Dec. 22, 1925. 1,566,358

J. WHITE

DOCTOR FOR PAPER MACHINES

Filed Sept. 5. 1924

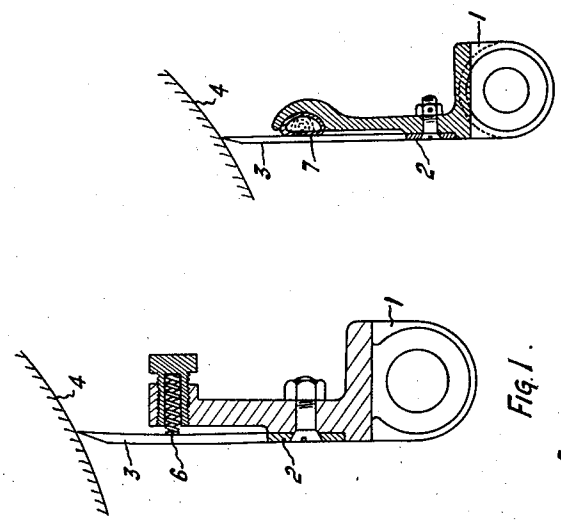


Fig. 2.

Fig. 1.

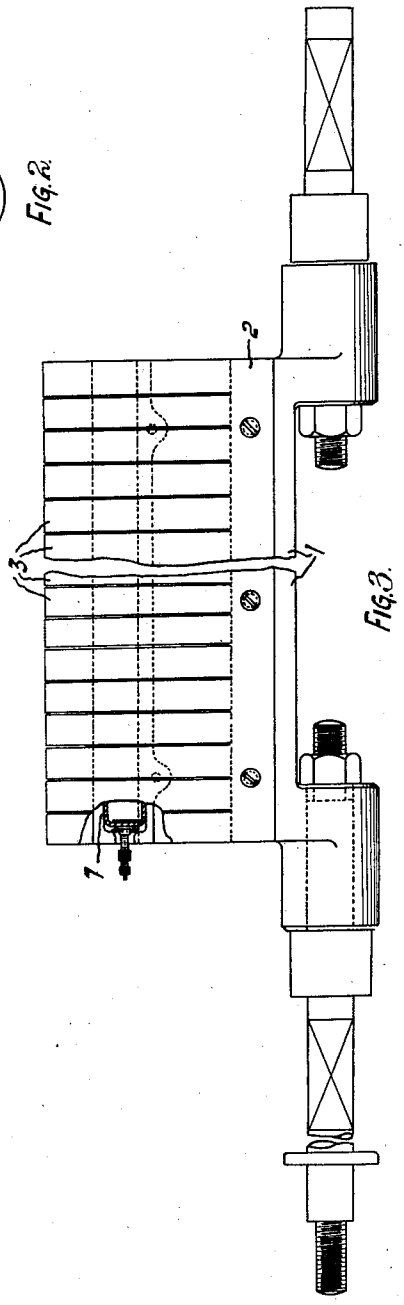


Fig. 3.

Inventor
John White
By Dennis, Davis, Marvin & Edmonds
Attorneys

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UNITED STATES PATENT OFFICE.

JOHN WHITE, OF EDINBURGH, SCOTLAND, ASSIGNOR TO VICKERYS (1920) LIMITED, OF LONDON, ENGLAND.

DOCTOR FOR PAPER MACHINES.

Application filed September 5, 1924. Serial No. 736,027.

To all whom it may concern:

Be it known that I, JOHN WHITE, a subject of the King of Great Britain and Northern Ireland, and residing at Edinburgh, Scotland, have invented a certain new and useful Improvement in Doctors for Paper Machines, of which the following is a specification.

This invention relates to doctors for paper machines, particularly to doctors of the type including a frame or bar and a doctor blade secured to the frame or bar, and in which the blade is constituted by an array of fingers adapted to enter into direct contact with the roll surface and individually responsive to irregularities of the said surface.

By way of example two practical embodiments of the invention are illustrated in the accompanying drawing in which—

Fig. 1 is a diagrammatic section of a doctor in which the fingers are urged by springs, Fig. 2 a section of a doctor in which the fingers are backed by an envelope containing fluid under pressure and Fig. 3 a fragmentary front elevation.

The doctor illustrated includes a frame or bar 1 and a blade 2 secured to the frame or bar. The blade 2 presents at its operative edge an array of fingers 3 adapted to enter into direct contact with the surface of the roll 4 and arranged so as to be individually responsive to irregularities of the roll surface. Conveniently, the fingers are constituted by a blade having transverse sawcuts at intervals of its length.

In the embodiment illustrated in Fig. 1 each finger is backed by a spring 6 which is separate from the blade and urges the operative end of the finger towards the roll surface, the springs 6, in effect, constituting resilient means interposed between the fingers and the bar 1.

In the embodiment illustrated in Figs. 2 and 3 the fingers are mounted on the bar so as to be individually capable of deflection relatively thereto and there is interposed between the fingers and the bar resilient means constituted by an envelope 7 containing fluid such, for example, as water or air, under pressure regulatable to vary the resistance offered to movement of the fingers away from the roll surface.

It will be seen that by virtue of the arrangement herein described the roll surface is, in effect, divided into annular strips each of which is acted on by a separate finger. The invention is thus differentiated from prior constructions in which spring-urged fingers act on a single blade extending from end to end of the roll surface.

Where a fluid-containing envelope is employed the fluid may be fed through the envelope at a given rate so that the fluid acts as a cooling agent.

I claim:—

1. In a paper machine, in combination, a roll, a bar, a blade constituted by an array of fingers adapted to enter into direct contact with the roll surface and individually responsive to irregularities of the said surface, and resilient means separate from the blade and so interposed between said bar and fingers as to urge said fingers towards said roll surface.

2. A doctor for paper machines comprising a bar, an array of fingers mounted on the bar and individually capable of deflection relatively thereto, and an envelope containing fluid under pressure interposed between said fingers and said bar.

In testimony whereof I have signed my name to this specification.

JOHN WHITE.