

J. G. NORTHRUP.
PRINTING PRESS.

No. 9,925.

Patented Aug. 9, 1853.

Fig 1

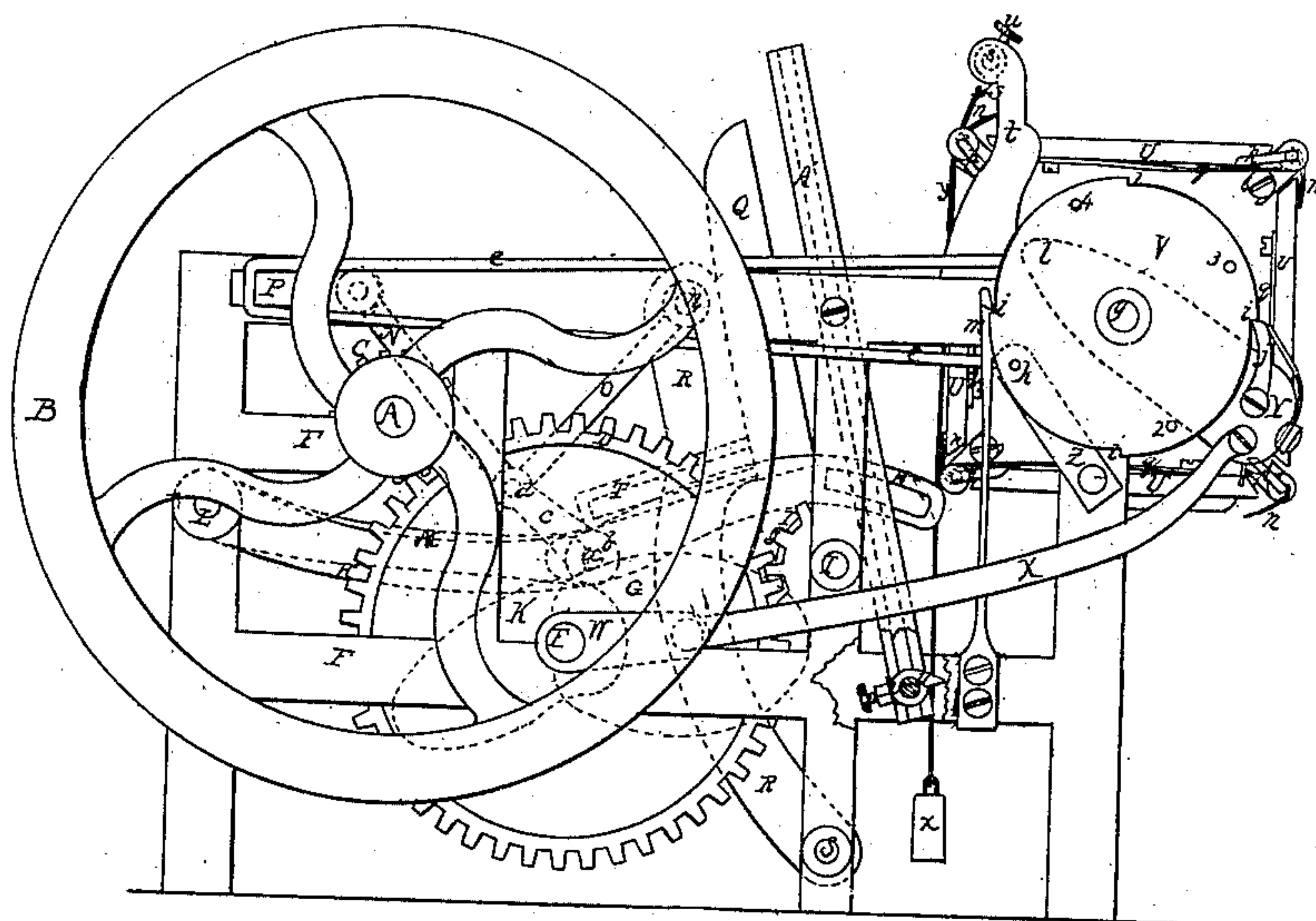


Fig. 2.

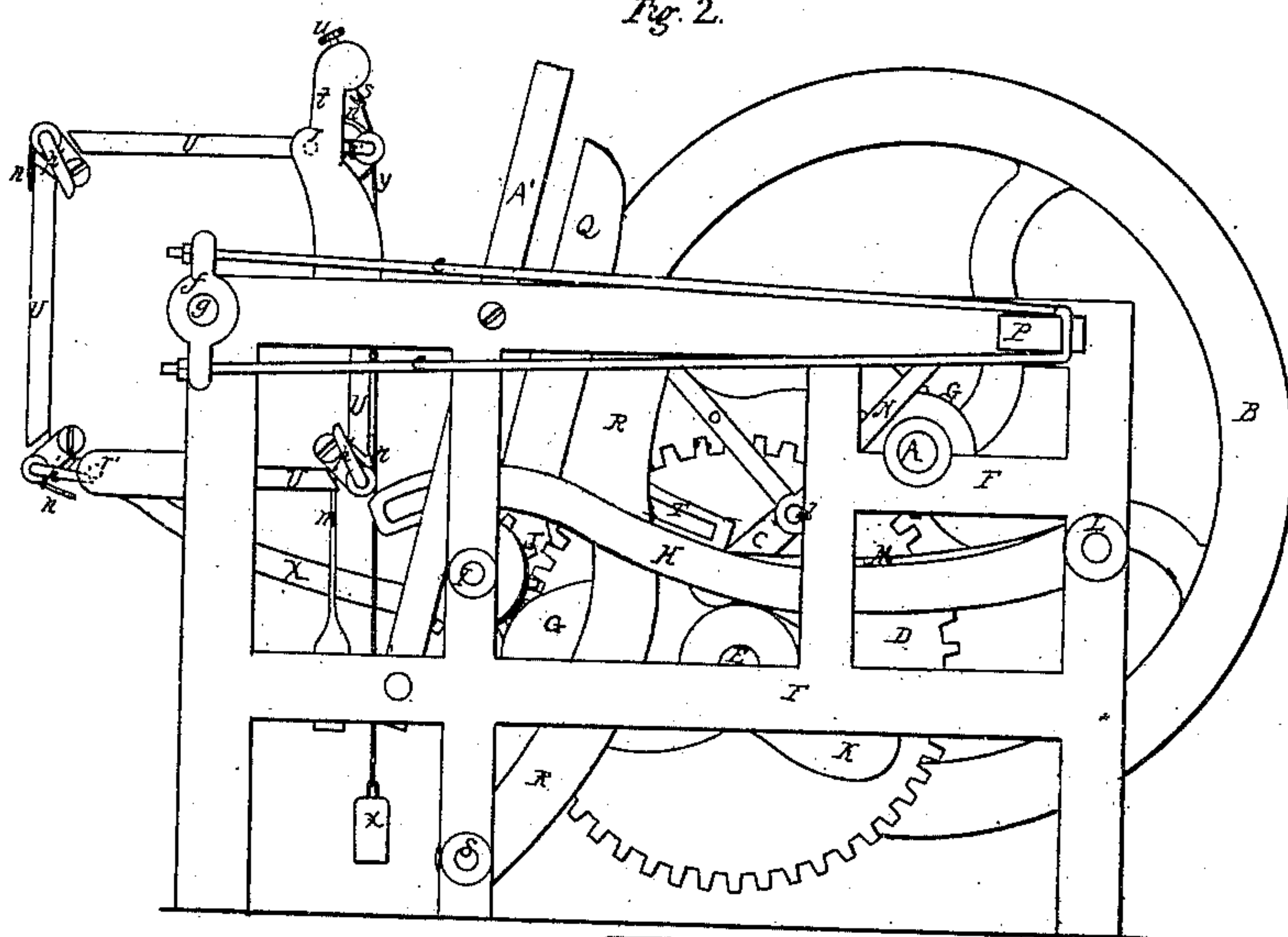
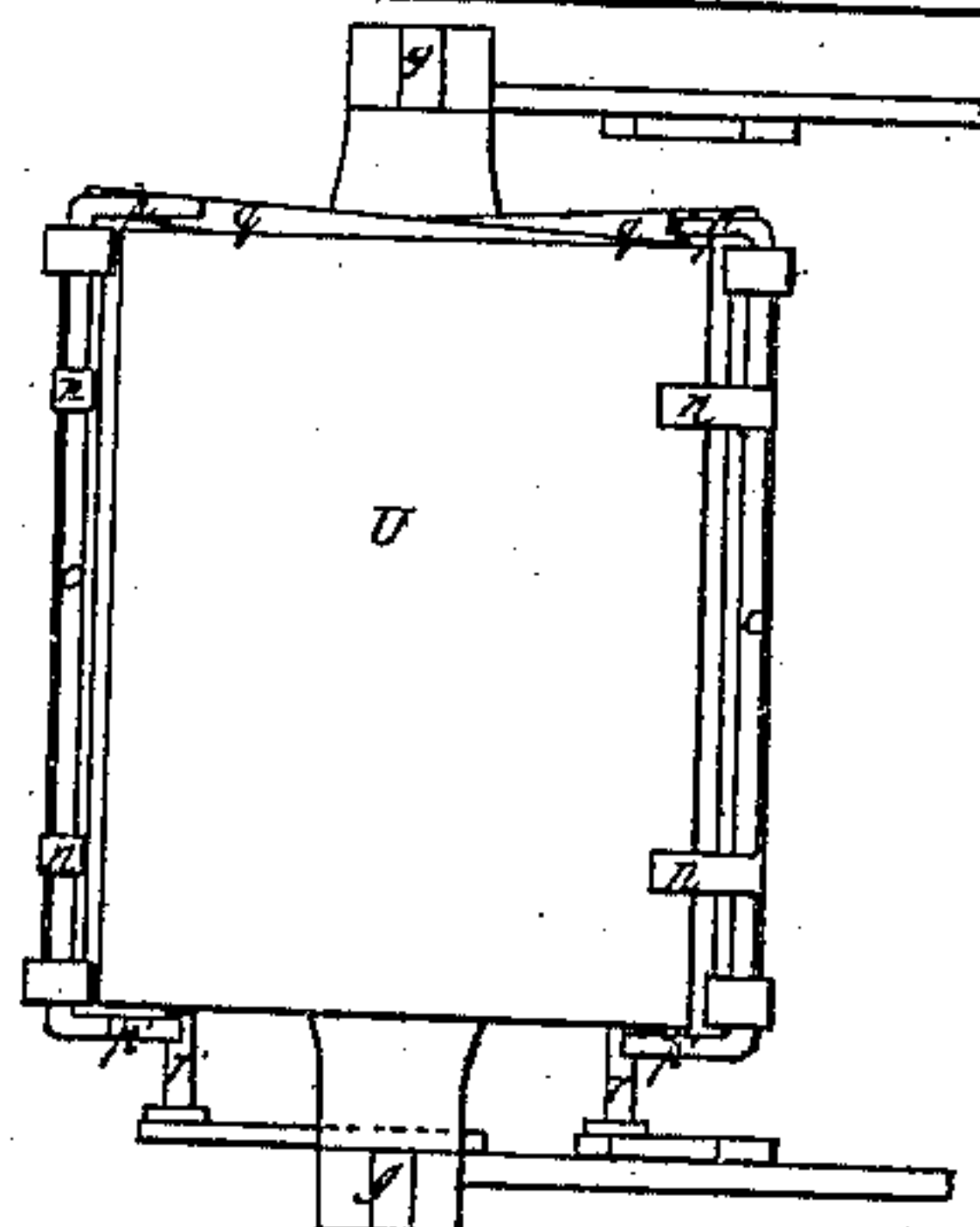


Fig 3.



UNITED STATES PATENT OFFICE.

JOEL G. NORTHRUP, OF SYRACUSE, NEW YORK.

PRINTING-PRESS.

Specification of Letters Patent No. 9,925, dated August 9, 1853.

To all whom it may concern:

Be it known that I, JOEL G. NORTHRUP, of Syracuse, in the county of Onondaga and State of New York, have invented certain
5 new and useful Improvements in Printing-Presses; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part thereof, in which—

Figure 1, represents a view from one of the sides. Fig. 2, represents a similar view from the opposite side. Fig. 3, represents a top view of the platens detached.

15 Similar letters in the several figures denote the same parts.

The nature of my invention consists in combining with a vibrating bed, a series of intermittently rotating platens, so that the
20 sheets may be placed on the platens in the most convenient manner, and fall from the platen after receiving the impression, without of necessity requiring a delivery apparatus, and by which construction I produce
25 a very cheap, and very effective press.

To enable others skilled in the art to make and use my invention I will proceed to describe the same with reference to the drawings.

30 The shaft A, which carries the fly wheel B, (and through which shaft motion is transmitted to the various parts of the press) has upon it a spur wheel C, which works into, and gives motion to, the gear wheel
35 D, on the shaft E, both shafts having proper bearings in the frame F, of the press. On the inside face of the gear wheel D, is bolted a cam G, which may however be cast with the wheel D, and these should, particularly
40 in larger presses, be arranged on both sides of the press, although but a single one is here represented. The cam G, operates the arms H, in which the inking rollers are to be arranged and as these inking rollers are of the
45 ordinary well known form and construction need not be shown or particularly described.

A' represents the grooved ways in which the inking rollers are to run so as to bring them in contact with the form upon the bed.

50 The shaft E, has upon it at or near the center of the press a cam K, for operating the toggle which forces the bed up against the platens, as they successively come around into the proper position, as follows: On the
55 shaft L, which supports the arms H, for carrying the inking rollers, are placed,

loosely, so as to move independently of said shaft, the arms M. These arms M are connected at their extreme ends by a pin or rod
a, on which is placed a friction roller b, to
60 run on the face of said cam; and on this pin a is also placed the connecting bars or rods c which connect with the levers N, O, by a bolt d, and form the toggle. The lever N, is
65 hinged to a substantial crossbeam P, at its extreme end, and the lever O, is hinged to the bed. The beam P is arranged in loose mortises in the frame, and stirrup rods e,
70 pass around the ends of said beam and extend to, and are secured in the journal boxes f, in which the shaft g of the platen frame rests and rotates. By thus connecting the
75 platen with the beam, the strain of the toggle, when forcing up the bed against the platen, is taken or comes upon the stirrup rods which connect them together. To
80 allow this repeated strain and jar to come upon the frame alone, would soon rack it, but the stirrups which are adjustable prevent any such contingency.

The bed Q, of the press is supported by the arms R which are permanently attached to the rock shaft S; and the pin h, which forms the hinge for the toggle lever O, is also, the axis of the bed, and upon which
85 the bed may be swung up into a horizontal position, for the purpose of receiving or removing the form. A slotted arm T, which is attached to the bed, and a set screw passing through it into one of the supporting
90 arms R, admits of this swinging of the bed, and permanently holds it when again let down into its seat.

The platens U, four in number, as represented in the drawings, form the four sides
95 of a square, but may be increased or diminished in number as may be found essential. This frame or series of platens have an intermittent rotary motion on and with their shaft g, which is so regulated, as to bring
100 the particular platen of the series which carries the sheet that is to receive the impression, into proper position for the bed carrying the form to come up against it. On the end of the shaft g, is a ratchet wheel
105 V, with notches i, i, &c., in it, one for each one of the series of platens to be used, into which notches a spring pawl j operated from the shaft E, by means of the crank W thereon, and the lever or rod X, connecting
110 said crank with the pawl. The pawl is held up to the ratchet wheel by means of a cam

plate Y, which is so placed on the shaft *g*, as to work loosely thereon, as it must have a movement independent of the shaft, for the pawl must be drawn back, while the
 5 platens on the shaft *g*, remain stationary to receive the sheet or bed. A spring Z, is attached to the frame, so as to pass up behind the ratchet wheel, and in the end of this spring is arranged a small stud *k*,
 10 which catches alternately into the holes 1, 2, 3, 4, in the ratchet wheel, and holds the platen, while the impression is being taken. After the impression is taken, and the next succeeding one of the series of platens is to
 15 brought into place to receive the bed, the heel of the cam plate Y, passes in between said spring Z, and the ratchet wheel, and forces the stud or pin *k*, out of the hole, and the series of platens are ready for another
 20 portion of a revolution. A spring catch *m*, is also attached to the frame, and catches over the notches *i*, in the ratchet, alternately as they come around, and aids in firmly holding the platen while receiving the bed.
 25 This spring slides over the eccentric face of the ratchet wheel, and holds the ratchet and platen, the period of time between the releasing of the stud *k*, and the moving of the series of platens.
 30 The nippers *n*, of which there is a pair at each corner, or a pair for each platen of the series, are hung upon rods *o*, which have their ends *p*, *p'*, so bent as that one end (*p*) shall bear upon a spring *q*, which closes the
 35 nippers upon the sheet, and the other end (*p'*) strikes against the stationary stud *r*, and opens the nippers at the proper time for receiving the sheet. A series of four platens, brings the one which is to receive the sheet
 40 into a horizontal position—the one receiving the impression from the bed into a ver-

tical position, while the platen which is to deliver the sheet is parallel with the one receiving the sheet but with the sheet lying against its under side, and ready to drop the
 45 moment the nippers release it which dispenses with the expense of a delivery apparatus of any kind. The lower nippers are opened by a stud *r'*, in the same manner that the upper ones are by the stud *r*. The sheets may
 50 drop into a drawer, or onto a paper table as may be desired, and as both these are common and well known are not represented in the drawing.

Two brackets *t*, on top of the frame support a shaft which carries two puppet heads
 55 *s*, from which the paper cords *y*, are suspended—these puppet heads are adjustable on their shaft, and are held when adjusted by the set screws *u*. Another shaft *v* on the
 60 under part of the press, also carries two similar puppet heads *w*, also adjustable, through which the cord *y*, passes and a weight or weights *x*, on the bottom of the cord holds them up against the platen for
 65 the purpose of holding the sheet thereon when in its vertical position.

Having thus fully described the nature of my invention what I claim therein as new and desire to secure by Letters Patent, is—
 70

The combination of the series of intermittingly rotating platens with a vibrating bed when so arranged as that the delivery of the printed sheet is from the lower of the series of platens, so that it may drop
 75 from the platen onto the paper table, or into a drawer substantially as described.

JOEL G. NORTHRUP.

Witnesses:

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 S. C. DONN.