(No Model.)

2 Sheets—Sheet 1.

W. SCOTT.

DAMPING AND CUTTING PAPER.

No. 272,588. Patented Feb. 20, 1883.

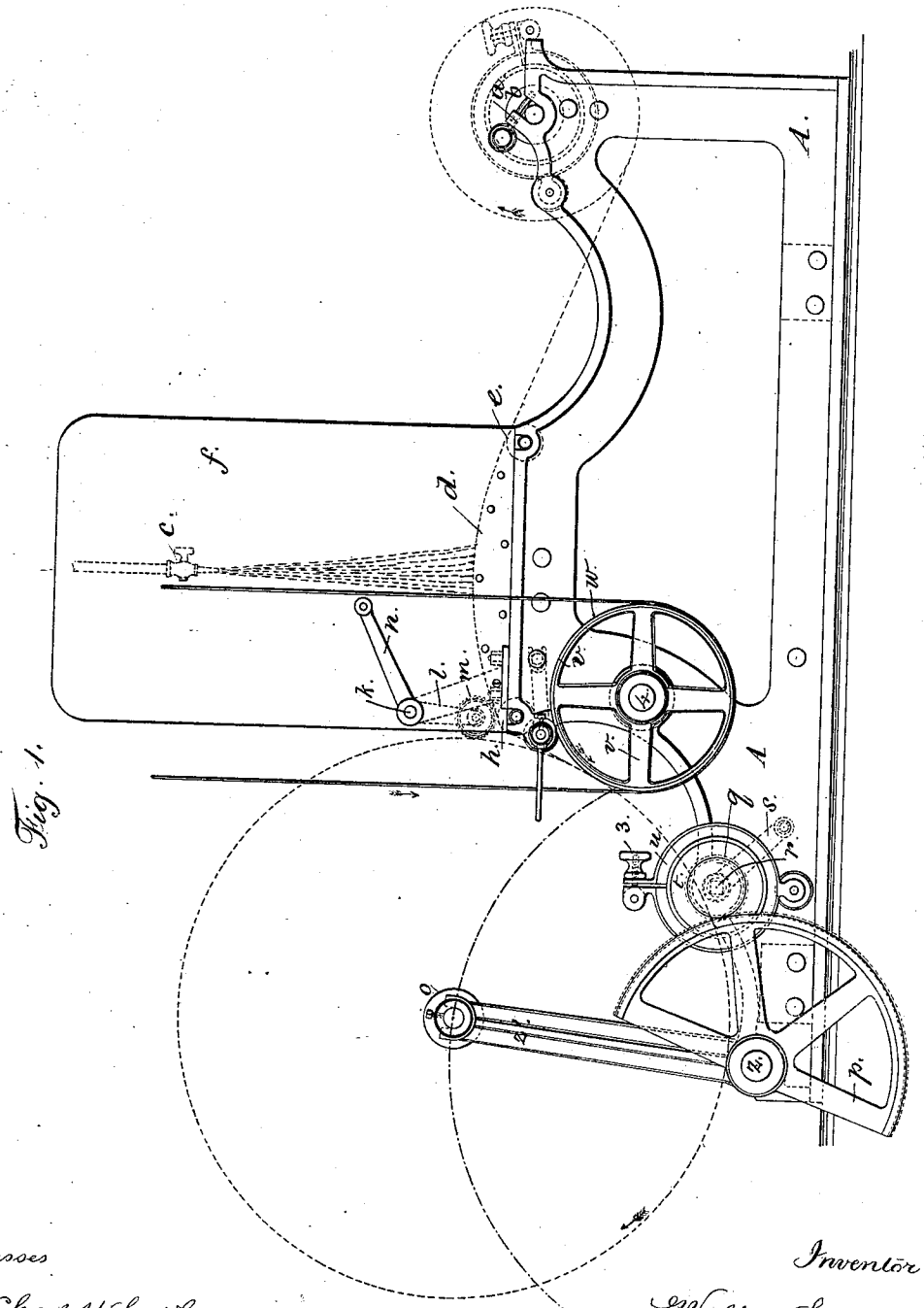


Fig. 1.

Witnesses

Chas. H. Smith

J. Hall

Inventor

Walter Scott

per Lemuel W. Serrell

atty

N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.)

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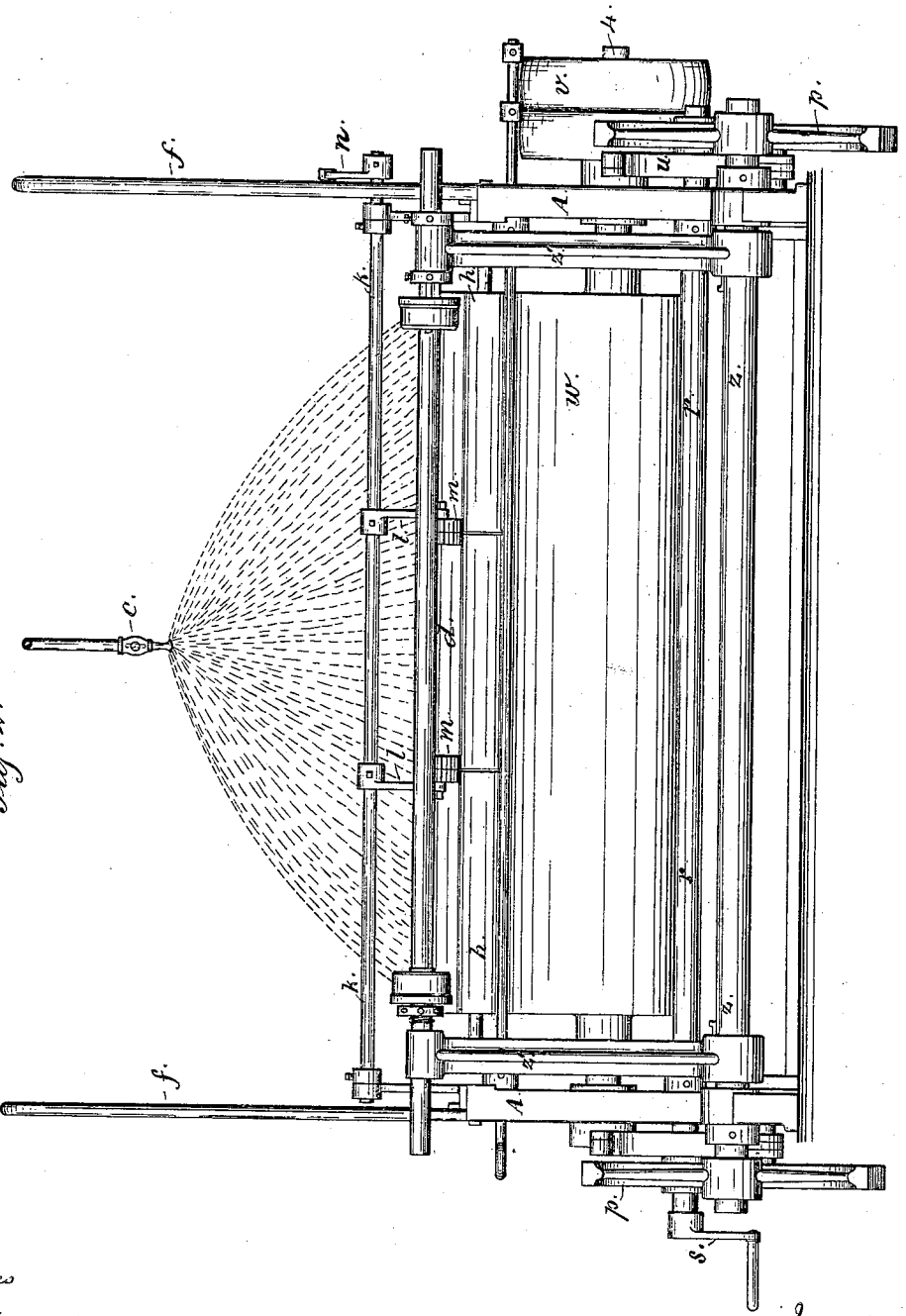


Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

WALTER SCOTT, OF PLAINFIELD, NEW JERSEY.

DAMPING AND CUTTING PAPER.

SPECIFICATION forming part of Letters Patent No. 272,588, dated February 20, 1883.

Application filed September 27, 1881. (No model.)

To all whom it may concern:

Be it known that I, WALTER SCOTT, of Plainfield, in the county of Union and State of New Jersey, have invented an Improvement in Dampening and Cutting Paper for Printing-Presses, of which the following is a specification.

Paper has heretofore been subjected to a spray of water, and it has also passed over a convex table in a dampening-machine, and in some instances the paper has been wound upon a reel pressed by a frictional device against a revolving drum.

My invention is an improvement upon these previous devices; and it consists in the combination, with the dampening device, of one or more rotary cutters applied in such a manner as to separate the web of paper longitudinally as it passes from the dampening to the winding devices; also, in the frictional device that acts upon the roll to insure greater uniformity in winding the damp paper, and to allow for the roll of paper being lowered upon the floor or a table after being wound, and previous to removal to the printing-press.

In the drawings, Figure 1 is an elevation of one side of the dampening, cutting, and winding machine, and Fig. 2 is an end elevation of the same.

The frame A of the machine is of any suitable character, the form shown being preferable. At one end of the frame are bearings *a* for a roller, *b*, upon which the roll of paper to be dampened is mounted, and there should be a frictional detaining mechanism applied to the roller to prevent the paper unwinding too fast. The paper passes over the convex table *d*, and it is dampened by a spray of water from a jet-pipe, *c*, similar to a gas-burner, and there are to be confining boards or plates *f*, that prevent the water scattering laterally upon the belts and other portions of the machinery. I prefer to employ a roller, *e*, at the edge of the convex table nearest the roll of paper to prevent too much friction on the paper. I also provide a similar roller, *h*, at the other edge the table *d*, and over this roller the paper passes as it leaves the dampening-table and is wound up, as hereinafter described. This roller *h* also serves as a support for the paper while being cut longitudinally.

The cross-shaft *k* is supported in brackets on the frame. It is provided with arms *l*, having at their ends gudgeons or arbors, upon which are the rotary knives *m*. These knives are preferably made of a circular range of lance-points to penetrate and cut the paper as the same is drawn along beneath them. The arms *l* may be placed upon the shaft *k* in the proper position for cutting the web of paper into longitudinal strips of the desired width, and the roller *h* should be provided with narrow peripheral grooves for the knives *m* to enter in cutting the paper. A crank-arm, *n*, at one end of the shaft *k* allows the same to be turned and the cutters or knives *m* moved out of the way, so as not to act upon the paper when the same does not require to be cut longitudinally.

The shaft *z* is provided with arms *z'* and a roller, *o*, upon which the paper is wound. At one or each end of the shaft *z* there is a segmental gear, *p*, that gears into the pinion *q* on the cross-shaft *r*, at the end of which is a crank-handle, *s*. There is also around the shaft *r* a friction-wheel, *t*, and a friction-ring, *u*, and adjusting-bolt 3, by which more or less pressure and friction are applied to prevent the shaft *r* turning too freely.

The power is applied to the pulley *v* upon the shaft 4, and there is a drum or cylinder, *w*, on this shaft 4 between the frames.

The web of paper is passed through the machine and the end wound around the roller *o*, which roller *o* and paper are in contact with the surface of the drum *w*, as shown by dotted lines in Fig. 1. Upon starting the power and turning on the spray the paper will be drawn along and wound upon the roller *o* by the action of the drum *w*, and the speed of movement will be uniform, or nearly so, as the drum *w* acts directly upon the paper. In the movement the spray will moisten the paper and the knives will cut it longitudinally. The friction at *t u* will cause the required initial pressure of the roll of paper upon the winding-drum *w*, and this pressure will be uniform, regardless of the size of the roller, because the segmental gear *p* has always the same leverage for detaining by the friction of *t u* the movement of the shaft *z*, and the swinging of the arms *z'* and roller *o* upwardly as the roll of paper in-

creases in size will cause more of the weight to be taken on the shaft *z*, and only allow a nearly-uniform amount of weight to press the paper to the winding-cylinder. When the roll of paper has accumulated to the desired extent, the machine is stopped and the ends of the paper properly secured, or a wrapper applied around the roll of dampened paper, if desired; and when the roll is to be taken out of the machine the crank *s* is revolved by hand to turn the gears *p q* and swing the arms *z'* around until the roll of paper is lowered to the floor or platform on which the machine rests. After the roll of paper has been removed a roller, *o*, is replaced in the arms *z'* and the parts brought to position by the crank or handle *s* for starting another roll.

I claim as my invention—

1. In a machine for dampening paper, the combination, with the dampening-table and winding-drum *w*, of the segmental gear *p*, shaft *z*, arms *z'*, pinion *q*, shaft *r*, and crank *s*, substantially as set forth.

2. In a machine for dampening and winding paper, the combination, with the winding-drum *w* and roller *o*, of the arms *z'*, shaft *z*, segmental gear *p*, pinion *q*, and frictional clamp *t u*, substantially as specified.

3. The combination, with the dampening-table and winding mechanism, of a roller, *h*, adjacent to the dampening-table, and the rotary cutting-knife and the arm carrying the same, substantially as set forth.

Signed by me this 22d day of September, A. D. 1881.

WALTER SCOTT.

Witnesses:
HAROLD SERRELL,
WILLIAM G. MOTT.