June 4, 1957 J. L. MILLER 2,794,606

BUTT-END ROLL REWINDER

Filed Nov. 8, 1954

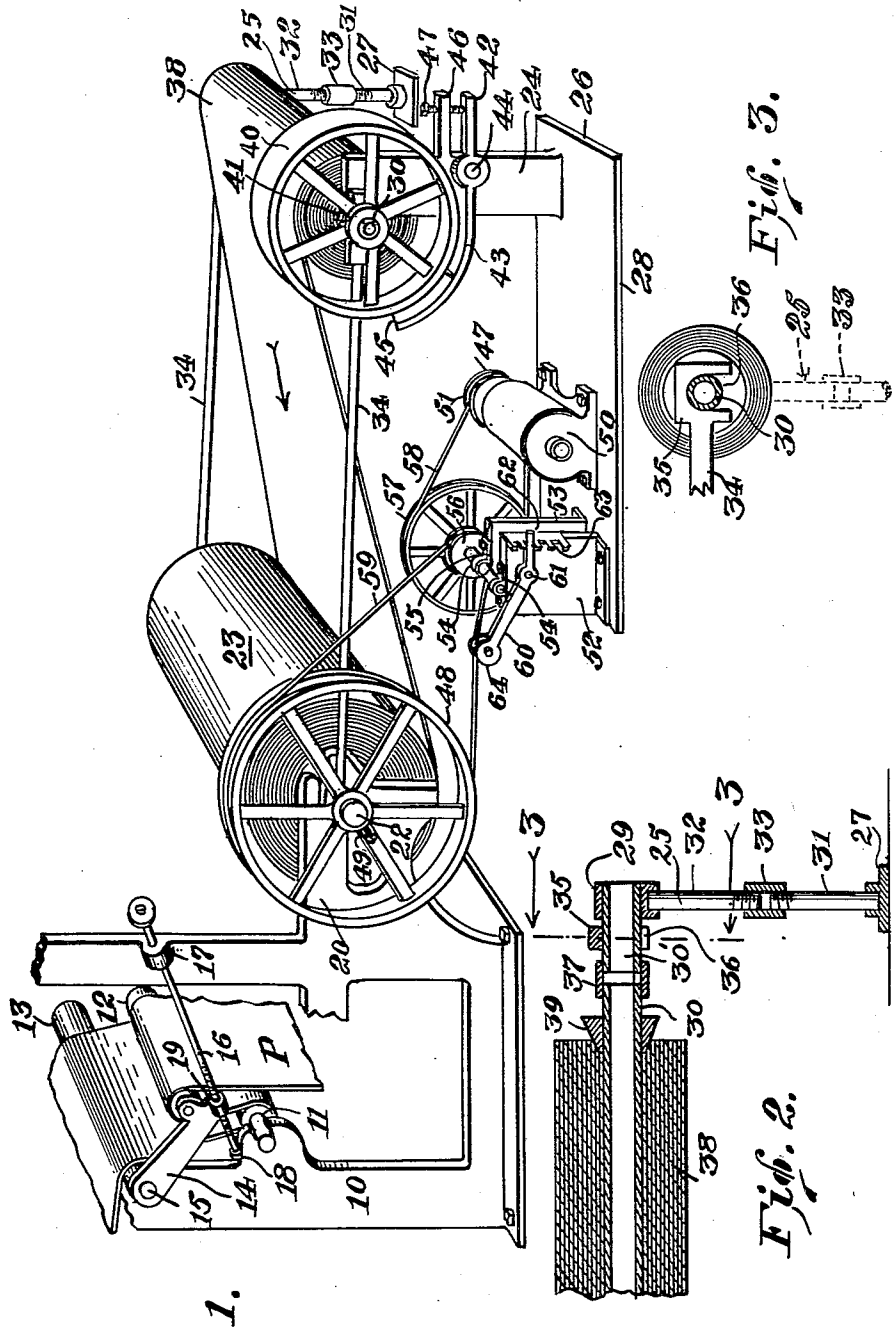


Fig. 1.

Fig. 3.

Fig. 2.

INVENTOR.
JAMES L. MILLER.
BY
Arthur M. Mason.
Attorney

United States Patent Office

2,794,606

Patented June 4, 1957

2,794,606

BUTT-END ROLL REWINDER

James Lambert Miller, Washington, Mo.

Application November 8, 1954, Serial No. 467,417

3 Claims. (Cl. 242—58)

This invention relates to a butt-end roll rewinder, and comprises an attachment for a flat bed newspaper press of the Goss or Duplex type whereby the newsprint paper on butt-end rolls may be salvaged, and paper waste may be avoided. Such butt-end rolls result from changes on the press. For example, after an 8-page run, wherein a 70-inch roll is used, some unused paper is left on the roll. If now a 6-page paper is to be printed, it is necessary to use a 56-inch roll. Since the 70-inch butt-end roll is not sufficient for a run on another 8-page paper, it is waste, as the time and labor required to set up the roll and thread the press is often more than the value of the paper remnant on the butt-end roll.

With the device of my invention, this waste may be eliminated. When a 70-inch roll is again to be used, the 70-inch butt-end roll may be spliced thereto and rewound thereon. In another phase of the invention, several butt-end rolls of the same length may be combined to form a supply sufficient for a run of the press.

An object of this invention is to salvage butt-end rolls remaining after a run of a flat bed newspaper press.

Another object is to provide an attachment to be used with flat bed presses whereby paper from butt-end rolls may be rewound onto a paper supply in the press.

An additional object of the invention is to provide an attachment for flat bed presses whereby the supply roll of the press is converted into a rewind roll for salvaging butt-end rolls.

These and other objects will be apparent from a consideration of the following specification taken in connection with the accompanying drawings forming a part thereof, and in which like reference characters indicate like parts throughout.

In the drawings:

Figure 1 is a perspective view showing the supply end of a flat bed press with my rewinder operatively associated therewith;

Figure 2 is a vertical section through a portion of a butt-end roll and one of its supporting stanchions; and

Figure 3 is a detail on line 3—3 of Figure 2, looking in the direction of the arrows.

Referring now to the drawings in detail, numeral **10** denotes a portion of the framework of a flat bed printing press of well-known type and forming no part of my present invention. This framework **10** supports the usual rollers **11**, **12**, and **13** over which the paper is fed into the press in known manner. Roll **12** is mounted on swinging bracket **14** (a like bracket being provided at the other end thereof) whereby the amount of wrap of paper about roll **11** may be adjusted. For this purpose, bracket **14** is pivoted on shaft **15** and is adjusted by screw **16** mounted in boss **17** and **18** and turning in nut **19** pivoted on bracket **14**. Since these are known parts of the press, no further description or details thereof is deemed necessary.

Paper P is threaded over the rolls above mentioned in the usual manner and passes between the bed and platten mechanism of the press.

Extending rearwardly from frame member **10** is a bracket **20** having a notch therein for supporting the mandrel **22** of a roll **23** of paper for supplying the press. Paper from roll **23** would, in normal operation of the press, be spliced to paper P on the press. The paper P, as shown, has previously been severed from a roll on stand **20**. However, it is shown in position for the practice of my invention.

At a suitable distance from the paper roll stand **20** are a pair of standards or stanchions **24** and **25** adapted to hold a butt-end roll. Standards **24** and **25** are suitably supported on the press room floor by means of bases **26** and **27**. Each standard is provided with a bearing as shown at **29** in Figure 2 to accommodate the mandrel **30**. Standard **25** is formed in two sections **31** with a right-hand thread, and section **32** with a left-hand thread, the sections being threaded into a suitable coupling nut **33**. When not in use, the attachment is readily removed from the rear of the press to suitable storage.

In order to insure parallelism of mandrels **22** and **30**, a pair of identical alignment bars **34** are provided. Each bar has a head **35** at either end, provided with a slot **36** which is adapted to embrace mandrel **22** or mandrel **30** as the case may be. The distance between the center lines of the slots **36** of each bar is the same. If the mandrel of any roll is too short for the space between standards **24** and **25**, a section **30'** may be attached by means of coupling **37**.

The butt-end roll is indicated by numeral **38** and is mounted on mandrel **30** by means of the usual cone centering blocks **39**.

A brake pulley **40** is adapted to be mounted on mandrel **30** by means of set screw **41**. A brake lever **43** is pivoted at **44** on standard **24** and is provided with a shoe **45** adapted to engage pulley **40**. A bracket **46** mounted on or integral with standard **24** extends parallel to the end of lever **42**. A screw **47** in this bracket is arranged to engage lever **42** and press the shoe **45** against drum **40** with pressure sufficient to impose desired tension on the paper being drawn from roll **38**. This pressure may be diminished from time to time as the roll **38** becomes smaller.

A pulley **48** is adapted to be secured to mandrel **22** by means of set screw **49**, to drive roll **23**. The driving mechanism comprises a motor **50** mounted on base **26** and having a pulley **51**. A pair of standards **52** and **53** mounted on base **26** each carries a pillow block **54** in which blocks there is mounted a shaft **55**. On shaft **55** are mounted two pulleys **56** and **57**. Belt **58** connects pulley **57** with motor pulley **51**, and belt **59** connects pulley **56** with pulley **48**. Pulleys **56**, **57** and belts **58**, **59** comprise a reducing gear for driving roll **23** at reduced speed by means of motor **50**.

In order to regulate the belt tension on belt **59**, a lever **60** is pivoted intermediate its ends on stand **52** by means of pivot pin **61**. A plate **62** having notches or dents **63** for engagement with one end of lever **60** is provided. The opposite end of lever **60** carries a pulley **64** adapted to bear against belt **59**. This arrangement constitutes a belt tightener to regulate the tension on belt **59**, and to permit slip in the drive as the diameter of roll **23** increases.

The operation of my attachment will now be described. The butt-end roll **38** is placed on standards **24**, **25** and alignment bars **34** are positioned over mandrels **22** and **30**. Paper from roll **38** is spliced to the paper on roll **23**. Assuming that pulleys **40** and **48** have been installed and brake shoe **45** has been given preliminary adjustment, motor **50** is started. As roll **23** rotates, the paper is re-

wound from roll **38**. Brake shoe **45** may be further adjusted to produce the desired winding of the paper. The alignment bars render the two rolls parallel in one plane. Nut **33** may be manipulated to adjust mandrel in a second plane to level same. When the paper on roll **38** has all been rewound, the press may be supplied by threading the paper now on roll **23** thereinto, or by splicing onto web P in the press. Furthermore, additional butt-end rolls of the same length as roll **38** may be placed in standards and the paper therefrom wound on roll **23** as just described. It is also possible to place a spare roll of any desired size in standards **24**, **25** and run it into the press without disturbing the roll **23** mounted on roll stand **20**. This may be done when it is desired to make a short run with paper different from that on roll **23**. This avoids the long delay incident to changing rolls and rethreading the press. Furthermore, a spare roll of the size running on the press may be placed on the attachment and spliced in as described for the use of a spare butt-end roll.

While any suitable reduction gearing may be used, that described above has been adopted as being cheaper to manufacture and install than many other types.

With a roll mounted on stands **24**, **25** in addition to the roll **23** on the press, upon exhaustion of roll **23**, the press may be stopped and in about five minutes the paper may be spliced and the press started. This avoids a delay of about forty minutes caused by the usual approximately forty-five minutes required for a complete roll change.

The publishers of a fairly large weekly newspaper estimate the saving of $400 to $500 per year at present paper prices by rewinding and salvaging paper by means of this invention.

The above description and drawings disclose a single embodiment of the invention, and specific language has been employed in describing the several figures. It will, nevertheless, be understood that no limitations of the scope of the invention are thereby contemplated, and that various alterations and modifications may be made such as would occur to one skilled in the art to which the invention relates.

I claim:

1. A butt-end rewinding attachment, adapted for use with a printing press having a press supply roll, comprising a ground supported stand, a standard mounted on said stand, said standard having a bearing adapted to support one end of a butt-end roll shaft, a roll brake on said standard and means for adjusting said brake as the butt-end roll decreases, a motor and a drive shaft also mounted on said stand, belt drive means connecting said motor to said drive shaft, and for connecting said drive shaft to the drive shaft of the supply roll of the press, a second standard having a bearing, adapted to support the other end of the butt-end roll shaft, means for adjusting the height of said second standard and the bearing supported thereby whereby to vertically adjust the said other end of the butt-end roll shaft, and a pair of bars, each bar having a slotted head at each end thereof for detachably engaging the butt-end roll shaft and the shaft of the press roll whereby to maintain these shafts in parallel relation with each other.

2. The structure of claim 1 wherein said second standard comprises a pair of sections and said means for adjusting said secondary standard comprises a screw-threaded means adjustably connecting said sections.

3. The structure of claim 1 wherein said roll brake comprises a pivotally mounted brake shoe, and said brake adjusting means includes screw-threaded means mounted on said first-named standard.

References Cited in the file of this patent

UNITED STATES PATENTS

544,003	Peabody	Aug. 6, 1895
1,093,933	Jenkins	Apr. 21, 1914
1,930,074	Bentley	Oct. 10, 1933
1,961,685	Farley	June 5, 1934
2,617,606	Whatmore	Nov. 11, 1952