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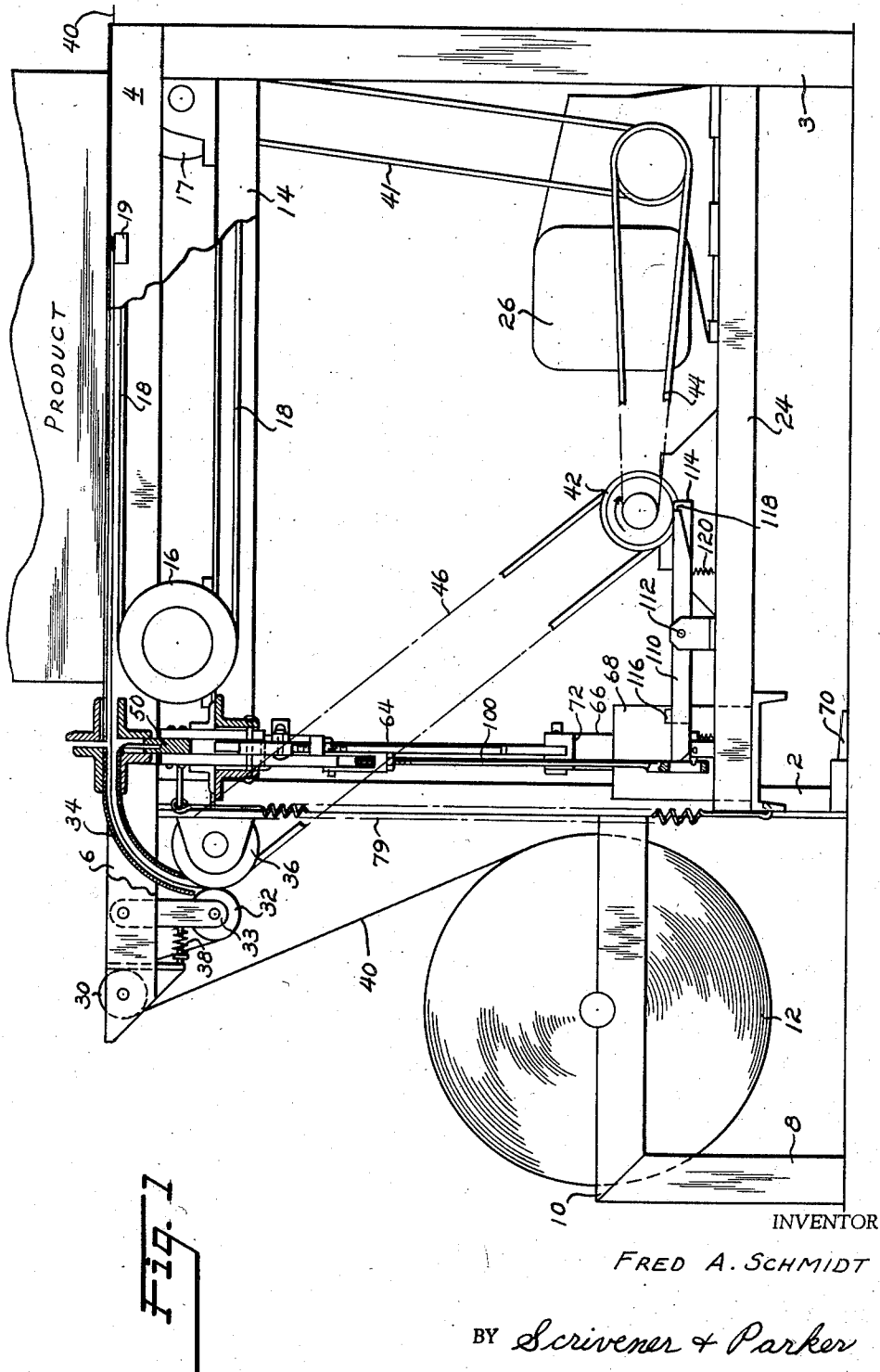
F. A. SCHMIDT

2,803,930

MACHINE FOR APPLYING A WRAPPER TO A BUNDLE

Filed Dec. 28, 1954

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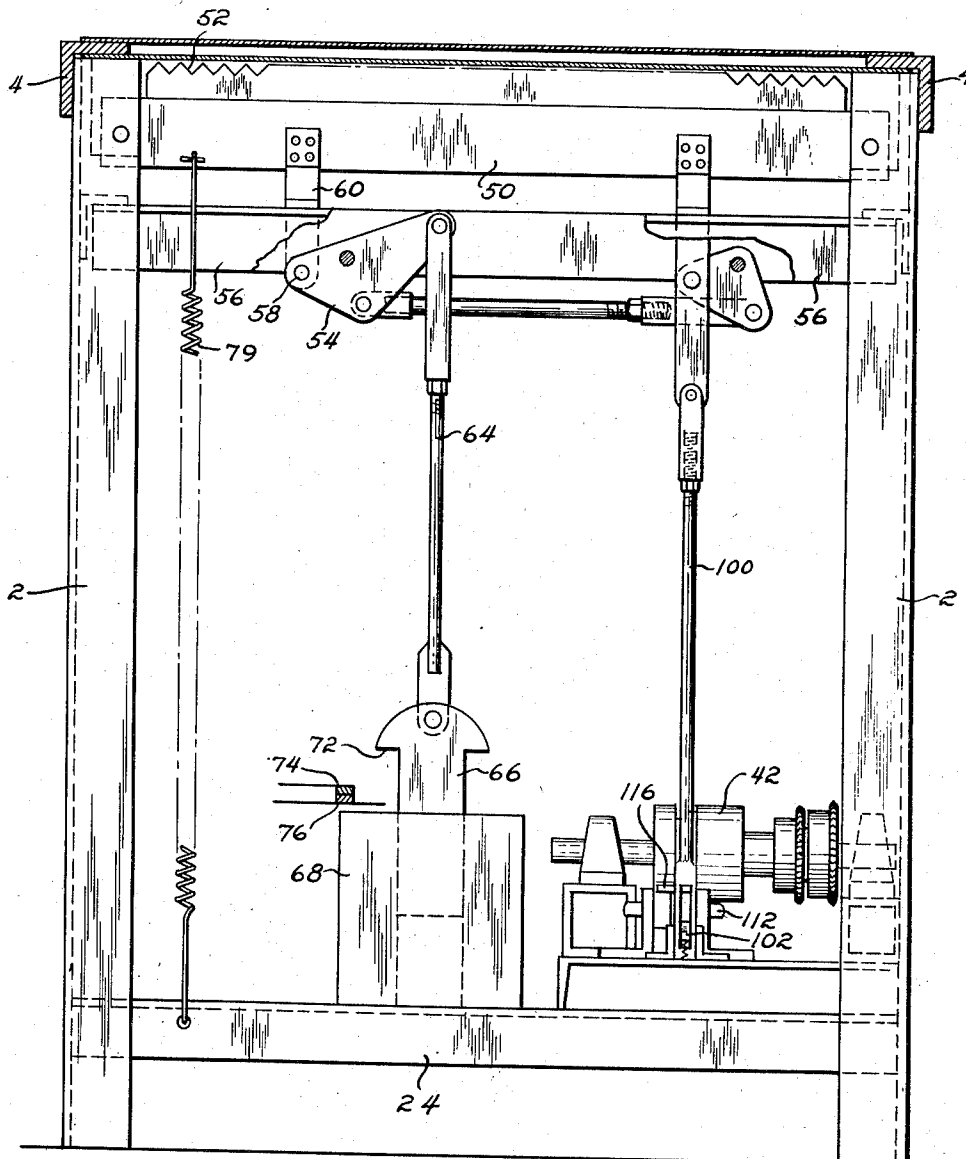
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Fig. 2.



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MACHINE FOR APPLYING A WRAPPER TO A BUNDLE

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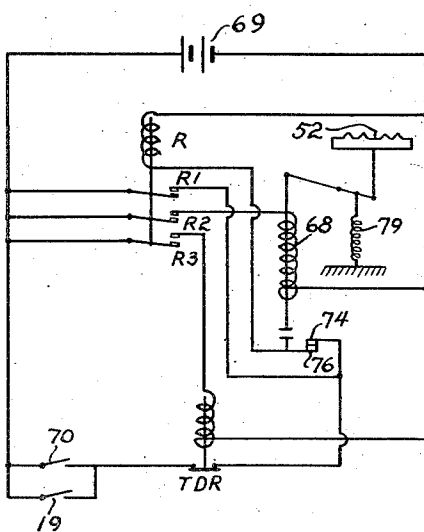
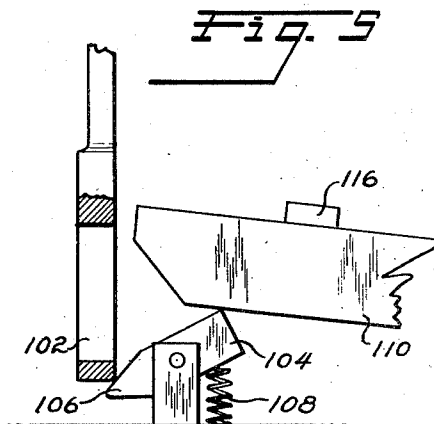
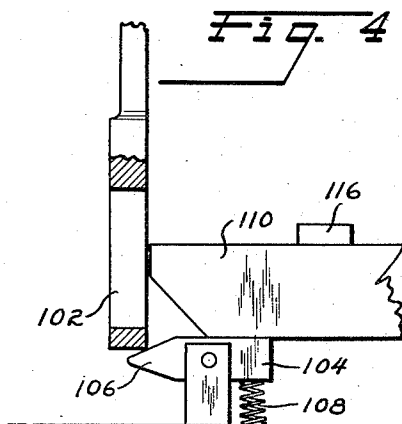
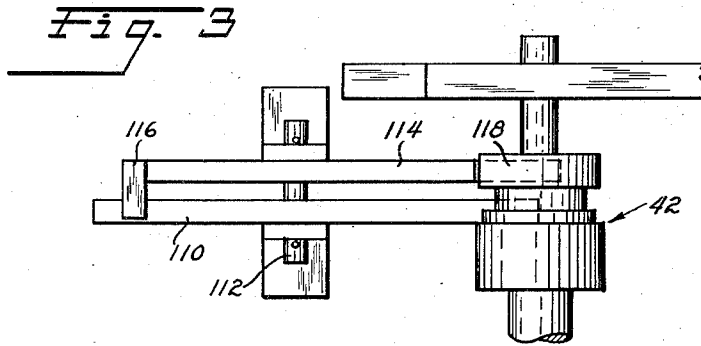


Fig. 6

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MACHINE FOR APPLYING A WRAPPER TO A BUNDLE

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Application December 28, 1954, Serial No. 478,116

12 Claims. (Cl. 53—74)

This invention relates broadly to machines for feeding a predetermined length of paper or other sheet material from a main supply, such as a roll, to a work station and for cutting off the part of the sheet which is at the work station.

It has been a principal object of the invention to provide a new and improved machine for performing these functions which will automatically feed a measured length of paper from a roll to a work station at which some operation such as wrapping is performed, then cut the sheet at a predetermined point to provide the predetermined length of paper for the operation, and then again feed a measured length of paper from the roll to the work station. It has been a further object of the invention to provide a machine which will perform these functions and, in addition, will cause the cut sheet and any bundle or product placed thereon to be moved from the wrapping station to another station at which another operation, such as further wrapping or tying, is performed. A still further object of the invention has been to provide a machine performing the described functions and operations entirely automatically, the automatic operation being initiated preferably by placing the bundle or product on the measured length of sheet material at the work station.

There is disclosed herein an embodiment of the invention which is a machine useful in newspaper publishing plants for providing a bottom wrap sheet for bundles or piles of newspapers which must be wrapped for shipment, although it will be apparent that the invention is not limited to machines useful only for this purpose. Such a machine is illustrated in the accompanying drawings in which:

Fig. 1 is a side view of the machine;

Fig. 2 is an end view showing the knife-operating mechanism of the machine;

Fig. 3 is an enlarged top view of the lever system shown in side view in Fig. 1;

Figs. 4 and 5 show the clutch-operating means in successive conditions of operations;

Fig. 6 is a circuit diagram of the electrical means provided by the invention for operating the knife, and

Fig. 7 is a side view showing a modified form of the machine including means for inserting a wrapper onto a conveyor line.

The machine provided by this invention comprises a framework which may include preferably four vertical legs 2, 2 and 3, 3 supporting horizontal, parallel members 4 at their upper ends which, at their one ends, extend beyond the vertical legs 2 to provide extensions 6 at one end of the framework. At this same end and below the extensions 6 is a low structure, formed by vertical legs 8 and horizontal members 10, which supports a roll of paper 12 journaled on a horizontal shaft extending between the members 10. Horizontal rails 14 are connected to the vertical legs 2, 3 at the sides of the machine frame just below the upper side rails 4 and provide a support for rollers 16, 17 which are rotatably journaled adjacent vertical legs 2, 3, respectively, and extend transversely

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of the machine frame between rails 14 to support an endless conveyor 18, which may be formed of one or more wires, belts or chains, the upper reaches of which are positioned adjacent the plane of the upper surfaces of the side rail members 4 to thereby provide a movable work surface or station extending substantially the length of the machine frame between the uprights 2, 3. A switch means 19 is positioned closely adjacent the plane of the upper reaches of the endless conveyor 18 and is operable to closed, circuit-completing, condition when a load is placed on it, or on a sheet of paper carried by the upper reach of the endless conveyor 18, for a purpose to be described hereinafter. Horizontal rails 24 are connected to the vertical legs 2 and 3 at the sides of the machine frame just above the floor level and support a motor 26 and other mechanism which will be described hereinafter.

A guide roll 30 is rotatably journaled between the outer ends of the side rail extensions 6, and a second guide roll 32 is positioned inwardly of roll 30, i. e. toward the work station, and is rotatably journaled in the lower ends of depending arms 33 which are pivotally mounted at their upper ends on the opposite side rail extensions 6 whereby the roll 32 is below the roll 30. A curved guide 34 extends upwardly from the periphery of roll 32 and terminates above the adjacent vertical legs 2 substantially in the plane of the upper reach of the endless conveyor 18. A rubber coated metering roller 36 is journaled on brackets carried by vertical legs 2 and has its periphery in contact with that of roller 32 adjacent the lower end of the curved guide 34. Spring means 38 engage the pivoted depending arms 33 which support roller 32 and constantly urge the surface of that roller into engagement with that of roller 36. The web of paper 40 from roll 12 is led from that roll over roller 30, under roller 32, between roller 32 and metering roller 36, and through the curved guide 34 to the work station provided by the upper reach of the endless conveyor 18. The motor 26 continuously drives the endless conveyor 18 through chain 41, roller 17 and suitable sprockets and also intermittently drives the metering roller 36 through the medium of a one-revolution clutch device 42, the driving member of which is connected to the motor by chain 44 and the driven member of which is connected to the metering roller by chain 46 and suitable sprockets, all of which will be described more fully hereinafter.

Means are provided by the invention which are operable to sever from the web of paper the pre-determined length which is positioned on the work station and then to advance the web of paper from the roll 12 to position another pre-determined length of paper at the work station. The severing means are most clearly disclosed in Figs. 1 and 2 and comprise an elongated knife holder 50 which extends transversely of the machine at a point between the legs 2 and the inlet end of the work station. This holder has an upwardly-facing, preferably saw-tooth knife 52 which is sufficiently long to extend substantially entirely across the machine. The knife holder is mounted for vertical reciprocating movement whereby it may be moved upwardly to cause the knife to sever the paper web. The means for reciprocating the knife holder comprises a lever 54 pivotally mounted adjacent its center on a transverse frame member 56 and having its one end pivotally connected at 58 to the lower end of link 60, which extends vertically downwardly from knife holder 50, and having its other end pivotally connected to the upper end of a vertical knife-actuating link 64, the lower end of which is connected to the vertically-reciprocable plunger 66 of a solenoid 68. A spring 79 is connected between the knife holder 50 and a part of the machine frame member 24 and constantly urges the knife holder, lever 54, link 64 and solenoid plunger 66 to retracted position in which the knife is away from the

paper web and the solenoid plunger is in raised, inoperative position. A winding of the solenoid is included in a circuit which is shown in Fig. 6 and which includes a source of electric energy 69, switch 19 and any other hand or foot operated switches, such as that shown at 70 in Fig. 1 any one of which switches is operable to close the circuit to energize the solenoid and operate the plunger thereof. The solenoid plunger has an abutment 72 which, when the plunger reaches its most retracted position on operation of the solenoid, engages one of two switch contact members 74, 76. These contact members are normally engaged with each other to permit the circuit to be completed upon closure of the switch 19 or 70 and, when engaged by the abutment 72, the contact members are separated, thus opening the circuit of the solenoid winding to de-energize the same. When this occurs, the spring 79 moves the knife holder away from the paper web and moves the lever 54, link 64 and plunger 66 to retracted positions.

As stated hereinbefore, means are provided by the invention which are operative, upon retraction of the knife from the web after a cutting stroke, to advance the paper web in order to place a measured length of paper on the work station in place of that just previously severed from the web in the manner described. Such means comprise, first, the single-revolution clutch device 42 which is mounted on the supporting framework 24 adjacent motor 26 and the driving element of which is connected to the motor by chain 44. The clutch is a standard device now commercially available (see U. S. Patent No. 2,140,737) which is operative to disengage the driving element from the driven element at the same point of rotation in each operating cycle, thus operating the driven member only a pre-determined amount. The driven member of the clutch device 42 is connected by chain 46 and suitable sprockets to metering roller 36 and the clutch device is therefore operative to cause rotation of the metering roller through only a pre-determined amount during each cycle of operation, this amount and the diameter of the metering roller being so determined that a pre-determined length of paper is advanced by the metering roller to the work station during each single revolution of the driving member of the clutch.

The means provided by the invention for operating the clutch to cause a pre-determined length of paper to be fed to the work station by the metering roller 36 is controlled by the reciprocating knife described hereinbefore and is operative upon retraction of the knife, after cutting the web, to cause a single rotation of the driven member of the clutch device and a corresponding pre-determined amount of rotation of the metering roller. These means comprise a vertical clutch trip link 100 which is connected at its upper end to the knife holder 50 to be moved up and down therewith. At its lower end, adjacent the supporting frame 24, this link is provided with a longitudinal opening 102. Adjacent this opening is a pivoted clutch trip pawl 104 having a pointed end 106 extending into the opening 102 and disposed in the path of travel of the lower wall of the opening as the link moves up and down. A spring 108 engages the lower surface of the other end of the pawl and constantly urges the pawl to a substantially horizontal position as shown in Figs. 1 and 4. A clutch trip lever 110 is mounted on a horizontal pivot 112 and extends between the pawl 104 and the driving element of clutch device 42 and has its one end above and contacting the upper surface of the rear end of the pawl just above the spring 108, while its other end engages the periphery of the driving member of the clutch device and normally holds such member from rotation. A second lever 114 is pivotally mounted at 112 and is arranged in side-by-side relation to lever 110. At its end adjacent the pawl 104 the lever 114 has a lateral extension 116 which extends over and engages the upper surface of lever 110 but is not connected thereto. The other end of lever 114 has a lug 118 thereon which engages

a positive stop cam on the driven member of the clutch device 42 and which normally holds such driven member from rotation. Spring means 120 are positioned below the ends of lever 110 and 114 adjacent the clutch device and constantly urge these ends of the levers into engagement with the driving and driven elements of the clutch.

The electrical control system for the machine is illustrated in Fig. 6 of the drawings and comprises a source of alternating current or direct current 69, one terminal of which is connected to the movable contacts of three normally open relays R1, R2, and R3 which are simultaneously operable to closed positions upon energization of the winding R, one terminal of which is connected directly to the source 69 and the other terminal of which is connected through normally closed contacts 74, 76, the normally closed contacts of time delay relay TDR and switch contacts 19 and 70 to the opposite terminal of the source. The fixed contact of relay R1 is connected to contact 74 and to one contact of time delay relay TDR, the second contact of which is connected to the source 69. The fixed contact of relay R2 is connected to one terminal of the knife-operating solenoid winding 68, the other terminal of which is connected to the source 69. The fixed contact of relay R3 is connected to one terminal of the winding of the time delay relay TDR, the other terminal of which is connected to the source 69.

The operation of the machine will now be described, it being assumed that the knife holder 50 is retracted and the link 100 is in its lower position with the pointed end of pawl 104 within the opening 102 in the link, as shown in Fig. 1, and a measured length of paper is on the work station formed by the upper reaches of endless conveyor wires 18. If a bundle is now placed on the paper at the work station, switch 19 will be closed, energizing relay winding R and thereby closing relays R1, R2 and R3. The closing of relay R1 completes a circuit from one terminal of source 69, through relay R1, contacts 74, 76 and relay winding R to the second terminal of the source, thereby locking-in the relay R, R1, R2, R3. The closing of relay R3 completes a circuit through the winding of time delay relay TDR, thereby opening the contacts of that relay. The closing of relay R2 completes the circuit including the winding 68 of the knife-operating relay, to thereby energize the solenoid, retract the plunger thereof, rotate lever 54 and push the knife holder 50 and knife 52 upwardly through the paper web against the force of spring 79, thus severing the web. As the knife holder moves upwardly it carries with it the clutch trip link 100 and as this link moves upwardly the pointed end 106 of pawl 104 is engaged by the lower end of the link, rocking the pawl in a clockwise direction about its pivotal support and causing the lower end of link 100 to pass above the pointed end of the pawl to the position shown in Fig. 4. The knife is now in its uppermost position and has severed the paper web. When the solenoid plunger is fully retracted and the paper web has been severed, the abutment 72 carried by the plunger separates contacts 74, 76 de-energizing relay winding R and opening relays R1, R2 and R3, thereby de-energizing the solenoid winding 68 and the winding of time delay relay TDR. The spring 79 thereupon retracts the knife holder, the knife and connected parts to inoperative position in which the knife is removed from the paper web and the solenoid plunger is in its normal, raised position and contact members 74, 76 are again closed to permit subsequent energization of the solenoid on closure of the switch 19 or 70. The endless conveyor wires 18 are continuously moving, as described hereinbefore, and after the paper web is cut, as described, a product, such as a bundle of papers, which has been placed on the paper sheet at the work station is moved by the conveyor from the work station to a position in which it is removed from switch 19, thereby opening the switch. At the same time, the link 100 is also moved to its lowermost position and as it moves downwardly from the position shown in Fig. 4

its lower end engages the pointed end 106 of pawl 104 and moves the pawl in a counter-clockwise direction about its pivotal support, as shown in Fig. 5, thus raising the rear end of the pawl and thereby raising the abutting end of lever 110 and, through the lateral extension 116, similarly raising the adjacent end of lever 114. The two levers 110 and 114 are thus rocked in a clockwise direction about their pivotal supports 112, thus moving their ends which are adjacent the clutch device 42 away from the clutch device and permitting the same to operate through one revolution in accordance with its mode of operation. The levers 110 and 114 are operated in the described manner, respectively, to trip the driving member of the clutch and release the positive stop cam of the driven member of the clutch. The driven member of the clutch device is accordingly rotated through a single revolution, driving the metering roller 36 through chain 46 and the associated sprockets, to feed a new length of paper onto the work station from the roll of paper 12. When the link 100 completes its downward movement the pointed end 106 of pawl 104 snaps into the opening 102 in the lower end of the link, as shown in Fig. 1, and the pawl and the levers 110, 114 are returned to their normal positions. The movement of lever 114 back into engagement with the positive stop cam of the driven clutch member positively holds the driven member against rotation and thus prevents rotation of the metering roller and additional paper feed until another cycle of operation of the machine is initiated by placing a bundle on the paper at the work station. When a bundle or other product is placed on the paper sheet at the work station the switch 19 is operated to repeat the entire operating cycle of the machine which is as follows:

1. A bundle placed on the work station closes switch 19, causing solenoid 68 to be operated to move knife 52 and clutch trip link 100 upwardly. The upward movement of the knife severs the paper web.
2. The endless conveyor 18 carries the bundle and the wrap sheet beneath it away from the work station.
3. The upward movement of link 100 sets pawl 104 below the lower end of the link.
4. On completion of operating movement of the solenoid plunger the contacts 74, 76 are separated, de-energizing the solenoid, and the knife and connected parts, including link 100, are returned to retracted positions.
5. Downward movement of link 100 to retracted position rocks pawl 104, causing levers 110, 116 to rock about their pivotal supports and permit operation of the one-revolution clutch 42.
6. The driven member of the clutch, being rotated, causes the metering roller 36 to rotate a pre-determined amount, moving a measured length of paper to the work station.

In a modified form of the machine provided by this invention the wrapper is fed to the surface of an endless conveyor, or a series of endless conveyors, along which a bundle is moved. Such a modified machine is illustrated in Fig. 7 and it will be understood that parts common to this machine and to that disclosed in Fig. 1 have been omitted from Fig. 7 in order to simplify the disclosure and to illustrate particularly the parts and mechanisms which are added to the basic machine of Fig. 1. In the modified machine a sprocket 200 is connected to the end of the shaft 202 on which the metering roller 36 is mounted and this sprocket is connected by endless chain 204 to a smaller sprocket 206 which is positioned above sprocket 200 and on the delivery side, i. e. the side toward which the wrapper moves, from the knife 52. The sprocket 206 is mounted on a shaft 208 which extends entirely across the machine and a plurality of endless conveyor belts, wires or tapes 210 are trained about this shaft and also about a shaft 212 which extends entirely across the machine above the lever of the upper hori-

zontal frame members 4 at the delivery end of the work station, in which position it is journaled at its ends in elongated side plates 214 which are, respectively mounted on and extend upwardly from the frame members 4 at the opposite sides of the machine. The endless conveyor 210 therefore provides an upwardly inclined upper reach extending from the inlet or entrance end of the work station, at a point below the usual work station level, to the delivery end of the work station at a point above the usual work station level. A gear 216 is mounted on shaft 208 and meshes with a second gear 218 which is positioned just above it and which is mounted on a shaft 220 which extends entirely across the machine above the upper surface of the side frame members 4 and which is journaled at its ends in the side plates 214. A plurality of endless belts, wires or tapes 222 are trained about shaft 220 and about an idler shaft 224 which is positioned above shaft 220 and is spaced therefrom in the direction of the delivery end of the work station and is journaled at its ends in the side plates 214. The shafts 208, 212 and the shafts 220, 224 are so positioned and arranged with respect to each other that the upper reaches of endless conveyor 210 and the lower reaches of endless conveyor 222 are parallel and closely adjacent each other in order that both will engage the opposite surfaces of a sheet of paper fed between them to move the sheet upwardly and in a direction from the inlet end to the delivery end of the usual position of the work station.

A conveyor roller 250 is mounted on a shaft 252 which extends entirely across the machine and is journaled at its ends in the side plates 214 at a point adjacent but on the inlet side of the knife 52. An endless conveyor belt 254 is trained about this conveyor roller and about a second conveyor roller (not shown) which is spaced forwardly therefrom and these rollers are so driven that a product placed on the upper reach of the belt 254 will be moved toward the work station. A sprocket 260 is mounted on the end of shaft 252 and an endless chain 262 is trained about this sprocket and about a second smaller sprocket 264 which is positioned just above roller 224, the two sprockets being of such diameters that the lower reach of roller chain 262 is inclined upwardly from the bottom of sprocket 260 to the bottom of sprocket 264 and is parallel to and above the upper reach of endless conveyor belt 222. A plurality of shafts 270 extend transversely of the machine and are journaled at their ends in the side plates 214 at the same level as the sprocket 264. Each of these shafts has a sprocket 272 attached to it which is in mesh with the chain 262, whereby the shafts are rotated to provide a conveyor platform, the upper surface of which is aligned with, and at the same level as, the upper reach of the conveyor belt 254, thus providing a continuation of the moving surface of such upper reach. A plurality of shafts 280, which are not driven but which are rotatably journaled in the side plates 214, are disposed on the delivery side of the sprocket 264. The aligned upper surfaces of these shafts provide a continuation of the moving surface formed by the rollers 272 to support the product after it moves from the surface formed by the rollers 272. A conveyor roller 290 is journaled between the side plates 214 on the delivery side of conveyor roller 212 and extends transversely entirely across the machine. An endless conveyor 292 is trained about this roller and about a second roller (not shown) which is so positioned that the upper reach of the conveyor 292 forms a continuation of the surface provided by the rollers 272 and 280. The roller 290, or the roller associated therewith, is driven so that the upper reach of belt 292 travels in the direction of the arrow shown in Fig. 7, which is the same direction as that of the travel of conveyor belt 254 and that provided by rollers 272. A switch 19 is provided which has the same structure and function as the switch 19 described hereinbefore, and is preferably mounted on a frame member of the machine such as the

side frame member 4. A lever 300 is fulcrumed between its ends on one of the side plates 214 above the switch 19 and between the conveyor rollers 212 and 290. This lever has an upwardly extending arm 302 which is positioned between the rollers 212 and 290 to be engaged by a product moving onto the upper reach of conveyor belt 292, and also has a downwardly extending arm 304 which is normally retracted away from the operating member of switch 19 by a spring 306 but which is moved into engagement with such operating member when the lever is rocked about its fulcrum upon engagement of the upper arm of the lever by a product moving onto the upper reach of endless belt 292.

In the use and operation of the modified machine which is disclosed in Fig. 7 and described hereinbefore, a product, such as that shown in Fig. 7, is moved to the inlet or entrance end of the machine upon the upper reach of conveyor belt 254. The mechanism described hereinbefore in connection with Figs. 1 to 6 now operates through driving belt 46 to move a length of paper wrapper 40 from the roll 12 around feed rolls 30 and 32, from which it is guided between the lower reach of conveyor belt 222 and the upper reach of conveyor belt 210. These reaches of these two belts engage the opposite surface of the paper wrapper and move it upwardly and along the length of the machine in an inclined path. The product is now moved onto the moving surface provided by the rollers 272 and will therefore be moved to a position in which it rests upon the forward end of the paper wrapper which, in Fig. 7, is shown just above the upper arm 302 of lever 300. When the product reaches this position it will engage the lever arm 302, causing the lever to rock about its fulcrum to operate the switch 19. When this occurs the knife will be operated, in the manner and by the means described hereinbefore, to sever the paper. The product will then be moved onto the upper reach of conveyor belt 292 and as it is moved by this belt it will draw the cut length of the paper wrapper with it, thus providing a bottom wrapper for the product. The upward and downward movement of the knife causes the mechanism hereinbefore described in connection with Figs. 1 to 6 to operate to advance another length of paper wrapper between the endless conveyor belts 210, 222 to initiate another cycle of operation of the machine.

While I have described and illustrated certain embodiments of my invention, it will be apparent to those skilled in the art that other embodiments, as well as modifications of those disclosed, may be made and practised without departing in any way from the spirit or scope of the invention, for the limits of which reference must be made to the appended claims.

What is claimed is:

1. A machine for cutting and feeding a measured length of sheet material to a work station comprising an intermittently driven metering roller positioned adjacent the inlet end of the work station and adapted to have a pre-determined length of sheet material trained over it to be fed to the work station upon rotation of the metering roller, means operable when actuated to rotate the metering roller a pre-determined amount to thereby feed a measured length of sheet material to the work station, a single means for severing said sheet comprising a knife mounted for reciprocating movement into and out of cutting engagement with the sheet material adjacent the inlet end of the work station, separate means for moving the knife into and out of cutting engagement with the sheet material, means at the work station operable by a product placed thereon to operate the means for moving the knife into cutting engagement with the sheet material, means operable at the completion of the cutting stroke of the knife to stop the operation of the means for moving the knife into cutting engagement with the sheet material and to permit operation of the means for moving the knife out of cutting engagement with the sheet ma-

terial, and means operable by movement of the knife out of engagement with the sheet material to actuate the metering roller operating means to feed a measured length of sheet material to the work station.

2. A machine according to claim 1 in which the work station is an endless conveyor.

3. A machine according to claim 1 comprising in addition a conveyor system having a moving surface providing a support for the product, and means beneath said conveyor system to move sheet material in an upwardly inclined path from said metering roller to the delivery end of said conveyor system.

4. A machine according to claim 3 in which the sheet material moving means beneath the conveyor system comprises two endless belts which, respectively, have upwardly-inclined, closely adjacent lower and upper reaches providing means for engaging the opposite surfaces of sheet material fed therebetween, and means for moving said endless belts to cause said lower and upper reaches to move in the same direction.

5. A machine according to claim 1, in which the means for rotating the metering roller comprises a one-revolution clutch, means connecting the driven member of the clutch to the metering roller, a motor, and means connecting the motor to the driving member of the clutch.

6. A machine according to claim 1, in which the means for moving the knife into cutting engagement with the sheet material comprises a solenoid having a plunger, and means connecting the plunger to the knife.

7. A machine according to claim 1, in which the means for moving the knife into cutting engagement with the sheet material and for stopping such movement, comprises a solenoid having a plunger, means connecting the plunger to the knife to move the knife into cutting engagement with the sheet material on energization of the solenoid, an abutment on the plunger, a normally closed pair of contacts one of which is positioned in the path of movement of said abutment when the solenoid is energized, a source of electric energy, and a circuit including at least said source, the winding of said solenoid and said contacts, whereby on completion of cutting movement of the knife said contacts are opened to de-energize the winding of the solenoid.

8. A machine according to claim 1, in which the means for moving the knife out of cutting engagement with the sheet material comprises a spring connected between the knife and a fixed part of the machine and constantly urging the knife to its normal retracted position away from the sheet material.

9. A machine according to claim 1, in which the means at the work station for operating the means to move the knife into cutting engagement with the sheet material comprises normally open switch contacts one of which is positioned to be moved into engagement with the other by a bundle or other weight placed on the work station, and electrical means energized by closing of said switch contacts for operating the knife into cutting engagement with the sheet material.

10. A machine according to claim 1, in which the means for rotating the metering roller comprises a one-revolution clutch, means connecting the driven member of the clutch to the metering roller, a motor, and means connecting the motor to the driving member of the clutch, and in which the means operable by retracting movement of the knife to operate the metering roller operating means comprises two pivoted levers having their one ends operatively associated with the driving and driven members of said one-revolution clutch and being operative when in engagement therewith to prevent rotation of the driven member and when out of engagement therewith to permit rotation of the driven member, a link connected to the knife for reciprocating movement therewith and having its one end adjacent the second ends of said levers, means operable upon movement of said link with the retracting

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stroke of the knife away from the sheet material to move the one ends of said levers out of engagement with the driving and driven members of said clutch to cause rotation of the driven member thereof.

11. A machine according to claim 10, in which the link has an opening in the end thereof adjacent said levers, a pivoted pawl having one end positioned within said opening when the link is positioned in its knife-retracted position and having its other end positioned below and engaging the lower surfaces of the adjacent ends of said levers.

12. A paper feeding and cutting machine comprising an endless conveyor having an horizontal upper reach which forms a work station, switch means associated with said work station and operable to closed position by an article placed on said work station, a metering roller at the inlet end of said work station which is operable when rotated to advance sheet material from a supply roll to the work station, means operably connected to

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said metering roller for rotating the same through only a pre-determined number of rotations to thereby advance only a pre-determined length of sheet material to the work station, a knife mounted for reciprocating movement into and out of cutting engagement with sheet material between said metering roller and the inlet end of said work station, a solenoid having a plunger operably connected to said knife to operate the same into cutting engagement with the sheet material upon energization of the solenoid, and an electric circuit including said solenoid and switch means and operable to energize the solenoid upon closure of the switch means.

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