Aug. 8, 1961 A. J. ZUERCHER 2,994,998

TOP WRAPPER-APPLYING MACHINE FOR NEWSPAPERS

Original Filed Jan. 23, 1957 7 Sheets-Sheet 1

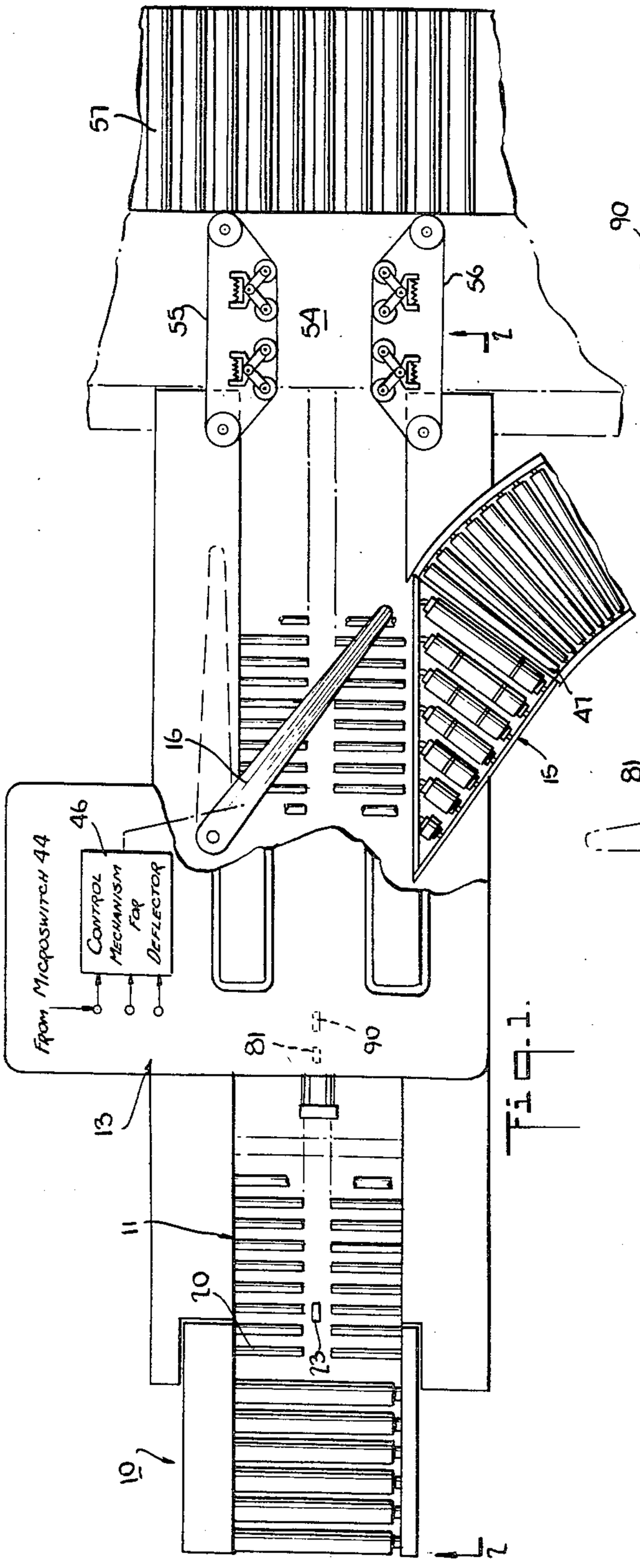

FIG. 1.

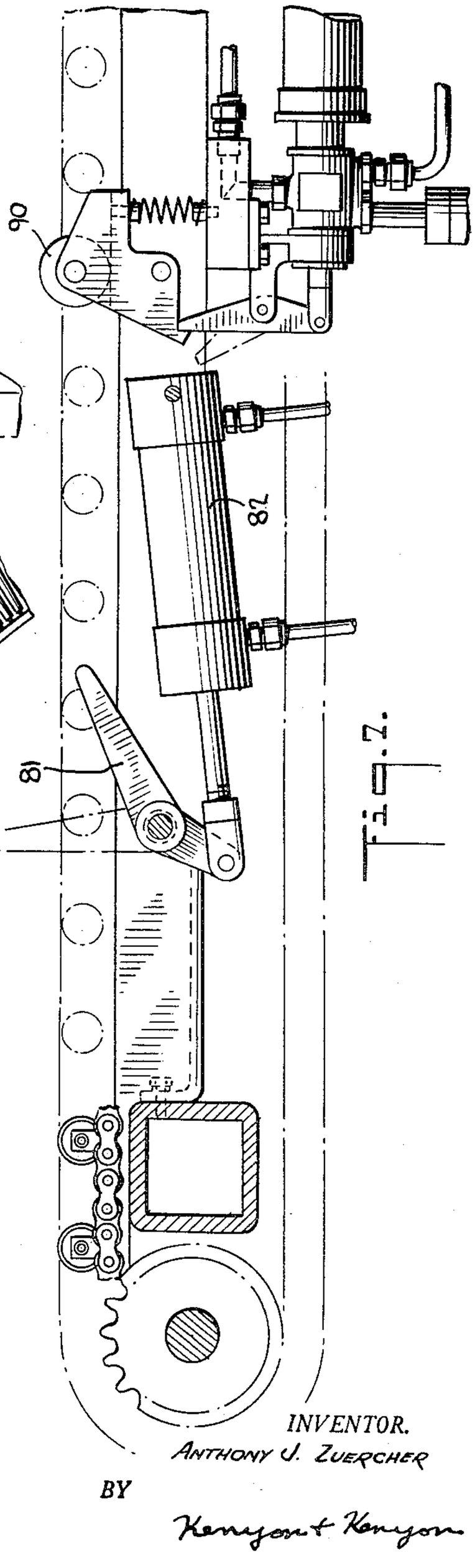

FIG. 2.

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TOP WRAPPER-APPLYING MACHINE FOR NEWSPAPERS

Original Filed Jan. 23, 1957 7 Sheets-Sheet 2

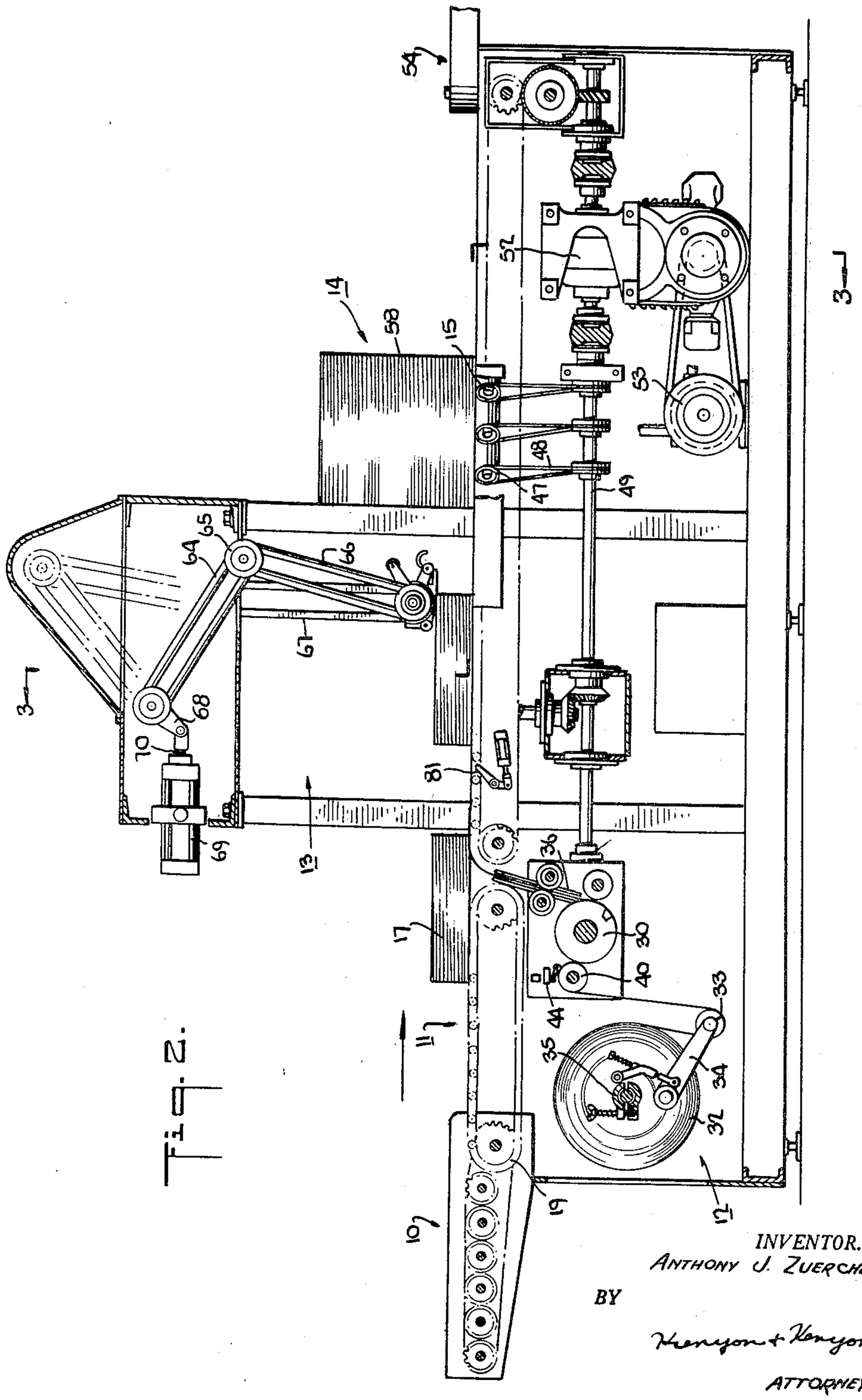

Fig. 2.

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TOP WRAPPER-APPLYING MACHINE FOR NEWSPAPERS

Original Filed Jan. 23, 1957 7 Sheets-Sheet 3

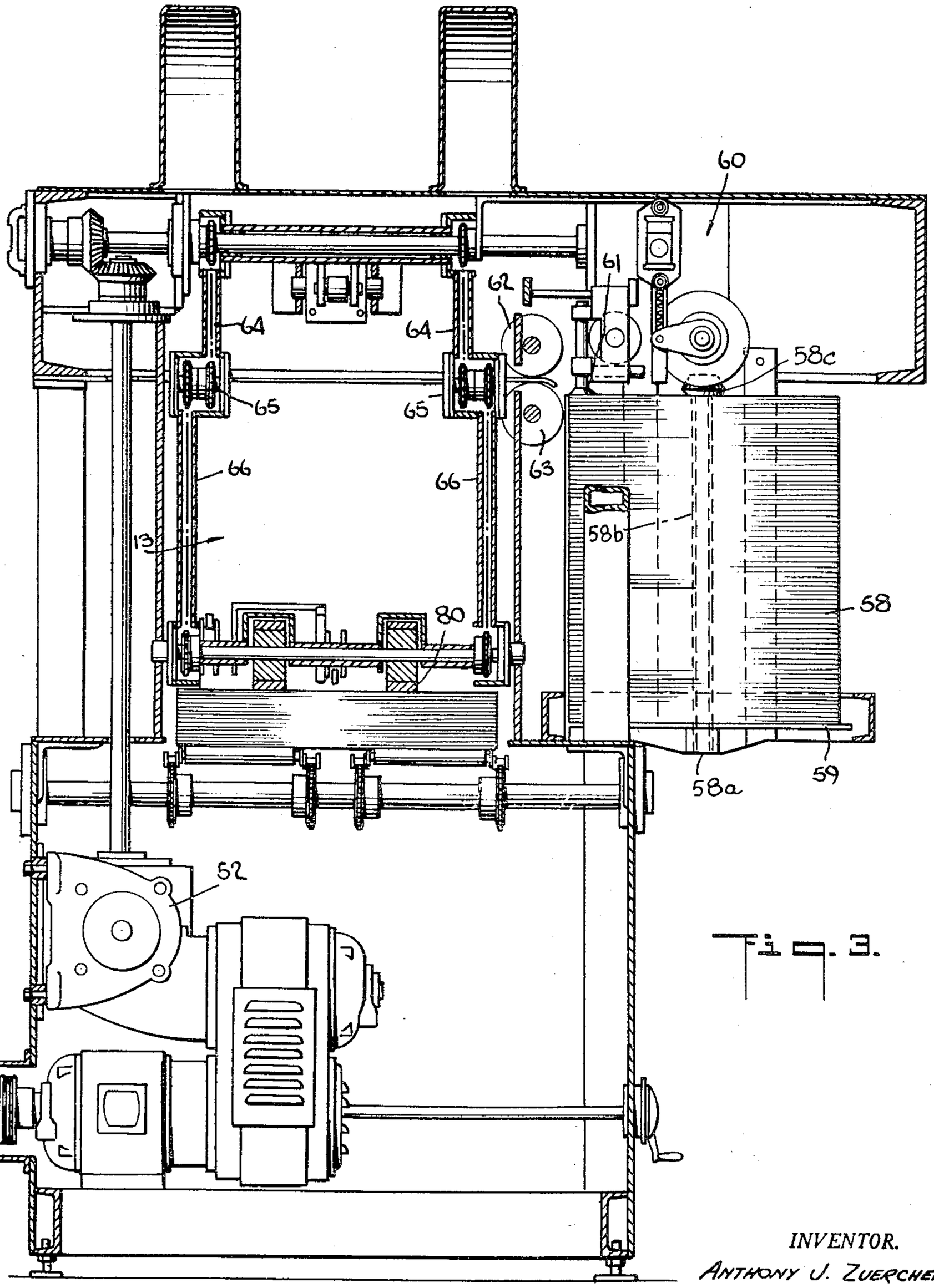

Fig. 3.

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TOP WRAPPER-APPLYING MACHINE FOR NEWSPAPERS

Original Filed Jan. 23, 1957 7 Sheets-Sheet 4

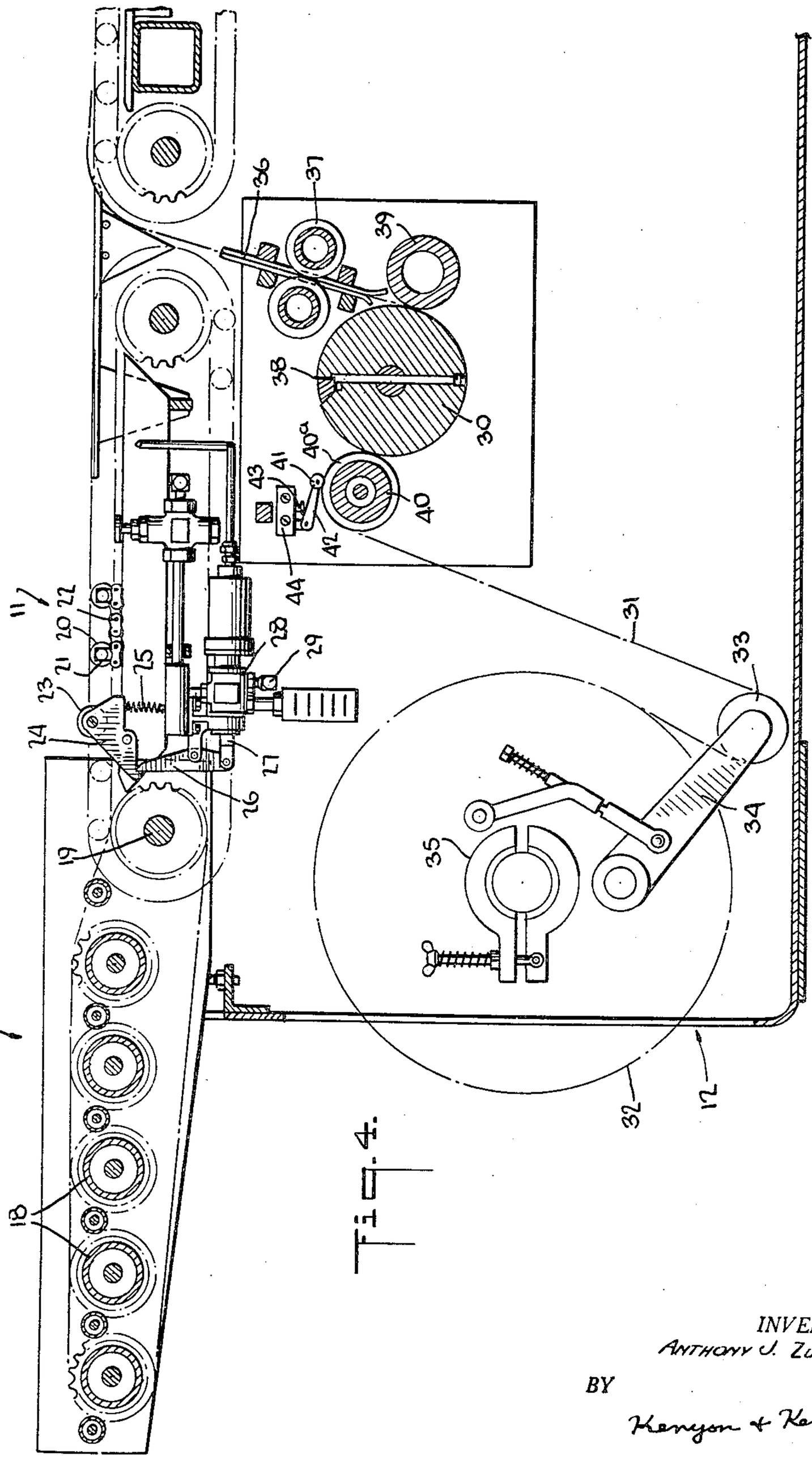

Fig. 4.

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TOP WRAPPER-APPLYING MACHINE FOR NEWSPAPERS

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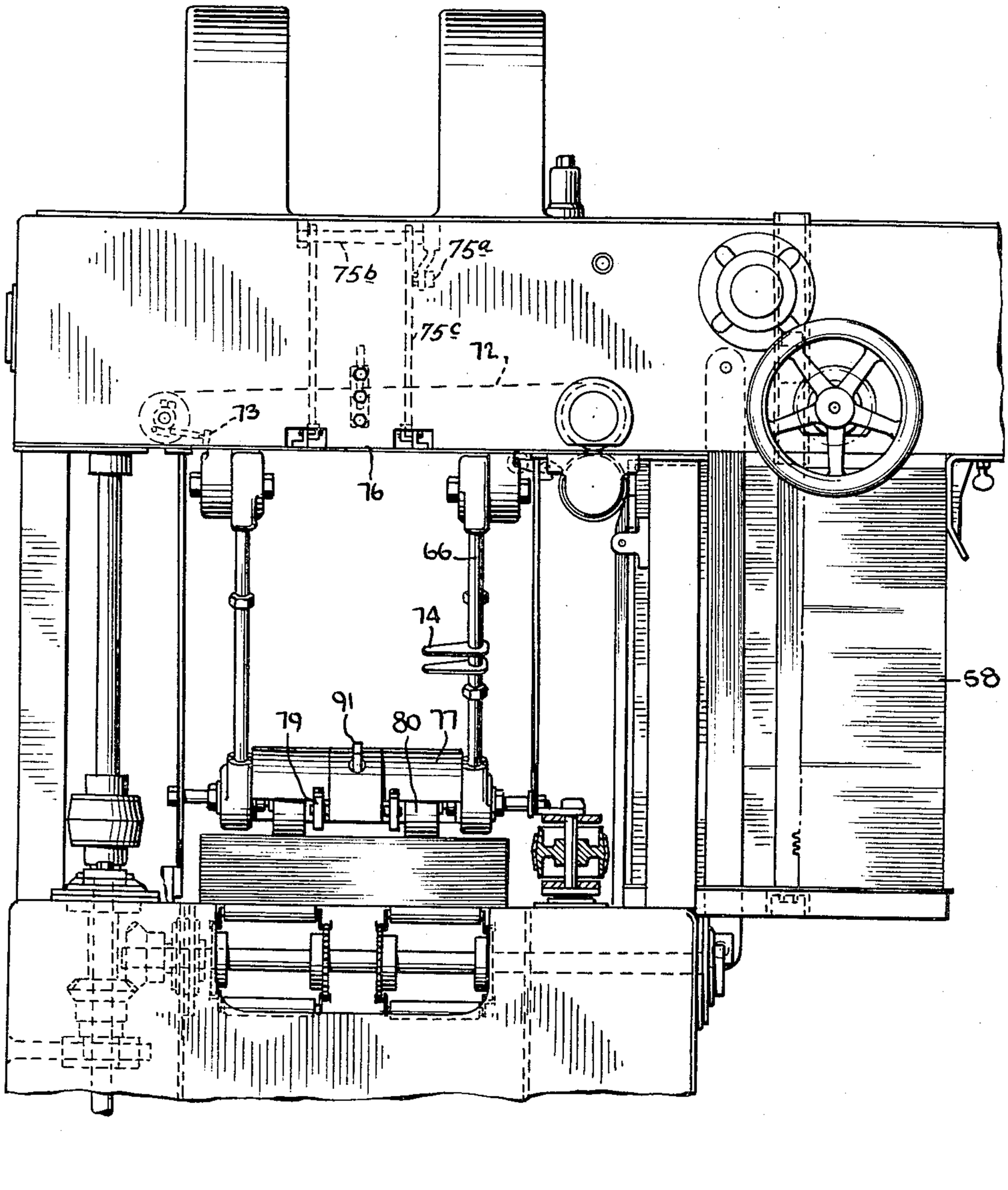
Fig. 5.



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TOP WRAPPER-APPLYING MACHINE FOR NEWSPAPERS

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Fig. 6.

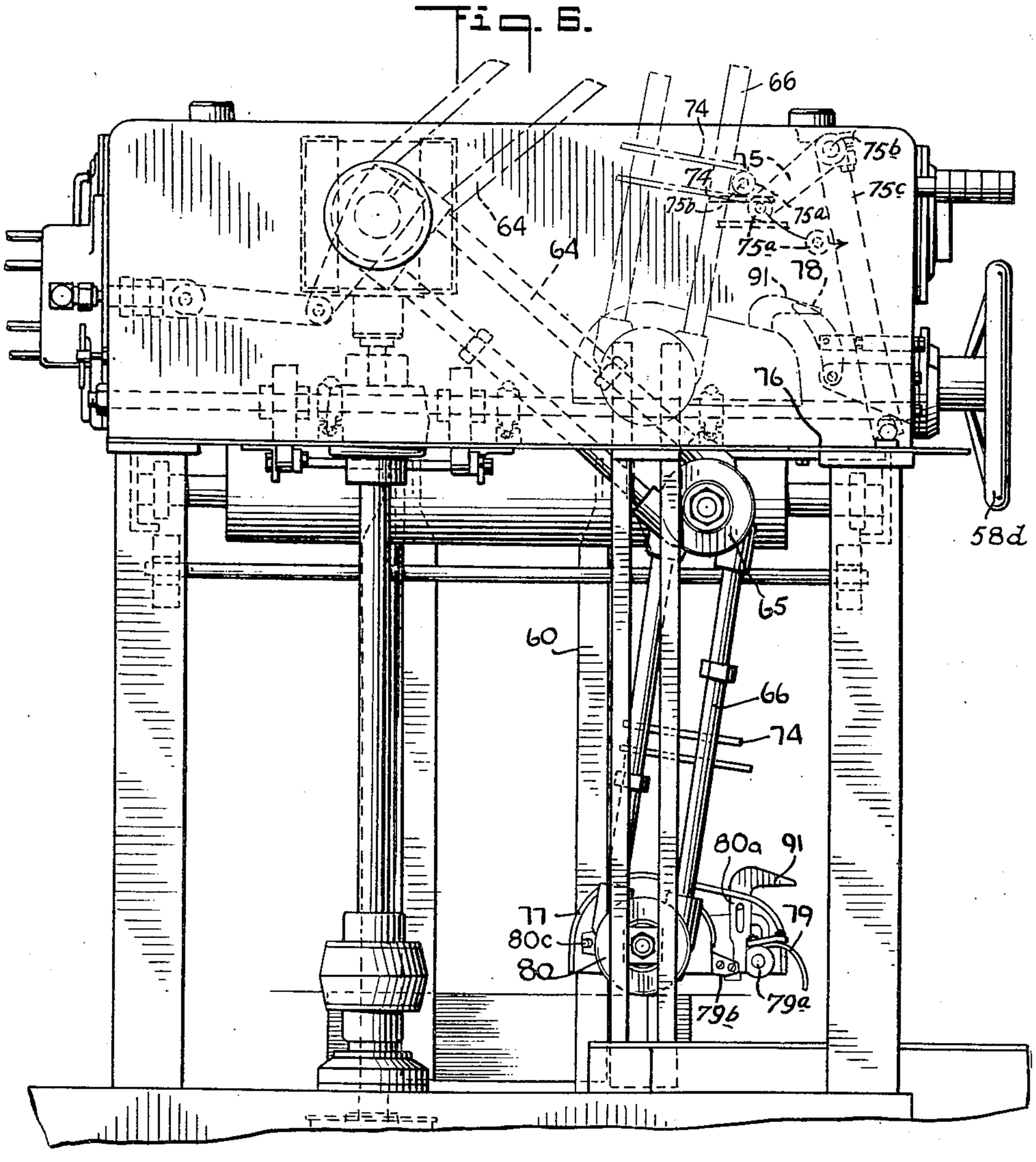
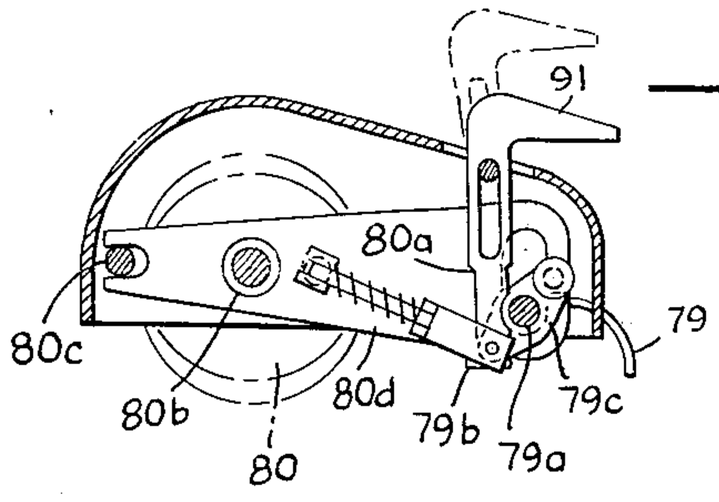


Fig. 9.



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TOP WRAPPER-APPLYING MACHINE FOR NEWSPAPERS

Original Filed Jan. 23, 1957 7 Sheets-Sheet 7

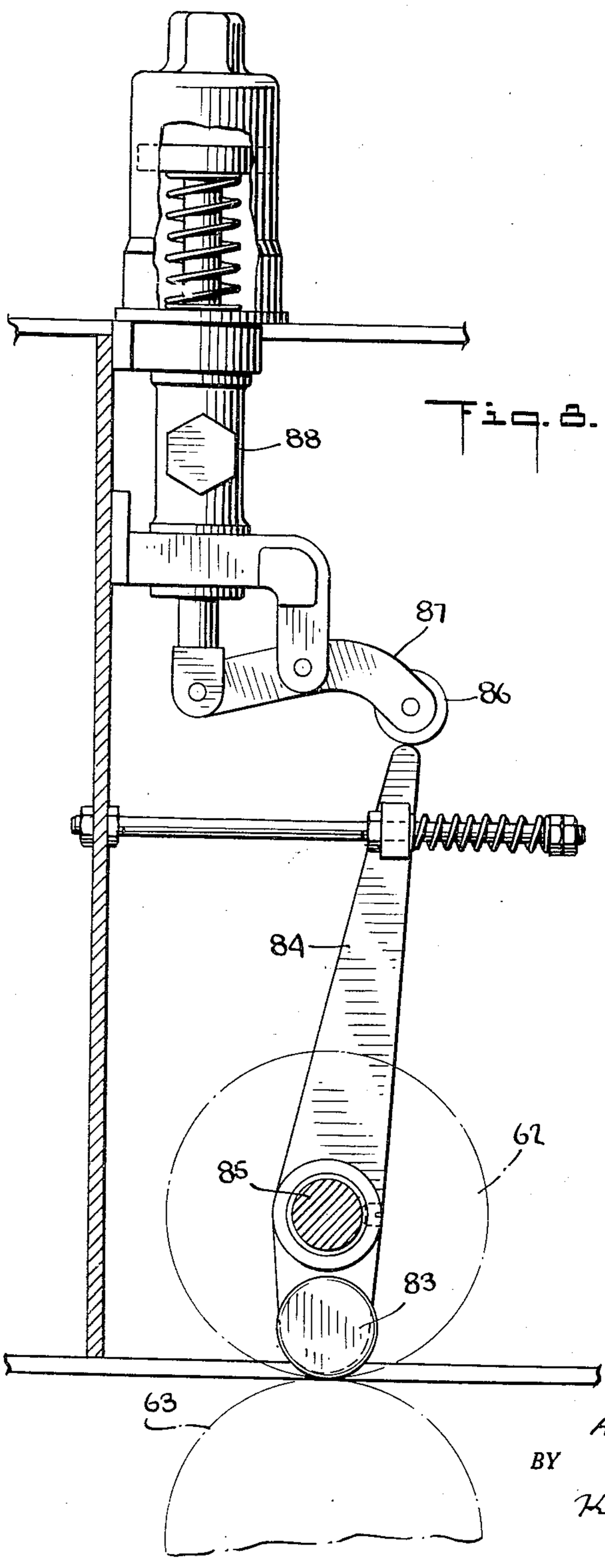

Fig. 8.

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United States Patent Office

2,994,998

Patented Aug. 8, 1961

2,994,998

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 bundled 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

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 **40***a*. 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 **40***a*, 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 wrapped 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 **58***a*. The self-compensating feed mechanism **58***a* is made up of a table **59** on which the wrappers **58** are stacked, a rack **58***b* which is rigidly attached to table **59** and a pinion gear **58***c*. Pinion gear **58***c* is operated by a single revolution clutch (not shown) which also drives the top wrapper feed mechanism **60**. Hand wheel **58***d* 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 **58***c* is rotated by the single revolution clutch the rack **58***b* 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**

of the applier mechanism. Cam tracks **74** are attached to the lower arm components **66** as shown in FIG. 6 and initially contain roller **75***a* between them. Roller **75***a* is attached to the end of lever **75** by means of rotatable shaft **75***b*. 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 **75***a* which swings free of cam tracks **74**. Linkage arms **75***c*, whose lower ends are coupled to the bottom plate **76** are also attached to shaft **75***b*. Therefore when lever **75** is rotated by the movement of roller **75***a*, effected by cam track **74** as the applier arms **66** move downwardly, the linkage arms **75***c* 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 **79***a* and are adapted to be rotated in clockwise direction against a seat **79***b*, the wrapper edge being clamped between the fingers and the seat. The shaft **79***a* is rotated by a lever **79***c* 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 **79***a* and thus the rotation of grippers **79** into contact with seat **79***b*. 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 **79***a* and hence the removal of the gripper **79** from seat **79***b*. This is accomplished by a link arm **80***a* which is pivotally mounted on a shaft **80***b* on which the rollers **80** are mounted. Shaft **80***b* is free to move in a limited vertical direction. The link arm **80***a* is pivoted at **80***c* and as such the upward movement of the rollers **80** and hence shaft **80***b* cause a movement of the end **80***d* of the link arm **80***a* upwardly. The end **80***d* of link arm **80***a* is rotatably attached to lever **79***c*. Therefore the pivotal movement of link arm **80***a* causes the counterclockwise rotation of shaft **79***a* and hence the removal of the grippers **79** from seat **79***b*. 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 **75***a* 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 preaddressed 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

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 applier 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 precut 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 positon 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 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 applier 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 actached 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 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 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 precut top wrapper, said drawing and cutting means being actuated by said trip means on said conveyor.

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