

G. DUNN & R. McALPINE.
Felt-Cleansers for Paper-Machines.

No. 149,381.

Patented April 7, 1874.

Fig. 1.

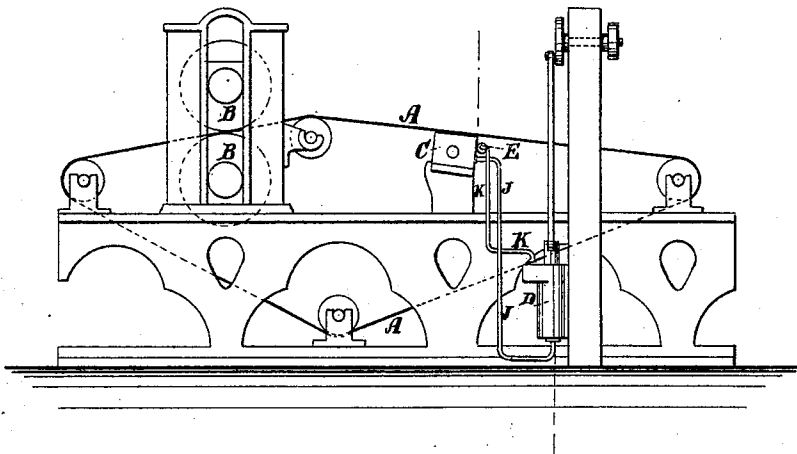
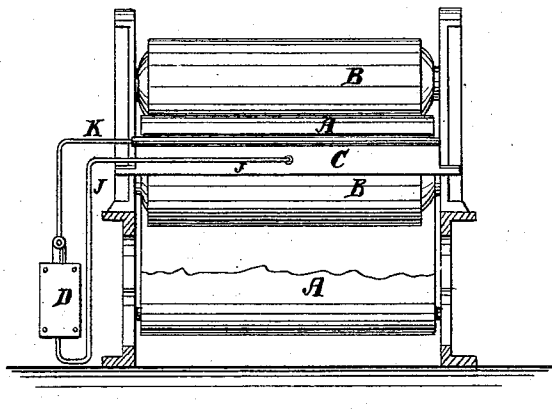


Fig. 2.



WITNESSES:

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GEORGE DUNN AND ROBERT McALPINE, OF LEE, MASSACHUSETTS.

IMPROVEMENT IN FELT-CLEANSERS FOR PAPER-MACHINES.

Specification forming part of Letters Patent No. **149,381**, dated April 7, 1874; application filed January 5, 1874.

To all whom it may concern:

Be it known that we, GEORGE DUNN and ROBERT McALPINE, of Lee, Berkshire county, Massachusetts, have invented a new and Improved Felt-Cleaning Apparatus, of which the following is a specification:

Our invention consists of a suction-box and a pump, in combination with the first felt of a paper-machine, for cleaning it, mainly on the under side, of the matters collecting upon and adhering to it in the process of the work, by suction continuously applied to the felt while in the performance of its function. It also consists of a perforated jet-pipe, in combination with the felt and the pump, also for cleaning the felt, but more particularly its upper side, by blowing jets of air against the under side and up through it. The object is to enable the felt to be cleansed without stopping the regular work of the machine; also, without removing the felt for washing, as is required in some cases, and it is also designed, by acting continuously on the felt while it is at work, to keep it clean and in its best state at all times, whereas, when it is only cleansed from time to time, it is always more or less foul, except for a very short time after being cleansed.

Figure 1 is a side elevation of a portion of a paper-machine, showing the application of our improved felt-washer; and Fig. 2 is a transverse section of Fig. 1 on the line *x x*.

Similar letters of reference indicate corresponding parts.

A represents the first felt, which conveys the sheet of pulp from the wire apron along through the press-rolls B and to the next felt and roll. C represents a suction-box of the same kind as is used under the wire-carrier for drawing the water from the paper. D is the pump for creating the vacuum in the box by pumping the air therefrom through a pipe, J, to cause the passage of air from above down

through the felt, to remove the matters collecting upon it. E is a pipe arranged under the felt at one side of the box, with perforations on the upper side, for cleansing the upper side of the felt by forcing air up through it with the pump, to expel the matters which cannot be expelled in the other direction, the forcing side of the pump being connected to said pipe by a pipe, K, so that both methods of cleansing are carried on at the same time.

In practice, the perforated pipe will be placed at a suitable distance from the suction-box, to prevent the particles of foreign matter which are forced or carried upward by the current from the pipe from being drawn back onto the felt by the suction through the box.

Besides cleansing the felt in this way, the paper sheet is also further relieved of water to a considerable extent by the withdrawal of it from between the felt and the paper sheet, which prevents the blistering and also breaking of the paper in front of the rollers B, to which it is now subject, in consequence of containing too much water, which, being expressed at the rolls, is forced into the paper a little in advance of them, in such quantity as to make it too soft to hold together.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The combination of a draft-box and suction-pump, also a jet-pipe and a forcing-pump, with the first felt of a paper-machine, for cleansing the felt continuously, and while performing its particular part in the paper-machine, substantially as specified.

GEORGE DUNN.
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Witnesses:

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