

W. BULLOCK.

Registering Apparatus for Printing Presses.

No. 61,996.

Patented Feb. 12, 1867.

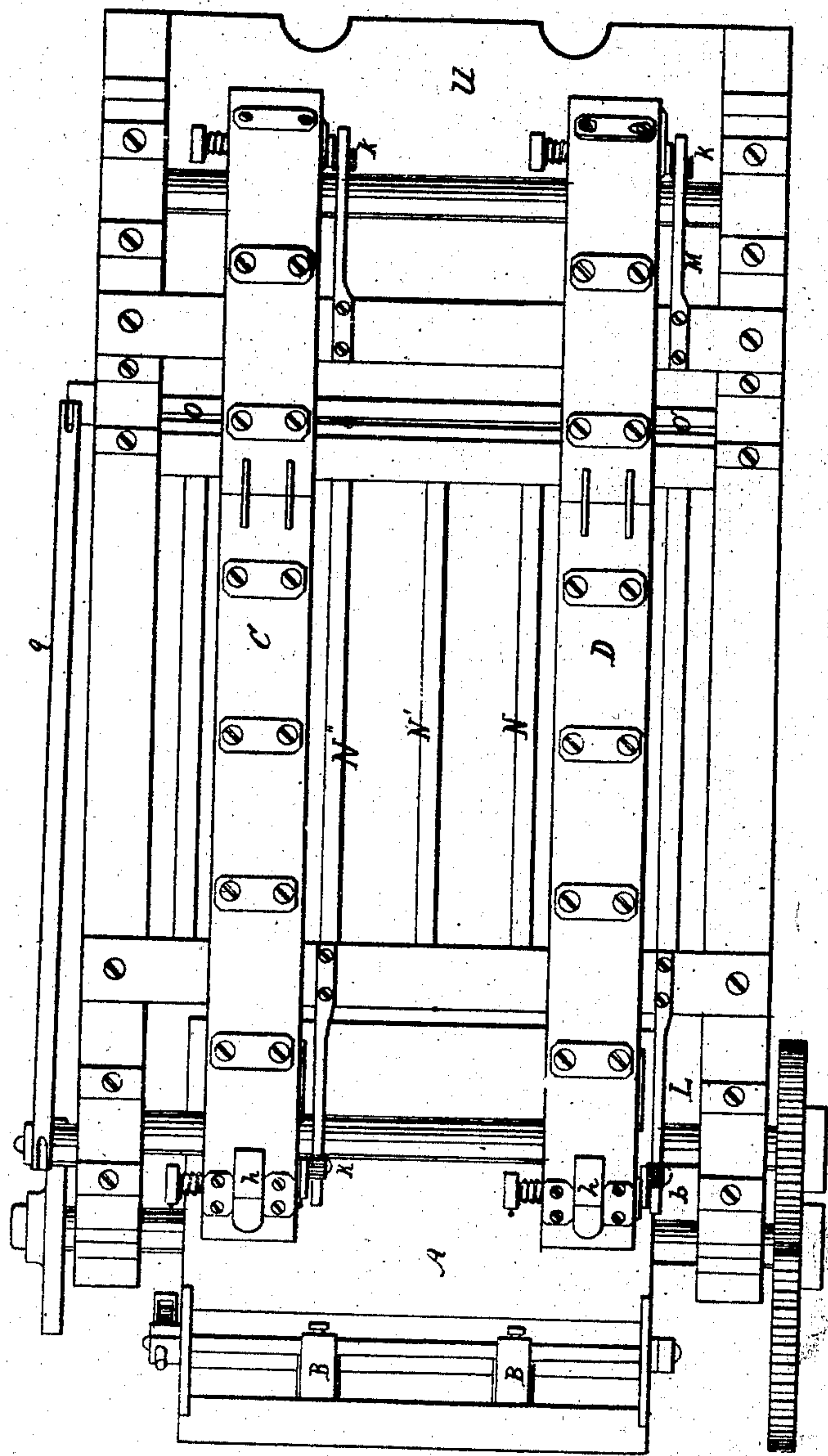


Fig. 1.

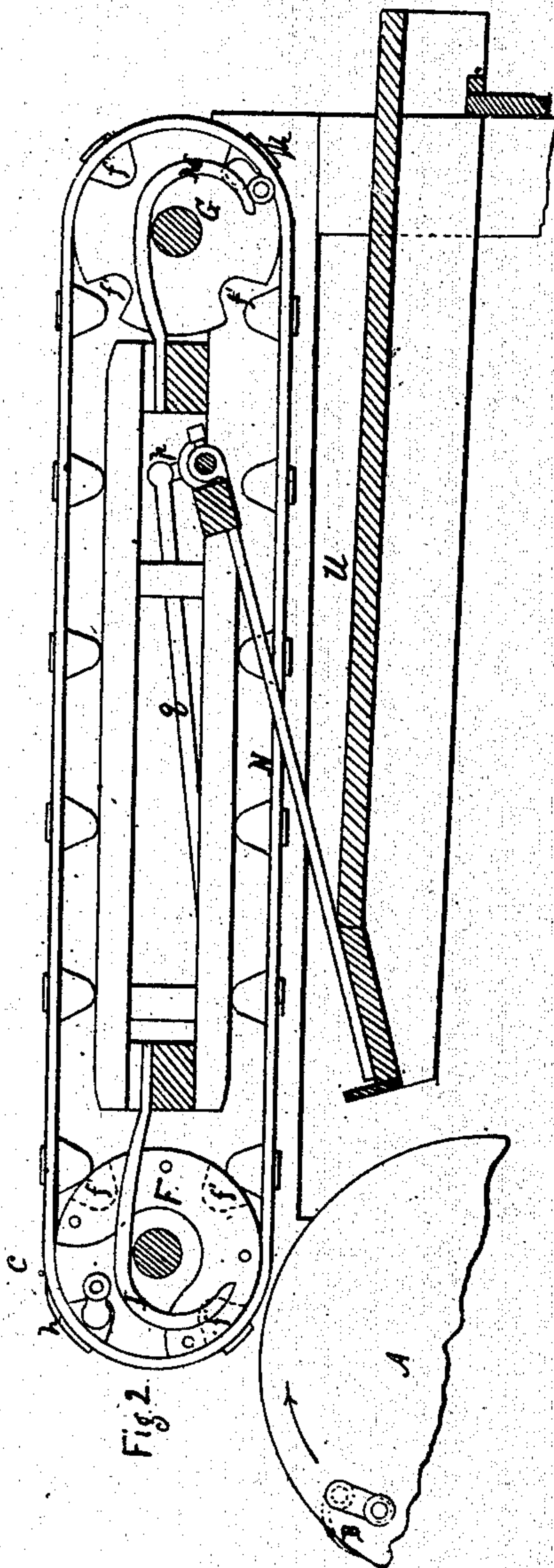


Fig. 2.

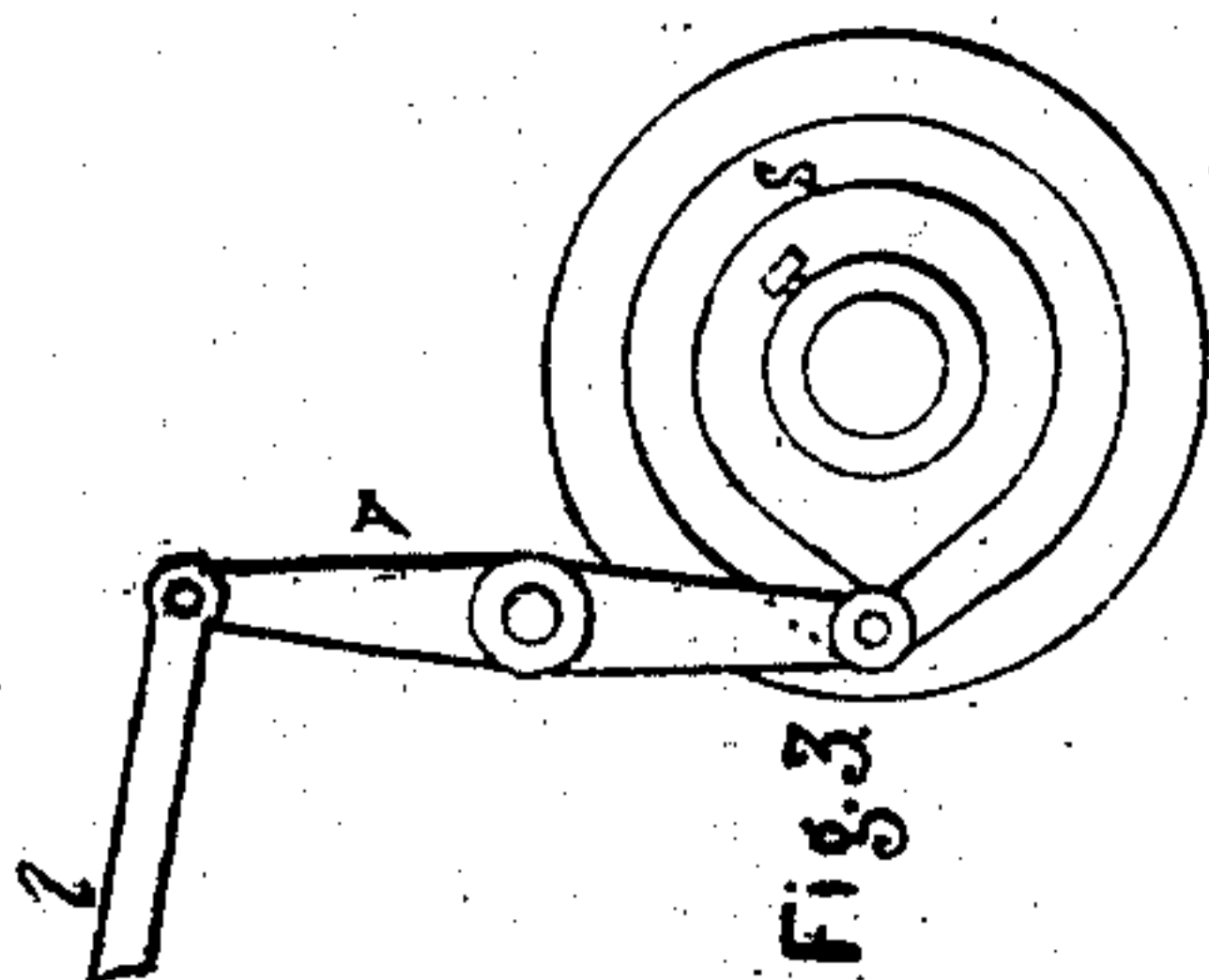


Fig. 3.

Witnesses.

J. H. Ward
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Inventor.

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Geo. Harding

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WILLIAM BULLOCK, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 61,996, dated February 12, 1867.

IMPROVEMENT IN PRINTING PRESSES.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM BULLOCK, of the city of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Printing Presses, for discharging sheets.

Figure 1 represents a top view of my improvement.

Figure 2 is a side view.

Figure 3, a detached view of the cam.

To enable others skilled in the art to make and use my improvement, I will proceed to describe its construction and operation.

The object of my improvement is the removing of sheets of printed paper from rotary presses and piling them rapidly.

It consists of a roller or cylinder, A, which may be the printing cylinder or additional cylinder having a set of vibrating nippers, B B, which nippers close upon the sheet either before or after it has been printed, and carry it forward in the direction of the arrow until the sheet reaches the two endless leather or India-rubber belts or bands, C and D, which have a series of teeth or ribs, *e e' e'' e'''*, &c., on their inner surface, which fit into indentations or slots, *f f' f'' f'''*, on the pulleys F and G. On the outer surface are two or more nippers, *h h*, working on small spindles, which spindles pass through the teeth on the under side of the belts. The belts are cut away to allow the nippers to work through them. The nippers *h h* are kept always closed, except at the moment of receiving and releasing the sheet, by means of small spiral springs, one end of the spring going into a collar on the spindle, and the other end into the tooth of the belt. The effect of this spring is to keep the nippers closed, except when the small cranks K, on the nipper spindle, are passing the cam L and the cam M. At the former moment the nippers are forced open to receive the sheet, and at the latter moment to release it. Immediately after the nippers pass these cams they are closed by the action of the spiral springs on the nipper shaft. N N' N'' represent a vibrating fly, which vibrates up and down. It is made of three or more wooden slats hung upon a shaft, O O', on which it is vibrated up and down by the crank *p*, (fig. 2,) the connecting-rod *q*, of which is attached to a lever, *r*, (fig. 2,) which works in a revolving cam, S. This revolving cam S causes the fly to vibrate up and down once for every sheet of paper which is delivered. The slats of this fly straddle the lower part of the belt in moving down, and rise above the lower part of the belt to allow the sheet to pass under it. The fly drops at the moment the nippers release the sheet, and they hold it a moment in position and then rise. U is the fly-board or table on which the sheets are received and piled.

The operation is as follows: The sheet, as before stated, is held by the nippers B B, and revolved by the cylinder A, in the direction of the arrow, until it reaches the nippers *h h* in the belts C and D, when the nippers B B open and release the sheet, while the nippers *h h* simultaneously close and grasp the sheet and carry it down under the fly N N' N'' and over the fly-board. When the nippers *h h* have reached the point K the cam M opens the nippers and releases the sheet, and at the same moment the fly N N' N'', by the action of cam S, lever *r*, and connecting-rod *q*, pressing the opposite extremity of the sheet to the fly-board for a moment. In this way the sheets are successively carried to their proper places and deposited there in regular piles with great rapidity and regularity.

Having thus described my improvement, what I claim as my invention, and desire to secure by Letters Patent, is—

The endless belts carrying the nippers, in combination with the vibrating fly frame for throwing down the sheet and arresting its motion, substantially as described.

WM. BULLOCK.

Witnesses:

J. E. SHAW,

GEO. BUCKLEY.