Nov. 24, 1936. N. S. WELK 2,062,154

CARBON FLOW ADJUSTING ATTACHMENT FOR ROTARY WEB PRINTING PRESSES

Filed Sept. 14, 1935

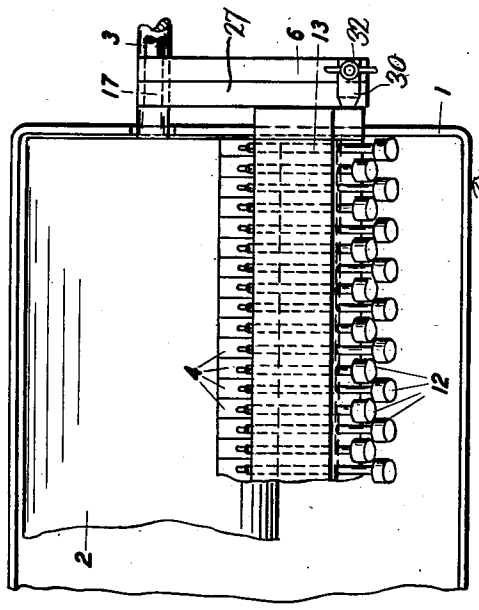


FIG. 1.

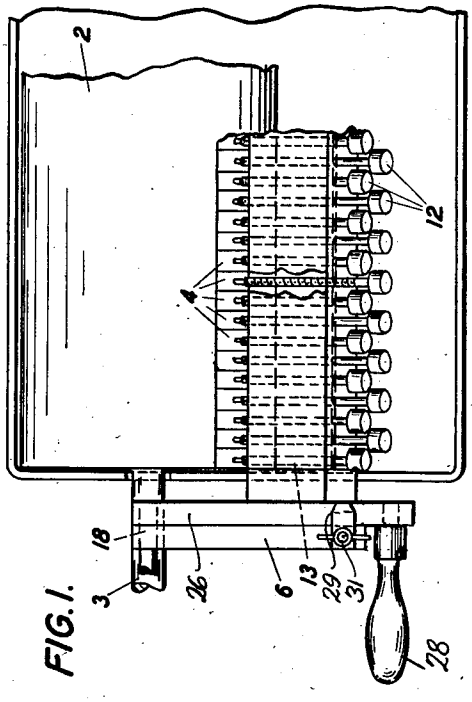


FIG. 2.

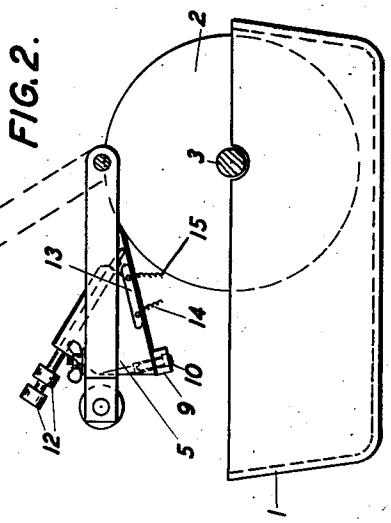


FIG. 4.

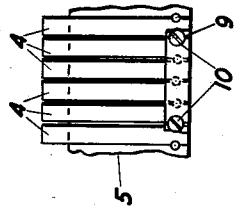
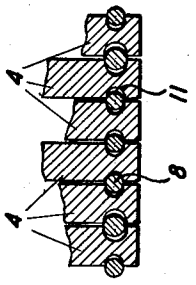


FIG. 3.



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Patented Nov. 24, 1936 2,062,154

UNITED STATES PATENT OFFICE

2,062,154

CARBON FLOW ADJUSTING ATTACHMENT FOR ROTARY WEB PRINTING PRESSES

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Application September 14, 1935, Serial No. 40,581

7 Claims. (Cl. 101—365)

My invention relates more particularly to presses employed to print spots of wax carbon compound on paper. The wax carbon compound used for this purpose must first be melted and then since it can only be worked at a critical temperature all of the parts of the press, which come in contact with the wax carbon compound, must be maintained at a temperature which will hold the compound at that required temperature. It has been found difficult to obtain a clear line of the melted wax carbon compound as it leaves the ink fountain by adjustment of the blade provided on standard presses for this purpose.

In reissue patent to George A. Rutkoskie, Reissue No. 19,642, this difficulty is referred to and it is sought to remedy it by providing a multiplicity of closely adjacent screws for the blade.

My invention has for its object to provide an improved blade which will define a clear sharp line for the wax carbon compound as it leaves the ink fountain.

A further object is to provide means for heating the blade so that there will be no likelihood of the wax carbon compound crystallizing due to the lower temperature of the metal forming the blade. As pointed out in the reissue patent referred to the compound when melted to the temperature required to turn out good work, unlike printer's ink it has no tack but only the approximate consistency of water and hence an exceedingly fine adjustment must be provided for.

My means of accomplishing the foregoing objects may be more readily understood by having reference to the accompanying drawing which is hereunto annexed and is a part of this specification, in which—

Fig. 1 is a top plan view of an ink fountain equipped with my improved blade;

Fig. 2 is an end view of the same;

Fig. 3 is a fragmentary detail view of the blade segments showing the clearance provided to care for the expansion of the metal when heated; and

Fig. 4 is a detail view of the blade segments assembly.

Similar reference numerals refer to similar parts throughout the entire description.

As shown in the drawing an ink fountain 1 of any suitable size and configuration, is provided with an ink fountain roller 2 carried by a shaft 3. This shaft is mounted for rotation in bearings (not shown) such as are commonly used for this purpose in standard presses.

My improved blade comprises a plurality of segments or strips 4, formed of suitable material. These segments are slightly separated as seen in Figs. 3 and 4 to care for their expansion. One end of each strip 4 is secured to a blade abutment piece 5.

In order to shift the entire mechanism to a position in which the best results are obtainable, I provide bars 6—6 located at each end of the ink fountain 1. They are bolted to the inside of the frame of the press. The rear ends of these bars are provided with stub shafts 17 and 18, on which are swingingly mounted arms 26 and 27 to which the blade abutment 5 is fastened in any suitable or desired manner. The arm 26 is provided with a handle 28 by means of which the abutment piece 5 and blade segments 4 may be swung away from the ink fountain roller 2 as indicated in the dotted lines, Fig. 2, for cleaning or any other purpose. In order to hold the blade segments against the ink fountain roller 2 I provide detents 29 and 30 which are carried by stud bolts 31 and 32. Wing nuts are mounted upon the bolts and furnish convenient means for loosening the detents 29 and 30. When the mechanism is lowered into normal position the detents 29 and 30 are swung across the arms 26 and 27 as shown in Fig. 1 and the wing nuts are tightened so that the entire mechanism is held down in normal position.

The segments 4 are held in place by dowels 8 and secured by a blade binding bar 9, which is fastened to the blade abutment piece 5 by screws 10 or in any other suitable or convenient manner. The screws 10 pass through holes or notches 11, which are formed in the blade segments 4. The holes or notches 11, as clearly seen in Fig. 3, are larger in diameter than the diameter of the screws and dowels providing clearance for expansion.

A plurality of blade adjusting screws 12 are mounted in the blade abutment piece 5. The inner ends of these screws are in contact with the blade segments 4 adjacent their point of contact with the ink fountain roller 2.

Mounted on the top of the blade segments 4 and intermediate them and the blade abutment piece 5 an electric heating element 13, which is provided with terminals which may be connected to a suitable source of electric current (not shown). This electric heating element is adapted to maintain the blade segments 4 at the proper temperature, so that any tendency for the wax carbon compound to crystallize at the edges and cause trouble, is completely obviated.

It will be apparent from the foregoing that I provide an extremely fine adjustment for the flow of the wax carbon compound from the ink

fountain roller to the ductor, or transfer roller which will sharply define the lines of flow and am also able to maintain the blade at the required temperature.

Although I have entitled my device "Carbon flow adjusting attachment for rotary web printing presses," it will be understood that the device is equally available for other type of presses and I do not wish to be understood as limiting the use of the device in any manner except as such limitations shall appear in the hereinafter appended claims.

Having described my invention what I regard as new and desire to secure by Letters Patent is:

1. In a press for printing spots of wax carbon on paper having an ink fountain and an ink fountain roller; an adjusting unit for defining the flow of the wax carbon, comprising an adjusting blade formed of a plurality of strips of metal, one end of which contacts said ink fountain roller, a blade abutment piece to which said strips are secured, a plurality of screws in said piece the ends of which contact said strips adjacent said roller and an electric heating element mounted on said strips intermediate them and the abutment piece.

2. In a press for printing spots of wax carbon on paper having an ink fountain and an ink fountain roller; an adjusting unit for defining the flow of the wax carbon, comprising an adjusting blade formed of a plurality of strips of metal, one end of which contacts said ink fountain roller, a blade abutment piece to which said strips are secured, a plurality of screws in said piece the ends of which contact said strips adjacent said roller and an electric heating element mounted on said strips intermediate them and the abutment piece, means to swing said adjusting unit away from contact with said roller.

3. In a press for printing spots of wax carbon on paper having an ink fountain and an ink fountain roller; an adjusting unit for defining the flow of the wax carbon, comprising an adjusting blade formed of a plurality of strips of metal, one end of which contacts said ink fountain roller, a blade abutment piece and an electric heating element mounted on said strips intermediate them and the abutment piece, means to secure said strips to said blade abutment piece and to hold them in position.

4. In a press for printing spots of wax carbon on paper having an ink fountain and an ink fountain roller; an adjusting unit for defining the flow of the wax carbon, comprising an adjusting blade formed of a plurality of strips of metal, one end of which contacts said ink fountain roller, a blade abutment piece and an electric heating element mounted on said strips intermediate them and the abutment piece, means to secure said strips to said blade abutment piece and to hold them in position, said strips being spaced from said securing means, said holding means and each other to provide clearance for expansion.

5. In a press for printing spots of wax carbon on paper having an ink fountain and an ink fountain roller; an adjusting unit for defining the flow of the wax carbon, comprising an adjusting blade formed of a plurality of strips of metal, one end of which contacts said ink fountain roller, a blade abutment piece and an electric heating element mounted on said strips intermediate them and the abutment piece, a bar which extends over one end of said strips, means to secure said bar to said blade abutment, whereby said strips are secured to said abutment, a plurality of dowels which engage notches cut in the edge of adjacent strips, thereby holding said strips in position.

6. In a press for printing spots of wax carbon on paper having an ink fountain and an ink fountain roller; an adjusting unit for defining the flow of the wax carbon, comprising an adjusting blade formed of a plurality of strips of metal, one end of which contacts said ink fountain roller, a blade abutment piece and an electric heating element mounted on said strips intermediate them and the abutment piece, a bar which extends over one end of said strips, means to secure said bar to said blade abutment, whereby said strips are secured to said abutment, a plurality of dowels which engage notches cut in the edge of adjacent strips, thereby holding said strips in position, said strips being spaced from said securing means said holding means and each other to provide clearance for expansion.

7. In a press for printing spots of wax carbon on paper having an ink fountain and an ink fountain roller; an adjusting unit for defining the flow of the wax carbon, comprising an adjusting blade formed of a plurality of strips of metal, one end of which contacts said ink fountain roller, a blade abutment piece to which said strips are secured, a plurality of screws in said piece the ends of which contact said strips adjacent said roller and an electric heating element mounted on said strips intermediate them and the abutment piece, a pair of arms secured to said blade abutment piece, shafts on which arms swing whereby the adjusting unit may be swung away from contact with said roller.

NELSON S. WELK.