This invention relates to packaging and bagging machinery and more particularly to semi-automatic types of packaging and bagging machines which are adapted to create and bag an article moving through the machine.

The primary object of the invention is to provide a novel and improved semi-automatic bagging machine which is especially adapted to receive a laundered and folded shirt dropped therein and to envelope or bag the shirt in a sheet of plastic film. As such, the invention will be hereinafter referred to as a semi-automatic shirt bagging machine, although it is to be understood that this specific use, for shirts, is not a limitation of the capabilities of and applications for the machine.

Another object of the invention is to provide a novel and improved semi-automatic shirt bagging machine which is adapted to pay off selected lengths of a web of sheet material from a supply roll and to wrap and seal the same about a shirt dropped into the machine.

Another object of the invention is to provide a novel and improved semi-automatic shirt bagging machine which is adapted to receive a selected length of web of folded shirt material, open the folds thereof to form a shirt receiving pocket therein and refold the web upon a shirt dropped into the machine.

Yet another object of the invention is to provide a novel and improved shirt bagging machine which is adapted to open the end portion of a folded web of sheet material for receiving a shirt at one station, to refold the web over the shirt and shift the folded package to a further station for cutting and sealing the ends of the web to provide for an individually packaged or bagged shirt.

Another object of the invention is to provide a novel and improved semi-automatic shirt bagging machine which is especially adapted to wrap and bag a laundered and folded shirt in a web of thermoplastic sheet material such as polyethylene film.

Another object of the invention is to provide a novel and improved shirt package which fully encases a laundered and folded shirt therein with an overlapping ventilating opening along a face thereof arranged in such a manner as to eliminate the possibility of the shirt from slipping out of the package or becoming otherwise exposed and soiled by contact with exterior objects or surfaces wherein the shirt may be placed.

Another object of the invention is to provide such novel and improved shirt package with an overlapping ventilating opening in the face thereof, which is especially adapted to be made of thermoplastic sheet material such as polyethylene film.

Yet another object of the invention is to provide a novel and improved shirt bagging machine which is adapted to automatically wrap and individually bag a laundered and folded shirt dropped into the machine and to deliver the bagged shirt in a stacking receptor at the base of the machine.

Yet other objects of the invention are to provide in a novel and improved semi-automatic shirt bagging machine which is easy to use, reliable and fast in operation, perfectly safe, and is a low-cost, neat-appearing, rugged and durable unit.

With the foregoing and other objects in view, all of which more fully hereinafter appear, our invention comprises certain novel and improved constructions, combinations and arrangements of parts and elements as hereinafter described, defined in the appended claims and illustrated in preferred embodiment in the accompanying drawing in which:

FIGURE 1 is a front elevation view of the improved bagging machine with broken lines indicating an opened, prefolded web of wrapping film in the machine arranged for receiving a folded shirt preparatory to bagging it.

FIGURE 2 is a side elevation view of the machine illustrated at FIG. 1 with broken lines indicating a roll of wrapping film and the web of film extending therefrom and through the machine.

FIGURE 3 is a transverse sectional view of the film web used in the machine, illustrating the manner in which the edges of the web are overfolded upon the central portion thereof and the manner in which the web is folded in the roll, preliminary to use in the bagging machine, the relative thickness of the web being somewhat exaggerated to better illustrate the manner in which it is folded.

FIGURE 4 is a perspective view of a completed bag formed in accordance with the principles of the invention, with a folded shirt therein being indicated in dotted lines and with a longitudinal edge portion of the web forming the bag being normally hidden from view, and indicated by a broken line.

FIGURE 5 is a transverse sectional view of the bag as taken from the indicated line 5—5 at FIG. 4, but with the relative thickness of the web being somewhat exaggerated to better illustrate the structure thereof.

FIGURE 6 is a fragmentary portion of a longitudinal sectional view of the bag as taken from the indicated line 6—6 at FIG. 5.

FIGURE 7 is a transverse sectional elevation view of the upper portion of the bagging machine as taken from the indicated line 7—7 at FIG. 1, but on an enlarged scale and with broken line indicating the roll of film and the web therefrom extending through the machine.

FIGURE 8 is a partial plan view and a partial sectional view of the bagging machine as taken from the indicated line 8—8 at FIG. 1, but on an enlarged scale.

FIGURE 9 is a sectional plan view of the machine as taken substantially from the indicated line 9—9 at FIG. 7.

FIGURE 10 is a sectional plan view of the machine as taken substantially from the indicated line 10—10 at FIG. 7.

FIGURE 11 is a fragmentary sectional detail view as taken from the indicated line 11—11 at FIG. 10, but on a further enlarged scale.

FIGURE 12 is a fragmentary sectional detail view as taken substantially from the indicated line 12—12 at FIG. 7, but on a further enlarged scale and with broken lines indicating alternate operative positions of certain elements illustrated therein.

FIGURE 13 is a front elevation view of selected elements illustrated at FIG. 12 with portions of elements being broken away to conserve space.

FIGURE 14 is a side elevation view of portions of the elements illustrated at FIG. 13.

FIGURE 15 is a fragmentary sectional detail view of a portion of the sub-assembly as taken from the indicated line 15—15 at FIG. 14.

FIGURE 16 is a transverse sectional elevation view,
similar to FIG. 7, but on a reduced scale, illustrating the entire machine and also a modification thereof by the inclusion of package placing means and illustrating further, in broken lines, a roll of film and the web therefrom extending through the machine, and in dot-dash lines, a shirt placed in the machine and illustrating further an initial operative movement of the machine after the shirt is draped therein.

FIGURE 17 is a transverse sectional elevation view, similar to FIG. 16 but illustrating a subsequent operative movement of the machine preliminary to the deposit of a bagged shirt into a container at the base of the machine.

FIGURE 18 is a circuit diagram illustrating one mode of electrical interconnection of the electrically-powered driving elements of the machine.

The art of packaging laundered and folded shirts has developed into a major industry with improved arrangements of bands and boards to facilitate the manner in which the shirt is held in rigid position to avoid wrinkling and distortion of the body of the shirt and especially of the collar, and also to facilitate the manner in which the shirt is wrapped. A further widespread development has been a trend toward individually packaging a laundered folded shirt and it has become almost a standard practice to package shirts in bags of thin transparent plastic sheet material of thermoplastic type. The outstanding material selected for this purpose is polyethylene since this type of plastic substance can be formed of extremely thin, tough, low-cost sheets which are ideally suitable for making neat-appearing, transparent bags since it can be folded to shape and then quickly sealed with heat however desired.

A polyethylene type bag is substantially impermeable to water and moisture and one condition necessary in bagging a shirt is that a portion of this bag remain open to permit the moisture naturally within the laundered shirt to escape to the atmosphere and avoid condensation, so that the shirt will remain clean and crisp until it is ready for use. Because of this and because of the apparent cheapness of manufacture, polyethylene shirt bags have been formed in the past substantially as openmouth sacks and the laundered shirts are simply slipped into these bags. There are several disadvantages with this arrangement. In the first place, handling of the bag is actually difficult because each bag must be opened by hand to receive a shirt. Whenever static electricity exists, the bag will often refuse to open or it will be otherwise extremely difficult to handle. Moreover, when this conventional type of shirt bag is used, it is very easy for a shirt to slip out of the opening and have a portion of it become soiled, as when the package inadvertently contacts a dirty surface or a foreign object.

With such in view, the present invention was conceived and developed and comprises, in essence, an improved shirt bagging machine which moves a web of polyethylene or similar film, through various stations where it is adapted to receive a shirt, envelope and bag the same into the polyethylene film and to form a ventilated bag having an overlapping opening arranged in such a manner that the shirt cannot be accidentally exposed therethrough and will be fully protected at all times, and to provide for such packaging and bagging of shirts with a minimum of manual effort and for approximately half the cost of conventional sack-type shirt bags.

Referring more particularly to the drawing, our improved machine is formed upon a vertically-disposed pedestal-like frame 20 with the frame members thereof being enclosed by side-wall-plates 21 and a front-wall-plate 22, so designated because the face where the packaging operation occurs will be the front of the machine. The upper portion of this frame 20 is modified to include a sloping face plate 23 with the side-wall-plate sections 21a being triangular in form to provide for an apex at the top rear portion, as illustrated at FIG. 2.

A pair of side arms 24 extend forwardly of the apex section in spaced parallelism to cantilever over and above the sloping face plate 23 to carry spaced, transversely-disposed web-guiding rolls as hereinafter described. A second pair of spaced side arms 25 are affixed to the rear of the machine substantially below this apex extending to cantilever rearwardly therefrom in spaced parallelism with notches 26 at their extended ends to hold the shaft 27 of a roll of film 28. A web of film 29 extends from the roll 28 and through the machine for the shirt packaging operation as hereinafter further described in detail.

The film rolling web 29 is preferably of a thin thermoplastic material, such as polyethylene and is preferably, but not necessarily transparent. It is originally an extended sheet of material with the longitudinal edges 30 and 30a being in spaced parallelism, but the web is prepared before being wound to the roll 28 by lapping these edges 30 and 30a over the central portion of the web so that the web is of double thickness when it is rolled on the roll 28. The line of separation of this double thickness web is thus at the center of the web and a fold edge 31 and 31a defines the sides of the web as it enters the machine, as in the manner clearly illustrated at FIG. 3.

In the operations which form our improved shirt package P, as hereinafter described, this web is opened by lifting and spreading apart the lapped edge sections, placing the shirt therein, relapping the edges, polling the shirt, sealing and cutting off the transverse ends 32 and 32a of the package P. However, in forming this package by relapping the edge portions, the edges 30 and 30a of the web are overlapped as at 33, as clearly illustrated at FIGS. 4 and 5. This overlap 33 is not sealed and thus provides for ventilation of the shirt package without the possibility of exposing any portion of the shirt S, and a shirt S contained within the package W will be fully protected from contact with exterior objects and cannot slip out of the package until it is torn apart to remove the shirt.

Movement of the web through the machine from the roll is underneath a guide bar 34 transversely disposed between the rear side arms 25 adjacent to the frame. Thence the web extends upwardly and past and about grounding fingers 35 which extend outwardly from each side of a centrally disposed support arm 36 extending upwardly and forwardly of the pedestal. The support arm 36 extends into the web at the center point between the juncture at edges 30 and 30a and the grounding fingers extend transversely within the overlapped portions of the web to provide for initial separation thereof and to ground out any static electricity which would impede the subsequent operations of the unit.

The web extends thence upwardly and over a transversely disposed guide bar 37 substantially at the apex point at the top and rear of the unit. The web extends thence forwardly and downwardly to pass underneath a transversely disposed pay bar 38 which is adapted to measure off selected lengths of web as hereinafter described. Thence, forwardly and upwardly and over a transversely disposed front guide bar 39 at the extended end of the front side arms 24. Thence, the web extends downwardly toward the sloping face plate to mechanisms thereon which open the folds of the web to a rear and which then close the folds and transversely sever and seal the web, all as hereinafter described.

The pay bar 38 is mounted upon a pair of rearwardly extending arms 40 which are connected to the rear side frame members of the machine at pivot 41. The arms 40 are considered the front end of this pivot and are interconnected by a transversely disposed spacer bar 42 which is securely affixed to each arm 40 to force them to operate in unison. An actuating thrust arm 43 is mounted at the
center of the spacer bar 42 and upward movement of this thrust arm 43 forces the downward movement of the pay bar 38 to extend the span of web between the guide bar 34 and the front guide bar 39. Adjusting slots 44 are formed in the arms 40 to adjust the space between the pay bar 38 and pivot 41 for corresponding adjustment of the length of web pulled between the guide bars 34 and 39.

The pay-out action to move a selected length of web 29 from the roll 28 and to the front of the machine is through an operation wherein the web is first held at the front guide bar 39 and moves over the top guide bar 37 as the pay bar 38 is depressed as at FIG. 17. Following such action, the pay bar is lifted and the web is held at the top bar 37 to permit the payed-off length to move over the front guide bar 39 and downwardly for packaging a shirt as hereinafter described.

To accomplish this alternative holding and releasing of the web at guide bars 37 and 39 a rocker 45, formed as an open rectangular frame, is pivotally mounted upon the top arms 24 above said guide bars 37 and 39 with the mounting pivots 46 being transversely between the guide bars and with the front and rear transverse members of the rocker 45 being directly above the guide bars. Each transverse member includes an inverted channel 47 wherein a resilient brake shoe strip 48 is disposed for the alternative web-holding contact with the guide bars 37 and 39.

This rocker 45 is directly, though resiliently, interconected with the arms 40 which depress the pay bar 38. An oriﬁed ear 49 extends from each rear corner of the frame 45 and a rod-shaped, end-threaded link 50 is pivotally connected to the rearwardly extending end of each arm 40 to upthrust therefrom and slidably extend through the ears 49 thereon. An adjustable spacer nut 51 is turned onto the top of each link 50 to abut against the top surface of the ear 49 for adjustment of the pressure of the rear brake shoe 48 against the guide bar 37 when the pay bar 38 is in the normal downward position.

A coil spring 52 is threaded on each link 50 beneath the ear 49 and is resiliently held against the underside of the ear by a washer 53 affixed to the link 50. This spring 52 acts to ﬁrst push the rear end of the rocker 45 upwardly to release the brake at the top guide bar 37 and apply the brake at the front guide bar 39 whenever the arms 40 commence to lower the pay bar 38. The springs then permit continued movement of the links 50 through the ears 49 with the brake 48 being held on the front guide bar 39 as illustrated at FIG. 17.

The movement of the web 29 from the front guide bar 39 is upwardly toward the face plate 23 and into a hopper-shaped trough 54 which has a hearth in face plate 23. The overlapped longitudinal edge portions of edges 30 and 36a of the web face outwardly from the machine and a pair of spreader arms 55 and 55a in the trough 54 lift these overlapped edges to an open position, approximately 90 degrees from the plane of the web and substantially to the sides of the trough 54. This lifting of the edge portions is progressive from the fully overlapped condition at the front guide bar 39 to the opened position at the spreader arms 55 and 55a. In accordance with the principles of the invention, the web is refolded below said opened position at the spreader arms and also overlapped as at 33, FIG. 4, with a lower transverse end of the web being completely folded and sealed for formation of one end 32a of a shirt package. This opening of the web at the arms 55 and 55a and the refolding and lapping therebelow to form a sealed end 32a will break the downwardly directed alignment of the web in the trough 54 which substantially fits the sloping face 23a whenever the web is held under mild tension, without wrinkling or buckling.

The pocket formed in the web by lifting the overlapped edge portions thereof is ideal for receiving a shirt dropped into the trough 54, and the arms 55 and 55a are adapted to refold said edge portions over the shirt and permit the web-embraced shirt to drop through the machine for sealing and cut-off operations to complete the bagging as hereinafter described.

The spreader arms 55 and 55a are carried by a sub-assembly of elements which are mounted upon a base plate 56 which lies immediately underneath the face plate 23 in a transverse, horizontal position, normal to the surface of the face plate 23. Single openings 57 are provided in the face plate 23 to permit the arms to project outwardly therefrom as illustrated in the drawing.

Each arm 55 and 55a is mounted upon a pivot 58 carried on ears 59 and 59a respectively, projecting from the front edge of the base plate 56. The arm 55 is longer and the ear 59 extends outwardly than the opposing arm 55a and 59a and this permits an overlapping action of the arms when they close to overlap the edge 30 of the web 29, such action of the arms being illustrated in broken lines at FIG. 12.

An elongated, narrow U-bar, 60 and 60a, extends from the base of each arm 55 and 55a with the outer leg of each U-bar being secured to the arm base carry by pivot 59 and the inner leg thereof being free to permit an edge of a web to be threaded onto and between the legs of the U-bar, 60 and 60a. Each spreader arm, 55 and 55a, also includes a short lever arm 61 opposite the U-bar and the end of each lever arm 61 is connected to a link 62 and each link 62 is toggle-connected to an arm of a T-lever 63 with all connections being as by a pivot pin 64 and with the central leg of T-lever 63 being mounted on a pivot 65 centrally upstanding from the base 56.

Actuation of this toggle arrangement to move the arms 55 and 55a inwardly for overwebbing the web edges is through a pull bar 66 attached to a pivot 64 at one end of an arm of the T-lever 63. A solenoid 67 provides the power for such movement and its armature 67a is attached to the pull-bar 66. The solenoid 67 is mounted upon a ledge 68 upstanding from a rearward projection of the base 56. A tension spring 69 mounted on the ledge 68 opposes the solenoid and returns the toggle to its normal position, with the arms open, whenever the solenoid is deenergized. The spring is secured to the pivot 64 on the end of the arm of the T-lever 63 opposite the connection of the pull-bar 66 as by a clip 70.

The solenoid 67 is energized to close the T-lever 63 by a microswitch 71 at the underside of the face plate 23 below the trough. The switch 71 is normally open and is closed by movement of its ﬁnger 72 which extends upwardly through an opening 57a in the face plate and against the underside of a rocker bar 73 which is mounted transversely across the face plate 23. The rocker is swingably attached to the face plate by a weighted arm 74 at the top edge of each end thereof, and the arms are arranged to hold the rocker at an outward inclination of approximately 45 degrees from the surface of the face plate 23, as in the manner clearly illustrated at FIG. 7. A light force, such as a pull of the web moving past the rocker, or the weight of a shirt, will depress rocker 73 to close the switch 71.

The edge portions of the web in the embrace of the U-bars, 60 and 60a, are positively held in the grip of the U-bars whenever they are outstanding from the face plate 23, but when the switch 71 is closed as by the weight of a shirt and the arms are overlapped, the grip of the U-bars is released to permit the shirt to fall through the trough pulling the web with it. The gripping of the web is by a spring-loaded ﬁnger 75 which is mounted on each pivot 68 below the mounting of the arms, 55 and 55a, to extend between the legs of each U-bar, 60 and 60a.

Each ﬁnger is adapted to bear against the surface of the inner leg of its U-bar and a spring 76 is mounted on each arm 55 and 55a, as at a stud 77 to hold the ﬁnger 75 resiliently against the leg of its U-bar. Such effects from each ﬁnger adjacent its pivotal mount and this is adapted to move against a stop 79 upstanding from the base plate 56, the contact occurring when the arms 55 and
55a move inwardly to the overlapped position as indicated in broken lines at FIG. 12. In such overlapped position, the fingers 75 thereby release the web to permit its movement through the trough.

Other features of this sub-assembly include a stop 79a upstanding from the base 56 at a position suitable to contact with a lever arm 61 of the arm 55a to limit the extent of opening of the arms to that illustrated in the drawing. To further assist in guiding the web and to hold down a shirt placed in the trough, a vertically disposed guide fin 50 is affixed to the inner side of the inner arm of each U-bar 60 and 60a.

The web-embossed shirt drops from the trough, down through 55a, past a transversely disposed cut-off block 81 at the terminus of the face 23 and thence downwardly with the drop being checked in front of the front plate 22. The distance of the drop is determined by the length of web between the guide bars 37 and 39 meted out by the pay bar 38 in a previous cycle of operation. During the upstroke, the rocker 77 remains depressed, first by the weight of the shirt and then by the tension of the web. As the shirt terminates its drop it also contacts an outstanding finger 82 of a control switch 83 which initiates the movement of a cut-off arm against the block 81 to sever and release a bagged shirt having the end 32 closed where the web was severed; also, to form a new closed end 32a at the end of the web remaining in the machine for repetition of the operation.

This switch 83 is interconnected in series with a cut-off switch 84 and a motor 85 mounted within the body 8 as on a platform 86. The drive shaft of this motor 85 is suitably gear-reduced for slow speed rotation and is mounted in spaced parallelism with the guide bars 37, 38 and 39. A crank 87 is carried on this shaft and is connected to the thrust arm 43, hereinafore described, and to an opposing pull-arm 88 for operation of the cut-off arm.

The pull arm 88 is connected to a transversely disposed spacer bar 89 which rigidly interconnects a pair of rocker arms 90 which, in turn, extend through the frame 28 of the machine at each side of the face plate 23 to carry a transversely disposed head 91 and form the web cut-off arm. The rocker arms 90 are mounted to the frame member 20 as by pivots 92 and extend through the frame member in slots 93. A spring 94 is affixed to the inner end of each rocker arm and extends to a suitable frame member 95 to keep the system under tension and without slack when the crank 87 is rotating. For adjustment purposes in operation of the unit, both the thrust arm and the pull arm 88 may include turnbuckles 95.

The transverse cut-off head 91 carries a central, extended strip-like pressure pad 96 at its underside and a yieldable strip-like holding pad 97 at each side of the pad 96. The pad 96 is of a resilient, heat-resisting material and the pads 97 are of sponge rubber or like material and extend below the pad 96 for gripping the web before the end of the web reaches the cut-off head 91 against the web at block 81. A resistance wire 98 forms a heating element and the wire is held between posts 99 at each end of the head 91. The wire 98 lies along the center of the head spaced slightly from the pad 96 and a circuit wire 100 extends from the body of the unit and to the head 91 for connection with each end of the resistance wire 98 to provide current for heating it.

The block 81 against which this head moves is formed as a rectangular sectioned body 101 of a yieldable material such as sponge rubber with a more rigid protective facia strip 102 at its contact surface and with a centered head-resistant contact strip 103 on the facing strip against which the resistance wire 98 moves. This contact strip 103 is of a non-conductive non-adherable, heat-resistant material, for the substances forming the web 29 must not adhere to the strip when they are melted by the heat of the wire 98. Such material in common commercial use is known as Teflon.

For proper sequential operation of the apparatus, the switch 84 includes a contact finger 104 which is actuated by a cam 105 on the arm of the crank 87. The face of the cam 105 is limited in its extent to approximately 100 degrees of arc and is adapted to contact the finger 104 to close the switch 84.

The sequences of operation of this unit, as hereinafore set forth, permit the web 29 to move from its roll 28 past the grounding fingers 35 for an initial separation and electrostatic neutralization of the folds thereof; thence, over the guide 37, under the pay bar 38, over the front guide bar 39 with the rocker frame 45 connecting with movement of the pay bar 38 to move selected lengths of web through the machine as it operates in a cyclic manner. Thence, the web extends into the trough 54 with the edge overlapped thereof being opened by arms 55 and 55a and thence below the trough with the edge portions being refolded and the end being sealed as at 32a. A shirt dropped into the trough and into the embrace of the web will initiate action of the switch 71 to close the arms 55 and 55a, release the web from the fingers 75, permit the shirt to drop below the block 81 and contact the switch 83 to initiate a cyclic operation of the arm 91 for dividing a cut-off head against the anvil 81 to sever the web and at the same time to depress the pay bar 38 to pay off another length of web for a subsequent shirt wrapping operation. The bagged shirt severed from the web will drop away from the machine to a ledge 106 and thence fall into a container 107 at the base of the mass 106.

The machine illustrated at FIGS. 16 and 17 is substantially that hereinafore described, but includes a modification of the means adapted to receive the packaged shirt when severed from the web. A steeply inclined tray 108 is pivotedly connected to the front wall 22 immediately below the anvil with the switch 83 affixed to the underside of the tray and with the finger 82 projecting into the tray. This tray is swingingly affixed to the front wall 22 as by pivots 109 and is adapted to rock from an inclined shirt-receiving position as at FIG. 16 to a shirt-dropping position, as at FIG. 17. This tray movement is coordinated with the movements of other mechanisms hereinafore described. An arm 110 extends from the underside of the tray to extend into the body of the machine as through an opening 111 and it is connected to the spacer bar 89 by a link 112. The length of the arm 110 and the link 112 are such that the link 112 rotates coordinately from the machine when the rocker arms 90 are in the up position and being such that the inclination is against the wall of the machine when the rocker arms move the cut-off head 91 down to contact the block 81 as illustrated at FIG. 17.

The circuit illustrated at FIG. 18 is representative of a circuit for operation of the elements hereinafore described. A power source represented by the lead 113 and grounds 113a operates the several circuits. One independent circuit includes the resistance wire 98, the circuit wires 100, a switch 114 and a rheostat 115, the rheostat 115 being adjustable to control the temperature of the resistance wire 98.

Another circuit lead 116 includes the switch 71 and the solenoid 67. Another circuit 117 includes the switch 83, the switch 84 and the motor 85. A shutting circuit 118 is interposed between the switch 71 and the solenoid 67 of the circuit 116 and between the switch 84 and motor 85 of the circuit 117. The operation of these circuits commences with the dropping of a shirt into the trough, and switch 71 is first closed to operate solenoid 67. This switch 71 will remain closed as long as the shirt and web position hold ing it remain attached to the body of web. Next, the shirt, upon completion of its drop, will contact the finger 82 to close the switch 83 to initiate rotation of the motor 85, the switch 84 being closed by cam 105. Movement of the motor and cam 105 holds the switch 84 so that once the movement is started the motor is powered through circuit 116 and shunt 118. A closed circuit
cuit will continue until the web is severed by the head 91 when the packaged shirt drops from the web. At that instant the motor is turned off, but the inertia of the motor armature will continue the operation to a point where the sun 87 will return to its initial position for repetition of the cycle. An adjustment of the cam 148 is in the adjustment of the contact mechanism of switch 84 can easily accomplish this for any given motor; however, conventional braking attachments may be used with the motor to force the motor to stop at any selected position.

While we have thus described our invention in considerable detail, it is obvious that it may be varied in the art. In our invention, means for guiding an end of the web downwardly to place a reach of the web upon the shirt-receiving station, means for guiding an end of the web downwardly to place a reach of the web in the guide trough at the shirt receiving station, adapted to permit the reach to drop from the receiving station to the cut-off station and to overfold said side portions upon a shirt placed on said reach, responsive to placing a shirt on the web reach, and means at the cut-off station adapted to sequentially sever the web and to seal the overfolded web portions at each side of the web whereby to release a bagged shirt at the cut-off station and to form a pocket in the overfolded end portion of the web adapted to hold a shirt placed on the next succeeding reach of the web. Wherein said guide trough at the shirt receiving station adapted to facilitate placing a shirt on the web.

In the apparatus defined in claim 6, means adapted to receive and stack bagged shirts as they are severed from the web.

The apparatus defined in claim 6, means adapted to sequentially forming shirt bags havin longitudinally disposed side portions severed from the central portion thereof to the shirt receiving station and a cut-off station below bar with the brakes holding the web on the pay clined shirt receiving-station and a cut-off station below bar with the brakes holding the web at the guide bar.
adjacent to the roll and releasing the web at the guide bar adjacent to the receiving station to permit movement of the web from the receiving station for the severing operation.

13. In apparatus defined in claim 11, said spreader arms including holding fingers adapted to prevent movement of the web with the arms holding the web sides outwardly from the plane of the web but to release the web for longitudinal movement thereof when overlapped as upon a shirt.

14. In the apparatus defined in claim 13, said spreader arms being overlapped when being overlapped as upon a shirt whereby to lap one longitudinal web edge over the other.