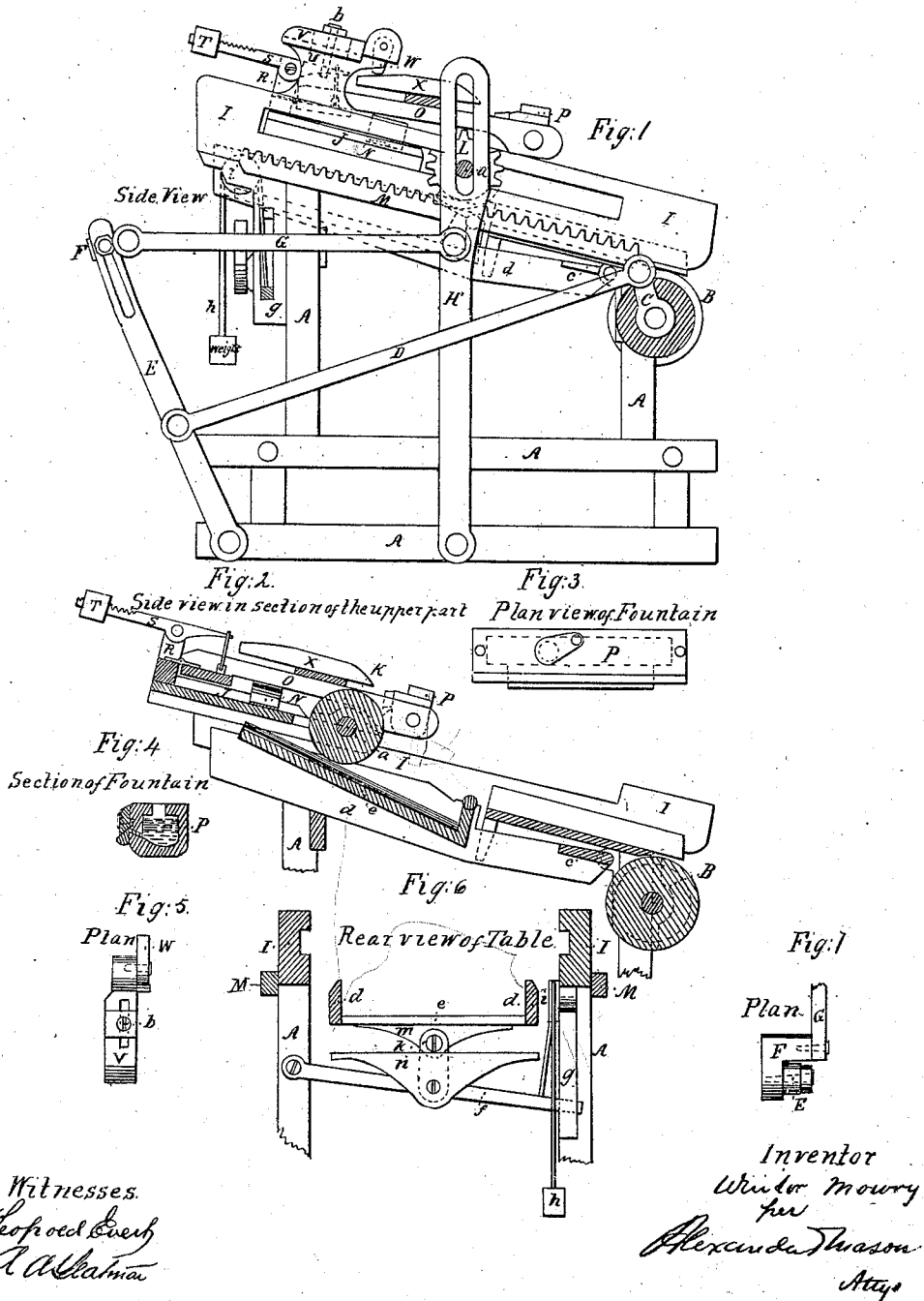


W. MOWRY.
PAPER FEEDING MACHINE.

No. 86,575.

Patented Feb. 2, 1869.



United States Patent Office.

WINSOR MOWRY, OF MINNEAPOLIS, MINNESOTA.

Letters Patent No. 86,575, dated February 2, 1869.

IMPROVEMENT IN PAPER-FEEDING 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 I, WINSOR MOWRY, of Minneapolis, in the county of Hennepin, and in the State of Minnesota, have invented certain new and useful Improvements in Machine for Feeding Paper to Cylinder Presses; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the construction and general arrangement of a "machine for feeding paper to cylinder printing-presses," which, at each revolution, leaves one sheet of paper at the right time and place for the grippers on the press to grasp it and take it around the cylinder for printing.

In order to enable others skilled in the art to which my invention appertains, to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is a side view of the machine;

Figure 2, a side view in section of the upper part thereof.

Figure 3, a plan view of the fountain;

Figure 4, a side section of the same

Figure 5, a plan view of the device for regulating the fall of the fountain;

Figure 6, a rear view of the table and arrangement for raising the same; and

Figure 7 is a plan view of the movable joint which connects the rear lever with the upper connecting-rod.

A represents a frame, made of suitable dimensions and material, arranged and placed in such a manner that the front end of an inclined stationary table, in the upper part thereof, is just above the highest point of the cylinder B of a printing-press.

The paper will be delivered on this stationary table in a manner hereinafter to be described, so that the nippers or grippers of the press will grasp it and carry it around the cylinder, dispensing with the hands usually employed to feed such printing-presses.

Motion is communicated to my machine by means of a crank, C, attached to the shaft of the cylinder B, a rod, D, connecting said crank with an upright lever, E, which is pivoted, at its lower end, to the lower rear part of the frame A.

The upper end of the lever E is slotted, and joined to an upper connecting-rod, G, by means of the L-shaped joint, F, fig. 7.

This joint is fastened to the slotted end of the lever E by a screw-bolt and screw, or other suitable means, passing through the slot in such a manner that said joint can be raised or lowered in said slot, and secured at any point desired in the same, for a purpose hereinafter to be set forth.

The upper connecting-rod G is secured, at its front end, to another upright lever, H, which is pivoted to

the lower part of the frame A, at a suitable distance from the lever E, the upper end of said lever H being also vertically slotted, as shown in fig. 1.

On each side of the upper part of the machine, and above the level of the inclined stationary table, is an inclined slotted way or bar, I, the slot not extending to the ends thereof. The rear ends of said ways I I are grooved on their inner side, from the end of the slot to the end of the bar.

In the slots and grooves on the ways I I, thus described, a frame, J, slides back and forth, in the front end of which frame a roller, K, is placed, the shaft a of said roller having its bearings in the sides of said frame. The ends of the shaft extend through the slots on the ways or bars I I, and one of them through the slot on the lever H.

Each end of this shaft is provided with a pinion, L, which works on an inclined ratchet-bar, M, placed one on each side of the frame A, below but parallel with the slot on the bars I, and one of them between said bar and the lever H.

It will be seen that the motion communicated by the cylinder B moves the frame J and roller K back and forth through the slots and grooves on the inclined ways I I.

On the frame J, a suitable distance in rear of the roller K, is secured a spring, N, on which rests another frame, O, which is hinged to the rear end of the frame J, and in the front end of which a fountain, P, is secured.

The fountain P is provided, on its upper side, with a hole, through which it is filled, and on its under side with a gate, through which some fibrous substance is placed, and the gate pressed or forced against this fibrous substance by screws, for the purpose of graduating the flow of the liquid with which the fountain is filled.

On the rear part of the frame J is placed a standard, R, on which a lever, S, is pivoted, said lever being connected, at its front end, with the frame O, and provided, at its rear end, with a weight, T, which serves, in conjunction with the spring N, to balance the fountain P, so that the fibrous substance in its bottom will not touch the roller K except when pressed down.

On the upper side of the ways or bars I I, near the rear end, is secured a standard, U, which, on its upper side, is provided with a slide, V.

This slide can be regulated so as to be placed at any point desired, by means of screws, b, and they are, near their front ends, provided with pawls or dogs W, which are pivoted on their inner side, and strike against a bevelled bar, X, on the frame O, when said frame is moved towards the rear, causing the fibrous substance on the bottom of the fountain P to strike the roller K.

It will be seen that the point on the roller where this is done is regulated by the moving of the slides V V back or forth.

In the front end of the machine, under the stationary table, is pivoted a frame, which consists of two side-bars, *d d*, and a cross-bar, *c*.

These side-bars extend through to the rear end of the machine, resting on a cross-bar in the frame A, and between said side-bars *d d*, immediately in rear of the stationary table, is pivoted a movable table, *e*, which rests on the same cross-bar in the rear end of the frame A, between the side-bars *d d*.

On this movable table the paper which is to be fed to the printing-press is placed.

In the rear end of the frame A, a lever, *f*, is pivoted, the other end of which moves in a slotted bar, *g*, and a cord and weight, *h*, is attached to this end of said lever, which cord runs over a pulley, *i*, as shown in fig. 6.

On the lever *f* is a fulcrum, *k*, on which two bars, *m* and *n*, are pivoted, one, *m*, operating on the adjustable table *e*, and the other, *n*, on the side-pieces *d d*, for the purpose of keeping these side-bars constantly above the paper placed on the table *e*, and also for raising both ends of the table when the paper has been diminished sufficiently to require it.

The operation of the machine is as follows:

The paper to be used in the printing-press; being first wet, as usual, is placed on the adjustable table *e*, and the fountain P is filled with water, a solution of starch, or its equivalent, which soaks through the fibrous substance placed in the gate on its under side. The machine is then put in motion, and as the frame J moves to the rear, up the inclined plane, the dogs or cams W W strike the bevelled bars *x x*, causing the fountain P to strike the roller K, wetting the roller along its entire length.

When the roller is at its highest point, the weight *h*, operating on the table *e*, presses the paper against the wet line of the roller, and causes it to adhere to the same, and as the roller moves toward the cylinder, the sheet of paper is taken up and rolled or wrapped around

the roller, and thus carried to the cylinder press, and, in returning, unwinds and leaves the sheet of paper in its proper place on the stationary table above the cylinder.

By changing the position of the connecting-rod G, the stroke of the frame O and roller K is shortened or lengthened, as may be desired to suit the different lengths or sizes of paper. This does not change the point of delivery, but merely the point where the paper is picked up by the roller.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the reciprocating roller K and fountain P, arranged in the frames J and O, and operated by means of the pinions L L and racks M M, all substantially as and for the purposes herein set forth.

2. The fountain P, constructed as described, and provided with some fibrous substance in the gate, on its under side, and operated by means of the cams W W, so as to slightly wet the roller K at the proper place to allow this wet place to come in contact with the further margin of the paper, substantially as and for the purposes herein set forth.

3. The adjustable table *e*, hung on the adjustable side-bars *d d*, and operated by the weight *h*, lever *f*, and arms *m* and *n*, substantially as and for the purposes herein set forth.

4. The adjustable connecting-rod G, secured to the lever E by means of the L-shaped joint F, for the purpose of shortening or lengthening the stroke of the roller K, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand, this 18th day of July, 1868.

WINSOR MOWRY.

Witnesses:

MILTON ROBERTS,
CORTEZ L. PECK.