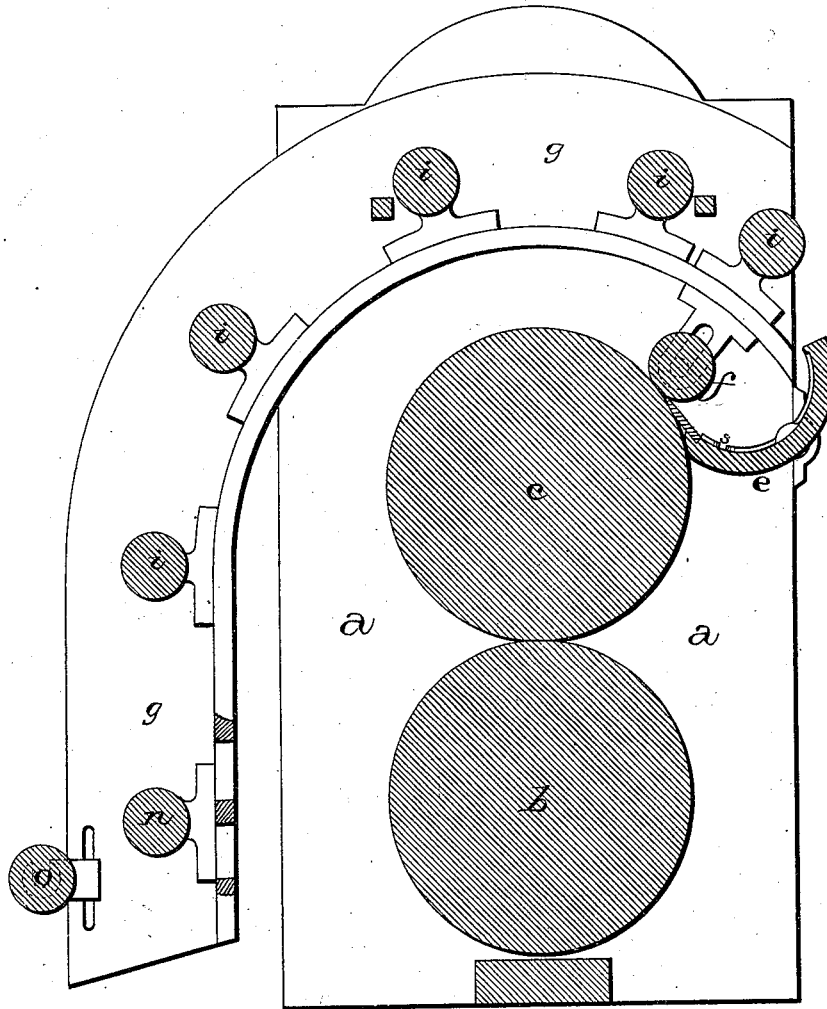


G. F. JONES.  
Doctors for Paper-Machines.

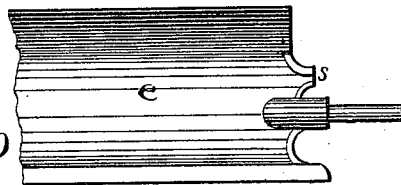
No. 200,309.

Patented Feb. 12, 1878.



WITNESSES.

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INVENTOR  
*G. F. Jones*  
per  
*J. A. Lehmann*  
Atty.

# UNITED STATES PATENT OFFICE.

GEORGE F. JONES, OF MORGAN, ASSIGNOR OF ONE-HALF HIS RIGHT TO  
JNO. A. DUSHANE, OF BALTIMORE, MARYLAND.

## IMPROVEMENT IN DOCTORS FOR PAPER-MACHINES.

Specification forming part of Letters Patent No. **200,309**, dated February 12, 1878; application filed  
January 24, 1878.

*To all whom it may concern:*

Be it known that I, GEORGE F. JONES, of Morgan, in the county of Carroll and State of Maryland, have invented certain new and useful Improvements in Doctors for Paper-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in doctors for paper-machines; and it consists in the combination, with the press-frame and rollers, of the knife for shaving the paper from the rolls, a pressing-roller, and a frame provided with a series of rollers to prevent the paper from coming in contact with the press-rollers.

It also consists in making the roller for adjusting the tautness of the sheet vertically adjustable, all of which will be more fully described hereinafter.

The accompanying drawing represents a vertical view of my invention.

*a* represents the press-frame, of any suitable construction, in which are placed the usual rollers *b c*. Instead of the upper roller being covered with the usual press-cloth, it is left bare. Pivoted in the frame, just to one side of this roller, is the curved knife *e*, the lower sharp edge of which bears against the top of this upper bare roller, and shaves the paper from it in one continuous unbroken sheet. The knife is curved, as here shown, so that after the paper is started between it and the small adjustable roller *f* just above, the upper edge of the paper will be started upward and backward over the top of the press-rollers.

One great advantage gained by the location of the knife or doctor, as here shown, consists in removing the moisture from the roll and discharging it beyond its ends, so that it cannot come in contact with the paper. As the edge of the knife or doctor shaves the paper from the roll, it also skims all of the loose moisture from the face of the roller, and this moisture, running down into the hollow por-

tion of the knife, makes its escape at each end through the small troughs *s* upon each end of the knife. Were this moisture allowed to remain upon the roller it would cause the paper to be kept constantly wet along its edges, thereby rendering it constantly liable to break or tear.

In order to prevent this sheet of paper from falling back upon the press-roll, an additional curved frame, *g*, is secured from the inside of the press-frame, and this frame *g* is provided with a number of small rollers, *i*, upon which the paper rests as it is drawn from the edge of the doctor. These small rollers revolve readily as the moving paper passes over them, and thus prevent the paper from being held back by friction, or from being caught against any projection, and thus becoming rumpled or torn.

In the lower end of the frame *g* the two rollers *n o* are made vertically adjustable to any desired extent. The inner and upper one of these two rollers is made thus vertically adjustable for the purpose of changing or varying the tautness of the sheet. Whenever this sheet becomes loose, and the machine is running at a high speed, it causes a wavyness or flapping in the sheet, which is liable to cause it to break. The lower roller *o* is made adjustable vertically by means of its bearings, and it can be removed from its bearings for the purpose of separating the paper from the sheet in the usual manner.

Having thus described my invention, I claim—

1. The combination of the press-frame, press-rollers, knife, roller *f*, and frame *g*, provided with a series of rollers for preventing the sheet of paper from coming in contact with the press-rollers, substantially as set forth.

2. The roller *n*, made vertically adjustable for tightening the sheet, substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand this 24th day of January, 1878.

GEO. F. JONES.

Witnesses:

WILL. H. KERN,  
W. S. D. HAINES.