

No. 686,337.

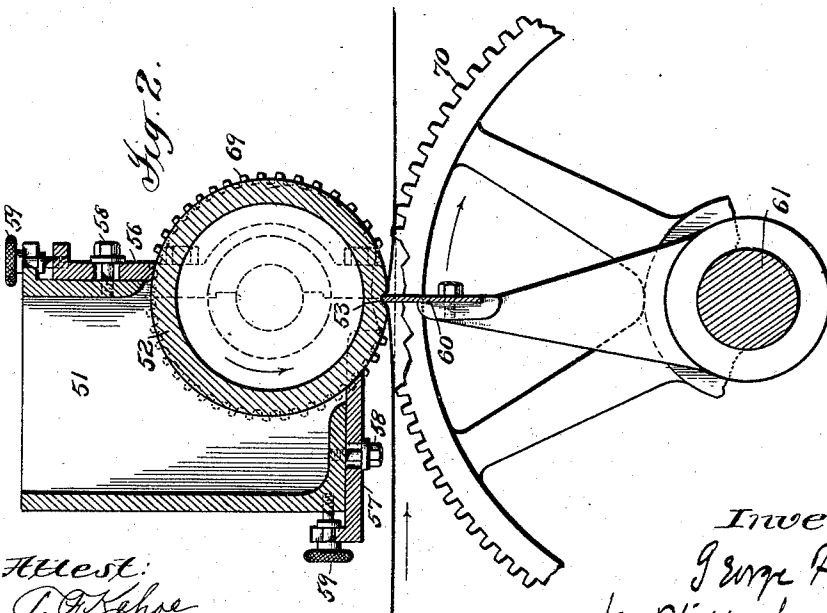
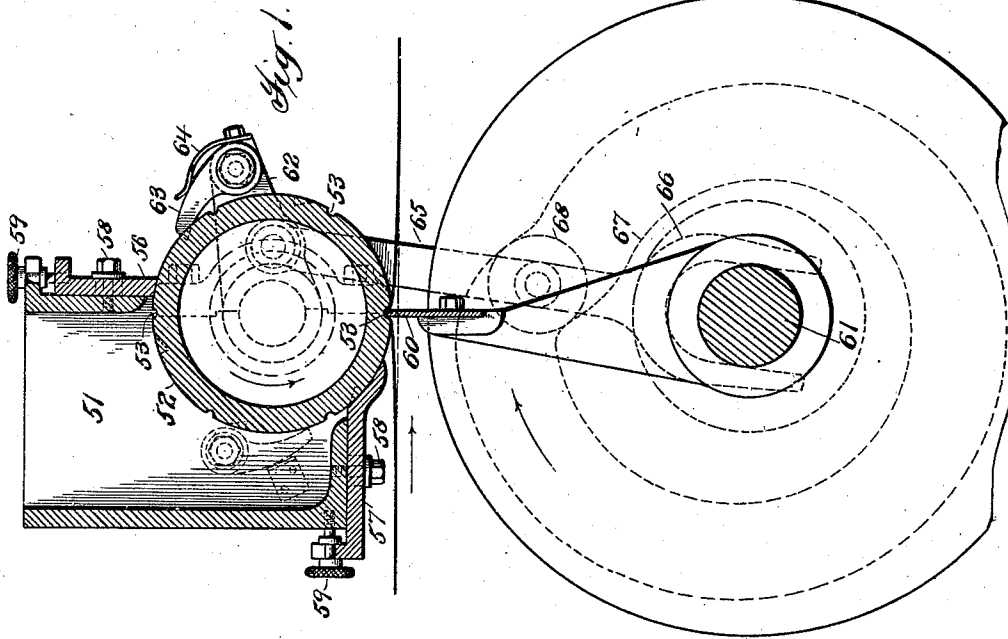
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G. F. READ.

PASTE FOUNTAIN FOR PRINTING MACHINES.

(Application filed Jan. 21, 1901.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## PASTE-FOUNTAIN FOR PRINTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 686,337, dated November 12, 1901.

Application filed January 21, 1901. Serial No. 43,970. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE F. READ, a citizen of the United States, residing at New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Paste-Fountains for Printing-Machines, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 This invention relates to certain improvements in devices for applying to moving material, such as a web or sheet of paper, liquid—such, for instance, as paste—in a line or lines.

15 The pasting devices now ordinarily used in the art, and more particularly those which are used in connection with fast rotary printing-machines, employ a wheel or blade, to which paste is applied and with which the  
20 passing web or sheet is brought into contact, the wheel being used when the line of paste is to be lengthwise of the web or parallel with its run and the blade being used when the line of paste is to be applied transversely of  
25 the material or to its run. The movement of these pasting blades or wheels is necessarily rapid, and there is always liability that the paste will be thrown or flirited off the pasting device onto the material, this being especially  
30 the case where transverse pasting-blades are employed. Furthermore, the transverse pasters specially are complicated and expensive in construction.

35 The object of this invention is to produce a simple, compact, cheap, and efficient device which may be used for applying paste or other similar substances to material, such as a web or sheet, and which avoids the objection heretofore stated.

40 With this and other objects in view the invention consists in certain constructions and in certain parts, improvements, and combinations, as will be hereinafter described and then specifically pointed out in the claims  
45 hereunto appended.

In the accompanying drawings, in which like characters of reference indicate the same parts, Figure 1 is a sectional side elevation of a liquid-applying device constructed in accordance with the invention. Fig. 2 is a similar view illustrating a modification.

Referring to Fig. 1, which illustrates a con-

crete embodiment of the invention, 51 indicates a liquid-containing fountain, which may be of any suitable form or description. This fountain may be mounted in any suitable  
55 manner and may be used for holding any desired liquid. In the present instance it is intended to hold paste and to be mounted in a printing-machine. The paste-applying device includes a suitable moving surface, upon  
60 which the paste is deposited, preferably in a line or lines. While this moving surface may be of any suitable character, it preferably consists of a cylinder 52, which may be constructed in any suitable manner so as to receive a line or lines of paste. In the preferred  
65 form of the construction, however, the cylinder will be provided with a plurality of grooves 53. While any suitable arrangement of devices may be used by which the paste from the fountain is transferred to the cylinder, in the preferred form of the construction the cylinder is mounted so as to rotate in the fountain and the fountain is provided with  
75 suitable means which operate to clean the surface of the cylinder, and therefore to prevent any liquid being carried out of the fountain by the cylinder except that which is deposited in the grooves 53. In the construction  
80 shown the cleaning devices consist of scrapers 56 and 57, said scrapers being secured in position by means of screws 58 or in any other suitable manner and being adjusted in an ordinary and obvious manner by means of  
85 thumb-screws 59. Suitable means is employed to force the web or sheet of material into the grooves of the cylinder, and thus cause the paste to be deposited thereon. While this means may be varied in construction,  
90 it will preferably consist of a rotating blade 60, mounted on a shaft 61, which may be rotated in any desired manner. Both the cylinder and the blade are caused to move at the time when the paste is to be applied to the material, so as to avoid smudging or streaking of the paste. The movement of the cylinder may be either constant or intermittent. In Fig. 1 a mechanism is shown for giving the cylinder an intermittent  
95 movement. While any suitable mechanism may be employed for this purpose, in the preferred form of the construction an ordinary pawl-carrying arm 62 is mounted on

the journal of the cylinder, said arm carrying a pawl 63, which is held to its duty by means of a spring 64. An operating-rod 65 is connected to said pawl-carrying arm, said  
 5 rod being formed to provide a fork 66, which takes over the shaft 61, on which the rod is mounted. The shaft 61 carries a closed or island cam 67, engaged by a bowl 68, which is connected to the operating-rod 65. The  
 10 cam 67 is so arranged as to operate the mechanism before described and cause the pawl to advance the cylinder a distance equal to the distance between the grooves 53 for each rotation of the blade 60, the movement of the  
 15 cylinder occurring at the time when the blade 60 comes into engagement with one of the grooves 53.

The construction shown in Fig. 2 is substantially the same as that before described, with the exception that the cylinder 52 is continuously rotated and is provided with a single groove 53 instead of a plurality of such grooves. Any suitable mechanism may be employed for constantly rotating the cylinder.  
 25 The cylinder preferably carries a gear 69, which meshes with a gear 70, mounted on the shaft which carries the blade 60.

By the constructions which have been described herein it will be seen that a transverse  
 30 paste is produced in which the blade does not carry the paste, the paste being contained in a groove or grooves of the cylinder. There is no tendency, therefore, to throw or flit the paste from the pasting device onto the web of passing material, and, furthermore, the construction, while very efficient,  
 35 is cheap and compact.

While the device is primarily intended for applying paste, it is equally applicable to the  
 40 application of other liquids of a generally similar nature. While, furthermore, the invention is embodied in a pasting apparatus intended for the application of a line of paste transverse to the run of the material, it is  
 45 not to be limited to such an apparatus. It will be further understood that while the apparatus which has been described is effective for the purpose the details of construction by which the invention is carried into effect may  
 50 be varied within wide limits.

What is claimed is—

1. The combination with a liquid-applying surface provided with a groove, of means for supplying liquid to the groove, means for  
 55 forcing the material to which the liquid is to be applied into the groove, whereby a line or stripe is applied to the material, substantially as described.

2. The combination with a liquid-applying surface provided with a groove transverse to the line of movement of the material to which the liquid is to be applied, means for forcing the material into the groove, whereby a line or stripe is applied to the material, substantially  
 65 as described.

3. The combination with a moving liquid-applying surface, of means for supplying a

line of liquid thereto, and a blade for forcing the material to which the liquid is to be applied against said surface, whereby a line or  
 70 stripe is applied to the material, substantially as described.

4. The combination with a moving liquid-applying surface, of means for supplying liquid thereto in a line transverse to the line of  
 75 movement of the material to which the liquid is to be applied, and a blade for forcing said material against said surface, whereby a line or stripe is applied to the material, substantially as described. 80

5. The combination with a liquid-applying surface provided with a groove, of means for supplying liquid to the groove, a blade for forcing the material to which the liquid is to be applied into the groove, whereby a line or  
 85 stripe is applied to the material, substantially as described.

6. The combination with a liquid-applying surface provided with a groove transverse to the line of movement of the material to which  
 90 the liquid is to be applied, of means for supplying liquid to the groove, and a blade for forcing the material into the groove, whereby a line or stripe is applied to the material, substantially as described. 95

7. The combination with a cylinder, of means for supplying liquid thereto, and a blade for forcing the material to which the liquid is to be applied against the cylinder, substantially as described. 100

8. The combination with a cylinder, of means for supplying liquid thereto in a line transverse to the movement of the material to which the liquid is to be applied, and a blade for forcing the material against said  
 105 cylinder, substantially as described.

9. The combination with a cylinder having a groove, of means for supplying liquid to said groove, and means for forcing the material to which the liquid is to be applied into  
 110 said groove, substantially as described.

10. The combination with a cylinder having a groove transverse to the line of movement of the material to which liquid is to be applied, of means for supplying liquid to said  
 115 groove, and means for forcing said material into said groove, substantially as described.

11. The combination with a cylinder having a groove, of means for supplying liquid to said groove, and a blade for forcing the  
 120 material to which the liquid is to be applied into the groove, substantially as described.

12. The combination with a cylinder having a groove transverse to the line of movement of material to which liquid is to be applied, and a blade for forcing said material into the groove, substantially as described. 125

13. The combination with a cylinder, of means for supplying a line of liquid thereto, means for cleaning the remainder of the cylinder, and means for forcing material to which the liquid is to be applied against the cylinder, substantially as described. 130

14. The combination with a cylinder, of

- means for supplying liquid thereto in a line transverse to the movement of material to which liquid is to be applied, means for cleaning the remainder of the cylinder, and means for forcing said material against the cylinder, substantially as described.
15. The combination with a cylinder having a groove, of means for supplying liquid to said groove, means for cleaning the remainder of the cylinder, and means for forcing the material to which liquid is to be applied into said groove, substantially as described.
16. The combination with a cylinder having a groove transverse to the line of movement of material to which liquid is to be applied, means for supplying liquid to said groove, means for cleaning the remainder of the cylinder, and means for forcing the material into said groove, substantially as described.
17. The combination with a cylinder, of means for supplying a line of liquid thereto, means for cleaning the remainder of the cylinder, and a blade for forcing material to which the liquid is to be applied against the cylinder, substantially as described.
18. The combination with a cylinder, of means for supplying liquid thereto in a line transverse to the movement of material to which liquid is to be applied, means for cleaning the remainder of the cylinder, and a blade for forcing said material against the cylinder, substantially as described.
19. The combination with a cylinder having a groove, of means for supplying liquid to said groove, means for cleaning the remainder of the cylinder, and a blade for forcing material to which liquid is to be applied into said groove, substantially as described.
20. The combination with a cylinder having a groove transverse to the line of movement of material to which liquid is to be applied, means for supplying liquid to said groove, means for cleaning the remainder of the cylinder, and a blade for forcing the material into said groove, substantially as described.
21. The combination with a fountain, of a grooved cylinder mounted to rotate therein, and means operating to force the material into the groove of the cylinder, substantially as described.
22. The combination with a fountain, of a grooved cylinder mounted to rotate therein, and a rotating blade operating to force the material into the groove of the cylinder, substantially as described.
23. The combination with a fountain, of a grooved cylinder mounted to rotate therein, means for cleaning the surface of the cylinder, and means operating to force the material into the groove of the cylinder, substantially as described.
24. The combination with a fountain, of a grooved cylinder mounted to rotate therein, means for cleaning the surface of the cylinder, and a blade operating to force the material into the groove of the cylinder, substantially as described.
25. The combination with a cylinder, of means for supplying liquid thereto, means for forcing moving material against the cylinder, and means for giving the cylinder an intermittent rotation, the movement of the cylinder occurring at the time when the forcing means brings the material against the cylinder, substantially as described.
26. The combination with a cylinder, of means for supplying liquid thereto, a rotating blade for forcing moving material against the cylinder, and means for giving the cylinder an intermittent rotation, the movement of the cylinder occurring at the time when the blade forces the material against the cylinder, substantially as described.
27. The combination with a fountain, of a cylinder mounted therein, means for forcing moving material against the cylinder, and means for giving the cylinder an intermittent rotation, the movement of the cylinder occurring at the time when the forcing means brings the material against the cylinder, substantially as described.
28. The combination with a grooved cylinder, of means for forcing moving material into the groove of the cylinder, and means for giving the cylinder an intermittent rotation, the movement of the cylinder occurring at the time when the forcing means forces the material into the groove, substantially as described.
29. The combination with a fountain, of a grooved cylinder mounted therein, means for forcing moving material into the groove, and means for giving the cylinder an intermittent rotation, the movement of the cylinder occurring at the time when the forcing means forces the material into the groove, substantially as described.
30. The combination with a fountain, of a cylinder mounted therein, a rotating blade for forcing moving material against the cylinder, and means for giving the cylinder an intermittent rotation, the movement of the cylinder occurring at the time when the blade forces the material against the cylinder, substantially as described.
31. The combination with a fountain, of a grooved cylinder mounted therein, a rotating blade for forcing moving material into the groove, and means for giving the cylinder an intermittent rotation, the movement of the cylinder occurring at the time when the blade forces the material into the groove, substantially as described.
32. The combination with a fountain, of a cylinder mounted to rotate therein, the surface of the cylinder being provided with a plurality of grooves, means for cleaning the cylinder between the grooves, and means for forcing moving material into the grooves, substantially as described.
33. The combination with a fountain, of a

cylinder mounted to rotate therein, the surface of the cylinder being provided with a plurality of grooves, means for cleaning the cylinder between the grooves, means for forcing  
5 moving material into the grooves, and means for giving the cylinder an intermittent rotation, substantially as described.

34. The combination with a fountain, of a cylinder mounted to rotate therein, the surface of the cylinder being provided with a plurality of grooves, means for cleaning the cylinder between the grooves, and a rotating blade for forcing moving material into the grooves, substantially as described.

15 35. The combination with a fountain, of a

cylinder mounted to rotate therein, the surface of the cylinder being provided with a plurality of grooves, means for cleaning the cylinder between the grooves, a rotating blade for forcing moving material into the grooves, 20 and means for giving the cylinder an intermittent rotation, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GEORGE F. READ.

Witnesses:

F. W. H. CRANE,

L. ROEHM.