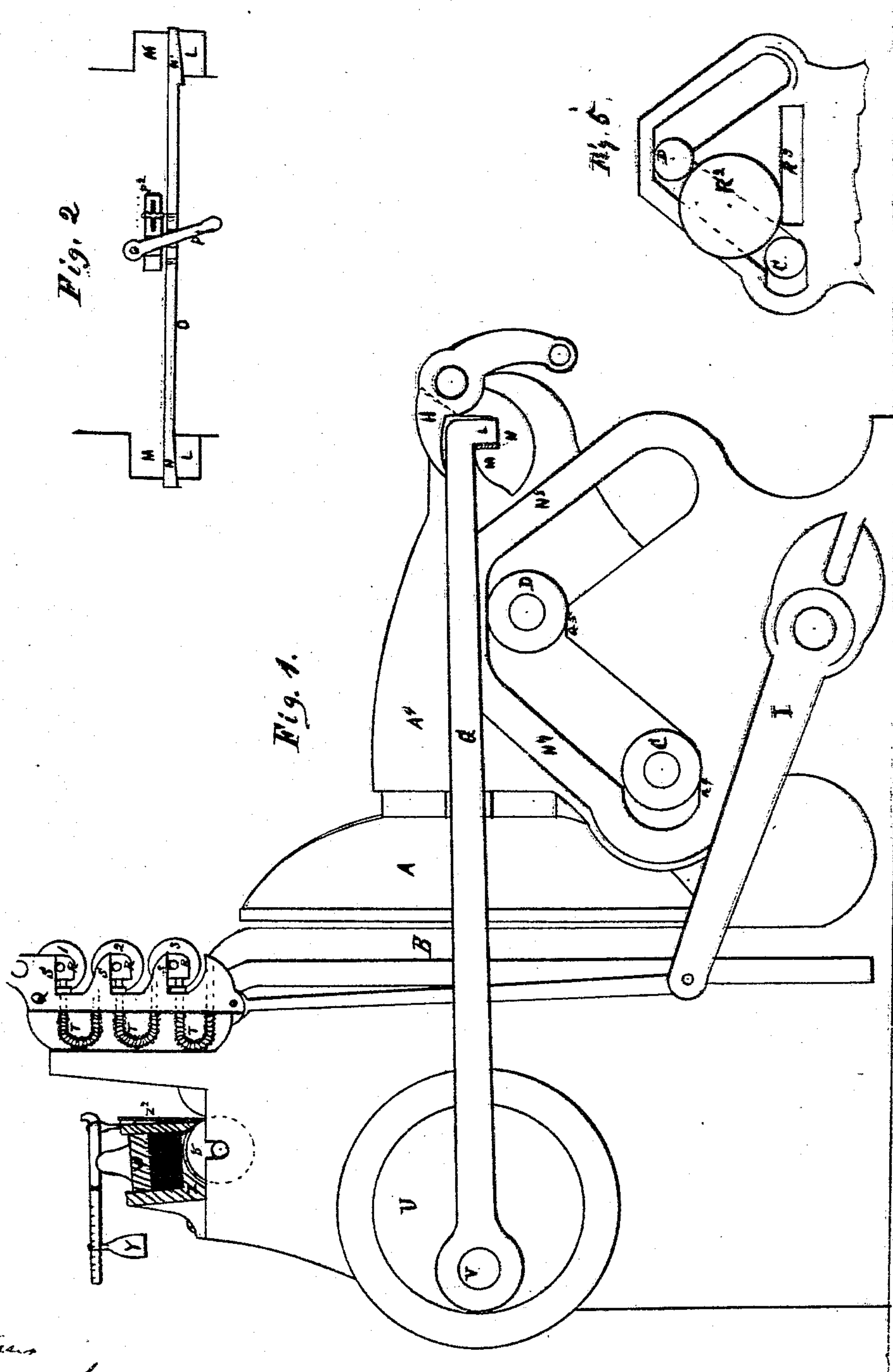


M. Gally,  
Printing Press.

No. 99551.

Patented Feb. 8/1870.



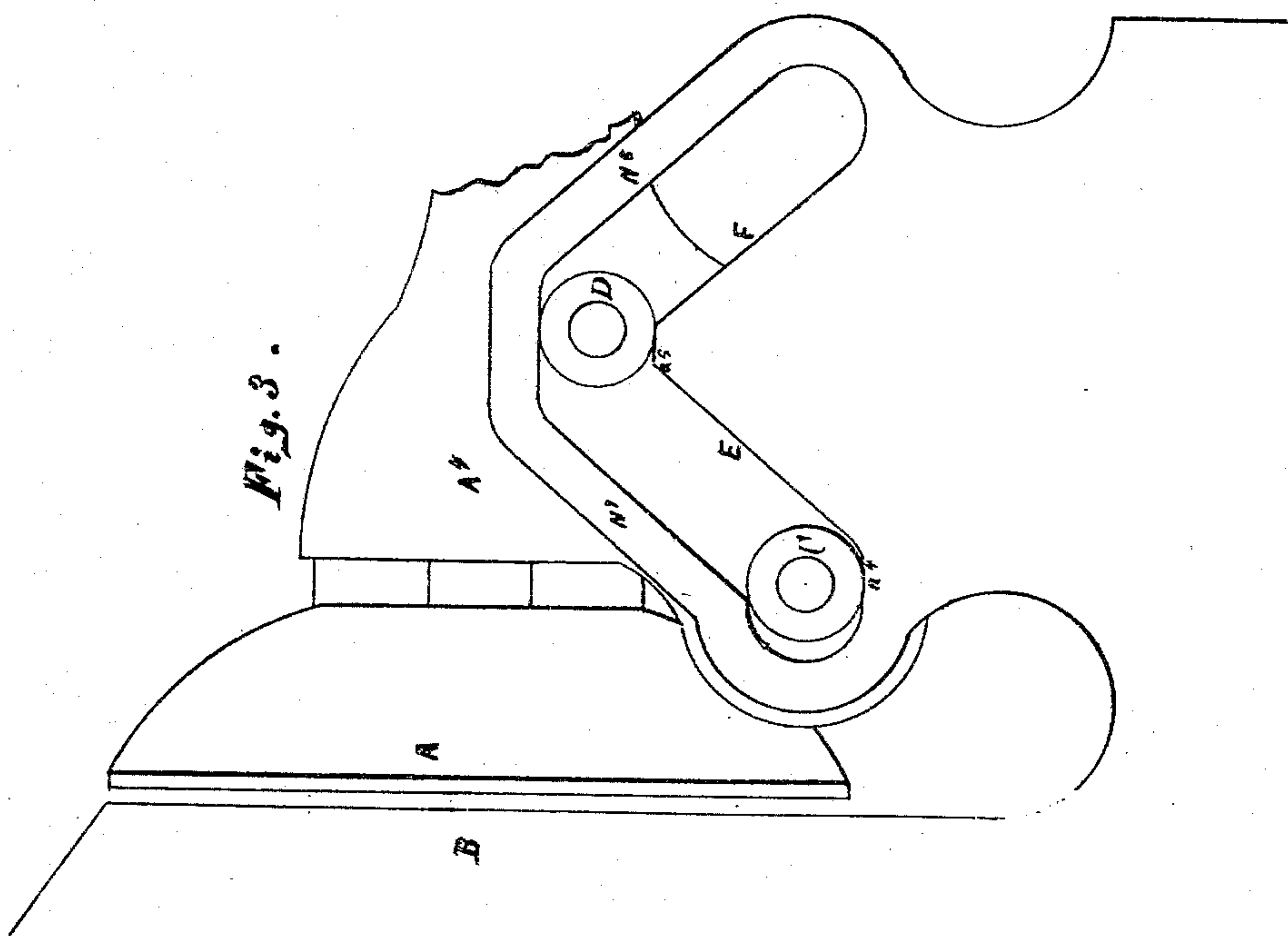
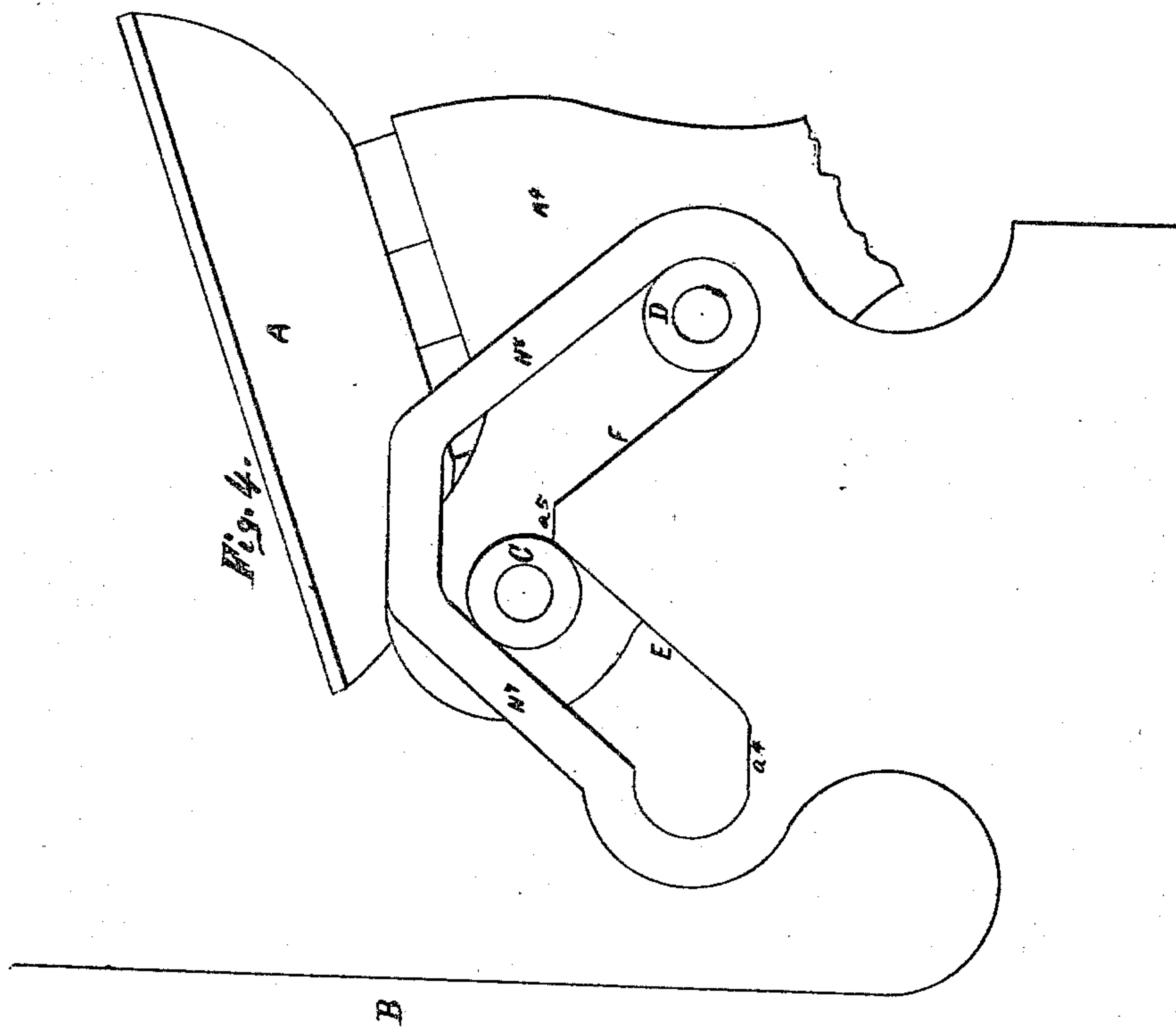
Witnesses  
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August Raymond

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M. Gally,  
Printing Press.

No. 99,551.

Patented Feb. 8, 1870.



Witnesses:  
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Inventor,  
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# United States Patent Office.

MERRITT GALLY, OF ROCHESTER, NEW YORK, ASSIGNOR TO ALLEN CARPENTER, OF SAME PLACE.

Letters Patent No. 99,551, dated February 8, 1870.

## 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, MERRITT GALLY, of Rochester, in the county of Monroe, and State of New York, have invented a new and improved Printing-Press, called "The Eclipse;" and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a side elevation, showing the relative positions of the parts claimed, plate A being in position for making the impression.

Figure 2 is a plan of the combined throw-off and impression-adjuster.

Figure 3 is a side elevation, showing plate A in position for making the impression, also the inclined ways E and F, and wheels or guides C and D, detached from other parts, and enlarged.

Figure 4 is a side elevation, showing like parts with those of fig. 3, with plate A in position of rest.

Figure 5 is a modification of parts of fig. 1.

The first part of my invention consists in the construction and use of inclined ways, which, in connection with wheels, rollers, or guides, shall govern and give direction to the movement of a plate, in such a manner, that an extended reciprocating movement may be secured to the face of said plate, by a much shorter movement of the part or parts which give motion to the plate without a corresponding disadvantage in leverage.

The second part of my invention consists in such a construction of an ink-fountain for printing-ink, as shall secure a constant and even flow or conduct of ink from the fountain to the distributing-apparatus, when such ink is too "short," or lard-like, to be taken up by the fountain-roller of fountains in common use.

The third part of my improvement consists in an improved construction of a roller-carriage, on which a long, and therefore sensitive spring is used for giving elasticity to the movement of the inking-rollers, without necessitating any projection whatever of springs beyond the body of the roller-carriage.

The fourth part of my invention consists in so constructing, arranging, and connecting the wedges used for changing the force of impression on both sides of the press, as to secure an almost instant and accurate change by a single adjustment, and, at the same time, allow the use of the same device for throwing off the impression at will.

I will now describe more fully the several parts of my invention, together with their operation.

The plate A, figs. 1 and 3, is furnished with wheels, rollers, or guides C and D, which move in or upon inclined ways E and F, inclined in opposite directions.

It will be seen, that the movement of wheel or guide D, down the incline F, will cause the movement of

wheel or guide C up the opposite incline E, which will bring plate A to the position shown in fig. 4.

It will also be seen, that if the wheels or guides C and D are so arranged, as to bring the centre of gravity of plate A and collar A' combined, midway between said wheels or guides, plate A will be perfectly balanced at every point in its movement, so long as the ways E and F are equally inclined in respect to a horizontal line.

It will also be seen, that very slight power applied to plate or collar, will produce the movement described. A return movement of plate A will be caused by the descent of guide C down the incline E, which will bring guide D to its former position.

The guards N' and N" may be used, making the ways E and F in form of a groove or slot, or the guards may be left off.

The short parallel ways  $a'$  and  $a''$  allow a direct movement of plate A, for making the impression.

It will be seen still further, by reference to fig. 1, that the extensive reciprocating movement of plate A will be caused by a short lateral movement of the connection-rods or draw-bars G, and, as the guides C and D, which are constantly at equipoise, form the fulcrum for leverage, the difference in the extent of movement of plate A and draw-bar G will not cause a corresponding disadvantage in leverage.

The construction of ink-fountains has been such heretofore, as to preclude the use of certain kinds of printing-inks, which are too "short," or lard-like, to be taken up by the fountain-roller, or be conducted even by a well-fountain. I therefore make a pressure-fountain, by which a graduated pressure upon the ink shall keep it in contact with the fountain-roller, and also so construct the fountain, as to prevent "flooding" of the roller, thus insuring a perfect conduct. The ink-fountain is shown in fig. 1.

The tank Z is entirely enclosed, except a small aperture for contact of the ink with the fountain-roller. This aperture being small, only allowing contact of a line of ink, prevents the "flooding" of the roller when pressure is applied to the ink.

The gauge Z' limits the quantity of ink conducted.

Pressure, by the use of graduated springs or weights, is applied to the follower W, a weight, Y, and graduated lever X being represented in the figure for that purpose. This fountain will conduct, perfectly, ink which heretofore has been applied only by hand. Reference, for example, may be made to "Mathers Sons' best wood-cut ink."

The roller-carriage Q is represented in fig. 1. For this carriage, I use yoke-shaped rods, with coiled springs, (as in my improvement, case F,) but differing entirely in arrangement. Instead of making the yokes fast to the body of the carriage, projecting also in front



of the same, I place the yokes and springs T on the side of the carriage, and allow each end of the yoke to move back and forth through a portion of the body of the carriage, the journal-box, for the roller, being made fast to one end of the yoke. The journal-box R is left open on the upper side, and the journal is held in place by the guard S. The pressure of the hand behind the yoke and spring T, will force the journal-box R forward, to such an extent as to allow the removal of the roller when desired.

I am aware that wedges have been used heretofore for increasing or diminishing the force of the impression of a printing-press, and, that in connection with other devices, such as set-screws or pins, straight wedges have been used on both sides of a press. But in such presses as require adjustment at both sides, two adjustments have been necessary, which, if not perfectly equal and accurate, have occasioned the frequent binding or breaking of draw-bars, the injury of types, or the injurious strain of other parts of the press, besides the loss of time occasioned by making the two adjustments.

In the device, as shown in fig. 2, I use two wedges, N N', with equal inclines. These wedges I connect by a bar, O, and place the wedges between inclined bearing-faces L and M; said bearing-faces having a like incline, to match the faces of the wedges N N'. By moving the wedges further between their counter-bearing faces, the impression will be increased. This

is done by the movement of bar O, which movement may be almost instantaneous, and perfectly adjust both sides of the press at once.

By limiting the movement of bar O by a set-gauge; P<sup>2</sup>, the degree of the force of impression will be limited. By an opposite movement of bar O, the impression may be thrown off at will, to prevent the printing of a misplaced sheet.

*Remarks.*

The straight inclines E and F may be varied, to produce tendency of plate A forward or backward, if desired, or the ways may be curved instead of being straight. In the use of a very heavy plate, an additional supporting-wheel, R<sup>2</sup>, may be used, without changing the effect of the device, as shown in fig. 5.

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

1. A reciprocating plate, in combination with wheels, rollers, or guides, moving in or upon oppositely-inclined ways, substantially as herein set forth.

2. A pressure ink-fountain, for printing-inks, substantially as herein set forth.

3. The combination of rods and springs T, journal-boxes R, and guards S, substantially as herein set forth.

MERRITT GALLY.

Witnesses:

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J. A. REYNOLDS.