United States Patent

Degelleke et al.

[15] **3,682,031**

[45] **Aug. 8, 1972**

[54] **REWINDING APPARATUS**

[72] Inventors: **Gerrit Degelleke,** Parsippany; **Robert E. Bush,** Morris Plains, both of N.J.

[73] Assignee: **Midland-Ross Corporation,** Cleveland, Ohio

[22] Filed: **June 29, 1970**

[21] Appl. No.: **50,784**

[52] **U.S. Cl.** **83/433,** 83/481, 83/505, 83/700, 242/56.2

[51] **Int. Cl.** **B26d 1/10**

[58] **Field of Search**.....83/425, 433, 434, 481, 491, 83/509, 505, 700; 242/56.2, 56.4, 56.5, 56.7

[56] **References Cited**

UNITED STATES PATENTS

3,441,232	4/1969	Diebold et al.	83/433 X
1,996,176	4/1935	Smith	83/509
2,224,070	12/1940	Walter	83/433
2,728,393	12/1955	Brooks	83/434 X
2,282,909	5/1942	Thiersch et al.	242/56.4

Primary Examiner—Donald R. Schran
Assistant Examiner—James F. Coan
Attorney—Ward, McElhannon, Brooks & Fitzpatrick

[57] **ABSTRACT**

This invention relates to rewind machines having a main frame, a web supply roll, rewind roll means, a horizontal slideway, a backup roll and a plurality of slitting assemblies adjustably mounted on the slideway adjacent the backup roll, each of the slitting assemblies being characterized by a cutting element, apparatus for adjusting the vertical position of the cutting element, vernier apparatus for adjusting the lateral position of the cutting element and apparatus for oscillating the cutting element.

14 Claims, 8 Drawing Figures

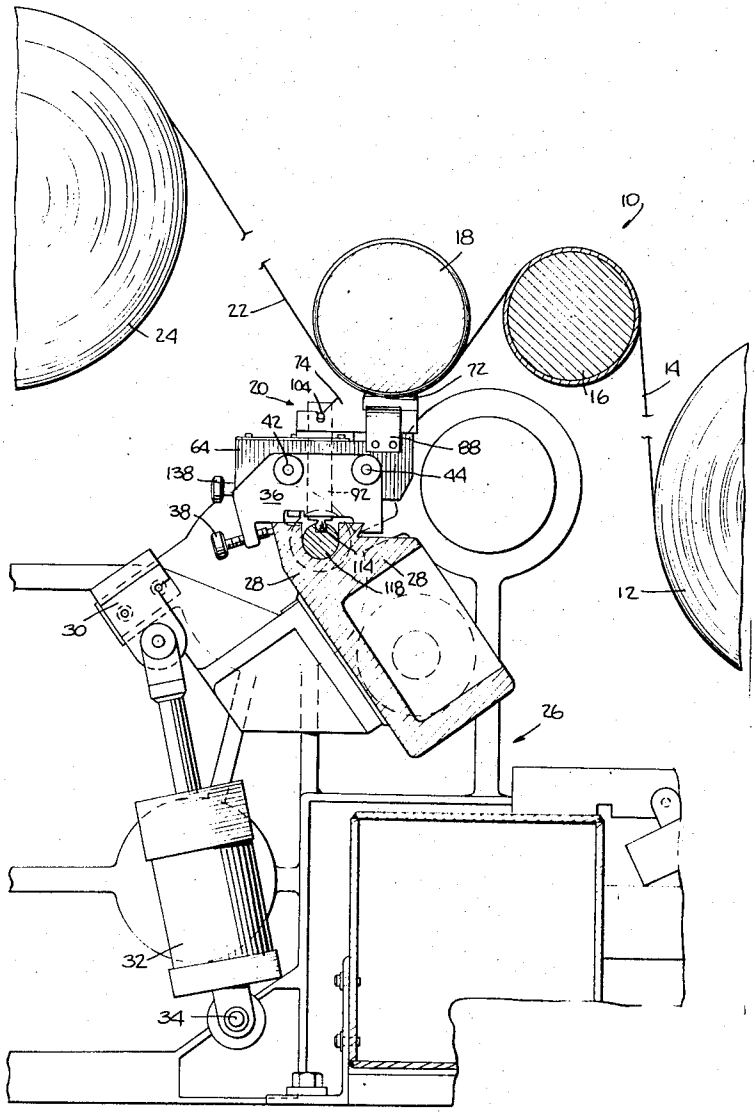
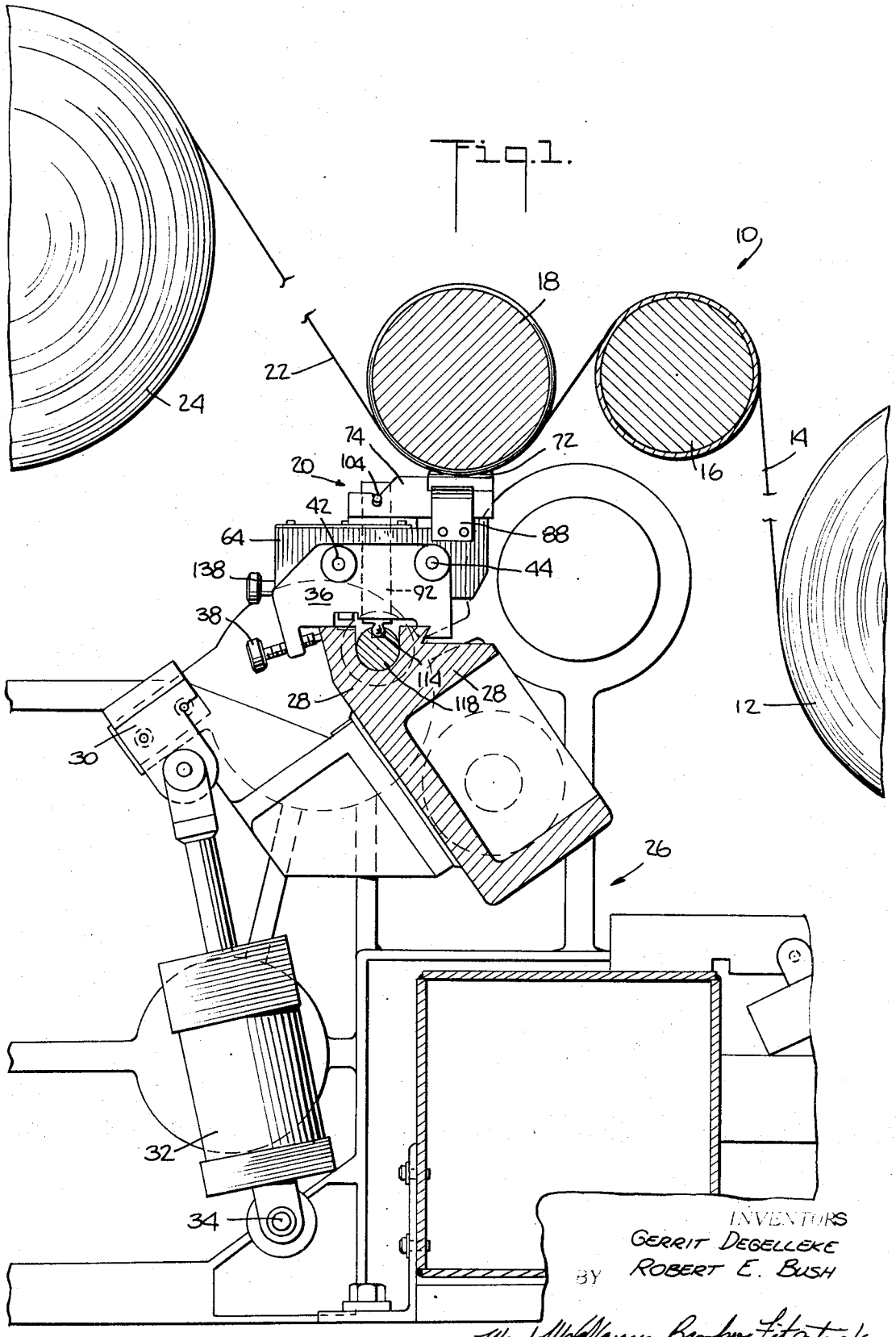
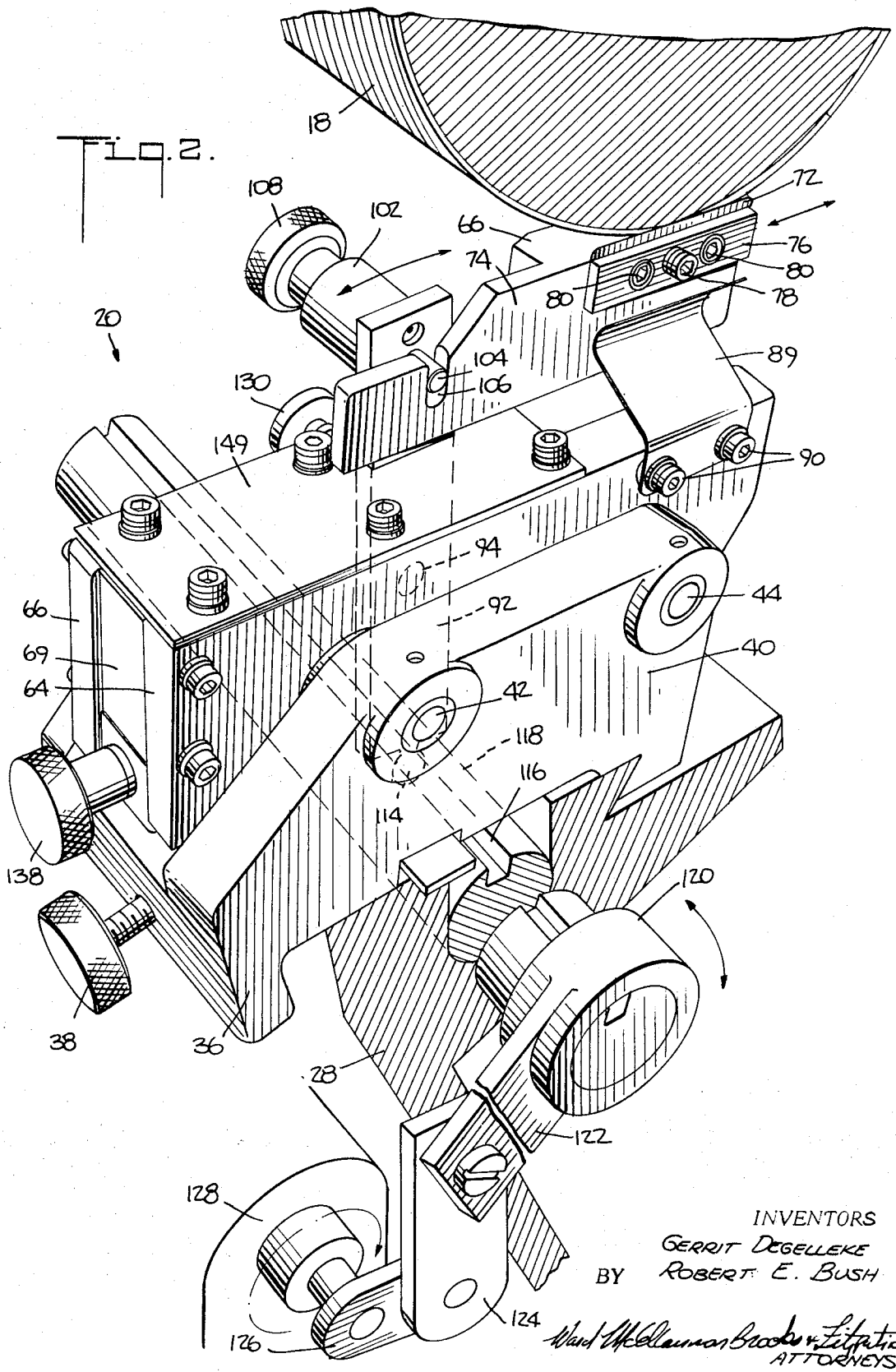


Fig. 1.



INVENTORS
GERRIT DEGELLEKE
ROBERT E. BUSH
BY
Ward McNamara Brooks Fitzpatrick
ATTORNEYS

Fig. 2.



INVENTORS
GERRIT DEGELLEKE
ROBERT E. BUSH
BY
Ward McElhannon Brooks & Fitzpatrick
ATTORNEYS

Fig. 3.

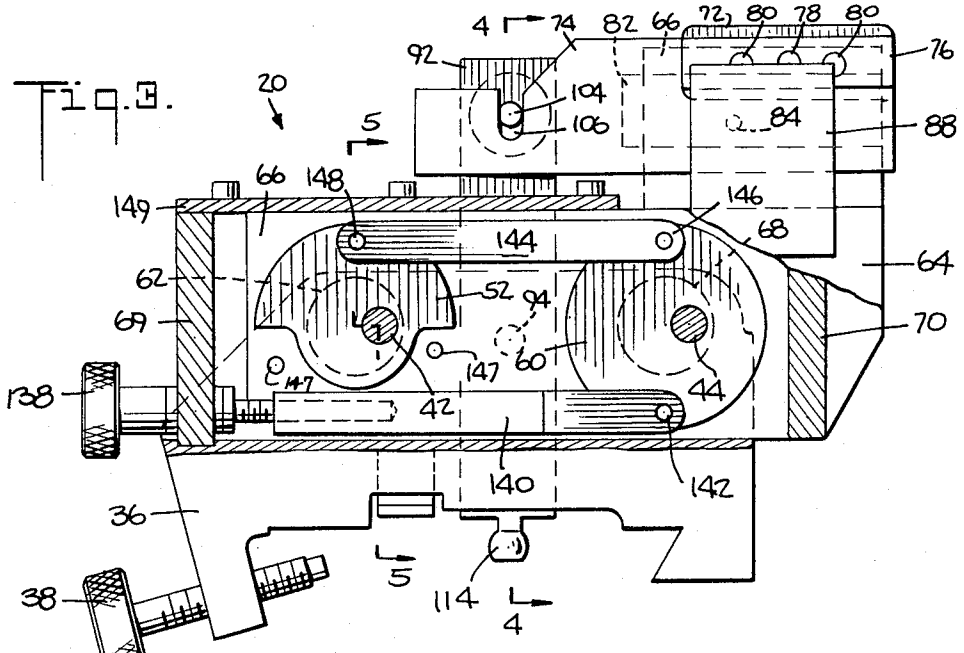


Fig. 4.

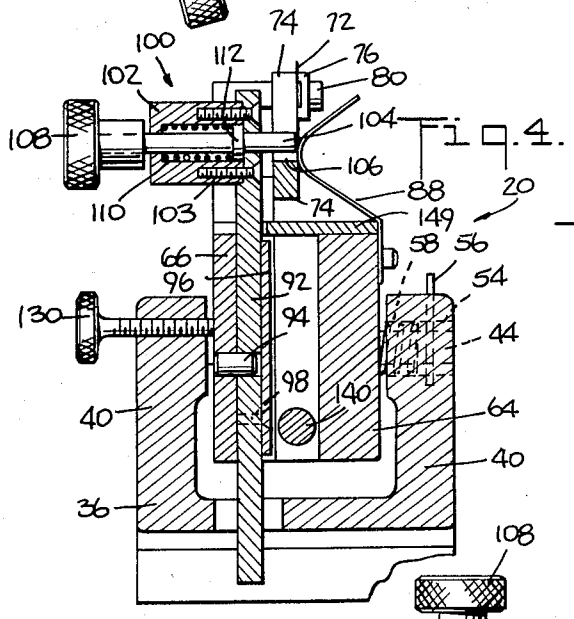


Fig. 5.

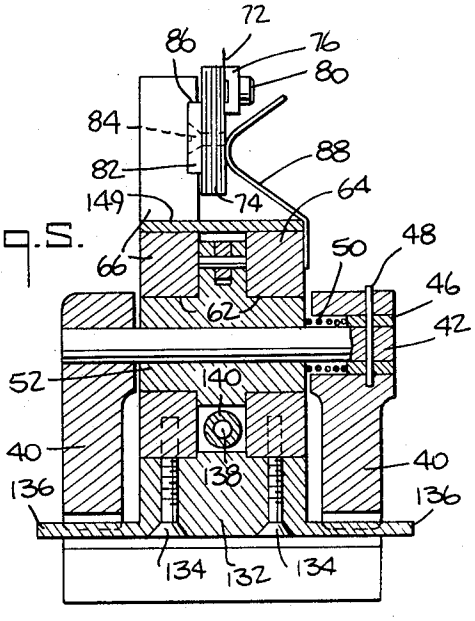
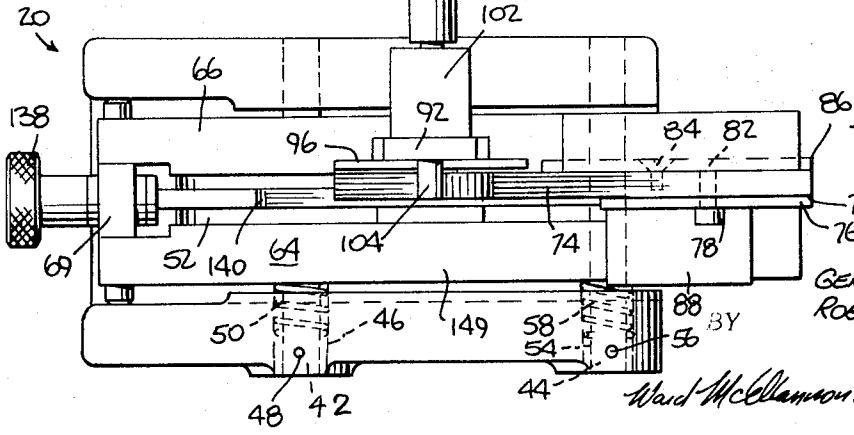
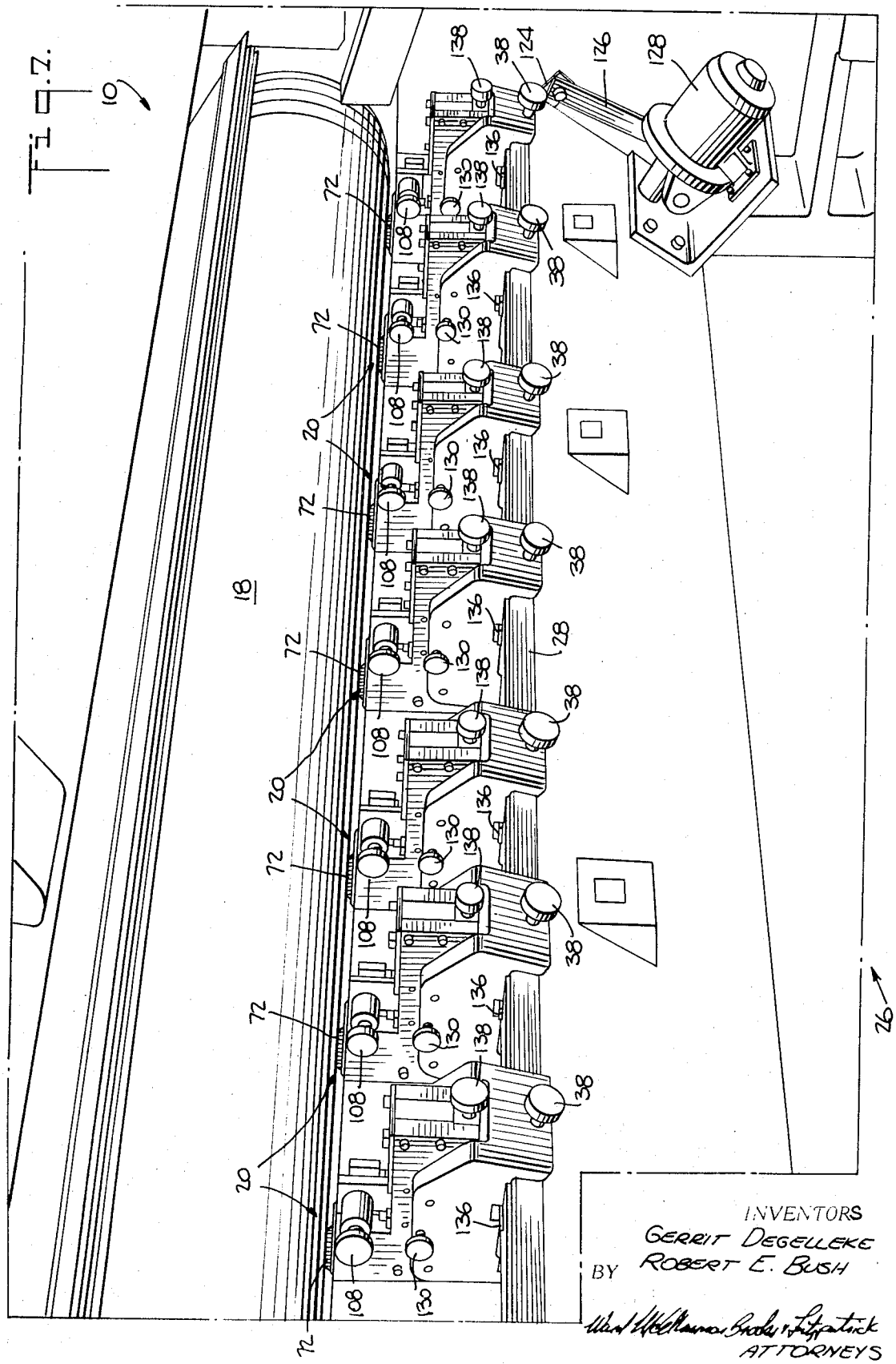


Fig. 6.



INVENTORS
GERRIT DEGELLEKE
ROBERT E. BUSH
BY
Ward McElhannon Brooks & Fitzpatrick
ATTORNEYS

FIG. 7.



INVENTORS
GERRIT DEGELLEKE
ROBERT E. BUSH
BY
Mann McNamara Brady & Fitzpatrick
ATTORNEYS

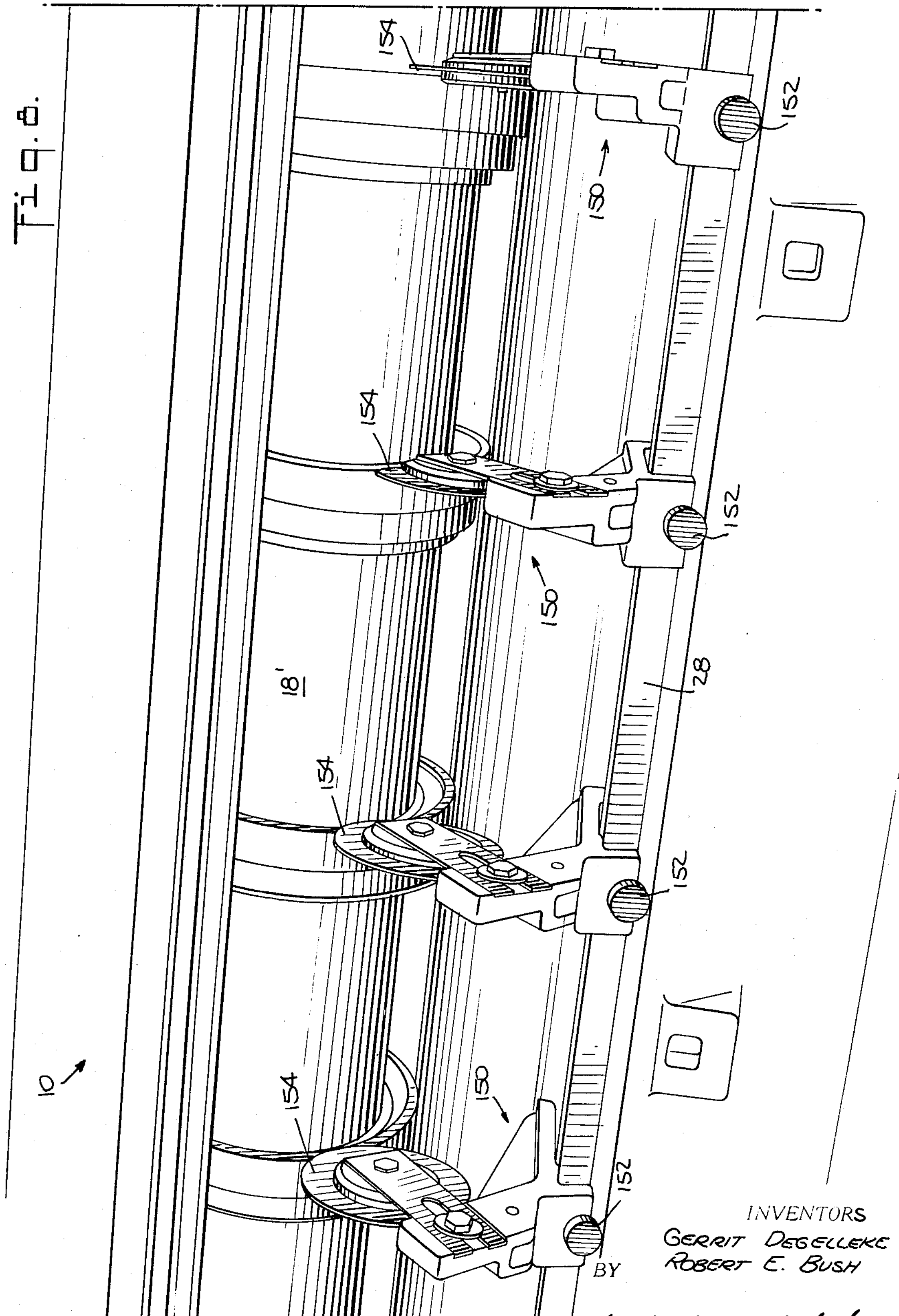


Fig. 8

INVENTORS
GERRIT DEGELLEKE
ROBERT E. BUSH

BY

Ward McElhannon Brooks Fitzpatrick
ATTORNEYS

REWINDING APPARATUS

This invention relates to improvements in slitting and rewind machines adapted to handle flexible sheet material. The invention relates more especially to the slitting mechanisms especially adapted for use with such machines.

In slitting and rewinding machines, a relatively wide web of flexible sheet material is received from a mill supply roll and continuously passed partially around a constant speed backup roll against which a plurality of spaced slitters operate to cut the web to the desired rewind width. Then, these cut widths pass to rewind rolls for winding thereon.

It is desirable to be able to operate a rewind machine with either razor slitters or with shear slitters, depending upon the particular process required at the time. Heretofore, the accepted practice was to oscillate the entire cutter bar, which entailed a separate cutter bar for razor cutters and a separate cutter bar for shear cutters. It was difficult and time-consuming to change from one setup to the other setup. Also, the resulting oscillation tended to be inaccurate with respect to the cutting groove, thereby causing irregular cutting. Moreover, it was difficult and time-consuming to change the slitting blade element.

The present invention involves a novel combination of features combined in such a way as to afford a very efficient solution to the difficulties encountered with the prior art, as will become apparent as the description proceeds.

In order to accomplish the desired results, we provide in combination with a rewind machine having a main frame, a web supply roll, rewind roll means, and a horizontal slideway mounted on the main frame and a grooved backup roll, a plurality of slitting assemblies which are adjustably mounted on the slideway adjacent the backup roll. Each of the slitting assemblies incorporates cutting means for longitudinally slitting a web. Means are provided for adjusting the vertical position of the cutting means, and vernier means are provided for making fine adjustments to the lateral position of the cutting means. Further, means are provided for oscillating the cutting means.

In one form of the invention we provide a slitting assembly which includes a bracket having upstanding side walls. A front eccentric hub pivot pin and a rear eccentric hub pivot pin are mounted on the side walls. A front eccentric hub is eccentrically mounted on the front pivot pin and the rear eccentric hub pivot pin is eccentrically mounted on the rear pivot pin. Plate means are mounted on the eccentric hub. A razor blade holder plate and a razor blade clamp plate serve to mount a razor blade therebetween, and a razor oscillating guide plate is fixedly attached to the razor blade holder plate. A spring serves to resiliently hold said razor blade holder against the plate means, and a vertically extending oscillating actuating plate is pivotally mounted on the plate means and carries a protruding locking pin. The razor blade holder plate has a vertically extending slot for receiving said locking pin and means are provided for oscillating the oscillating actuating plate. A lateral adjusting screw is mounted on one side of the bracket to engage the plate means, and a spring is mounted on the other side of the bracket for urging the plate means towards the lateral adjusting screw. An indicator block is mounted on the plate means and is provided with indicator projections disposed directly adjacent the horizontal slideway for indicating the position of the razor blade with respect to the slideway. In addition, a vertical adjusting screw is provided which is attached to a vertical adjusting screw link bar, the other end of the bar being pivotally connected to the rear eccentric hub. A hub link plate has one end connected to the rear eccentric hub and has the other end thereof connected to the front eccentric hub so that movement of the vertical adjusting screw lowers or raises the plate means and thereby lowers or raises the razor blade, as desired.

There has thus been outlined rather broadly the more important features of the invention in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are, of course, additional features of the invention that will be described hereinafter which will form the subject of the claims appended hereto. Those skilled in the art will appreciate that the conception on which this disclosure is based may readily be utilized as the basis for the designing of other structures for carrying out the several purposes of the invention. It is important, therefore, that this disclosure be regarded as including such equivalent constructions as do not depart from the spirit and scope of the invention.

One embodiment of the invention has been chosen for purposes of illustration and description, and is shown in the accompanying drawings, forming a part of the specification, wherein:

FIG. **1** is a side elevation of a rewind machine having a slitting mechanism constructed according to the concept of this invention;

FIG. **2** is an enlarged perspective view of the slitting mechanism;

FIG. **3** is an enlarged side elevation, partially in section, of the slitting mechanism;

FIG. **4** is an enlarged sectional view taken along the line indicated at **4—4** in FIG. **3**;

FIG. **5** is an enlarged sectional view taken along the line indicated at **5—5** in FIG. **3**, and with the oscillating means removed;

FIG. **6** is an enlarged plan view of the slitting mechanism;

FIG. **7** is a perspective view of a plurality of slitting mechanisms mounted on a rewind machine; and

FIG. **8** is a perspective view of a plurality of shear cutter wheels mounted on a rewind machine.

Referring more particularly to FIG. **1**, a slitting and rewind machine, indicated generally at **10**, includes a mill or supply roll **12** from which web **14** of flexible sheet material is continuously unwound and passed partially around a series of rolls, not shown, to a driven feed roll **16**, and thence to a driven grooved backup roll **18** having a plurality of spaced grooves **19**, FIG. **2**, against which a plurality of slitting assemblies, indicated generally at **20**, FIG. **1**, cut the web into a plurality of elongated longitudinal strips or sub-webs **22** which are rewound on a rewind roll **24**. The rewind machine further comprises a main frame, indicated generally at **26**, upon which a horizontal slideway or dovetail bar **28** is mounted for pivotal movement as by means of a bracket **30** to which is attached a pneumatic piston and cylinder assembly **32** which has the other

end thereof pivotally attached to the main frame, as at **34**. Accordingly, pneumatic cylinder and piston assembly serves to control the movement of the horizontal slideway **28**, and the slitting assembly **20** and, thereby, controls the cutting position.

As best seen in FIGS. **2** and **3**, the slitting assembly **20** comprises a bracket **36** which is longitudinally slidably mounted on the slideway **28**. Set screws **38** are provided to secure the slitting assembly **20** to the slideway at preselected distances apart. The bracket **36**, as seen in FIGS. **4** and **5**, is of generally U-shaped configuration. It has upstanding side walls **40** which support a front eccentric hub pivot pin **42**, FIG. **5**, and a rear eccentric hub pivot pin **44**, FIG. **4**. The front eccentric hub pivot pin is mounted in a bushing **46**, FIG. **5**, and is retained in position by means of a roll pin **48**. A spring **50**, acting against the bushing **46**, serves to axially position a front eccentric hub **25**. The rear eccentric hub pivot pin **44**, FIG. **5**, is mounted in a bushing **54** and is retained in position by means of a roll pin **56**. A spring **58**, acting against the bushing **54**, serves to axially position a rear eccentric hub **60**. The front eccentric hub **52**, FIG. **5**, is provided with hub shoulders **62** which support a right-hand plate **64** and a left-hand plate **66**. The rear eccentric hub **60**, FIG. **3**, is also provided with hub shoulders **68**, FIG. **3**, which act in the same manner as hub shoulders **62**. The right-hand plate **64** and the left-hand plate **66** are retained in their spaced relationship by means of a front spacer block **69**, FIG. **3**, and a rear spacer block **70**.

Referring to FIGS. **2**, **3** and **6**, a razor blade or cutting member **72** is mounted against a razor blade holder plate **74**, as by means of a razor blade clamp plate **76** and a screw **78**, razor blade locating pins **80** serving to center and locate the blade.

A razor oscillating guide plate **82**, FIGS. **3** and **6**, is fixedly attached to the razor blade holder plate by means of screws **84**, one being shown. As best seen in FIG. **5**, the razor oscillating guide plate **82** is mounted in a horizontally extending recess **86** for reciprocating sliding movement, and a spring **88** is fixedly attached to the right-hand plate **64** as by means of screws **90** to urge the razor blade holder plate **74**, FIG. **5**, and hence the razor oscillating guide plate towards the left-hand plate **66**. That is, in effect, the razor blade is resiliently secured between the right-hand plate and the left-hand plate, but is free for reciprocating horizontal motion with respect thereto.

The horizontal reciprocating motion of the razor blade **72** is supplied by means of an oscillating actuating plate **92**, FIG. **4**, pivotally mounted on the left-hand plate **66**, as by means of a pivot pin **94**. A retaining plate **96** is fixedly attached to the oscillating actuating plate **92**, as by means of a flat head screw **98** provided for the purpose. The oscillating actuating plate **92** oscillates the razor blade holder plate **74** by means of a locking pin assembly indicated generally at **100**, which comprises a spring retaining housing **102** fixedly attached to the oscillating actuating plate **92** by means of screws **103**. A locking pin **104** is mounted in the housing **102** and one end thereof extends outwardly into a vertical slot **106**, FIG. **3**, in the razor blade holder plate **74** for reciprocating same when the plate **92** is oscillated. The other end of the locking pin **104** carries a handle **108**, FIG. **4**. A spring **110** acts between the housing **102** and a shoulder **112** on the locking pin **104**, thereby to urge the locking pin into the slot **106** in the plate **74**. When it is desired to move the pin **104** from the slot **106** for purposes of replacing the razor blade, the handle **108** is moved to the left, as viewed in FIG. **4**, while the spring **110** is being compressed. Release of the handle **108** allows the spring to re-engage the pin in the slot **106**. As best seen in FIG. **2** the bottom of the oscillating actuating plate **92** is provided with a knob **114** which fits into a slot **116** in a transverse oscillating shaft **118**. That is, the transverse oscillating shaft **118** extends across the machine and the knob **114** of each slitting assembly is thereby oscillated. A collar **120** is fixedly attached to one end of the shaft **118** and an arm **122** extends therefrom. A pair of links **124** and **126** mechanically link the shaft **118** to an electric motor **128** so that rotation of the motor serves to oscillate the shaft and, thereby, oscillates the razor blades **72** carried by each slitting assembly **20**.

Referring to FIG. **4**, an adjusting screw **130** is threadedly mounted on the upstanding side walls **40** of the bracket **36** to engage the left-hand plate **66** thereby to laterally adjust the position of the razor blade **80**. This, in effect, acts as a lateral vernier adjustment. That is, because the razor blade is fixedly mounted with respect to the right-hand plate **64** and the left-hand plate **66**, lateral adjustment of the plates serves to laterally adjust the razor blade. As seen in FIG. **5**, the right-hand plate **64** and the left-hand plate **66** are fixed with respect to each other by means of a slit strip width indicator block **132** which is fixedly attached to both plates by means of screws **134**, provided for the purpose. Accordingly, springs **50** resiliently urge the right-hand and hence the left-hand plate from right to left as viewed in FIG. **4** and the adjusting screw **130** serves as a variable stop to such movement thereby retaining the nozzle blade in its desired position. Referring to FIG. **5**, the indicator block **132** is provided with indicator projections **136** which accurately indicate the exact position of the razor blade so that the width of the slit strips or webs can be measured directly adjacent the horizontal slideway **28**, FIG. **7**.

Referring to FIG. **3**, vertical adjustment of the razor blade is made by means of a vertical adjusting screw **138** which passes through the front spacer block **68** and is fixedly connected to one end of a vertical adjusting screw link bar **140**. The other end of the link bar is pivotally connected to the rear eccentric hub **60** as by means of a roll pin **142**. One end of an eccentric hub link plate **144** is pivotally connected to the rear eccentric hub **60** by roll pin **146** and the other end of the plate **144** is pivotally connected to the front eccentric hub **52** by a roll pin **148** whereby movement of the adjusting screw **138** lowers or raises the right-hand plate and the left-hand plate due to the mounting thereof on an eccentric hubs. That is, the right-hand and left-hand plates are mounted on the eccentric hubs and the hubs are eccentrically mounted on the upstanding side walls **40** of the bracket **36**. Because the razor blade is fixedly mounted with respect to the right-hand and left-hand plates, as discussed more fully hereinbefore, the razor blade is vertically positionable by movement of the vertical adjusting screw **138**. As seen in FIG. **3**, vertical adjustment stop pins **147** mounted between the left-hand and right-hand plates serve to limit the travel of the

front eccentric hub **52**, thereby limiting the upward and downward movement of the razor blade. As best seen in FIGS. **2–4**, the slitting assembly **20** is provided with a cover plate **149** for enclosing the assembly and adding rigidity thereto.

It will be appreciated that according to one aspect of this invention the slitting assembly may be readily removed and replaced by a shear cutter assembly, indicated generally at **150**, FIG. **8**. That is, the slitting assemblies **20**, FIG. **7**, may be removed from the horizontal slideway **28** by means of loosening the set screws **38**, and the shear cutter assembly **150**, FIG. **8**, may be positioned and secured to the slideway **28** by means of set screws **152** so that the cutter rolls **154** are positioned adjacent a backup roll **18'**, thereby providing a simple and fast changeover operation as compared to prior art such machines.

It will thus be seen that the present invention does indeed provide an improved rewind machine which is superior in simplicity, accuracy and efficiency as compared to prior art such devices.

Although a certain particular embodiment of the invention is herein disclosed for purposes of explanation, various modifications thereof, after study of this specification, will be apparent to those skilled in the art to which the invention pertains.

What is claimed and desired to be secured by Letters Patent is:

1. In a rewind machine having a main frame, a web supply roll, rewind roll means, a horizontal slideway mounted on said main frame, a backup roll, the combination comprising a plurality of slitting assemblies being adjustably mounted on said slideway adjacent said backup roll, each of said slitting assemblies having cutting means, means for adjusting the vertical position of said cutting means, vernier means for adjusting the lateral position of said cutting means, and means for reciprocating said cutting means in linear motion during operation.

2. In a rewind machine having a main frame, a web supply roll, rewind roll means, a horizontal slideway mounted on said main frame, a backup roll, the combination comprising a plurality of slitting assemblies adjustably mounted on said slideway adjacent said backup roll, each of said slitting assemblies including a bracket, a front eccentric hub pivot pin mounted on said bracket and a rear eccentric hub pivot pin mounted on said bracket, a front eccentric hub eccentrically mounted on said front eccentric hub pivot pin and a rear eccentric hub eccentrically mounted on said rear eccentric hub pivot pin, plate means mounted on said eccentric hubs, a razor blade mounted on said plate means, a vertical adjusting screw, a vertical adjusting screw link bar having one end connected to said vertical adjusting screw and the other end pivotally connected to said rear eccentric hub, a hub link plate having one end connected to said rear eccentric hub and having the other end connected to said front eccentric hub, movement of said vertical adjusting screw lowers or raises said plate means, thereby lowering or raising said razor blade.

3. Apparatus according to claim **2** further comprising a lateral adjusting screw mounted on said bracket to engage said plate means for laterally adjusting the position of said razor blade.

4. Apparatus according to claim **2** further comprising a fluid piston and cylinder assembly interposed between said slideway and said main frame to control pivotal movement of said slideway.

5. In a rewind machine having a main frame, a web supply roll, rewind roll means, a horizontal slideway mounted on said main frame, a backup roll, the combination comprising a plurality of slitting assemblies being adjustably mounted on said slideway adjacent said backup roll, each of said slitting assemblies including a bracket, a front eccentric hub pivot pin mounted on said bracket and a rear eccentric hub pivot pin mounted on said bracket, a front eccentric hub eccentrically mounted on said front eccentric hub pivot pin and a rear eccentric hub eccentrically mounted on said rear eccentric hub pivot pin, a right-hand plate mounted on said eccentric hubs and a spaced left-hand plate mounted on said eccentric hubs, a razor blade, means mounting said razor blade between said plates, a lateral adjusting screw mounted on one side of said bracket to engage said left-hand plate, a slit strip width indicator block fixedly interconnecting said left-hand plate to said right-hand plate, spring means mounted on the other side of said bracket for urging said plates toward said lateral adjusting screw, said indicator block having indicator projections disposed directly adjacent said horizontal slideway for indicating the position of said razor blade with respect to said slideway, a vertical adjusting screw passing through said front spacer block, a vertical adjusting screw link bar having one end connected to said vertical adjusting screw and the other end pivotally connected to said rear eccentric hub, a hub link plate having one end connected to said rear eccentric hub and having the other end connected to said front eccentric hub, movement of said vertical adjusting screw lowers or raises said right-hand and left-hand plates, thereby lowering or raising said razor blade.

6. In a rewind machine having a main frame, a web supply roll, rewind roll means, a horizontal slideway mounted on said main frame, a backup roll, the combination comprising a plurality of slitting assemblies being adjustably mounted on said slideway adjacent said backup roll, each of said slitting assemblies including a bracket, a front eccentric hub pivot pin mounted on said bracket and a rear eccentric hub pivot pin mounted on said bracket, a front eccentric hub eccentrically mounted on said front eccentric hub pivot pin and a rear eccentric hub eccentrically mounted on said rear eccentric hub pivot pin, a right-hand plate mounted on said eccentric hubs and a spaced left-hand plate mounted on said eccentric hubs, a razor blade, means mounting said razor blade between said plates, a vertically extending oscillating actuating plate pivotally mounted on said left-hand plate, means connecting said oscillating actuating plate to said means mounting said razor blade, a transversely extending oscillating shaft having a longitudinally extending slot, the bottom of said oscillating actuating plate having a knob fitable in said longitudinal extending slot, means for reciprocating said oscillating shaft, a vertical adjusting screw, a vertical adjusting screw link bar having one end connected to said vertical adjusting screw and the other end pivotally connected to said rear eccentric hub, a hub link plate having one ed connected to said rear ec-

centric hub and having the other end connected to said front eccentric hub, movement of said vertical adjusting screw lowers or raises said right-hand and left-hand plates, thereby lowering or raising said razor blade.

7. In a rewind machine having a main frame, a web supply roll, rewind roll means, a horizontal slideway mounted on said main frame, a backup roll, the combination comprising a plurality of slitting assemblies being adjustably mounted on said slideway adjacent said backup roll, each of said slitting assemblies including a bracket, a front eccentric hub pivot pin mounted on said bracket and a rear eccentric hub pivot pin mounted on said bracket, a front eccentric hub eccentrically mounted on said front eccentric hub pivot pin and a rear eccentric hub eccentrically mounted on said rear eccentric hub pivot pin, plate means mounted on said eccentric hubs, a razor blade, means mounting said razor blade on said plate means, a vertically extending oscillating actuating plate pivotally mounted on said plate means, means connecting said oscillating actuating plate to said means mounting said razor blade, a transversely extending oscillating shaft having a longitudinally extending slot, the bottom of said oscillating actuating plate having a knob fitable in said longitudinal extending slot, means for reciprocating said oscillating shaft, a lateral adjusting screw mounted on one side of said bracket to engage said plate means for laterally adjusting the position of said razor blade.

8. Apparatus according to claim 7 further comprising an indicator block mounted on said plate means and having indicator projections disposed directly adjacent said horizontal slideway for indicating the position of said razor blade with respect to said slideway.

9. In a rewind machine having a main frame, a web supply roll, rewind roll means, a horizontal slideway mounted on said main frame, a backup roll, the combination comprising a plurality of slitting assemblies being adjustably mounted on said slideway adjacent said backup roll, each of said slitting assemblies including a bracket, plate means mounted on said bracket, a razor blade, means mounting said razor blade on said plate means, a vertically extending oscillating actuating plate pivotally mounted on said plate means, a retaining plate fixedly attached to said oscillating actuating plate, said means mounting said razor blade having a vertically extending slot, a locking pin engageable in said slot, a housing fixedly attached to said oscillating actuating plate, said locking pin having a knob at the outside end thereof for removing said pin from said slot, spring means mounted in said housing for urging said pin into said slot, a transversely extending oscillating shaft having a longitudinally extending slot, the bottom of said oscillating actuating plate having a knob fitable in said longitudinal extending slot and means for reciprocating said oscillating shaft.

10. A slitting assembly comprising a bracket having upstanding side walls, a front eccentric hub pivot pin mounted on said side walls and a rear eccentric hub pivot pin mounted on said side walls, a front eccentric hub eccentrically mounted on said front eccentric hub pivot pin and a rear eccentric hub eccentrically mounted on said rear eccentric hub pivot pin, a right-hand plate mounted on said eccentric hubs and a spaced left-hand plate mounted on said eccentric hubs, a razor blade holder plate, a razor blade clamp plate, a razor blade mounted between said razor blade holder plate and said razor blade clamp plate, a razor oscillating guide plate fixedly attached to said razor blade holder plate, said left-hand plate having a recess for receiving said razor oscillating guide plate for reciprocating sliding movement, a spring fixedly attached to said right-hand plate and resiliently engageable with said razor blade holder plate to urge said razor blade holder plate towards said left-hand plate, a vertically extending oscillating actuating plate pivotally mounted on said left-hand plate, said razor blade holder plate having a vertically extending slot, a locking pin engageable in said slot, means mounting said locking pin on said oscillating actuating plate, means for oscillating said oscillating actuating plate, a lateral adjusting screw mounted on one of said upstanding side walls to engage said left-hand plate, a slit strip width indicator block fixedly interconnecting said left-hand plate to said right-hand plate, spring means mounted on the other of said upstanding walls for urging said plates toward said lateral adjusting screw, said indicator block having indicator projections disposed directly adjacent said horizontal slideway for indicating the position of said razor blade with respect to said slideway, a vertical adjusting screw, a vertical adjusting screw link bar having one end connected to said vertical adjusting screw and the other end pivotally connected to said rear eccentric hub, a hub link plate having one end connected to said rear eccentric hub and having the other end connected to said front eccentric hub, movement of said vertical adjusting screw lowers or raises said right-hand and left-hand plates, thereby lowering or raising said razor blade.

11. In a rewind machine having a main frame, a web supply roll, rewind roll means, a horizontal slideway mounted on said main frame, a backup roll, the combination comprising a plurality of slitting assemblies being adjustably mounted on said slideway adjacent said backup roll, each of said slitting assemblies including a bracket having upstanding side walls, a front eccentric hub pivot pin mounted on said side walls and a rear eccentric hub pivot pin mounted on said side walls, a front eccentric hub eccentrically mounted on said front eccentric hub pivot pin and a rear eccentric hub eccentrically mounted on said rear eccentric hub pivot pin, a right-hand plate mounted on said eccentric hubs and a spaced left-hand plate mounted on said eccentric hubs, a razor blade holder plate, a razor blade clamp plate, a razor blade mounted between said razor blade holder plate and said razor blade clamp plate, a razor oscillating guide plate fixedly attached to said razor blade holder plate, said left-hand plate having a recess for receiving said razor oscillating guide plate for reciprocating sliding movement, a spring fixedly attached to said right-hand plate and resiliently engageable with said razor blade holder plate to urge said razor blade holder plate towards said left-hand plate, a vertically extending oscillating actuating plate pivotally mounted on said left-hand plate, said razor blade holder plate having a vertically extending slot, a locking pin engageable in said slot, a housing fixedly attached to said oscillating actuating plate, said locking pin having a knob at the outside end thereof for removing said pin from said slot, spring means mounted in said housing for urging said pin into said slot, a trans-

versely extending oscillating shaft having a longitudinally extending slot, the bottom of said oscillating actuating plate having a knob fitable in said longitudinal extending slot, a collar fixedly attached to said oscillating shaft, an electric motor, linkage means interconnecting said collar to said electric motor for reciprocating said oscillating shaft, a lateral adjusting screw mounted on one of said upstanding side walls to engage said left-hand plate, a slit strip width indicator block fixedly interconnecting said left-hand plate to said right-hand plate, spring means mounted on the other of said upstanding walls for urging said plates toward said lateral adjusting screw, said indicator block having indicator projections disposed directly adjacent said horizontal slideway for indicating the position of said razor blade with respect to said slideway, a vertical adjusting screw passing through said front spacer block, a vertical adjusting screw link bar having one end connected to said vertical adjusting screw and the other end pivotally connected to said rear eccentric hub, a hub link plate having one end connected to said front eccentric hub and having the other end connected to said front eccentric hub, movement of said vertical adjusting screw lowers or raises said right-hand and left-hand plates, thereby lowering or raising said razor blade.

12. In a rewind machine having a main frame, a web supply roll, rewind roll means, a horizontal slideway mounted for pivotal movement, a driven backup roll, the combination comprising a plurality of slitting assemblies being adjustably mounted on said slideway adjacent said backup roll, a fluid piston and cylinder assembly interposed between said slideway and said frame to control the pivotal movement of said slideway, each of said slitting assemblies including a bracket having upstanding side walls, a front eccentric hub pivot pin mounted on said side walls and a rear eccentric hub pivot pin mounted on said side walls, a front eccentric hub eccentrically mounted on said front eccentric hub pivot pin and a rear eccentric hub eccentrically mounted on said rear eccentric hub pivot pin, a right-hand plate mounted on said eccentric hubs and a spaced left-hand plate mounted on said eccentric hubs, a front spacer block interposed between said right-hand and left-hand plates and a rear spacer block interposed between said right-hand and left-hand plates, a razor blade holder plate, a razor blade clamp plate, a razor blade mounted between said razor blade holder plate and said razor blade clamp plate, a razor oscillating guide plate fixedly attached to said razor blade holder plate, said left-hand plate having a recess for receiving said razor oscillating guide plate for reciprocating sliding movement, a spring fixedly attached to said right-hand plate and resiliently engageable with said razor blade holder plate to urge said razor blade holder plate towards said left-hand plate, a vertically extending oscillating actuating plate pivotally mounted on said left-hand plate, a retaining plate fixedly attached to said oscillating actuating plate, said razor blade holder plate having a vertically extending slot, a locking pin engageable in said slot, a housing fixedly attached to said oscillating actuating plate, said locking pin having a knob at the outside end thereof for removing said pin from said slot, spring means mounted in said housing for urging said pin into said slot, a transversely extending oscillating shaft having a longitudinally extending slot, the bottom of said oscillating actuating plate having a knob fitable in said longitudinal extending slot, a collar fixedly attached to said oscillating shaft, an electric motor, linkage means interconnecting said collar to said electric motor for reciprocating said oscillating shaft, a lateral adjusting screw mounted on one of said upstanding side walls to engage said left-hand plate, a slit strip width indicator block fixedly interconnecting said left-hand plate to said right-hand plate, spring means mounted on the other of said upstanding walls for urging said plates toward said lateral adjusting screw, said indicator block having indicator projections disposed directly adjacent said horizontal slideway for indicating the position of said razor blade with respect to said slideway, a vertical adjusting screw passing through said front spacer block, a vertical adjusting screw link bar having one end connected to said vertical adjusting screw and the other end pivotally connected to said rear eccentric hub, a hub link plate having one end connected to said rear eccentric hub and having the other end connected to said front eccentric hub, movement of said vertical adjusting screw lowers or raises said right-hand and left-hand plates, thereby lowering or raising said razor blade.

13. Apparatus according to claim **7** wherein said means mounting said razor blade is constrained to move in linear reciprocating motion during operation of sad rewind machine.

14. Apparatus according to claim **9** wherein said means mounting said razor blade is constrained to move in linear reciprocating motion during operation of said rewind machine.

* * * * *

PO-1050
(5/69)

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,682,031 : Dated August 8, 1972

Inventor(s) GERRIT DEGELLEKE ET AL

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 2, line 54, "web 14" should be --a web 14--;

Column 3, line 2, "pneumatic cylinder" should be --a pneumatic cylinder--;

Column 3, line 18, "25" should be --52--;

Column 4, line 58, "an eccentric hubs" should be --on the eccentric hubs--;

Column 6, line 65, "ed" should be --end--.

Signed and sealed this 6th day of March 1973.

(SEAL)
Attest:

EDWARD M.FLETCHER,JR.
Attesting Officer

ROBERT GOTTSCHALK
Commissioner of Patents