

Oct. 29, 1935.

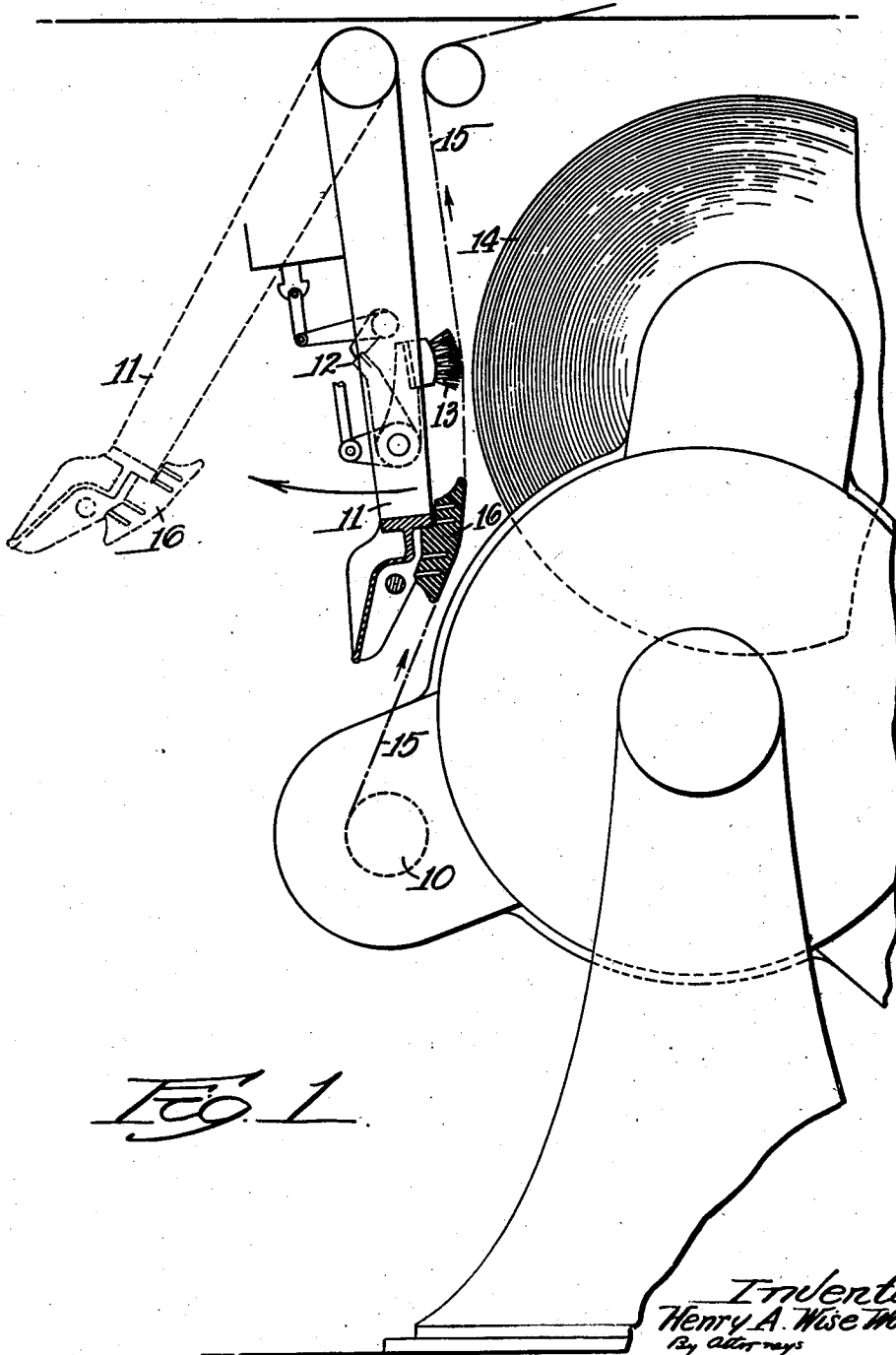
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2,018,907

WEB HEATING DEVICE

Filed Jan. 27, 1932

2 Sheets-Sheet 1



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Fig. 2.

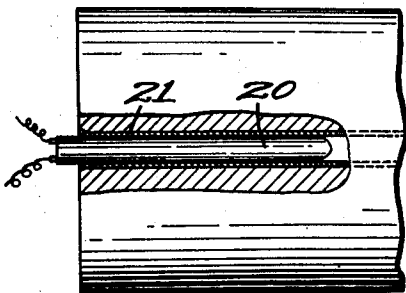
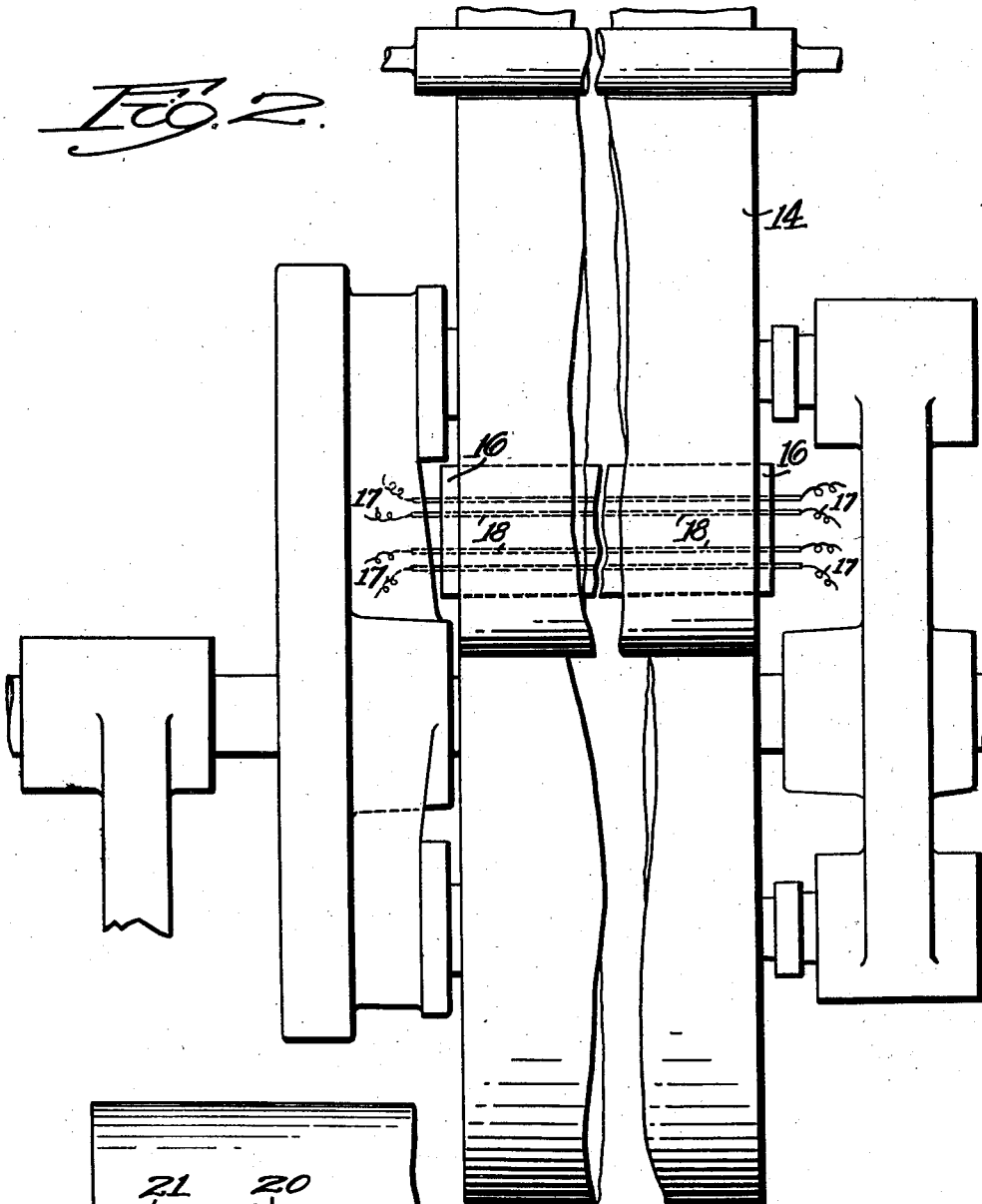


Fig. 3.

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UNITED STATES PATENT OFFICE

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WEB HEATING DEVICE

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Application January 27, 1932, Serial No. 589,123

6 Claims. (Cl. 154—42)

The principal object of this invention is to provide effective means for heating a web of paper for the purpose of avoiding the application of paste to a cold running web when it is to be spliced to a fresh web roll.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which

Fig. 1 is an end view of an ordinary type of web roll support and a part of an automatic splicing device showing in section a preferred form of this invention applied thereto;

Fig. 2 is an elevation of the same, and

Fig. 3 is a view partially in section showing a modification.

In a newspaper printing plant at the present time the rolls of paper used in the press are stored in cold storage rooms so that its temperature becomes quite low and the cold penetrates throughout the whole roll. When the roll is brought into the warmer press room the outer layers receive some heat but paper is insulating and the interior of the roll remains quite cold. If the splice were performed at slow speeds, as has been the case heretofore, the paper would have a chance to warm up before the paste was made. At the present day, however, high speeds are employed and the web remains quite cold, so much so that after most of it is fed into the press it is difficult to make the ordinary splicing compound or gum stick to the cold running web. Also static electricity is generated on account of the cold which further interferes with the operation. This invention is designed to warm the web to which the gum is to be applied.

In the form shown in Figs. 1 and 2, the running roll 10 is shown mounted in the usual way and a swinging arm 11 is provided for the means for applying the web to the fresh roll at the proper time for splicing. This is shown in full lines in position ready to apply the web to the incoming roll by the tripping of the latch 12 in the usual way. This allows the brush 13 to engage the web and push it against the incoming roll 14. It has to be remembered that the exterior surface of the roll 14 can be warmed up sufficiently but it is the surface of the exhausting web 15 coming from the roll 10 that gives the trouble.

For the purpose of removing this difficulty an aluminum or other metal block 16 is placed on the arm 11 where it can engage the web 15 all the way across. This block is heated by electric wires 17 and resistances 18 located in the block

sufficiently to warm up the web after it is passed over this block. This heating gets the web into proper condition for receiving the paste and preventing the formation of electric discharges. This block is heated to a suitable temperature, about 350° F. The arm 11, of course, in normal operation is swung back to the dotted line position where the heating block will not engage the web. It is turned down into the operative position shown in full lines just before the paste is to be made. In this way the difficulties above mentioned are avoided or reduced to such an extent that this source of trouble is eliminated.

In Fig. 3 is shown a different scheme for heating up the inside layers of the web on the running roll. In this case a bullet-shaped electric heater 20 is thrust into the center of the core 21 before the roll is mounted on the reel. This heater is allowed to remain, one at each end of the core, until the inside layers of paper are adequately warmed up and then it can be removed at any time. When this preheater is placed in the roll the cold outer layers will be used in the regular manner until the roll is used down to the point of splicing. At that time the web is warm so that splicing is facilitated. This is a substitute for the form shown in Figs. 1 and 2.

In both forms shown the heating of the web is accomplished at the point where it is to be used in making the splice and heat is not wasted in heating up the whole roll.

Although I have illustrated and described only two forms of the invention I am aware of the fact that other modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore I do not wish to be limited in this respect, otherwise than as set forth in the claims, but what I claim is:—

1. The combination with a web splicing device, of an electrical heating means located in position to heat the inner layers of the web that is to be spliced to a new roll and means for thereafter bringing said web into contact with a new roll.

2. The combination with a web splicing device, of means for heating the inner layers of the web on the running roll prior to the splicing operation, whereby the paper that is pasted will be in a comparatively warm condition when the paste is applied.

3. In a web splicing device, the combination with means for moving a web toward a fresh web roll, and electrical means movable therewith for engaging said web that is to be pasted and heating it prior to the forming of the splice.

4. In a web splicing device, the combination with an arm having means thereon for moving the web with the arm toward a fresh web roll, and means on said arm for engaging the paper that is to be pasted and heating it prior to the forming of the splice.

5. The combination with a web roll, the web of which it is desired to splice to another roll, of an

electric heating unit adapted to be inserted in the center of the roll to warm up the inner layers of the paper, for the purpose described.

6. The combination with a web roll on a hollow core of an electric heating unit adapted to be inserted in said core.

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