected by pinions 34 arranged on stub shafts 35 mounted in the base 21. The interconnected gears and shafts are driven by a chain 36 which engages a sprocket 36′ mounted upon a shaft 31, and as the pinions 34 engage gears 33 of adjacent shafts 31, so that all the shafts 31 rotate in the same direction and at the same speed. Each shaft 41, at its lower end, carries a gear 43 having driving engagement with the gear 33 of the cooperating shaft 31, driving power being supplied to the shafts 41 from the shafts 31 so that the rolls 22, 23, 24, and 25 are all driven at the same speed but in a direction opposite to that of the cooperating rollers 22′, 23′, 24′ and 25′. The shafts 41 are rotatably mounted in cylindrical bushings 44 having eccentric bearing apertures in which the shafts are journalled. The upper portion of each bushing 44 is journalled in a cylindrical boss 42 formed in the top of the base 21, the lower bushing portions extending downwardly into the housing 21′ and carrying a worm wheel 46 secured thereto by means of a set screw 47. The worm wheel 46 has threaded engagement with a worm gear 48 mounted on a shaft 49 suitably journalled in a bearing 51 arranged in the side of the base 21. The outer end of the shaft 49 is provided with a hand wheel 52. Rotation of the hand wheel rotates the bushing 44, the eccentricity of the bushing causing the upper end of the shaft 41 to move eccentrically thus varying the spacing between the upper ends of the shafts 41 and 31, thus providing means for adjustably spacing the cooperating rollers.

Power is delivered to each of the devices 11, 12 and 13 through a main shaft 61 which may be driven in any convenient manner, such as by a belted fly wheel 62. The shaft 61 is journalled in bushings 63 which are formed in supporting uprights 64 bolted to a projecting portion 65 of the base 21 of the metal strip bending device 11. The shaft 61 is provided with a bevel gear 66 arranged to engage a cooperating gear 67 mounted on a stub shaft 68 suitably journalled in a bearing supported between the uprights 64. The shaft 68 carries a sprocket at its lower end. This sprocket engages and drives the endless chain 36 which in turn drives the rollers of the metal strip bending device 11.

The weatherstrip is formed from a resilient portion 14 and a metal strip 15, a roll 16 of which is mounted upon a convenient pedestal 17 situated adjacent the strip folding mechanism 11. The strip is fed from the roll 16 between the cooperating rollers 22 and 22′ which have peripheral surfaces adapted to offset the strip at 15′ substantially as shown in Fig. 9.

After leaving the rollers 22 and 22′, the so offset strip passes between rollers 23 and 23′ which fold the strip longitudinally substantially along a line of bend 18 and provide a longitudinal groove 19 substantially midway between the line of bend 18, and one edge of the strip, as shown in Fig. 10. The succeeding rollers 24 and 24′, and 25 and 25′ fold the strip still further along the line of bend 18 and provide the substantially V-shaped formation illustrated in Fig. 12. The strip 15 is guided between successive rollers by

means of guides 26 and 27 mounted in support brackets 28. The guides 26, being arranged to guide the strip on either side of the first pair of rollers 22 and 22′ while the strip is in a substantially flat condition, are adapted for vertical adjustment in the support brackets 28 by means of hand wheels 29 to provide control of the relative position of the strip in the rollers 22 and 22′, so that the offset at 15′ may be formed in the strip at any desired distance from an edge thereof thus to accommodate strips 15 of various widths in the machine.

The weatherstrip assembling and forming device 12 comprises cooperating upper and lower rollers 71 and 72. The lower roller 72 is mounted directly on and driven by the main shaft 61, the upper roller 71 being mounted upon a stub shaft 73 journalled eccentrically in a shaft 74 which is itself rotatably mounted in bearings 63′ formed in the uprights 64. The shaft 74 carries a worm wheel 76 secured thereon by means of a key 75 and a set screw 77. The worm wheel engages and is driven by a worm gear 78 rotatably supported from the forward upright 64 and rotation of which by a hand wheel 79 provides a means for adjustably spacing the rollers 71 and 72 similar to the adjustment provided between the cooperating rollers of the device 11. The shaft 61 carries a gear 81 having driving engagement with a cooperating gear 82 mounted upon the shaft 73 to provide for driving the roller 71.

A table 83 comprising a metal sheet is arranged on both sides of the rollers and is disposed in a plane substantially level with the upper edge of the lower roller 72. The table engages the front upright 64 and is supported from the base 21 of the device 11 by means of a strut 84 and provides a platform for weatherstrip assembling devices which are adapted to engage, support and feed the weatherstrip portions between the rollers 71 and 72. The folded strip 15 is delivered from the rollers 24 and 25′ of the strip folding device 11 to a guide 85 which comprises a rectangular block of metal having a V-shaped groove formed in an edge thereof. The guide 85 is secured to the table 83 by means of wing nuts 86 and bolts 87 which engage the table and pass through slotted portions of the guide 85. Set screws 88 mounted in offset portions 88′ of the table provide means for accurately adjusting the position of the guide with respect to the table and in alignment with the rollers 71 and 72. A finger 89 is secured to the table 83 and has a tip disposed in the groove of the guide 85 in order to maintain the strip 15 in position in the groove as it slides therein to the rolls 71 and 72, as clearly shown in Fig. 13.

The resilient portion of the weatherstrip indicated by the reference numeral 14 is fed into the assembly machine 12 through a guide 92 mounted upon the table 83 adjacent the finger 89. The guide 92 comprises a folded strip of sheet metal mounted on a pivot pin 93. A set screw 94 having engagement with the guide 92 at a point spaced from the pivot 93 has threading engagement with a support 95 and is arranged to adjust the position of the feeding end of the guide. The resilient portion 14 is fed through the guide 92 and engages the folded strip 15. Thus assembled, the portions are passed together between the rollers 71 and 72 which engage the folded metal portion and clamp it tightly about the enfolded edge of the resilient weatherstrip portion 14.

The periphery of the upper roller 71 is formed with an offset shoulder portion 101, and a peripheral groove 102 is formed in this shoulder. The lower roller 72 overlaps the upper roller and is provided with a flange 103 at the overlapped edge. A plurality of spaced channels 104 are formed through the body of the roller 72 and parallel with the axis thereof. Radial apertures 105 are formed between the channels 104 and the periphery of the roller and register with the groove 102 formed in the shoulder of the upper roller. These apertures 105 are each adapted to carry a punch 106 which is held in engaged position by means of a set screw 107. When in active position, the point of the punch 106 protrudes from the periphery of the roller 72. The punches may be rendered inoperative by loosening the set screws 107 sliding the punches longitudinally in the aperture 105 until the points of the punch lie beneath the peripheral surface of the roller. The rollers 71 and 72 are secured to the ends of their respective shafts by means of keys 71′ and 72′ and screws 91′ taking longitudinally into the shafts 73 and 61 respectively and engaging the rollers by means of washers 91. The folded metal strip 15 is engaged and compressed between the shoulder 101 of the upper roller and the surface of the lower roller 72, and the punches 106, being spaced about the periphery of the lower roller, engage the strip at intervals and pierce a portion 106′ of the metal into the resilient weatherstrip portion lying between the arms of the folded metal strip 15. The flange 103 on the lower roller provides a guide so that the weatherstrip may pass between the rollers with the groove 19 opposite the punches in order that the deformation may be produced at the groove. This deformation of the metal strip secures the weatherstrip parts in engaged relationship and the weatherstripping emerges from between the rollers 71 and 72 as a finished product. A guide 108 similar to the guide 85 except that the groove therein is adapted to engage the finished weatherstrip instead of the intermediate V-shaped

edge strip 15, is secured upon the table 83 on the side of the rollers opposite from the guide 85 and guides the finished weatherstrip away from the rolls 71 and 72.

After passing from the rollers 71 and 72, the completely formed weatherstrip passes over an intermediate supporting table 109, arranged as a continuation of the table portion 83 and supported in position upon an upright member 110, which carries the weatherstrip from the forming device 12 to the weatherstrip cutting device 13. The cutting device 13 comprises a pair of cooperating rollers 111 and 112 mounted on spaced shafts 113 and 114 suitably journalled in bearings supported in spaced pedestals 163' mounted on a supporting base 124. Each roller is provided with a radial slot 115 extending across the face of the roller parallel with the axis thereof. This slot is adapted to provide a seat for a knife blade 116 having a body portion engageable within the slot and an edge portion arranged to project from the peripheral surface of the roller. A portion of the roller parallel with and adjacent to the slot 115 is cut away as at 117 leaving a shoulder 118 between the cutout portion 117 and the slot 115. The knife portion 116 is held removably in place in the slot 115 by means of a stud 119 having threaded engagement through the shoulder portion 118 and engaging the knife portion to secure it in the slot. The adjacent portions of the peripheries of the rollers 111 and 112 are spaced apart a distance sufficient to allow the finished weatherstrip to slide between the rollers when in the normally inoperative or non-cutting position shown in Fig. 20 of the drawings. The shafts 113 and 114 carry cooperating gears 159 and 161 and are arranged to rotate at the same speed in opposite directions so that the knife edges 116 may have registering cutting engagement as illustrated in Fig. 21 of the drawings upon rotation of the rollers. The lower shaft 114 is supported at both ends in bearings 163 suitably mounted on the spaced pedestals 163'. The upper shaft 113 is mounted in bearings 158 slidably mounted upon the spaced pedestals 163' and adjustable in one case by means of a set screw 169 supported from the forward pedestal 163' by the bracket 169', and in the other case by means of a threaded shank 171 supported in a bracket 172 and controlled by a hand wheel 171'. The shank 171 engages a pin 172' in the bearing 158 and thus provides means for adjusting the same. The rollers 111 and 112 normally remain stationary in the position shown in Fig. 20 and are actuated periodically by a mechanism comprising a plurality of gears and pinions, which will now be more fully described. These gears are driven from a sprocket 121 mounted upon a shaft 122 suitably supported in bearings 123 arranged on the supporting base 124. The sprocket 121 is driven by a chain 125 which passes over a sprocket 126 mounted upon the main drive shaft 61 heretofore mentioned in connection with the devices 11 and 12.

A pinion 127 is mounted upon the shaft 122 and drives a gear 128 mounted on a shaft 129 which is suitably supported in pedestal bearings 131 mounted upon the base 124. The shaft 129 also carries a pinion 132 which has driving engagement with a gear 133 rotatably mounted upon a pin 134. This pin is mounted through an aperture 139 formed in an arm 135 which is pivotally mounted upon the shaft 129 by means of a bearing 136 formed at one end of the arm 135. A quadrant 137 having a curved slot 138 formed therein is arranged at the free end of the arm 135. The arm is adjustably secured to an upright 142 by means of a nut and bolt 141 which engages through the slot 138 and an aperture in the upright. The upright is suitably mounted upon the base 124. The bolt 141 slidingly engages in the slot 138, and, upon tightening the nut, the upright 142 and the arm 135 may be adjustably fastened together to provide for arranging the arm in various angular relationship with respect to the shaft 129. The gear 133 engages a removable gear 143 mounted upon the end of a shaft 144 which in turn is rotatably mounted in a pedestal bearing 145 supported from the base 124, the gear 143 being held in place by means of a bolt 146 engaging the gear 143 and taking into the end of the shaft 144. The adjustable quadrant 137 provides means whereby gears 143 of various size may be mounted upon the shaft 144 to provide a means for driving the shaft at a plurality of desired speeds. A mutilated pinion 147 is mounted upon the end of the shaft 144 opposite the gear 143. This pinion 147 comprises a hub 148 providing engagement with the shaft 144, a web and rim 149, parts of which are cut away along a line 151. Gear teeth 152 are formed along substantially one half of the remaining rim of the mutilated pinion, the other half of the rim remaining blank. A pinion 153 mounted on a shaft 154 supported in suitable bearings 155 mounted in pedestals 155' supported from the base 124 is arranged to be driven by the teeth 152 as the mutilated gear 147 is rotated. The shaft 154 carries a gear 156 which is arranged to engage a pinion 157 mounted on the shaft 113 and hence to rotate the cutting rollers 111 and 112.

A guide 164 formed of sheet metal is supported from the base 124 by means of an upright 165 and is arranged to conduct the formed weatherstrip from the intermediate platform 109 to the rollers 111 and 112. A receiving table 166 and a weatherstrip guide 167 supported from the base 124 by means of an upright supporting member 168 are ar-

ranged opposite the rollers to support and guide the weatherstrip after passing through the rollers.

During the inactive period, the operating mechanism of the weatherstrip cutting rolls is locked in inoperative position by means of a lever arm 173 pivotally mounted on a pin 174, which is supported from a bracket 174′ mounted on the bearing pedestal 155′. An offset portion 175 at one end of the lever arm 173 is normally urged by a spring 178, attached at one end to a pin 179 in the pedestal 155′ and at the other to the lever arm, into engagement in a slot 177 formed in the rim of the gear 156, which is then locked in place. The opposite end 176 of the lever 173 is provided with an oppositely extending offset portion which engages a side of the rim 149 of the mutilated pinion 147. The rim 149 during rotation of the pinion slides along the portion 176 of the lever 173 and is offset as at 181 providing a shoulder along the rim which is adapted to engage and lift the offset portion 176 of the lever and to rotate the lever against the tension of the spring 178 and disengage the portion 176 from the slot 177 of the gear 156 when the mutilated pinion engages the pinion 153; that is to say, when the strip cutting mechanism is in operation. When driving engagement between the mutilated pinion 147 and the pinion 153 ceases, the offset portion 175 of the lever 173 rides upon the rim of the gear until it engages the slotted portion 177, the inertia of the mechanism causing rotation of the parts after driving engagement between the mutilated pinion and the pinion 153 has ceased.

In operation the finished weatherstrip, guided by the member 164, slides between the rollers 111 and 112 until a predetermined length has passed through, at which time the mutilated gear wheel 147, which is rotated continuously and at uniform speed from the main drive shaft 61 through the chain 125 and the train of pinions and gears 127, 128, 132, 133 and 143, reaches a position in which the teeth 152 thereof engage and drive the pinion 153 which, up to this time, has been locked in a stationary position by the catch member 175. The pinion 153 in turn drives the rollers 111 and 112 and the knives 116 come into registering engagement on opposite sides of the weatherstrip and sever the same, as illustrated in Fig. 21 of the drawings, the cut ends 185 of the weatherstrip assuming a conformation illustrated in Fig. 22 of the drawings and providing a neat severed weatherstrip end.

The cut length of the weatherstrip depends upon the frequency with which the mutilated pinion has driving engagement with the pinion 153. This is determined by the gear ratio between the removable gear 143 and the gear 133. The driving gear 133, being rotatable about the pin 134 is adapted to have driving engagement with gears 143 of various sizes and should a greater strip length be desired, a gear having a larger diameter is substituted upon the shaft 144 in place of the gear 143.

The number of weatherstrip lengths cut by the cutting mechanism is recorded by a counter 182 conveniently supported on a bearing pedestal 163′ adjacent the free end of the shaft 113. The counter 182 has an arm 183 extending across the end of the shaft. A plate 184 carrying a pin 185 is secured to the end of the shaft and rotates therewith, the pin 185 engaging the actuating lever 183 of the counter 182 and moving it through a counting cycle once per revolution of the shaft 113. Since the rollers 111 and 112 rotate but once in cutting the strip, the counter, being arranged to count the rotations of the shaft, records the number of cut lengths of weatherstrip produced by the machine.

It is thought that this invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that many changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. In a weatherstrip machine, the combination of a series of co-operating adjustably spaceable rollers comprising dies for forming a U-shaped backing weatherstrip portion, means for engaging a resilient weatherstrip portion within said formed weatherstrip portion, co-operating rollers for pressing said formed portion into said resilient portion and arranged to deform said formed portion at intervals therealong to provide locking engagement between said resilient portion and said formed portion.

2. In a weatherstrip machine, the combination of a series of co-operating adjustably spaceable rollers comprising dies for forming a U-shaped backing weatherstrip portion, means for engaging a resilient weatherstrip portion within said formed weatherstrip portion, co-operating rollers for pressing a groove into said formed portion and into said resilient portion and arranged to deform said formed portion at intervals therealong to provide locking engagement between said resilient portion and said formed portion, and means for cutting said weatherstrip into predetermined lengths.

3. In a weatherstrip machine, the combination of co-operating rollers comprising dies for folding a backing weatherstrip portion into the shape of a U, co-operating rollers for pressing a groove into said folded portion into engagement with a resilient weatherstrip portion to secure said portions together into a continuous weatherstrip, means

for cutting said weatherstrip into predetermined lengths, and means for counting the number of cut lengths of weatherstrip produced by the machine.

4. In a weatherstrip machine, the combination of a series of co-operating rollers comprising dies for folding a U-shaped weatherstrip portion and rolling a groove longitudinally therein, means for engaging said weatherstrip portion to form a continuous weatherstrip, means for cutting said weatherstrip into predetermined lengths, and means for counting the number of cut lengths of weatherstrip produced by the machine.

5. In a weatherstrip machine, the combination of a series of co-operating adjustably spaceable rollers comprising dies for forming a U-shaped backing weatherstrip portion and forming a groove therealong, means for engaging a resilient weatherstrip portion within said formed weatherstrip portion, co-operating rollers for pressing said formed portion into said resilient portion and arranged to deform said formed portion at intervals therealong to provide locking engagement between said resilient portion and said formed portion, means for cutting said weatherstrip into predetermined lengths, and means for counting the number of cut lengths of weatherstrip produced by the machine.

6. In a weatherstrip machine, the combination of co-operating rollers adapted to engage and fold a backing weatherstrip portion longitudinally into the shape of a U, means for inserting a resilient weatherstrip portion within said folded portion, and co-operating assembly rollers adapted to engage and press said folded portion and said resilient portion together, a punch extending from the periphery of said other assembly rollers during the rotation thereof to distort said folded portion at intervals to provide locking engagement between the said so engaged weatherstrip portions, and a weatherstrip cutting mechanism including a roller arranged to engage the formed weatherstrip and having a knife edge arranged peripherally through said roller adapted to cut the weatherstrip.

7. In a weatherstrip machine, means for forming a weatherstrip edging, means for engaging and securing a resilient weatherstrip portion in said formed edging and a means for cutting said so formed weatherstrip into predetermined lengths, said cutting means including a normally stationary roller having a cutting edge arranged therein, means for feeding said strip past said roller at a substantially uniform rate, and means for periodically rotating said roller to a weatherstrip cutting position.

8. In a weatherstrip machine, means for forming a weatherstrip edging, means for engaging and securing a resilient weatherstrip portion in said formed edging and a means for cutting said so formed weatherstrip into predetermined lengths, said cutting means including a normally stationary roller having a cutting edge arranged therein, means for feeding said strip past said roller at a substantially uniform rate, means for periodically rotating said roller to a weatherstrip cutting position, and means for counting said periodic positions.

9. The method of forming a weatherstrip, which comprises the folding of a weatherstrip edge portion into the shape of a U, inserting a resilient weatherstrip portion between said folded edge, pressing a groove into said folded edge into engagement with said resilient weatherstrip portion, and distorting said edge portion at intervals to provide locking engagement between the assembled weatherstrip portion.

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