Oct. 16, 1951 C. T. CALABRESE 2,571,338

AUTOMATIC WIRE STRIPPER

Filed May 18, 1948 5 Sheets-Sheet 1

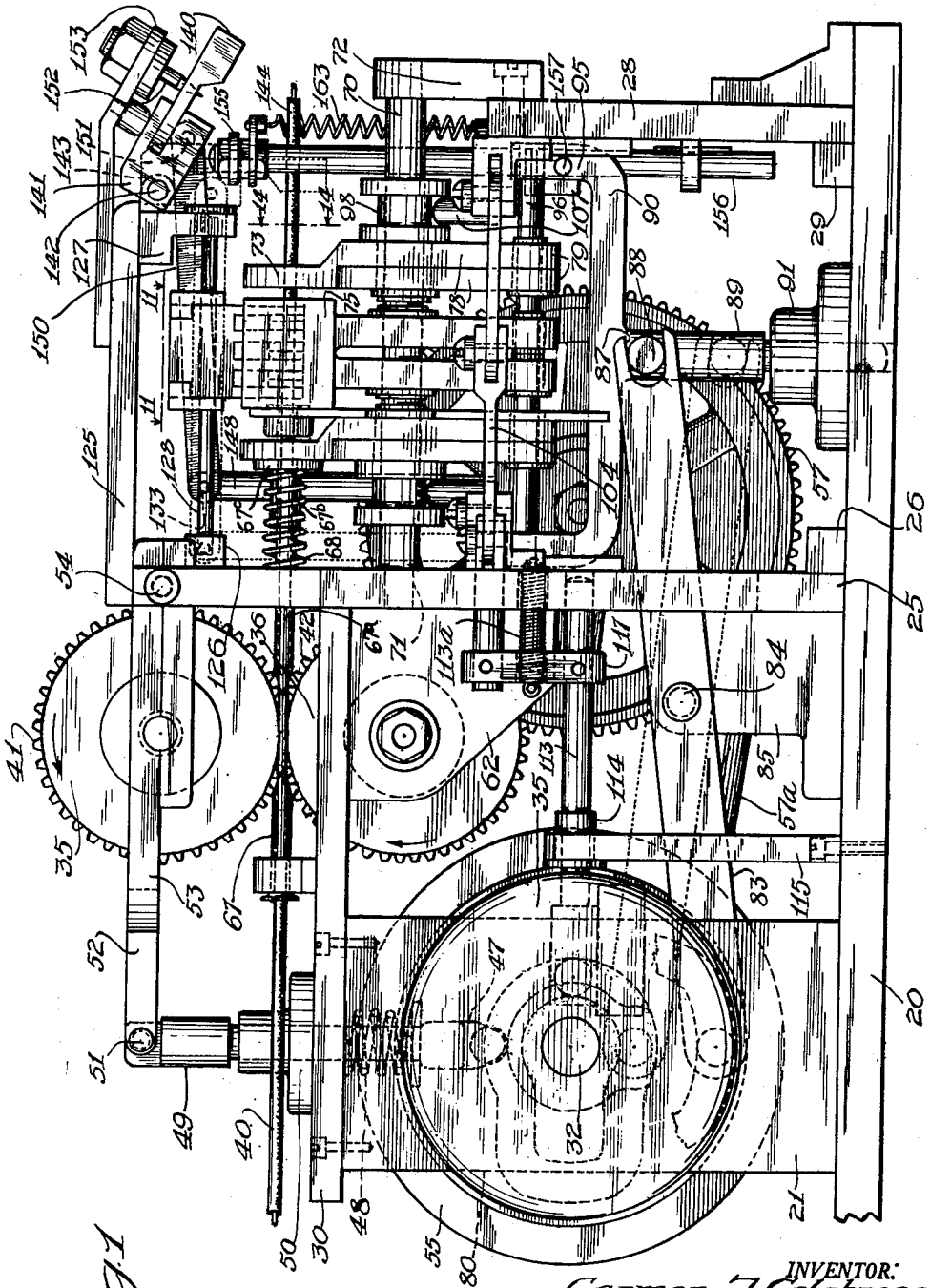

Fig. 1

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AUTOMATIC WIRE STRIPPER

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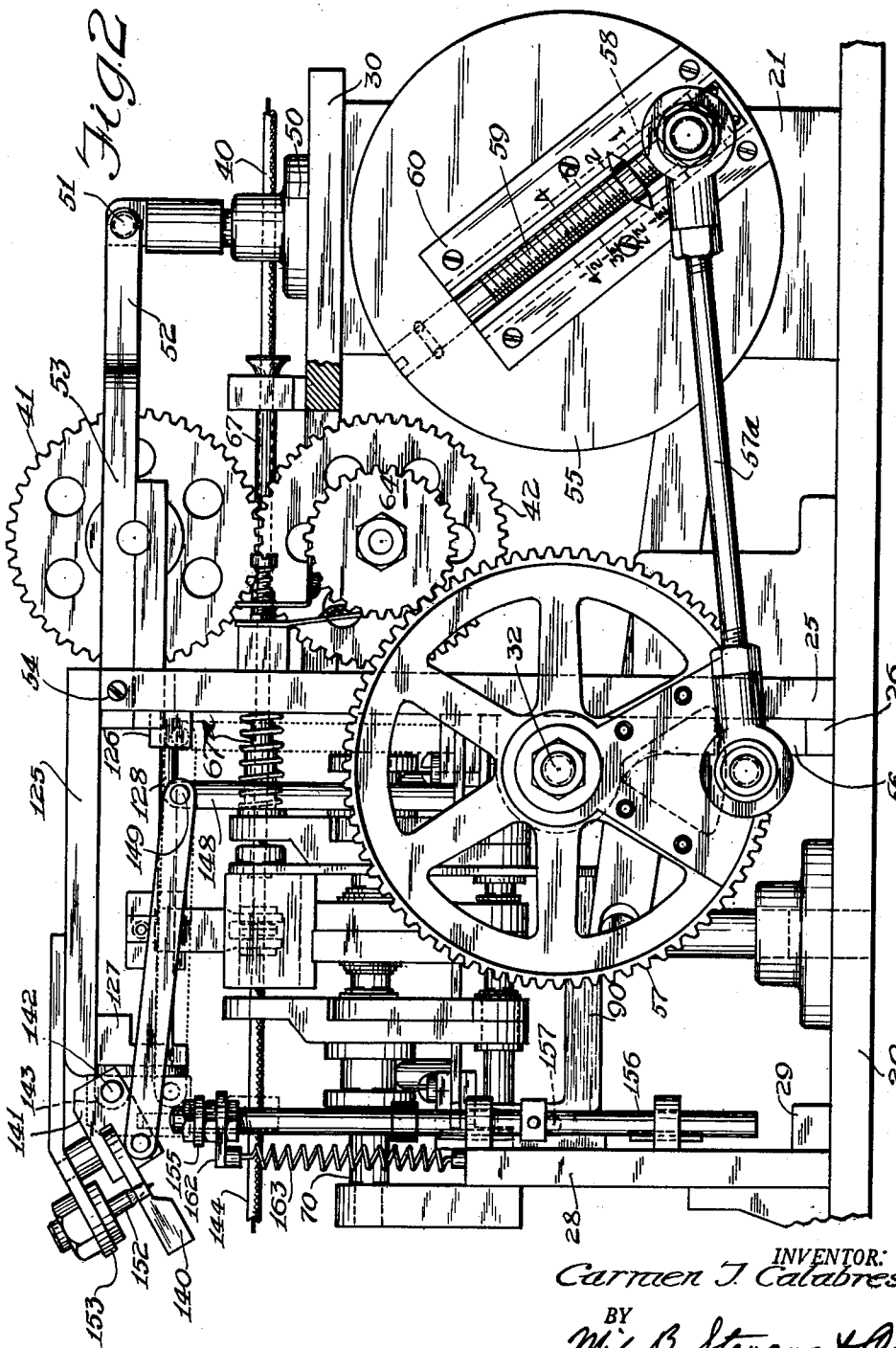
Fig. 2

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AUTOMATIC WIRE STRIPPER

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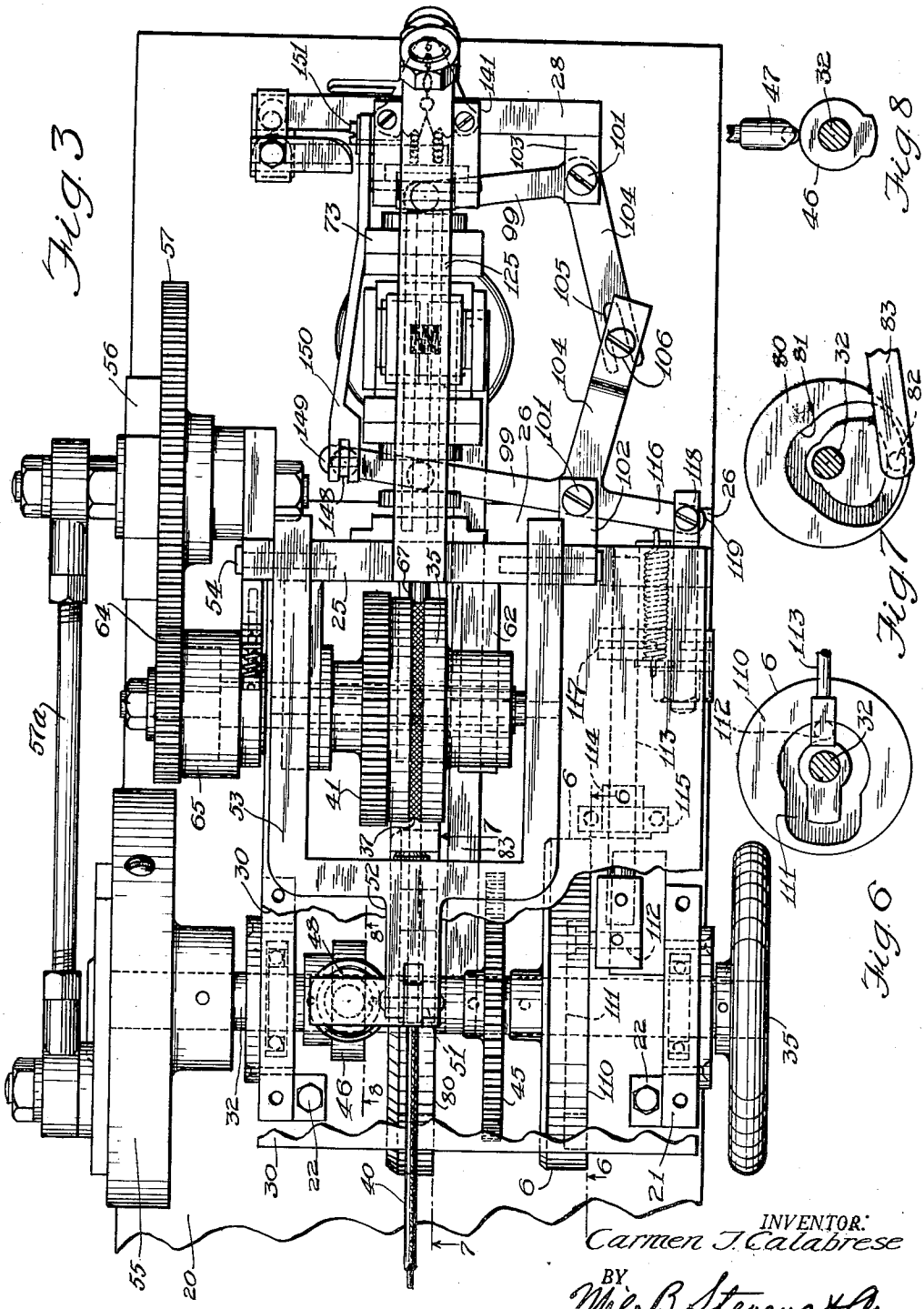

Fig. 3



Fig. 8



Fig. 7



Fig. 6

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AUTOMATIC WIRE STRIPPER

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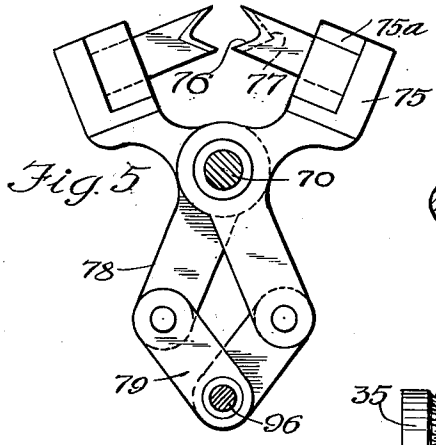


Fig. 5

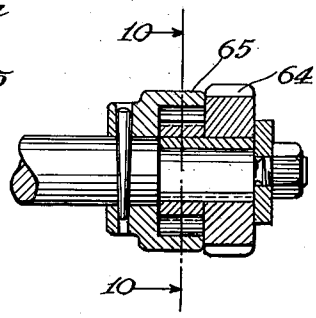


Fig. 9

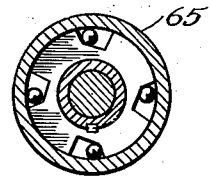


Fig. 10

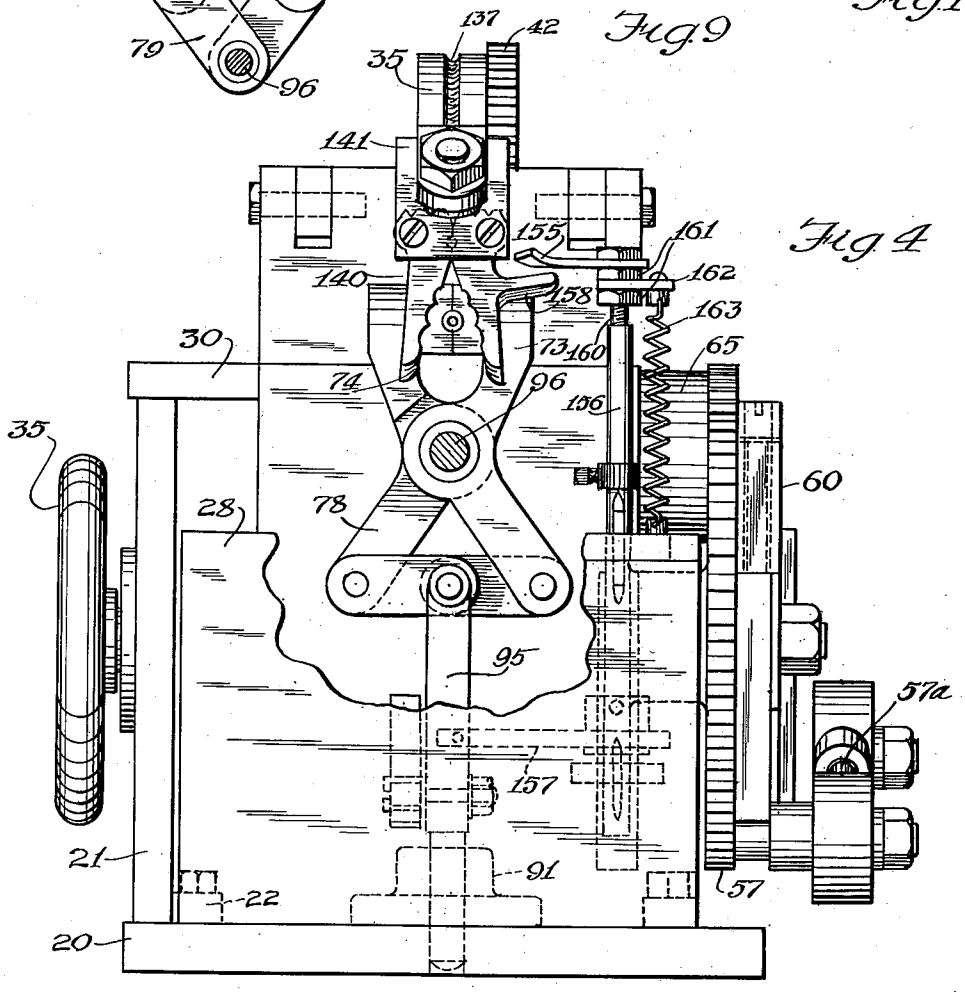


Fig. 4

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AUTOMATIC WIRE STRIPPER

Filed May 18, 1948 5 Sheets-Sheet 5

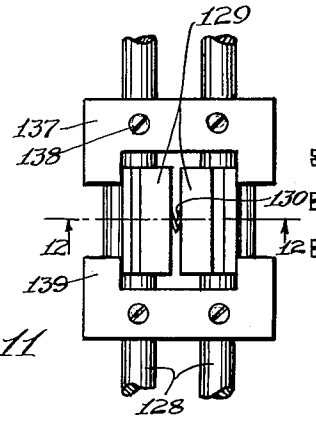


Fig. 11

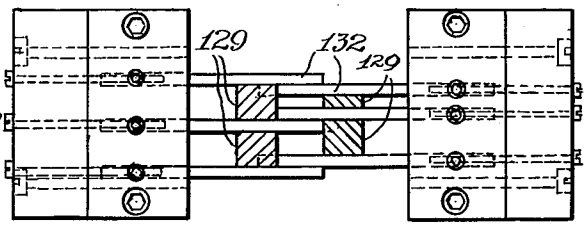


Fig. 13

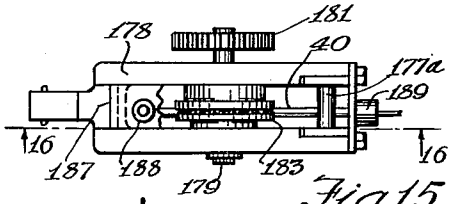


Fig. 15

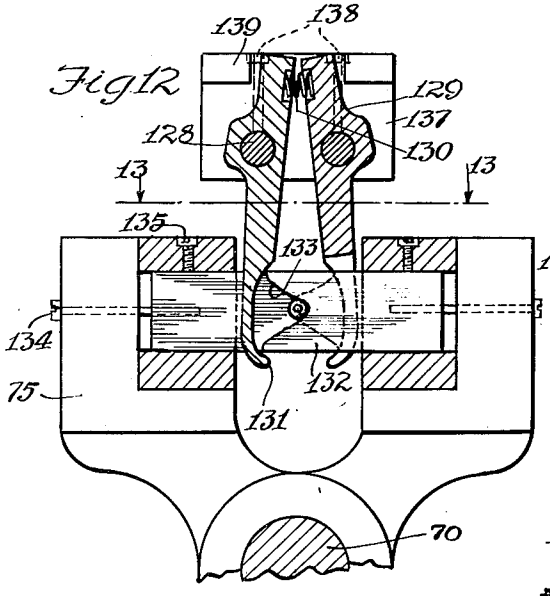


Fig. 12

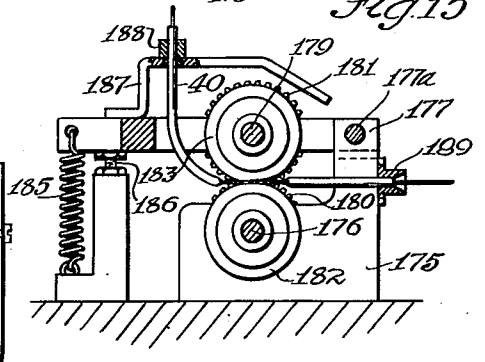


Fig. 16

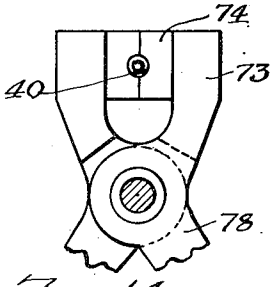


Fig. 14

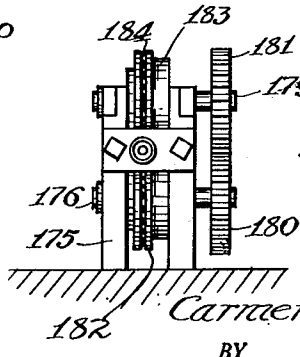


Fig. 17

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Patented Oct. 16, 1951

2,571,338

# UNITED STATES PATENT OFFICE

2,571,338

## AUTOMATIC WIRE STRIPPER

Carmen T. Calabrese, Chicago, Ill.

Application May 18, 1948, Serial No. 27,648

7 Claims. (Cl. 81—9.51)

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My invention relates to insulated wire, such as is used in electrical and radio work, and more particularly to means for cutting the wire into sections of desired length and stripping the insulation from the end portions of the cut sections.

One object is to provide a machine for the above purpose in which the wire is fed in a straight line and periodically into a mechanism where it is gripped, the foremost section cut off, and the insulation incised a short distance beyond and before the cut, whereby to define the extent to which the wire section terminals are to be bared.

A further object is to separate the severed sections while the insulation portions between them are still being gripped, whereby to leave such portions empty of wire and for disposal as waste.

Another object is to include a unit effective to release the wire from the original feed during the aforesaid separating action, in order that the wire may not buckle and clog the feed.

A still further object is to provide a unit which receives the foremost section of the wire after it has been severed and terminally stripped, such unit operating to eject the said section from the machine.

An additional object is to provide simple means for changing the length of the resulting wire section according to requirements.

Another object is to provide a gearing for operating the wire treating mechanism which is fast, highly efficient and fully automatic, requiring no manual attention or control whatsoever.

An important object is to design the novel machine along extremely compact lines, and with a minimum of parts consistent with efficient operation.

With the above objects in view, and any others which may suggest themselves from the description to follow, a better understanding of the invention may be had by reference to the accompanying drawings in which—

Fig. 1 is a right-hand side elevation of the machine;

Fig. 2 is a similar view from the left-hand side;

Fig. 3 is a top plan view;

Fig. 4 is a front elevation;

Fig. 5 is an end view of a cutting unit;

Figs. 6, 7 and 8 are face views of cam units, taken on the section lines 6—6, 7—7, and 8—8 of Fig. 3;

Fig. 9 is a section of a one-way clutch employed in the wire feed;

Fig. 10 is a section on the line 10—10 of Fig. 9;

Fig. 11 is an enlarged top plan view of the upper portion of a waste handling unit seen from the line 11—11 of Fig. 1;

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Fig. 12 is a section on the line 12—12 of Fig. 11;

Fig. 13 is a section on the line 13—13 of Fig. 12;

Fig. 14 is an enlarged section on the line 14—14 of Fig. 1;

Fig. 15 is a top plan view of a wire supply control accessory to the machine;

Fig. 16 is a section on the line 16—16 of Fig. 15; and

Fig. 17 is a right-hand side view of the control.

In accordance with the foregoing, specific reference to the drawings indicates the base of the machine to be a heavy plate 20. The base is built up at the rear with a pair of side plates 21 secured to the base 20 through the agency of bolted base flanges 22. About midway between the front and rear ends of the machine is a heavy cross-plate 25 also formed with a base flange 26; and at the front of the machine is a shorter cross-plate 28 formed with a base flange 29. The side plates 21 receive a table 30 at the top, such table extending forwardly to meet the cross-plate 25.

The space between the cross-plates 25 and 28 is largely devoted to the mechanism for the treatment of the covered wire, while the space to the rear of the cross-plate 25 accommodates a feed mechanism for the wire and the controls for the wire treating mechanism. The controls are mainly carried by a cross-shaft 32 which is desired to be operated by an external power source. However, Figs. 1 and 3 show that a hand wheel 35 is mounted on the right hand end of the shaft in case it is desired to turn the same manually for any purpose.

The wire feed is immediately accomplished by a pair of superimposed rollers 35 and 36, these having frictionally surfaced grooves 37 adapted to engage the wire 40 as it passes in forward direction between the rollers. These have spur gear extensions 41 and 42 for positive normal engagement. However, when it is desired to suspend or interrupt the feed of the wire, the upper roller 35 is liftable to relieve the wire of friction, although the extent of lift is not sufficient to unmesh the gears 41 and 42.

The periodical lifting of the roller 35 is accomplished by means originating with the main shaft 32. Thus, this shaft primarily carries a gear 45 to which may be led a suitable power drive (not shown). The shaft also carries a cam 46 which is designed to receive a follower 47 from above, such follower being spring-backed from the table 30 as indicated at 48. The follower rod 49 rises

through a bearing 50 above the table to become linked at 51 with an arm 52. The latter extends forwardly in the form of a bifurcated frame 53 whose forward ends are pivoted at 54 to the cross-plate 25. The frame 53 forms a horizontal bearing for the roller 35, and the nature of the cam 47 is such as to impart a lift to the roller once during each revolution of the shaft 32.

The feed of the wire is designed to impart only periodical rotative impulses to the rollers 35 and 36 in the directions indicated by the arrows in Fig. 1. For this purpose the motion of the main shaft 32 is transmitted to the rollers by the means more clearly indicated in Figs. 2 and 3. Thus, the shaft emerges from the left-hand side of the machine to receive a flywheel 55; and the base 20 receives a support 56 in forwardly spaced relation from the flywheel journaling a gear 57. A pitman 57*a* extends between the flywheel and the gear and is designed to impart periodically reversing rotary motion to the gear while the flywheel is in continuous rotation. As indicated in Fig. 2, the pitman connection with the flywheel is through the agency of a traveling nut 58 mounted on a diametrical screw 59 rotatable in a bearing 60 carried by the outer face of the flywheel. The rotary adjustment of the screw makes it possible to change the radial position of the connection between the pitman 57*a* and the flywheel and thus shorten or lengthen the rotary travel of the gear 57.

The table 30 carries a support 62 journaling the roller 36. Fig. 2 shows that this roller has a pinion 64 in mesh with the gear 57. However, the pinion is carried by a conventional one-way clutch 65, more clearly shown in Figs. 9 and 10, so that the rotation imparted to the rollers 35 and 36 will only be unidirectional, that is, in the feeding direction.

The covered wire 40 is guided through the feeding zone in a rear tube 67, and a frontal one 67*a*, and enters the zone between the cross-plate 25 and 28. Here the instrumentalities directly affecting the wire are located and will now be described. Primarily, it is the function of these to grip the wire at longitudinally spaced points, sever the covered wire at a point substantially midway between such points, cut through the covering only a prescribed distance on each side from the wire severing point, and separate the gripped sections to expose the naked wire ends. In order to accomplish these operations, a fixed horizontal shaft 70 is located between the cross-plates 25 and 28, the rear end of the shaft being reduced as indicated at 71 to fit into the cross-plate 25, while the forward end of the shaft passes over the cross-plate 28 to become lodged in a bearing bracket 72. The shaft 70 freely receives a pair of grippers 73 which are more clearly shown in the section of Fig. 14. The jaws 74 of these grippers are designed to conform with and engage the covered wire 40 when the jaws gather. Similarly, the shaft 70 receives a pair of cutter heads 75, which have the same general form as the grippers 73. However, on the inner side, the cutter heads receive inserts 75*a* formed with co-acting knives 76 and 77. The inserts 75*a* are in three pairs and the knives are V-grooved as clearly indicated in Fig. 5. The knives 76 are carried by the center insert and are more pronounced than the knives 77 of the lateral inserts, so that when the cutter heads 75 advance toward each other, the knives 76 act like pairs of shears to cross each other and sever the wire 40. However, the knives 77 being shorter only cut through the insulation covering at points spaced laterally from the wire severing zone.

A telescoping flanged collar 67*b* fits over the forward end portion of tube 67*a* as shown in Figure 1. This collar terminates in flange 67*c* which abuts the wire gripper 73. A spring 68 bottoms against the cross plate 25 and the flange 67*c* yieldably to hold the telescoping collar 67*b* against the gripper 73. As the gripper 73 executes wire retracting movements, the collar 67*b* moves in unison with it.

The cutter heads and grippers have heel portions 78 whose lower ends are joined by coupled toggle links 79. Thus, when these are broken as indicated in Fig. 5, the cutter heads and grippers are spread apart. However, when the links are raised to the co-extensive position indicated in Fig. 4, the cutter heads and grippers are advanced to the operative positions.

The mechanism controlling the position of the links 79 is more clearly illustrated in Figs. 1 and 7. Thus, the main shaft 32 carries a cam 80 having a facial groove 81 which receives a follower 82. A bar 83 extends forwardly from the follower and is horizontally pivoted at 84 in a bearing 85 extended from the cross-plate 25. The front end of the bar 83 occurs approximately midway between the cross-plates 25 and 28 and is divided at 87 to receive a side pin 88 extended from the vertical shank 89 of a yoke 90. The shank 89 is slidable in a bearing 91 located on the base plate 20. The end pieces 95 of the yoke 90 are longitudinally spaced and carry a rod 96 between them. This rod passes through the union of the links 79 of the grippers 73 and cutter head 75. It follows, therefore, that the rotation of the cam 80 will induce the periodical lifting of the yoke 91 to apply the grippers and cutter knives once every revolution of the main shaft 32.

It is apparent that the cutting operations mentioned above leave a pair of short covering pieces on the wire ends desired to be stripped, and it is now necessary to clear the wire sections of these pieces in order that the wire ends may remain exposed. This is done by separating such sections while they are still held by the grippers 73. Thus, the grippers are shown particularly in Fig. 1 to carry spool-type collars 98 on their outer sides. A pair of angle levers 99 occur in a horizontal plane below the shaft 70, being vertically pivoted at the angle as indicated at 101 to brackets 102 and 103 extending respectively from the cross-plates 25 and 28. The outer arms 104 of the levers 99 extend toward each other and cross as indicated in Fig. 3. One arm 104 is slotted in its end as indicated at 105 to freely receive a pin 106 carried by the other arm. Thus, the levers are pivotable in unison to gather and separate their inner ends; and the latter have upward pins 107 directed into the collars 98 to procure the longitudinal gathering and separating action of the gripper sets 73 in accordance with the action of the levers 99.

The separating and gathering action of the levers 99 is controlled by a cam 110 carried by the main shaft 32 and more clearly shown in Fig. 6. The cam has a facial groove 111 for a follower 112 carried by a slide bar 113. The latter has a rear bearing 114 carried by a standard 115 on the base plate 20, as well as a forward bearing on the cross-plate 25. A connection is provided between the slide bar 113 and an outer wing 116 of the rear lever 99. As such wing projects some distance laterally from the bar 113, the latter receives an offset

117 carrying a continuation bar 118. A pivotal connection 119 is made between this bar and the outer end of the wing 116. It is now apparent that the reciprocating cycle on the part of the levers 99 occurs during each revolution of the main shaft 32. A spring 113a between the offset 117 and the plate 25 draws on the slide bar 113 and keeps the follower bearing forwardly in the cam groove 111.

It is now evident that the separation of the wire sections held by the grippers leaves the pieces of wire covering previously mentioned devoid of wire and without support; also, by the separation referred to the forward section of covered wire is made to take a short forward stroke, while the rear section takes a short rearward stroke. In the first instance, no material effect is had. However, in the second instance, the feed wire takes a backing stroke, and it is at this time that the control of the roller 35 occurs to raise the same and leave the way clear for the momentary back movement of the wire.

Recurring to the two pieces of covering left in the center of the wire cutting zone, they are now waste, but receive a support momentarily, following which they are allowed to drop to the bottom of the machine or into a handy pan or basket. The support referred to originates with a long overhead bracket 125 projecting forwardly from the top of the cross-plate 25. The latter and the bracket carry rear and forward supports 126 and 127 for a pair of rods 128 arranged side by side below the bracket 125. Figs. 11 and 12 show that these rods carry a pair of opposed and bifurcated rocker arms 129, these being urged apart at the top by a spring 130. The rocker arms depend with spoon divisions 131 into the space between the cutter head inserts 75a. The latter carry transverse slides 132 whose inner ends are recessed at 133 to serve as jaws. The slides are tapped horizontally to receive feed screws 134 from the cutter heads 75, so that the jaws 133 are adjustable in and out and may be fixed by the application of set screws 135. As indicated in Fig. 12, the jaws 133 receive the wire covering pieces 136 between them as the cutter heads 75 gather, pushing the spoons 131 apart as also indicated in Fig. 13. This occurs as the gripped wire sections separate longitudinally, and the waste pieces 136 therefore receive support in the jaws 133. However, when the cutter heads again separate the spoons receive clearance to close from the force of the overhead spring 130 and catch the waste pieces between them. It follows now that when the spoons are again separated by the next gathering stroke of the cutter heads, the waste pieces drop out and fall into a discard receptacle which may be properly positioned to receive them. Figs. 11 and 12 also show end blocks 137 secured on the rods 128 by set screws 138 and extended with side lugs 139 over the ends of the rocker arms 129 to limit the separation thereof.

It is now apparent that the forward gripper 73 is holding the wire section 144 cut off from the supply portion, and that such section is in the finished form, that is, with bared wire ends. It is intended that means for removing this wire section get into operation not only to take hold of the same before the gripper 73 is released, but also to travel to a point sufficiently forward to eject the wire section where it may fall into a frontal receptacle (not shown) positioned clear of the machine. The immediate elements involved in this operation are a pair of frontal grippers 140, these being carried by a block 141. The latter is pivotally suspended at 142 from an ear 143 projecting forwardly from the support 127. Full lines in Fig. 1 show the grippers 140 swung forward, while dotted lines show them down in the position in which they engage the wire section 144.

The action of the wire grippers 140 is governed by the position of the rear lever 99. For the moment, it may be said that the forward position of this lever—as shown in Fig. 3—corresponds with the raised position of the grippers 140, and vice versa. The connections between the rear lever 99 and the grippers 140 first involve a post 148 rising from the free end of the lever to a point alongside the rods 128. Here the post makes a linked connection 149 with an arm 150 which extends forwardly to make a pivotal connection 151 with the lower portion of the block 141. When the wire grippers 140 are in the raised position, they are separated by a wedge 152 secured to an extension 153 of the overhead bracket 125. However, when the rear lever 99 swings rearwardly to draw the wire grippers 140 down to the dotted line position in Fig. 1, an action occurs which forces one gripper 140 against the other while the wire section 144 is in the middle, so that the same becomes engaged by the grippers.

The action just mentioned is induced by a side cam 155 best seen in Fig. 4. It is here noted that this cam is carried by a post 156. The latter is supported near the bottom by a side rod 157 projecting from the forward arm 95 of the yoke 90. Thus, while the wire grippers 127 are in the raised position, the yoke 90 is also elevated and keeps the cam 155 high and out of the way of the grippers 40. However, when these are down to the wire section engaging position, a side lug 158 carried by the left-hand gripper 127 comes to a point underneath the cam 155. At this time the yoke 90 descends, causing the cam 155 to press the left hand gripper 140 against the wire section 144 lying against the right-hand gripper. The next movement of the lever 99 now acts to raise the wire grippers 140. During this movement they carry the wire section 144 forward to a position clear of the machine where the grippers mount and are spread by the wedge 152, releasing the wire section where it may freely fall into the frontal receptacle previously referred to.

Fig. 4 shows that the post 156 has a top screw extension 160 and a series of nuts 161 for adjustably securing the cam 155 in respect to height. This connection also secures a lug 162 from which a draw spring 163 descends to the cross-plate 28. The purpose of this spring is to insure the quick application of the cam 155 to the lug 158.

Since the machine is designed to operate at relatively high speed, a wire supply control is required which may be coordinated with the wire feeding mechanism of the machine. Figs. 15 to 17 show a suitable unit for this purpose. Thus, a base, 175 is provided in which a shaft 176 is journaled. The front of the base is made with risers 177 in which is pivoted at 177a a rearwardly extending frame 178. This frame journals a shaft 179 parallel to and directly above the shaft 176. The two shafts carry intermeshing gears 180 and 181 and rollers 182 and 183, respectively, the rollers being annularly grooved and knurled in registration as shown at 184. The frame 178 is drawn toward the base by a spring

185, with an adjusting screw 186 as a limit. The frame carries a bracket 187 with an inlet 188 for the covered wire 40, the latter being trained between the roller grooves 184 toward an outlet 189 which leads to the machine. The roller 182 is driven either from the machine driving motor or from an independent motor at a speed suitable to provide a limited amount of slack in the wire as it leads to the machine. It is understood that the adjustment of the screw 186 will be of assistance in this respect to vary the influence of the rollers 182 and 183 upon the wire 40 as desired, and that the slight vertical adjustment of the roller 183 will not affect the meshing engagement of the gears 180 and 181.

With the construction of the machine recited in the foregoing, an outline of its operation is in order. Thus, the wire 40 from the supply control or pre-feeder of Figs. 14 to 16 is threaded through the guide tube 67 to a position under the top roller 35. The frame 53 of the latter may be momentarily lifted by hand to permit the wire to pass between the rollers 35 and 36 and to enter the next guide tube 67*a* and between all the gripper jaws to protrude to a limited extent from the final one. Now, on rotating the hand wheel 35 the cam 80 comes into action, tilting the bar 83 from the dotted line position in Fig. 1 to the full-line showing therein. This action lifts the yoke 90 and alines the toggle links 79, causing the grippers 73 and cutter heads 75 to close, to cut the wire 40 through at a central point, cut the wire covering through at points spaced outwardly from the wire severing location, and grip the covered wire in zones outside of the said points. Thus, the inserts 75*a* may incise the wire covering at points ⅜ inch from the wire cutting zone; or the inserts could be replaced by a set which spaces the covering cutters one-half inch away, or any other spacing specified.

Now that the wire has been cut and sections of the covering cut free from the balance thereof, the next task is to draw the wire portions outside of those sections apart far enough to leave the sections devoid of wire, or in other words strip the same. This is done by the operation of the cam 110. In advancing the slide bar 113, the cam procures the separating motion of the levers 99 and that of the grippers 74 by way of the collars 98. However, the backing of the rear wire section would buckle it as long as it is within the grip of the feed rollers 35 and 36, and the cam 46 therefore acts concurrently with the stripping mechanism to lift the roller 35 and afford the said rear wire section a backing clearance. Also, the gathering action of the cutter heads advances the mechanism of Figs. 11 to 13 to receive the waste covering pieces in the jaws 133 as the grippers separate the severed wire section; and it follows that the consequent separation and gathering of the cutter heads will dispose of the waste pieces in the manner previously described.

The separating action of the levers 99 to strip the wire as stated also acts through the post 148 to draw the frontal grippers 140 down to positions alongside the wire 40 as indicated by dotted lines in Fig. 1, where such frontal grippers are in a position to engage the wire in case the regular frontal gripper 73 releases the same. The engagement just referred to is induced by the operation of the side cam 155 as the yoke 90 descends and opens the regular grippers, so that the frontal grippers 140 secure hold of the wire. It follows now that the next gathering action of the levers 99 advances the arm 150 and swings the frontal grippers 140—carrying the final piece or length of wire—forward to meet and become separated by the wedge 152, so that such piece or length of wire may drop clear of the machine into the receptacle below.

It is now apparent that the novel machine is composed of a number of units which operate in the proper harmony and sequence to treat the wire as described. Since the latter travels in a straight line, it has no tendency to clog the machine or get out of the proper path; and the cam control of the major operations enables these to be properly timed by designing the cams accordingly. Also, the fact that most of the controls are positive enables the machine to be operated at a relatively high speed, so that a large production of the final wire lengths or pieces is possible. Further, a simple adjustment is feasible in case these pieces are required to be longer or shorter, all without affecting the timing of the wire treating mechanisms. Further, the machine is fully automatic, since it needs no attendant or manual assistance after it has once been set and the wire supply connected. Finally, the novel machine is small and compact, so that it may be produced at minimum cost and be set up on a bench, table or other handy support.

While I have described the machine along specific lines, various minor changes or refinements may be made therein without departing from its principle, and I reserve the right to employ all such changes and refinements as may come within the scope and spirit of the appended claims.

I claim:

1. A machine for treating covered wire comprising means to feed one end portion of the wire forwardly at intervals, a pair of units operative between the intervals to grip said portion at longitudinally-spaced locations, second means operative concurrently with said units to sever the wire at a point between the units and only the covering at points laterally of the wire severing point, dividing said end portion into leading and remaining sections, and third means separating said units and the sections gripped thereby to expose bare wires at the contiguous ends of the sections, said feeding means comprising a pair of peripherally grouped rollers, said end portion passing between the rollers and being frictionally engaged thereby, a fixed bearing for one roller, a main shaft, a gearing from the latter to drive the roller in the fixed bearing with a stop motion, a carrier for the other roller and movable relative to the roller in the fixed bearing, a cam on the main shaft, and a follower extended from the carrier and moved by the cam to retract the carrier from the roller in the fixed bearing when said third means operate, affording a backing clearance for the remaining wire section.

2. A machine for treating covered wire comprising means to feed one end portion of the wire forwardly at intervals, a pair of units operative between the intervals to grip said portion at longitudinally-spaced locations, second means operative concurrently with said units to sever the wire at a point between the units and only the covering at points laterally of the wire severing point, dividing said end portion into leading and remaining sections, and third means separating said units and the sections gripped thereby to expose bare wires at the contiguous ends of the sections, each of said units comprising a pair of

opposed grippers pivotable toward and from each other on a common shaft, divergent tail pieces extended from the grippers beyond the shaft, a pair of toggle links connecting with the tail pieces, and means to alternately aline and break the toggle links swinging the grippers toward and away from each other.

3. A machine for treating covered wire comprising means to feed one end portion of the wire forwardly at intervals, a pair of units operative between the intervals to grip said portion at longitudinally-spaced locations, second means operative concurrently with said units to sever the wire at a point between the units and only the covering at points laterally of the wire severing point, dividing said end portion into leading and remaining sections, and third means separating said units and the sections gripped thereby to expose bare wires at the contiguous ends of the sections, each of said units comprising a pair of opposed grippers pivotable toward and from each other, a common shaft carrying said grippers, divergent tail pieces extended from the grippers beyond the shaft, a pair of toggle links connecting with the tail pieces, and operating from the common shaft, a yoke with ends carrying the latter, said yoke being reciprocable to alternately aline and break the toggle links, swinging the grippers toward and away from each other, a rocker bar keyed with one end to the yoke, a power shaft carrying a cam, and a follower for the latter carried by the other end of the rocker bar, the rotation of the cam operating through the rocker bar to impart reciprocating motion to the yoke.

4. A machine for treating covered wire comprising means to feed one end portion of the wire forwardly at intervals, a pair of units operative between the intervals to grip said portion at longitudinally-spaced locations, second means operative concurrently with said units to sever the wire at a point between the units and only the covering at points laterally of the wire severing point, dividing said end portion into leading and remaining sections, and third means separating said units and the sections gripped thereby to expose bare wires at the contiguous ends of the sections, said third means comprising a pair of angle levers pivoted to stationary supports at their angles, one of the lever arms connecting with the units, the other lever arms being linked to each other to render the levers pivotable in unison to separate and gather the units, and means to periodically swing the levers in opposite directions.

5. A machine for treating covered wire comprising means to feed one end portion of the wire forwardly at intervals, a pair of units operative between the intervals to grip said portion at longitudinally-spaced locations, second means operative concurrently with said units to sever the wire at a point between the units and only the covering at points laterally of the wire severing point, dividing said end portion into leading and remaining sections, and third means separating said units and the sections gripped thereby to expose bare wires at the contiguous ends of the sections, said third means comprising a pair of angle levers pivoted to stationary supports at their angles, one of the lever arms connecting with the units, the other lever arms being linked to each other to render the levers pivotable in unison to separate and gather the units, an extension of one of the levers beyond the angle, a bar linked with one end to the extension, a power shaft carrying a cam, and a follower for the latter carried by the other end of said bar, the rotation of the cam operating through the bar to swing the angle levers in opposite directions.

6. A machine for treating covered wire comprising means to feed one end portion of the wire forwardly at intervals, a pair of units operative between the intervals to grip said portion at longitudinally-spaced locations, second means operative concurrently with said units to sever the wire at a point between the units and only the covering at points laterally of the wire severing point, dividing said end portion into leading and remaining sections, and third means separating said units and the sections gripped thereby to expose bare wires at the contiguous ends of the sections, said third means leaving waste covering pieces on the separation of said bare wires, a pair of toothed jaws pivotally mounted between said pair of units, yieldable means inducing the jaws to close, and members carried by the units and directed to the remote ones of said jaws to separate them on the operative stroke of said second means, the latter allowing the jaws to close on the receding stroke by force of said yieldable means and catch said pieces as they fall, said jaws being forked at alternate points, and said members being plates passing through spaces in one jaw to meet the teeth of the opposite jaws.

7. A machine for treating covered wire comprising means to feed one end portion of the wire forwardly at intervals, a pair of units operative between the intervals to grip said portion at longitudinally-spaced locations, second means operative concurrently with said units to sever the wire at a point between the units and only the covering at points laterally of the wire severing point, dividing said end portion into leading and remaining sections, and third means separating said units and the sections gripped thereby to expose bare wires at the contiguous ends of the sections, said feeding means comprising a pair of peripherally grouped rollers, said end portion passing between the rollers and being frictionally engaged thereby, a fixed bearing for one roller, a main shaft, a gear spaced from the shaft, a bearing carried by the latter, a pitman with one end radially adjustable in the bearing and the other end connected to the gear at a point imparting rotary strokes in opposite direction to the gear on the rotation of the shaft, and a one-way clutch drive between the gear and said roller effective to impart rotary strokes to the roller only in the wire feeding direction.

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