

Aug. 8, 1961

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2,994,998

TOP WRAPPER-APPLYING MACHINE FOR NEWSPAPERS

Original Filed Jan. 23, 1957

7 Sheets-Sheet 1

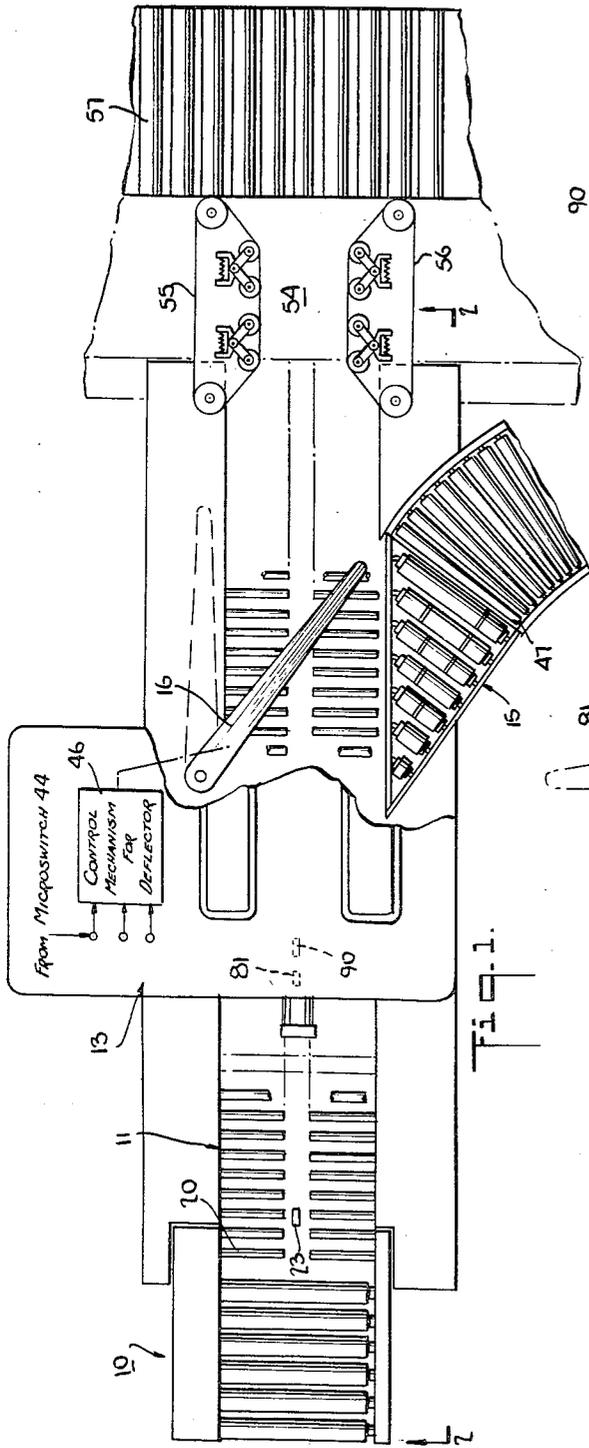


Fig. 1.

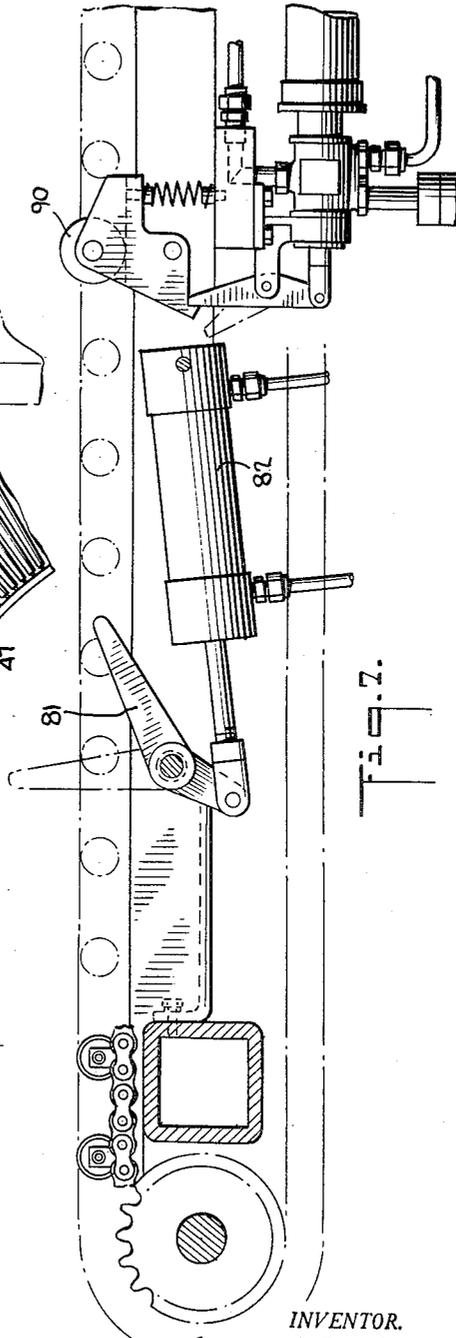


Fig. 2.

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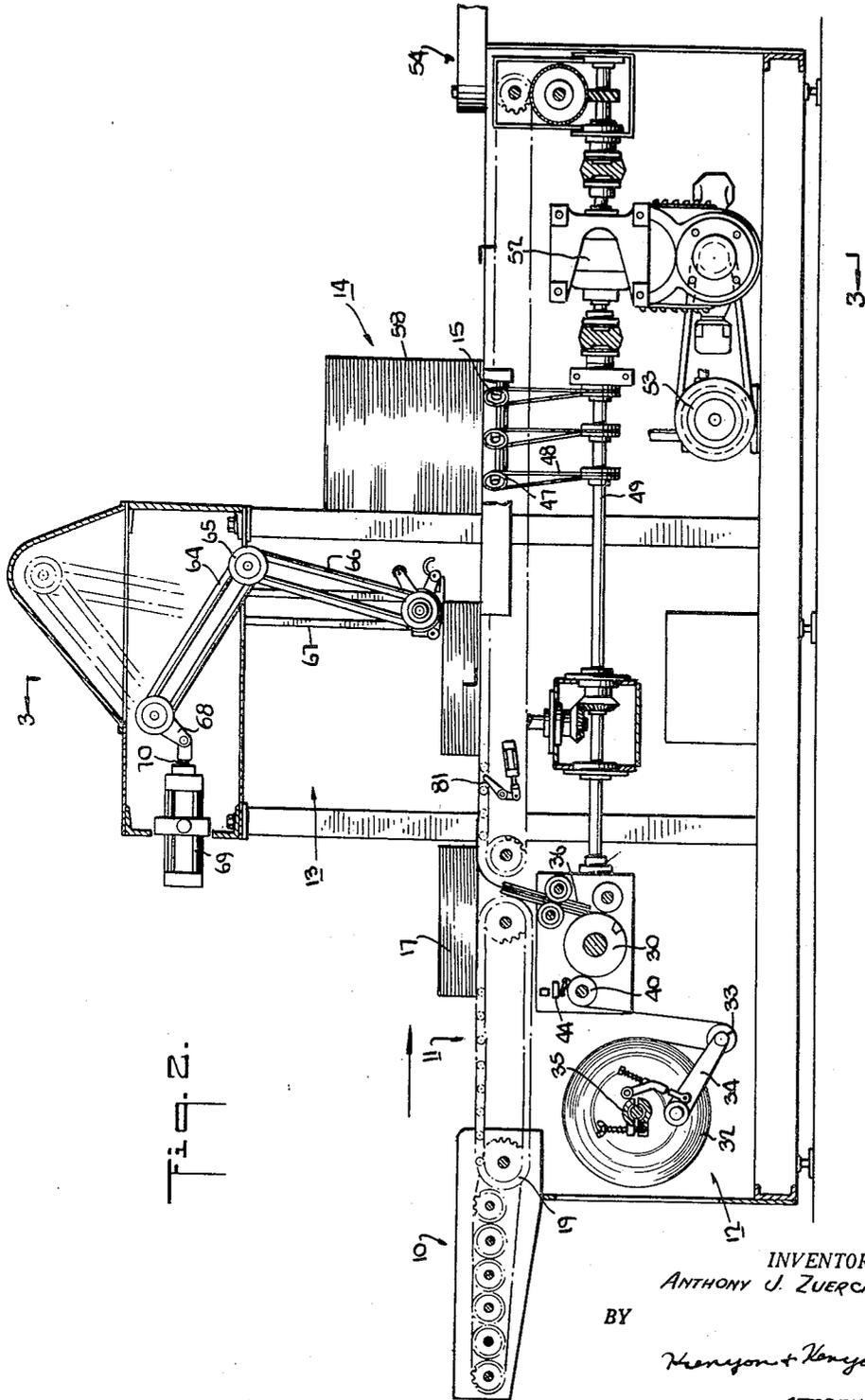
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TOP WRAPPER-APPLYING MACHINE FOR NEWSPAPERS

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7 Sheets-Sheet 2



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TOP WRAPPER-APPLYING MACHINE FOR NEWSPAPERS

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7 Sheets-Sheet 3

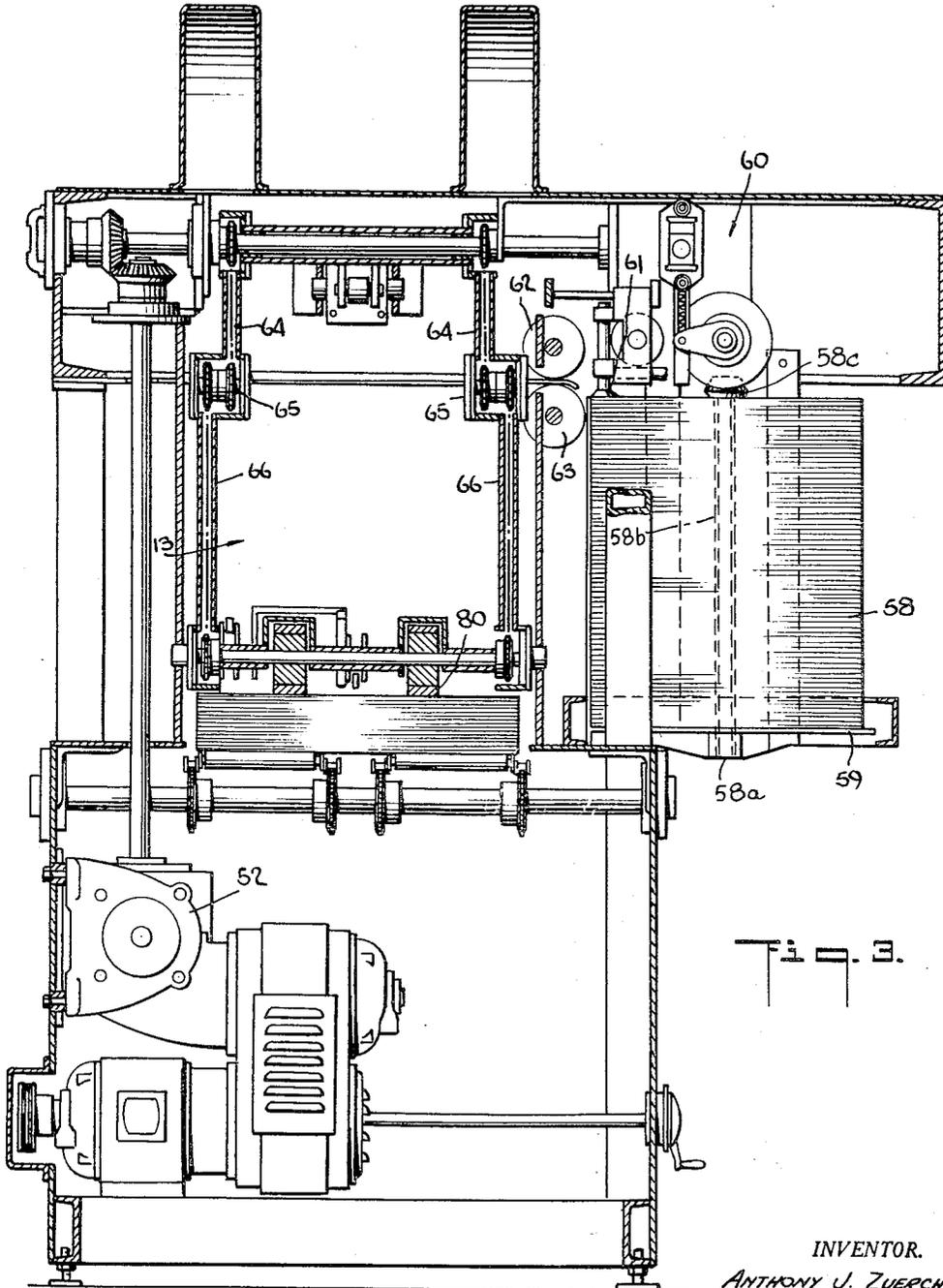


Fig. 3.

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7 Sheets-Sheet 4

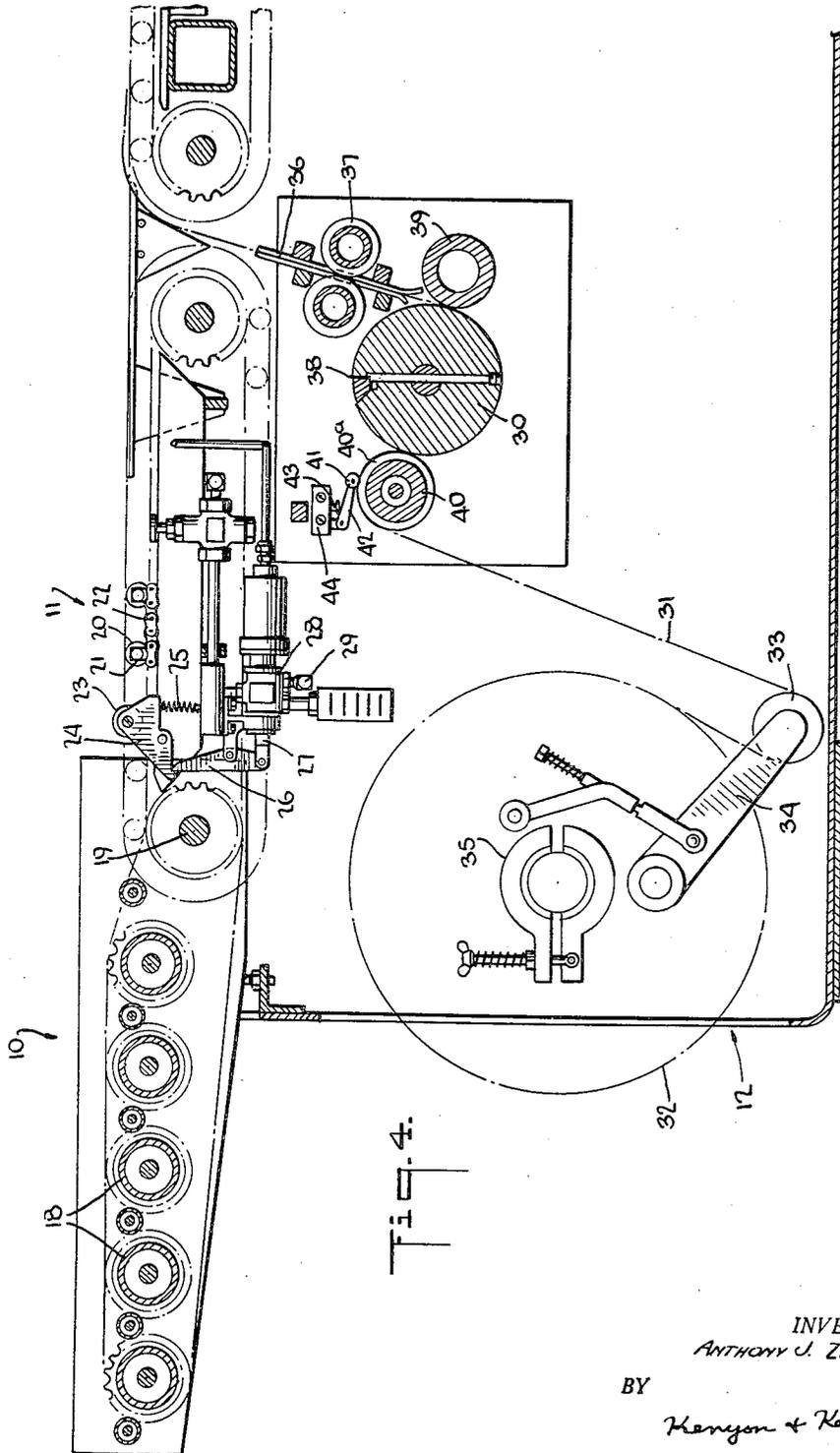


Fig. 4.

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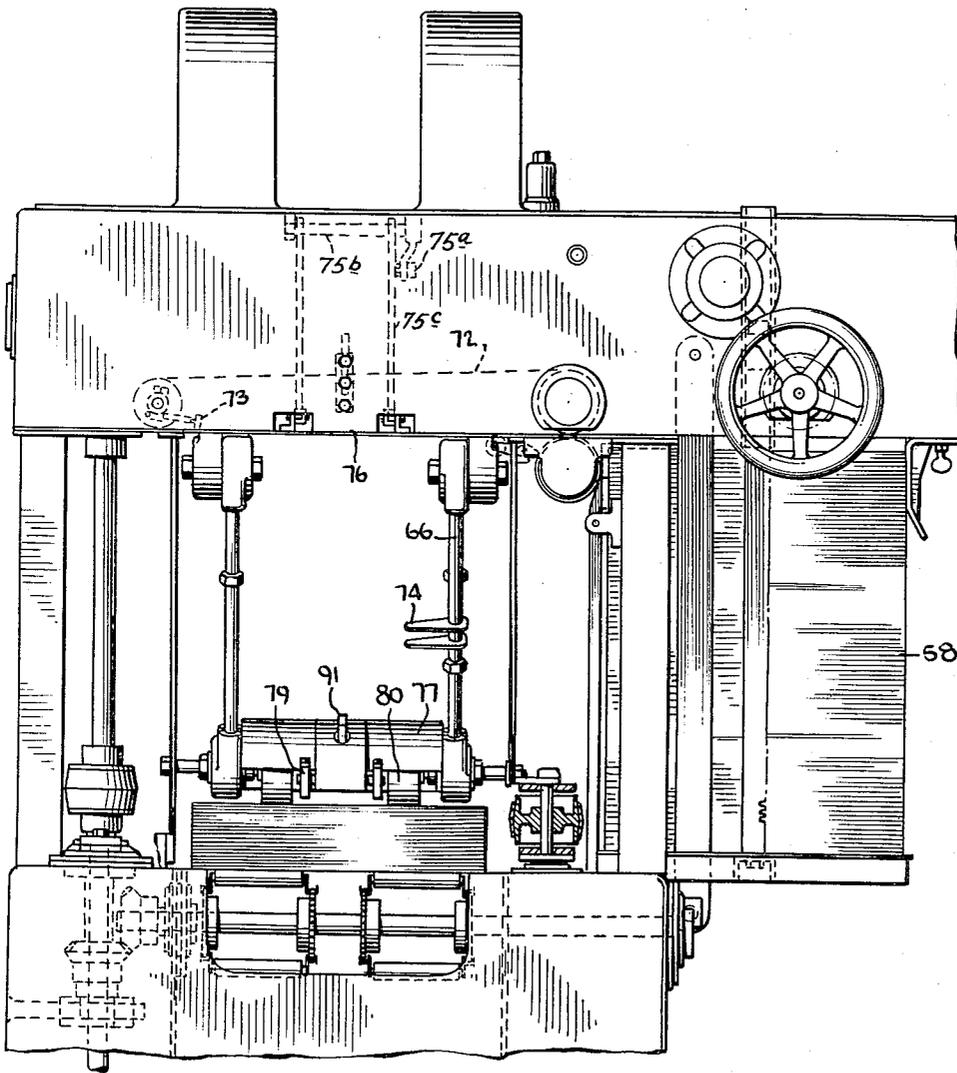
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TOP WRAPPER-APPLYING MACHINE FOR NEWSPAPERS

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7 Sheets-Sheet 5

Fig. 5.



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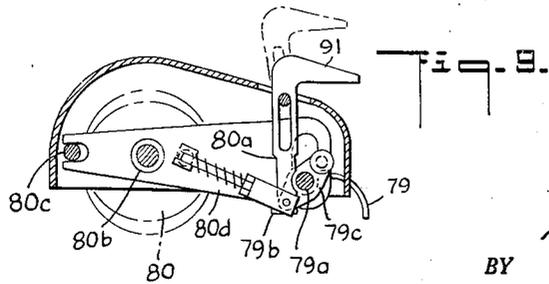
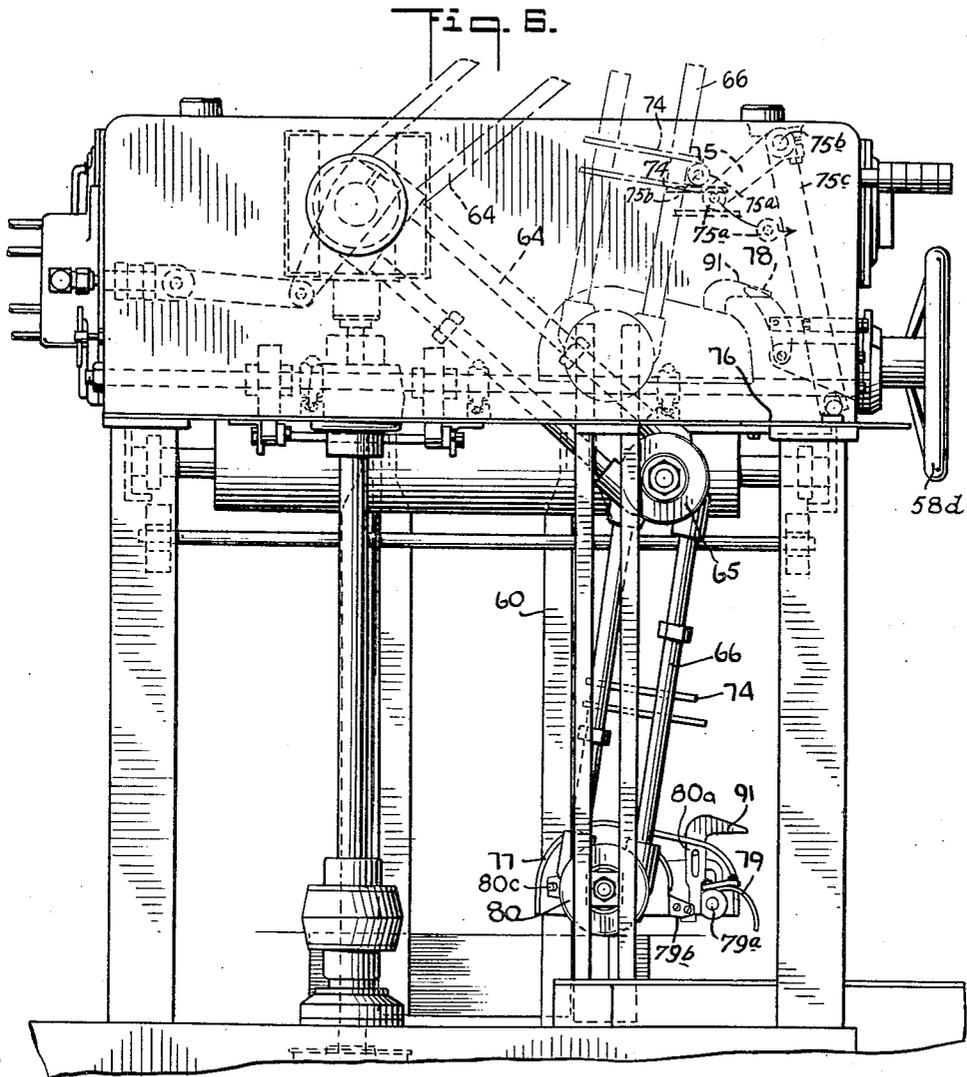
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TOP WRAPPER-APPLYING MACHINE FOR NEWSPAPERS

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7 Sheets-Sheet 6



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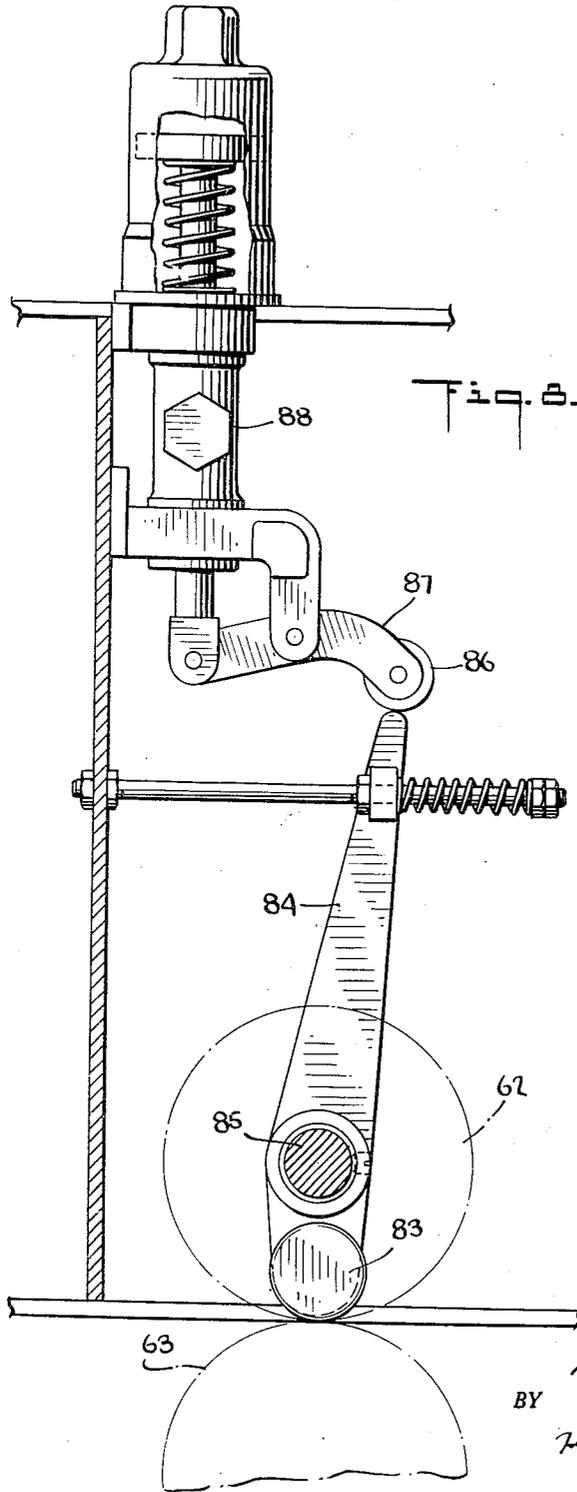
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TOP WRAPPER-APPLYING MACHINE FOR NEWSPAPERS

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7 Sheets-Sheet 7



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TOP WRAPPER APPLYING MACHINE FOR NEWSPAPERS

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Original application Jan. 23, 1957, Ser. No. 635,895, now Patent No. 2,879,636, dated Mar. 31, 1959. Divided and this application Mar. 30, 1959, Ser. No. 802,962 12 Claims. (Cl. 53—196)

The present invention relates generally to newspaper-handling machines, and more particularly to apparatus adapted automatically to apply a top wrapper to a stack of newspapers prior to tying operations.

This is a division of my copending application Ser. No. 635,895, filed January 23, 1957, now U.S. Patent No. 2,879,636.

In modern newspaper plants, papers delivered from the press are banded to facilitate truck delivery and bulk mailing. To form the bundles, papers discharged from the press are gathered into stacks which are then placed between top and bottom covers consisting of eight to sixteen-page scrap sections, the covered stack being fed into a tying machine where it is firmly bound by wire. Normally, in standard mail rooms the paper stack will be made up of fifty folded newspapers, twenty-five of which will be reversed to even the pile. The height of the stack will vary from day to day, depending, of course, on the size of the daily edition. The formation of stacks and the stack-covering operation have heretofore been carried out manually, several operators being required to transfer papers from the press to the tying machine in condition for bundling.

In view of the foregoing, it is the principal object of the invention to provide a wrapper machine for newspapers adapted to apply a top cover to a newspaper stack automatically and at relatively high speed. A machine in accordance with the invention not only does away with the need for the manual wrapping of newspaper stacks but is also capable of increasing the rate of wrapping to at least twice that of existing manual techniques.

More particularly, it is an object of the invention to apply a top cover to newspaper stacks prior to tying, while compensating automatically for different stack heights and spacings. An important advantage of the machine is that it is self-adjusting in operation and need not be altered to meet varying conditions of stack height or spacing in the course of operation.

Also an object of the invention is to provide an automatic wrapping machine adapted to operate in conjunction with a counting-stacking machine, thereby dispensing entirely with manual operations in the bundling of newspapers discharged from a high speed press. Thus the invention makes possible an automation system in which the printing and bundling of newspapers is carried out without manual intervention.

A significant feature of the invention resides in the use of a bundle stop, a deflector and an incomplete bundle-delivery device activated by signals which are set up by the absence of a wrapper or the presence of doubles or more than two wrapper sections, whereby only properly wrapped stacks are fed to the tying machine. The bundle stop and deflector act to maintain the proper sequence of pre-addressed top wrappers while operating in conjunction with programmed stacking.

A further object of the invention is to provide a newspaper wrapper-applying machine of efficient and reliable design which may be manufactured and sold at relatively low cost to effect a substantial economy in mail room operations.

Briefly stated, in a preferred embodiment of a wrapping machine in accordance with the invention, a main conveyor is provided to transport a stack of newspapers

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through a wrapping station, a sheeter unit supplying a bottom sheet to the main conveyor to engage the underside of the stack as it enters the station. Also provided at the station is a feeder and applying mechanism which supplies a top cover to the top side of the stack, the applying mechanism being self-adjusting to the height of the stack. A deflector mechanism at the exit of the station is adapted to divert stacks from the main conveyor onto a reject conveyor, the deflector being activated only when an improperly wrapped stack leaves the station. Preceding the station is a gate mechanism whose function is to block the passage of stacks on the main conveyor in the event the feeder mechanism fails to pick up a top sheet for transfer to the oncoming stack.

For a better understanding of the invention as well as other objects and further features thereof, reference is had to the following detailed description to be read in conjunction with the accompanying drawings, wherein like components in the several views are represented by like reference numerals.

In the drawings:

FIG. 1 is a plan view of a wrapping machine in accordance with the invention.

FIG. 2 is a longitudinal section taken of the machine along the plane indicated by line 2—2 in FIG. 1.

FIG. 3 is a transverse section taken along the plane indicated by line 3—3 in FIG. 2.

FIG. 4 is an enlarged view showing a detail of machine illustrated in FIG. 3.

FIG. 5 is an enlarged front view of the wrapping station of the machine.

FIG. 6 is an enlarged side view of the wrapping station.

FIG. 7 is a detail showing the gate mechanisms for the machine.

FIG. 8 is a detail showing the double wrapper detection mechanism.

FIG. 9 is a cross-sectional view of the wrapper holding and release mechanism.

Referring now to FIGS. 1 to 4, the major components of the wrapper machine comprise an accelerating table, generally designated by numeral 10, a main conveyor 11, a bottom sheeter unit 12, a wrapper-applying station 13 which includes a pre-cut top wrapper feeder 14, a bundle reject conveyor 15, and a deflector 16 which acts to divert stacks from the main conveyor onto the reject conveyor 15 when the stacks are improperly wrapped. The stack being fed along the conveyor into the machine is represented by stack 17.

The details of the accelerating roller table 10, the main conveyor 11 and the bottom sheeter unit 13 may best be seen in FIG. 4. Placed on the accelerating roll table 10 is an unwrapped stack which may be fed in either manually or automatically from a counting-stacking machine, such as is currently manufactured by the Cutler-Hammer Company. Rotatably mounted on the table 10 are a series of rollers 18, chain-driven from a common drive shaft 19. The table is pivotally mounted.

The function of the accelerating roll table at the input end of the machine is to impart an initial velocity to the incoming bundle and thereby to convey bundles from adjacent stacking machinery to the wrapper-applying station. The table pivots upwardly to afford access to roll stock spindles when replacing roll stock.

The main conveyor system 11, which is aligned with the rollers on the accelerating table, included two parallel rows of rollers 20 having their axles journaled in end plates 21 which are secured to translating roller chains 22 driven through a suitable gear system from a common motor 52. Thus if movement of the stack is arrested on the conveyor, the rollers 20 will turn in a counter-clockwise direction while the chain 22 moves forwardly, whereby the stack will be maintained without disturbance at

a fixed position despite continued movement of the chain. Forward motion of a stack on the main conveyor trips a valve system supplying air to a cylinder-operated valve energizing a single revolution clutch which drives the bottom wrapper sheeter 12. This is accomplished by means of a trip wheel 23 which is rotatably mounted on a pivoted latch member 24, the latch being biased upwardly by a spring 25, whereby the wheel is elevated somewhat above the level of the rollers 20 in the main conveyor to intercept the oncoming stack.

Thus when the stack rides on trip wheel 23, the latch 24 is rocked about its pivot point to release a pawl 26 which normally engages the hook of the latch. Pawl 26 is linked to the plunger 27 of a valve 28 in an air cylinder system having an air intake duct 29. The air cylinder system, when tripped, acts to energize a single revolution clutch which may be of standard design (not shown). The clutch effects engagement between a drive mechanism and a sheeter cutter cylinder 30 whereby the cylinder makes one full revolution during which a bottom cover is cut from a web and spotted on the underside of the newspaper stack. The manner in which this is carried out will now be explained.

A web 31 of wrapper material, such as kraft paper, is drawn from a reel 32, the web passing under a danser roll 33 mounted on the end of an arm 34 pivotally supported at an eccentric point on the reel 32, the arm being spring-loaded to hold the web under tension. Correct tension on the web is maintained by a band brake 35 which is actuated in accordance with the angular position of the danser roll relative to the reel.

The web 31 drawn from the reel 32 passes under the danser roll 33 and over a metering roller 40, the web then going under the cutter cylinder 30 and passing upwardly through guides 36 where it is driven by a pair of spotting rolls 37 onto the conveyor rollers of the wrapper unit.

The sheeter cutter action is effected by a cutting rule 38, radially mounted on the cutter cylinder 30 and projecting outwardly therefrom. The rule bears against a cylindrical tool steel platen 39, the cutter cylinder and platen being supported for rotation in suitable bearings. Thus in the course of one revolution, when the cutting rule 38 engages the surface of the platen the web 31 is severed to provide the bottom cover for the stack.

The metering roller 40 is undercut to provide a circumferential groove 40a. Riding on the metering roller 40 is a microswitch wheel 41 mounted on the end of a pivoted actuator arm 42 which cooperates with the operating pin 43 of a microswitch element 44, such that should the paper web tear or the stock be depleted before completion of a run, the switch will close a circuit to an alarm and cause operation of the deflector 16. The manner in which this is carried out as follows: The absence of paper on the metering roller due to a rupture in the web or the depletion of stock will permit the microswitch wheel 41 to fall into groove 40a, thereby dropping actuator arm 42 to release pin 43, the release of the pin operating microswitch 44. The operation of the microswitch closes a circuit in the control mechanism 46 for the deflector 16.

The control mechanism 46, represented in block form in FIG. 1, may be constituted by an air cylinder operated by a solenoid valve under the control of the microswitch 44. Alternatively, an electric motor system may be used under the control of the microswitch.

Deflector 16 acts to detour a bundle lacking a bottom wrapper onto the reject conveyor 15. This conveyor may consist of powered tapered rollers 47 mounted along a curved path leading to a storage area where manual corrections can be made before re-routing of the bundles back to the input end of the wrapping machine. Thus the absence of a wrapper, as sensed by microswitch 44, will cause deflection of the stack onto the reject conveyor 11.

Rollers 47 on the reject conveyor are driven by belts 48 coupled to a motor-driven shaft 49, which shaft is also operatively coupled through suitable gear boxes to the common shaft 19 for the conveyors as well as to the other driven elements of the machine, such as the bottom sheeter unit. Shaft 49 is rotated by the common motor 52 which also drives a suitable vacuum pump 53 connected to the vacuum systems of the machine.

The motor 52 also drives a bundle transfer conveyor 54 constituted by a pair of continuous belts 55 and 56, supported along spring-loaded rollers and acting to transfer the bundles, after covers are applied thereto at the wrapping station 13, to an output conveyor 57 leading to a tying machine.

Pre-cut top wrappers 58, which may be individually addressed, are piled horizontally on a table 59 adjacent the wrapper station 13. The top wrappers are transported by a feeder mechanism 60, including sucker elements 61, to spotting rollers 62 and 63. The sucker elements attach to the leading edge of the wrapper, the top wrappers being maintained at a proper elevation for the suckers by a self-compensating feed mechanism 58a. The self-compensating feed mechanism 58a is made up of a table 59 on which the wrappers 58 are stacked, a rack 58b which is rigidly attached to table 59 and a pinion gear 58c. Pinion gear 58c is operated by a single revolution clutch (not shown) which also drives the top wrapper feed mechanism 60. Hand wheel 58d may also be used to rotate the pinion in order to position the wrappers 58 so that they may be picked up by the sucker element 61. However, the device is automatically self-compensating in that as the pinion 58c is rotated by the single revolution clutch the rack 58b will automatically be raised the proper amount to position properly the top wrapper. As the bundles move down the main conveyor 11 they activate a tripper device 90 whose design may be similar to that of trip mechanism 23, the tripper device acting to energize a single revolution clutch for the top wrapper feeder mechanism 60, whereby the feeder supplies one top wrapper for each bundle fed into the wrapper station.

At the wrapper station there is arranged an applier mechanism constituted by a pair of applier arms each formed by an upper arm component 64, pivotally joined at an elbow 65 to a lower arm component 66. The lower arm movement is restricted by a suitable guide block slidable within vertical tracks 67. Movement of the applier arms is effected by a crank 68 connected to the upper extremity of the top arm components and pivotally connected to the piston 70 of an air cylinder 69. The arrangement is such that when the cylinder piston 70 is projected outwardly the applier arms are retracted to assume the position shown in dotted lines in FIG. 2 where the elbow 65 of the arms is raised within the upper hood 71. When the piston is drawn inwardly into the cylinder, the applier arms are extended downwardly in the manner shown in FIG. 1 so as to apply the top wrapper to the stack of newspaper.

As shown separately in FIGS. 5 and 6, the pre-cut top wrapper is taken from pile 58 by the combined operation of the sucker element 61 and spotting rollers 62, 63. These elements make up the feeder mechanism 60 which transports the topmost wrapper to the overhead belts 72 which are beneath the retracted top wrapper applier arms and which, by frictional contact with the wrappers, pull it across the bottom plate 76. The single revolution clutch (not shown) which actuates the feeder mechanism 60 operates to convey only one top wrapper as each bundle is conveyed into the wrapping station. The top wrapper continues its movement over the wrapping station until its leading edge makes contact with adjustable stops 73 which are shown in FIG. 5. On contact with the adjustable stops 73 the belts 72 slip over it. After the wrapper stops, the air cylinder 69 is actuated, causing the lowering of the upper arm components 64

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of the applier mechanism. Cam tracks 74 are attached to the lower arm components 66 as shown in FIG. 6 and initially contain roller 75a between them. Roller 75a is attached to the end of lever 75 by means of rotatable shaft 75b. Thus, as the lower arm components 66 are moved downwardly by the action of air cylinder 69 and crank 68, the lever 75 is rotated in a clockwise direction. The downward movement of the lower arm components 66, and hence cam tracks 74, thus cause the release of roller 75a which swings free of cam tracks 74. Linkage arms 75c, whose lower ends are coupled to the bottom plate 76 are also attached to shaft 75b. Therefore when lever 75 is rotated by the movement of roller 75a, effected by cam track 74 as the applier arms 66 move downwardly, the linkage arms 75c act to pull back the bottom plate 76 and provide a clearance for the downward travel of the applier mechanism and the top wrapper which is in place over the wrapping station.

Continued downward travel of the applier arms causes a trip 91 mounted on a gripper mechanism 77 straddled between the lower arm components to strike a latch 78, which action causes the gripper elements 79 to grasp the leading edge of the wrapper. Grippers 79 are constituted by curved fingers which are attached to a shaft 79a and are adapted to be rotated in clockwise direction against a seat 79b, the wrapper edge being clamped between the fingers and the seat. The shaft 79a is rotated by a lever 79c which is operated by trip 91. Thus, as the applier arms move downwardly, the trip 91 strikes latch 78 causing the clockwise rotation of shaft 79a and thus the rotation of grippers 79 into contact with seat 79b. The applier arms, carrying the top wrapper proceed downwardly, guided by tracks 60 until the rollers 80 on the gripper mechanism makes contact with the oncoming bundle adjacent the leading edge of the bundle.

Contact between the rollers 80 and the bundle causes the counterclockwise rotation of shaft 79a and hence the removal of the gripper 79 from seat 79b. This is accomplished by a link arm 80a which is pivotally mounted on a shaft 80b on which the rollers 80 are mounted. Shaft 80b is free to move in a limited vertical direction. The link arm 80a is pivoted at 80c and as such the upward movement of the rollers 80 and hence shaft 80b cause a movement of the end 80d of the link arm 80a upwardly. The end 80d of link arm 80a is rotatably attached to lever 79c. Therefore the pivotal movement of link arm 80a causes the counterclockwise rotation of shaft 79a and hence the removal of the grippers 79 from seat 79b. This of course releases the wrapper so that it is free to travel along the conveyor 11 with the bundle at the wrapping station.

To prevent excessive pressure between the applier mechanism and the bundle, a relief valve (not shown) is introduced in the down side of the air cylinder 69 such that when a set pressure is exceeded air is forced into the up side of the cylinder, thereby placing the applier mechanism in a state of equilibrium. The balance is upset after a predetermined interval after which the downside of the cylinder is exhausted and pressure is supplied to the up side. Near the end of the applier return stroke, the cam tracks 74 again contact roller 75a on lever 75 to swing the lever 75 clockwise and thereby to close the bottom plate 76, which plate serves to support the incoming top wrapper.

When the wrapper-applying machine is running in conjunction with programmed stacking, pre-cut and pre-addressed top wrappers will be applied in the same sequence as the bundles are fed in. Should the top wrapper feeder fail to supply a wrapper to the applier mechanism, a pneumatically operated gate 81 which is disposed in advance of the tripper device 90 on the main conveyor, as shown separately in FIG. 7, will obstruct the forward motion of the bundle, allowing the feeder to recycle until such time as a wrapper is in its proper position or an incoming bundle trips roller 23. In the latter case, the

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deflector 16 will be activated, the gate opened, and all subsequent bundles shunted onto the reject conveyor 15. If the wrapper is spotted in its proper position, the gate opens and a bundle with top and bottom wrappers are conveyed to the tying machine.

Missing top wrappers are detected to operate the gate or the deflector, the detection being made in connection with the suction system in the top wrapper feeder mechanism 60. Should the sucker elements 61 remain uncovered thereby indicating the absence of a wrapper, air pressure is directed to a valve arrangement to operate an air cylinder 82 which is linked to the gate 81 and which acts to raise the gate to obstruct the oncoming bundle. On the other hand, if the time at which the sucker element is found to be uncovered occurs when a signal is received from the valve of the trip mechanism 23, the deflector is operated rather than the gate. In other words, if the absence of a top wrapper is sensed at a time when the next oncoming stack has reached the trip mechanism 23, to prevent collision the deflector is actuated rather than the gate. If the suckers pick up a wrapper, vacuum builds up and air is directed to reset the feeder, the trip and the deflector.

When a double wrapper or more than two wrappers is inserted between the spotting rollers 62 and 63, as shown in FIG. 8, the increased thickness causes a roller 83 mounted on a lever 84 to swing out about the shaft 85 on which the spotting roller 62 is mounted, throwing the upper tip of the lever out of toggle with the roller 86 on the actuating arm 87 of a valve 88 which acts to operate the control mechanism for the deflector 16, thereby diverting the bundle with the double wrapper to the reject conveyor. The deflector system includes a memory or delay mechanism which is arranged in response to the actuation of valve 88 to remain operative to divert not only the stack containing the double wrapper but also the subsequent stack, the feeder being momentarily arrested. The deflector is thereafter opened provided a wrapper has been fed to the spotting rolls by the suckers. A similar mechanism, not shown, is arranged to act in response to triples or more, but in such case the feeder is neutralized since manual attention is required.

In summary, therefore, in the event a bundle is properly wrapped with top and bottom covers, it will pass through the wrapping station on the main conveyor for transfer to the tying station. But should a top wrapper not be picked up by the feeder mechanism, then the gate will be raised to obstruct the passage of the bundle into the wrapping station until such time as a wrapper is positioned by the feeder mechanism. And should the missing wrapper be detected after the bundle has passed the gate position, then the deflector will operate in response to a trip mechanism to divert the bundle to the reject or incomplete conveyor. Where a double wrapper is picked up, the deflector will operate to divert the double wrapped bundle as well as the next bundle, and the feeder mechanism will be arrested for one cycle. Similarly, should a bottom wrapper not be supplied to the wrapper station, the deflector will operate to detour the improperly wrapped bundle. Should a greater number of wrappers be picked up, the deflector will operate to divert all incoming bundles and the feeder neutralized until manual correction is made.

While there has been shown what is considered to be a preferred embodiment of the invention, it will be manifest that many changes and modifications may be made therein without departing from the essential spirit of the invention. For example, in place of a feeder mechanism for pre-cut top wrappers, the mechanism may be adapted to operate in conjunction with wrappers cut from a continuous web, in the manner disclosed herein in connection with the bottom wrappers. It is intended, therefore, in the annexed claims to cover all such changes and modifications as fall within the true scope of the invention.

I claim:

1. A newspaper wrapping machine comprising a wrapping station; a conveyor to transport a stack of newspapers into and out of said station; and means at said station to supply a top wrapper sheet to the top side of said stack comprising support means for a plurality of pre-cut top wrappers adjacent said station, feeder means for transporting the topmost of said wrappers to a position above said station, trip means on said conveyor for actuating said feeder means when a stack enters said station, and applier means for transporting said wrapper in position above said station to the top of said stack comprising arm means, arm actuating means for raising said arm means to permit said feeder means to position a wrapper above said station, and for lowering said arm means to carry said wrapper to the top of said stack and means carried by said arm means for automatically releasing said wrapper when it is on the top of said stack.

2. A newspaper wrapping machine comprising a wrapping station, a main conveyor to transport a stack of newspapers into and out of said station; and means at said station to supply a top wrapper sheet to the top side of said stack comprising support means for a plurality of pre-cut top wrappers adjacent said station, feeder means including means for separating the topmost of said wrappers from said plurality of wrappers, wrapper transporting means for carrying said topmost wrapper to a position above said station, trip means on said conveyor for actuating said feeder means when a stack enters said station, and applier means for transporting said wrapper in position above said station to the top of said stack including arm means having gripper means on the lower end thereof, actuating means for raising said arm means above the location of said wrapper in position above said station and for lowering said arm means to carry said wrapper to the top of said stack, means for actuating said grippers to hold said wrapper while said arms are lowered, and means carried by said arm means for automatically releasing said wrapper from said gripper means when said wrapper is in position on the top of said stack.

3. A newspaper wrapping machine comprising a wrapping station; a conveyor to transport a stack of newspapers into and out of said station; and means at said station to supply a top wrapper sheet to the top side of said stack comprising support means for a plurality of pre-cut top wrappers adjacent said station, feeder means including air operated sucker means for separating the topmost of said wrappers from said plurality of wrappers, spotting roller and belt means for carrying said topmost wrapper to a position above said station, trip means for actuating said feeder means when a stack enters said station and applier means for transporting said wrapper in position above said station to the top of said stack including arm means, wrapper gripper means carried on said arm means, actuating means for raising said arm means to permit said feeder means to position a wrapper above said station, for lowering said arm means and for operating said wrapper gripper means as said arms are lowered to carry said wrapper to the top of said stack, and means carried by said arm means for automatically releasing said wrapper gripper means when it is on the top of said stack.

4. A newspaper wrapping machine comprising a wrapping station; a conveyor to transport a stack of newspapers into and out of said station and means at said station to supply a top wrapper sheet to the top side of said stack comprising support means for a plurality of pre-cut top wrappers adjacent said station including means for raising said plurality of wrappers as the topmost of said wrappers is removed, feeder means for transporting the topmost of said wrappers to a position above said station including air operated sucker means for separating the topmost of said wrappers from said plurality of wrappers, spotting roller, belt and stop means for carrying said topmost wrapper to a position above said station, trip means on said conveyor for actuating said feeder means when

a stack enters said station and applier means for carrying said wrapper in position above said station to the top of said stack comprising arm means including wrapper gripper means on the lower end thereof and actuating means for raising said arm means to permit said feeder means to position said topmost wrapper above said station, for lowering said arm means, and for operating said wrapper gripper means to carry said wrapper means to the top of said stack, and means carried by said arm means for automatically releasing said wrapper gripper means when said wrapper is on the top of said stack.

5. A newspaper wrapping machine comprising a wrapping station, a conveyor to transport a stack of newspapers into and out of said station; and means at said station to supply a top wrapper sheet to the top side of said stack comprising support means for a plurality of pre-cut top wrappers adjacent said station including means for raising said plurality of wrappers as the topmost of said wrappers is removed, feeder means for transporting the topmost of said wrappers to a position above said station including air operated sucker means for separating the topmost of said wrappers from said plurality of wrappers, spotting roller, belt and stop means for carrying said topmost wrapper to movable bottom plate means positioned above said station, trip means on said conveyor for actuating said feeder means when a stack enters said station, and applier means for transporting said wrapper in position above said station to the top of said stack comprising arm means, and actuating means for raising said arm means to permit said feeder means to position a wrapper above said station, for moving said bottom plate means as said arm means are lowered, for lowering said arm means to carry said wrapper to the top of said stack, and means carried by said arm means for automatically releasing said wrapper when it is on the top of said stack.

6. A newspaper wrapping machine comprising a wrapping station; a conveyor to transport a stack of newspapers into and out of said station; and means at said station to supply a top wrapper sheet to the top side of said stack comprising support means for a plurality of pre-cut top wrappers adjacent said station, feeder means for transporting the topmost of said wrappers to a position above said station, trip means on said conveyor for actuating said feeder means when a stack enters said station, and applier means for transporting said wrapper in position above said station to the top of said stack comprising pivotally connected upper and lower arm means including wrapper gripper means attached to the lower end of said lower arm means, actuating means for raising said arm means to permit said feeder means to position a wrapper above said station, for lowering said arm means and operating said wrapper gripper means to carry said wrapper to the top of said stack and means carried by said lower arm means for automatically releasing said wrapper when it is on the top of said stack.

7. A newspaper wrapping machine comprising a wrapping station, a conveyor to transport a stack of newspapers into and out of said station; and means at said station to supply a top wrapper sheet to the top of said stack comprising support means for a plurality of pre-cut top wrappers adjacent said station, feeder means for transporting the topmost of said wrappers to a position above said station, trip means on said conveyor for actuating said feeder means when a stack enters said station, and applier means for transporting said wrapper in position above said station to the top of said stack comprising an upper arm, a lower arm and elbow means for pivotally connecting said upper and lower arms, wrapper gripper means carried on the lower end of said lower arm means, actuating means attached to the end of said upper arm opposite to the end attached to said elbow means for raising said arms to permit said feeder means to position a wrapper above said station and for lowering said arm means, and means for actuating said wrapper gripper means to carry said wrapper to the top of

said stack as said arms are lowered, and means carried by said lower arm means for automatically releasing said wrapper gripper means when said wrapper is on the top of said stack.

8. A newspaper wrapping machine comprising a wrapping station, a conveyor to transport a stack of newspapers into and out of said station; and means at said station to supply a top wrapper sheet to the top side of said stack comprising support means for a plurality of pre-cut top wrappers adjacent said station, feeder means for transporting the topmost of said wrappers to a position above said station, trip means on said conveyor for actuating said feeder means when a stack enters said station, and applicer means for transporting said wrapper in position above said station to the top of said stack comprising upper and lower arms pivotally connected by elbow means, wrapper gripper means carried on the lower end of said lower arm, actuating means for raising said arm means to permit said feeder means to position a wrapper above said station and for lowering said arm means, means for operating said wrapper gripper means as said arms are lowered to carry a wrapper to the top of said stack, guide means for said lower arm, relief means for operating said actuating means when said wrapper is on the top of said stack to cause said actuating means to raise said arm means, and means carried by said lower arm for releasing said wrapper gripper means when said wrapper is on the top of said stack.

9. A newspaper wrapping machine comprising a wrapping station; a conveyor to transport a stack of newspapers into and out of said station; and means at said station to supply a top wrapper sheet to the top of said stack comprising support means for a plurality of pre-cut top wrappers adjacent said station including means for raising said plurality of wrappers as the topmost of said wrappers is removed, feeder means for transporting the topmost of said wrappers to a position above said station including means for separating said topmost wrapper from said plurality of wrappers, spotting roller, belt and stop means for carrying said topmost wrapper to said position above said station, trip means on said conveyor for actuating said feeder means when a stack enters said station, and applicer means for transporting said wrapper in position above said station to the top of said stack comprising upper and lower arms, elbow means for pivotally connecting said arms, wrapper gripper means carried on the lower end of said lower arm, actuating means for raising said arm means to permit said feeder means to position a wrapper above said station for lowering said arms and for operating said wrapper gripper means as said arms are lowered to carry said wrapper to the top of said stack, relief means for operating said actuating means when said wrapper is on the top of said stack and means carried by said lower arm for releasing said wrapper when it is on the top of said stack.

10. A newspaper wrapping machine comprising a wrapping station, a conveyor to transport a stack of newspapers into and out of said station; and means at said station to supply a top wrapper sheet to the top side of

said stack comprising support means for a plurality of pre-cut top wrappers adjacent said station including means for raising said plurality of wrappers as the topmost of said wrappers is removed, feeder means for transporting the topmost of said wrappers to a position above said station including air operated sucker means for separating the said topmost wrapper from said plurality of wrappers, spotting roller, belt and stop means for carrying said topmost wrapper to movable bottom plate means positioned above said station, trip means on said conveyor for actuating said feeder means when a stack enters said station, and applicer means actuated by said trip means for transporting said wrapper in position above said station to the top of said stack comprising upper and lower arms, elbow means for pivotally connecting said arms, wrapper gripper means carried on the lower end of said lower arm, air operated actuating means attached to the end of said upper arm opposite to the end of said upper arm connected to said elbow means for raising said arms to permit said feeder means to position a wrapper above said station, for lowering said arms, for moving said bottom plate means as said arm means are lowered, and for operating said wrapper gripper means to carry said wrapper to the top of said stack, relief means associated with said actuating means for raising said arm means when said wrapper is on the top of said stack and means carried by said lower arm for releasing said wrapper gripper means when said wrapper is on the top of said stack.

11. A newspaper wrapping machine comprising a wrapping station; a conveyor to transport a stack of newspapers into and out of said station; and means at said station to supply the top wrapper sheet to the top side of said stack comprising wrapper supply means, feeder means for transporting a wrapper to a position above said station, trip means on said device for actuating said feeder means when a stack enters said station and applicer means for transporting said wrapper in position above said station to the top of said stack comprising arm means, arm actuating means for raising said arm means to permit said feeder means to position a wrapper above said station and for lowering said arm means to carry said wrapper to the top of said stack, and means carried by said arms means for releasing said wrapper when it is on the top of said stack.

12. The device of claim 11 wherein said wrapper supply means includes a continuous web supply of top wrapper material, means of drawing a predetermined length of said material from said supply and for cutting said supply to form a pre-cut top wrapper, said drawing and cutting means being actuated by said trip means on said conveyor.

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