

Jan 6, 1931.

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1,787,463

ROTARY PASTING DEVICE

Original Filed Jan. 26, 1927

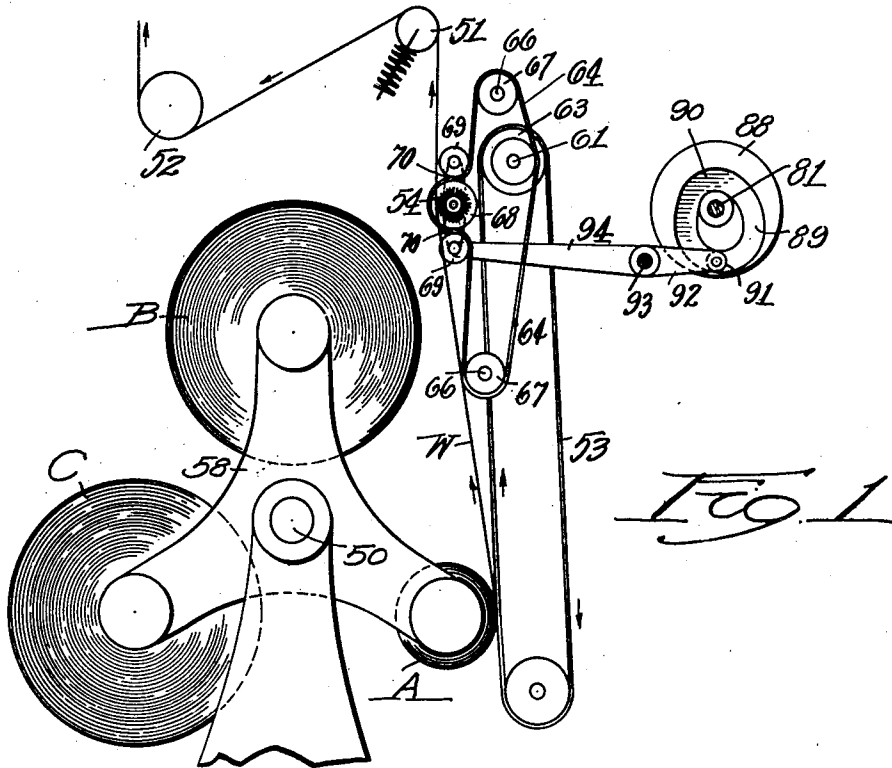


Fig. 1

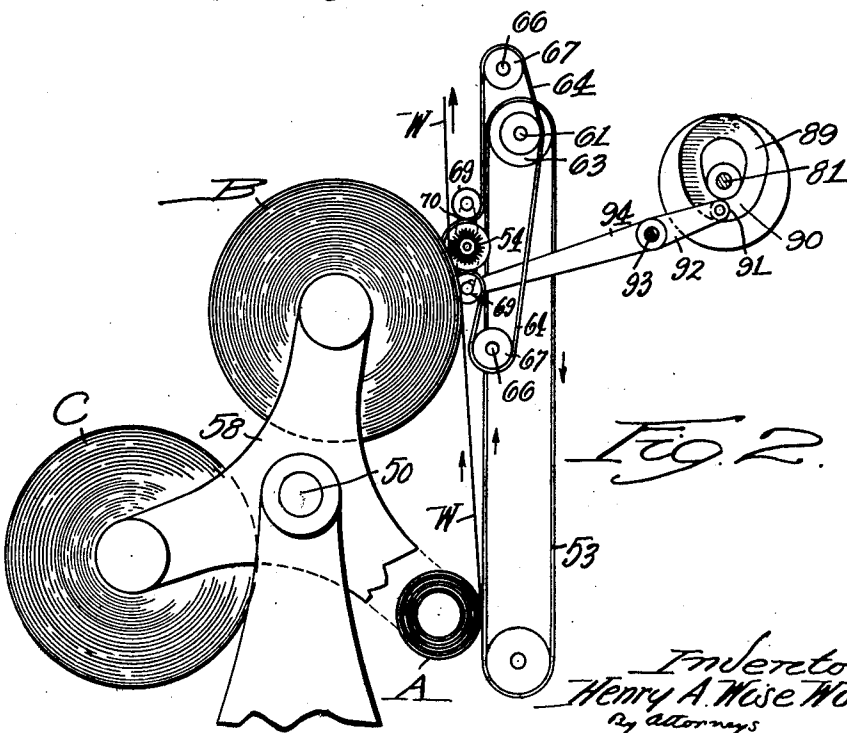


Fig. 2.

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ROTARY PASTING DEVICE

Application filed January 26, 1927, Serial No. 163,684. Renewed May 2, 1929.

This invention relates to an improvement over the pasting mechanism shown and described in my prior application for patent Serial No. 42,061, filed July 7, 1925, on a Web change device.

The principal object of this invention is to provide a pasting or deflecting device for the web which deflects the web against a fresh web roll at the time of pasting, as in my above mentioned application, but in such form that it will offer no resistance to the running of the web and therefore will not cause any strain thereon.

This invention can be used with the type of pasting device set forth in the above mentioned application and is intended for such use particularly. But it is to be understood that it is merely one feature thereof which can be used with other forms of web pasting mechanism. Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which

Fig. 1 is a side view, partially diagrammatic, of a web change device such as shown in my above mentioned application with a preferred embodiment of this invention applied thereto; and

Fig. 2 is a similar view showing the parts in another position.

In the web change mechanism shown in my above identified application, a deflector is used in the form of a brush which is located in stationary position a part of the time in contact with the running web. Then the brush is lowered into pasting position and deflects the running web into contact with the fresh web roll. This, together with the usual provision of the pasted area on the fresh roll, performs the operation of attaching the new web to the end of the expiring web, the tail of the expiring web being cut away as is well understood.

Referring now to the drawings it will be seen that I have illustrated several features

shown in my above mentioned application. It will be understood that the running web roll A, the fresh web roll B, and the third web roll C which is to become the next fresh roll, are mounted on a reel 58 which turns about a central shaft 50. The running web roll A in Fig. 1 is delivering the web W to the press over a spring-pressed idle guide roll 51 and a web control roll 52 operated positively from the press. The web is propelled by a series of feeding belts 53. The web travels uniformly and passes into contact with a deflector in the form of a rotary brush 54. This figure shows the normal path of this web during the run, the brush constituting a guide for it at this time.

The mechanism above described is connected with and operated by the press. For example, the shaft of the web control roll 52 is connected with the main shaft of the press and operated continuously at such a rate that its surface rotates at web speed. The other end of the shaft is provided with a sprocket wheel which drives a chain connected with a sprocket wheel on a shaft 61 for driving the latter. On this shaft 61 are pulleys 63 on which are the feeding belts 53. The shaft 61 also, by means of a sprocket wheel, drives another chain 64 which in turn drives sprocket wheels 67 on two shafts 66. This chain 64 also passes over a sprocket 68 mounted on the shaft of the rotary brush 54. Two idlers 69 engage the chain 64 and keep it wrapped well around the sprocket 68. These idlers are located on two links 70 which carry the brush shaft. They are pivotally connected with an arm 94.

The shaft 61 is provided with means for rotating a cam shaft 81 when connected with it by manual means comprising a handle, not shown.

On this shaft 81 are two cams 88 each having a groove 89 provided with a depression 90. In each cam groove operates a roller 91 on an arm 92 fixed on a shaft 93 and having

an arm 94 projecting therefrom at each end. It is on these arms 94 that the links 70 are pivoted.

Operation

5 This device operates in substantially the same way as my above identified application, or at least it is preferred that it be used in connection with the same kind of a machine. 10 The normal position of the parts is shown in Fig. 1 in which the web is being taken off the web roll A and in which that roll has been reduced in diameter from full size to that indicated. The cam 88 is held stationary and 15 keeps the rotary deflector 54 as shown in that figure during that period. Now when the roll gets a little smaller as shown in Fig. 2 the operating handle, not illustrated herein, is lowered and the shaft 81 starts to rotate and completes an entire rotation of the shaft 20 81. The roller 91, coming to the lower part of the cam, as shown in Fig. 2, will depress the arms 94 and take the frame 70 downward with the brush 54. This brush has been rotating all the time at web speed so as not to 25 offer any resistance to the web or cause any strain upon it. The same conditions prevail when it is lowered for the pasting operation which takes place in the same manner as described in my above mentioned application. 30 The brush 54 is in contact with the web and the web in contact with the roll B during a part of one press operation. This applies the free end of the new web on the roll B to the running web A. This running web is later cut off by means not forming a part of this invention. The reel 58 is rotated around so that the fresh roll B will eventually occupy 35 the position A. The tapes are moved back and forth by resting against the rolls in accordance with their positions. 40

This constitutes a simple means for eliminating the slightest strain on the web even at the highest speed. It makes the pasting operation more certain and permits an increase 45 of speed thereof.

Although I have illustrated and described only a single form of the invention, and explained it as used only with the paster shown 50 in my prior application, I am aware of the fact that modifications can be made therein, and that it can be applied to other forms of pasters, by any person skilled in the art without departing from the scope of the invention as expressed in the claims. 55

Therefore, I do not wish to be limited to all the details of construction herein shown and described, but what I do claim is:—

60 1. In a deflecting device for a web change machine, the combination with means for supporting a running roll and a fresh roll, of a rotary deflector, means for rotating the deflector in contact with the web at web 65 speed, and means for moving the deflector

bodily to bring the web running thereover to the pasting point on the fresh roll.

2. In a web change device, the combination with means for supporting a fresh web roll and a rotary deflecting means for the 70 web which runs from the running roll to the press, of means for rotating the deflecting means at a surface speed equal to the speed of the web, and means for moving the rotary deflecting means bodily toward the fresh web 75 roll far enough to bring the running web into contact therewith.

3. In a web change device, the combination with means for guiding a web from the running roll to the press, of a rotatable brush 80 located in position to engage the web, means for rotating said brush at a surface speed equal to the speed of the running web, and means for moving the brush bodily toward the fresh web roll for performing the pasting operation. 85

4. In a web deflecting device for a web change machine, the combination with means for supporting the web rolls, of a rotary brush 90 located in position on the side of the web opposite the fresh roll, a pair of wheels at opposite sides of the brush adapted to rotate freely, a wheel on the brush shaft, means for supporting shafts for the brush and the 95 wheels, a chain or belt passing under said wheels and over the brush wheel for rotating the brush at web speed, and means for moving the support for the brush and wheels bodily to apply the web to the fresh web roll. 100

5. In a web change device, the combination with means for guiding a web from the running roll, of a rotatable soft cylindrical body located in position to engage the web, 105 and means for moving said body toward and into contact with the fresh web roll at a point beyond that at which the web from the running roll engages the fresh roll for performing the pasting operation. 110

6. In a web change device, the combination with means for guiding a web from the running roll of a rotatable positively driven brush located in position to and engaging the web, and means for moving said brush toward 115 the fresh web roll for performing the pasting operation.

7. In a web change device, the combination with means for guiding a web from the running roll, of a positively driven rotatable soft cylindrical body located in position to and 120 engaging the web, and means for moving said body toward the fresh web roll for performing the pasting operation.

8. In a web change device, the combination with means for guiding a web from the running roll of a rotatable brush engaging 125 the web at all times, and means for moving said brush toward the fresh web roll and giving the web a slight wrap on the fresh roll for performing the pasting operation. 130

9. In a web change device the combination with means for guiding a web from a running roll of a rotatable soft cylindrical body engaging the web at all times, and means
5 for moving said body toward the fresh web roll, and forcing the web gently against the fresh roll for performing the pasting operation.

In testimony whereof I have hereunto
10 affixed my signature.

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