

W. Bullock.
Paper Cutting.
N^o 100,367. Patented Mar. 1, 1870.

Fig. 1.

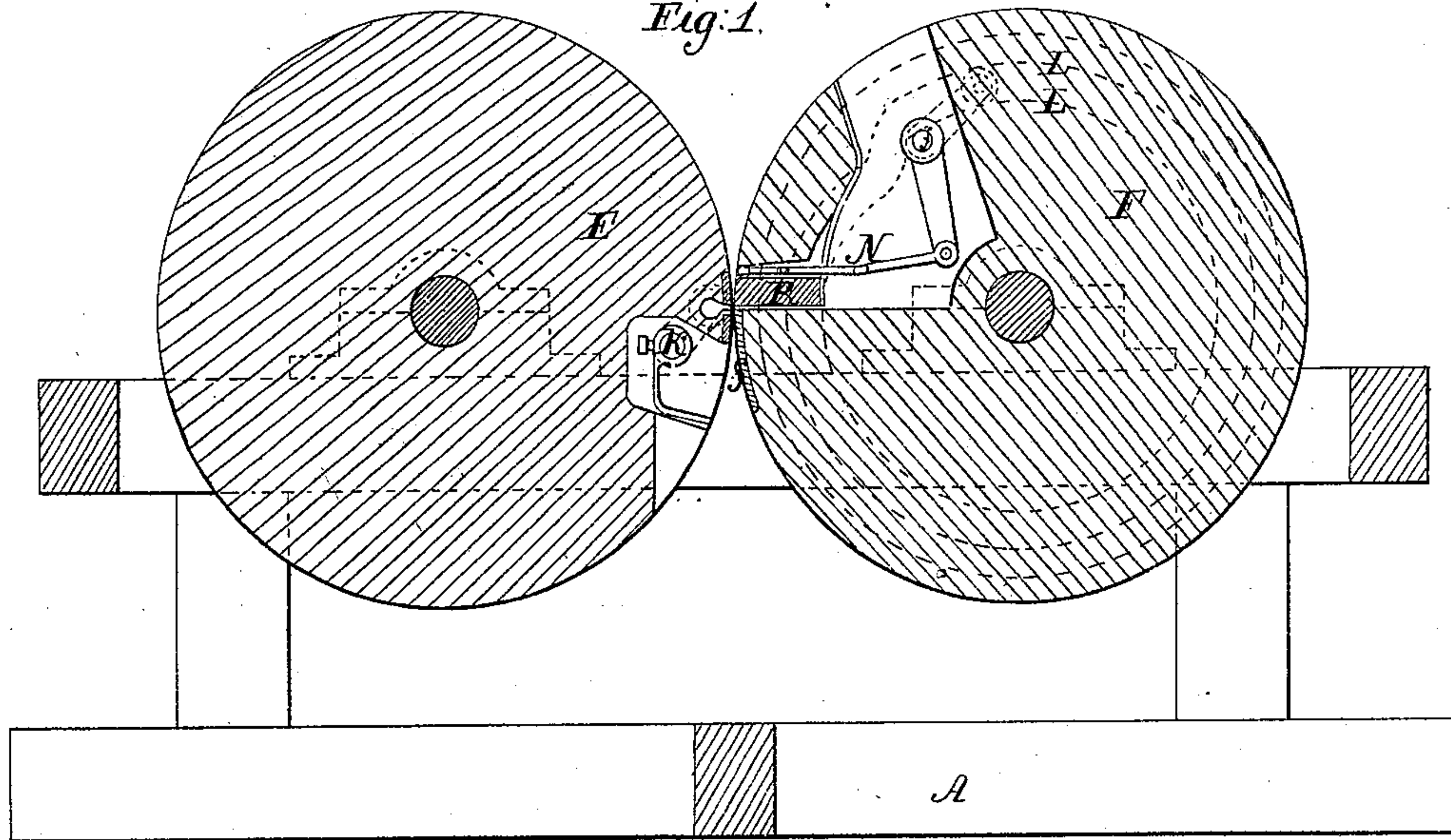
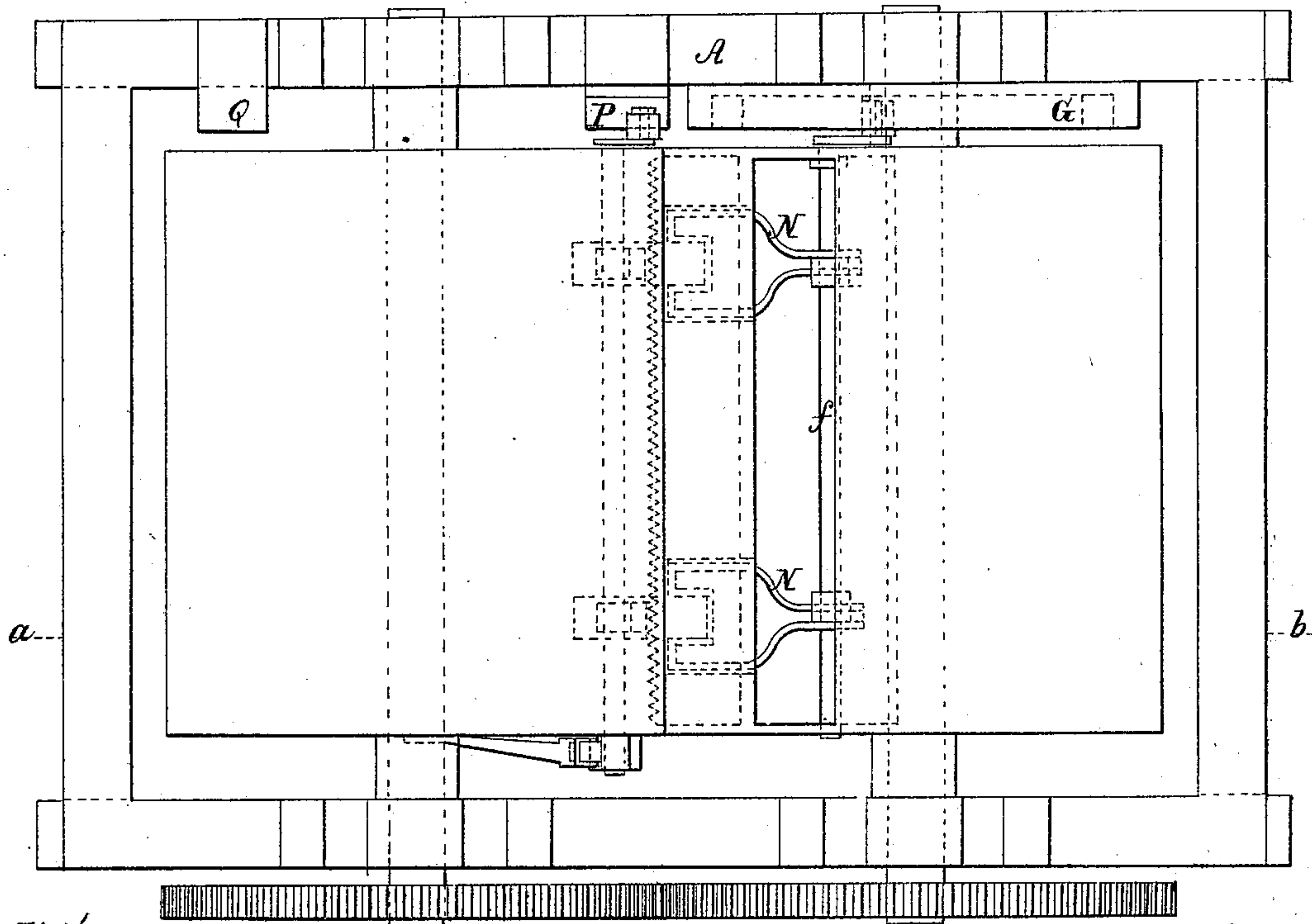


Fig. 2.



Witnesses
Jas. Gilbert

Inventor

William Bullock

United States Patent Office.

RICHARD VOSE, OF PHILADELPHIA, PENNSYLVANIA, ADMINISTRATOR
OF WILLIAM BULLOCK, DECEASED.

Letters Patent No. 100,367, dated March 1, 1870; antedated February 23, 1870.

IMPROVEMENT IN ROTARY PAPER-CUTTING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that WILLIAM BULLOCK, late of Philadelphia, in the county of Philadelphia, in the State of Pennsylvania, did invent a new and useful Improvement in Rotary Paper-Cutting Machines for cutting paper from a continuous roll into sheets; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, in which—

Figure 1 is a longitudinal sectional elevation through the red line *a b* in fig. 2, showing its position at the instant the sheet is severed from the roll.

Figure 2 is a transverse section, showing the position of the grippers and fingers or pushers at the instant the sheet of paper is severed from the roll and before the grippers have moved, as hereinafter described.

This machine and improvement was especially designed to be used in connection with the Bullock printing-press, but may be used with advantage in cutting paper for any other purpose. A difficulty has, however, heretofore existed in machines of this description, from the forward end of the paper, immediately after being cut, dropping down perpendicularly out of the reach of the grippers, notwithstanding the devices heretofore used to prevent such a result.

The nature of the invention here claimed consists in providing a means whereby the forward end of the sheet, immediately upon its being severed by the cutter from the rear end of the preceding sheet, is forced or pressed into close contact with the face of the female cutting-cylinder, just at and on both sides of the place where the grippers on the female cutting-cylinder strike the sheet, and then hold it to that point until the grippers have securely and firmly got hold of it, so that the sheet can be carried on and the operation continued.

In the drawings hereto annexed—

A is the frame of the machine, and has parallel sides supporting the boxes, shafts, cutting-cylinders, cams, cog-wheels, &c., the cutting-cylinders being placed horizontally between and resting on boxes attached to the sides.

E and F are the female and male cutting-cylinders, made hollow to allow a place for the gripper and finger-rods, with their connections.

K is the gripper-rod shaft, running horizontally through the female cutting-cylinder E, having a short crank, with a small roller on the outer projecting end of the shaft, which roller works over the cam-guide P attached to the frame A, closing the grippers at the proper time

f is the finger or presser-shaft, running horizontally through the male cutting-cylinder F, having one or more arms, (as many as there are grippers in the female cylinder,) firmly secured to it, on the end of each of which arms there is hinged a finger or presser, N, so made as not to perforate the paper, the plan represented in the drawings being preferred, that is, so constructed as to run through guides and press the paper against the opposite cylinder, and close to and on both sides of the grippers.

On the projecting end of this finger-rod or shaft is a short crank with a small roller, which works between the cam-guides L L attached to the frame A, thereby projecting the fingers or pressers against the sheet of paper, and holding it on both sides of the place where the grippers strike the paper, close to the opposite cylinder, until the grippers have seized firmly upon the sheet, the same cam-guides then withdrawing the fingers for the next sheet, and so on.

G is a horizontal view of the stationary cam for operating the fingers or pressers, and is attached to the frame A.

Q is a cam attached to the frame A, and operates the gripper-rod crank, opening the grippers to release the sheet of paper to the next set of grippers or other suitable device for receiving the sheets therefrom, after they are cut.

R is a yielding spring-bar, reaching horizontally clear across the cylinder, and when coming in rolling contact with the opposite cylinder, yields and holds the paper tightly while it is being cut, by the knife right along side of it projecting beyond the periphery of the cylinder, and entering the slot in the opposite cylinder at each revolution, and also severing a sheet of paper from the roll.

S is a strip of India rubber, tacked to the cylinder on the opposite side of the slot, and projects slightly beyond the periphery of the cylinder, for the purpose of holding the paper on both sides of the slot while the knife is passing through the paper.

The paper is supplied to the machine from a continuous roll, which may rest on or against, and be unwound by its contact with the cutting-cylinder.

The cylinders being connected by cog-gearing and revolving toward each other, the paper is fed down between the cutting-cylinders and severed by the blade of the cutter in cylinder F entering the slot in the cylinder E, the paper being held firmly for that purpose by the yielding spring R, after which the loose end of the web from which a sheet has been cut is immediately forced or pressed against the face of the cylinder E by the fingers or pressers N N, which are forced out of the cylinder F as soon as the sheet is

severed, by the cam-roller passing between the cam-guides L L, and held up to the opposite cylinder until the grippers have seized hold of the paper, when the cam-guides L L withdraw the fingers ready for the next sheet, and so on.

What I claim as the invention of the said WILLIAM BULLOCK, and desire to secure by Letters Patent, is—

The finger or presser N herein described, in combination with revolving paper-cutting machines, constructed and operating substantially as herein set forth.

RICHD. VOSE, *Administrator*.

Witnesses:

A. L. BUTLER,
JAS. GILLET.