

JOHN GOUGH.

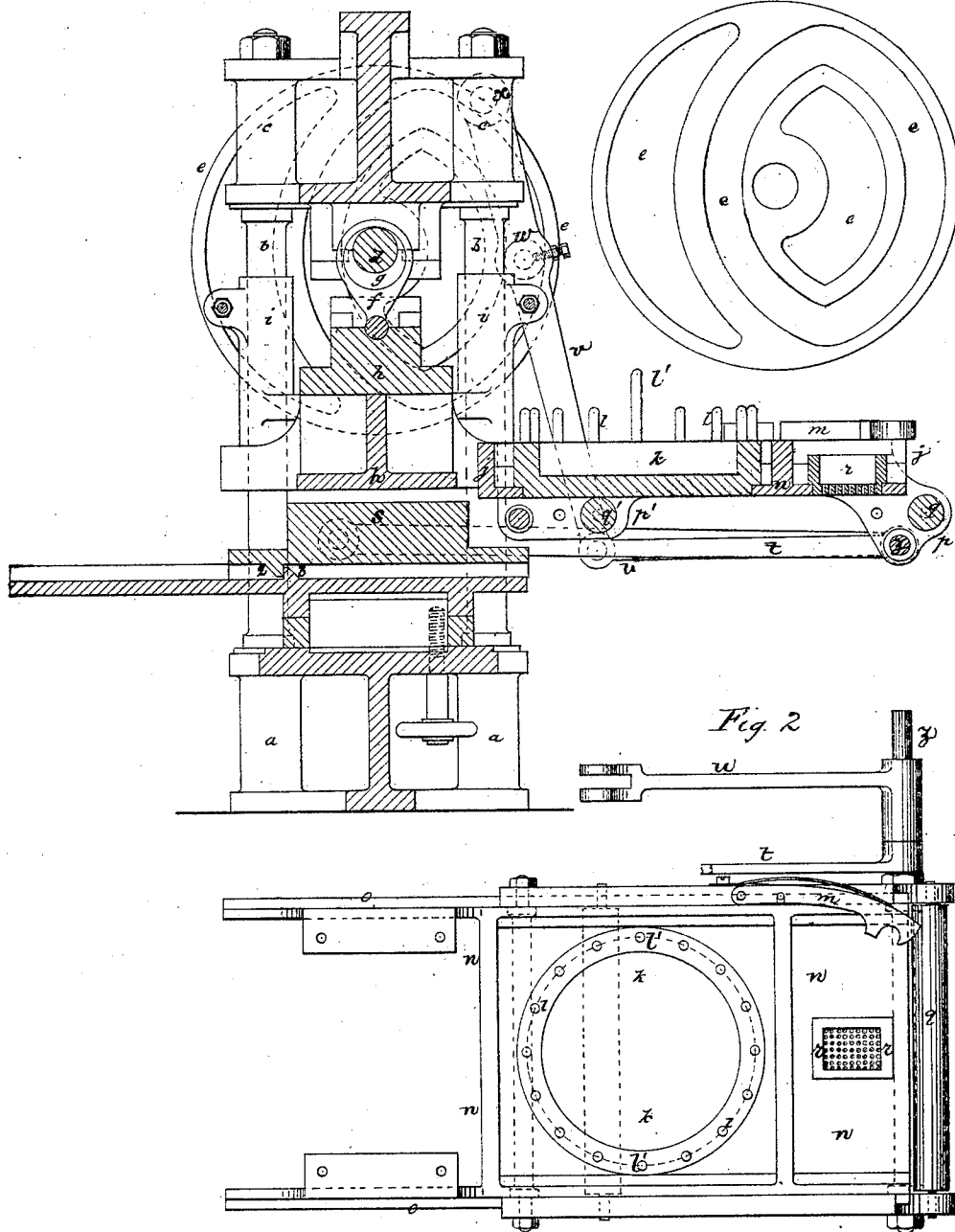
Improvement in Printing-Presses.

No. 114,130.

Patented April 25, 1871.

Fig. 1

Fig. 3



Witnesses:  
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 atty.

# UNITED STATES PATENT OFFICE.

JOHN GOUGH, OF LONDON, ENGLAND.

## IMPROVEMENT IN PRINTING-PRESSES.

Specification forming part of Letters Patent No. 114,130, dated April 25, 1871.

*To all whom it may concern:*

Be it known that I, JOHN GOUGH, of Kirby street, London, in the county of Middlesex, England, have invented or discovered certain Improvements in Presses for Blocking and Printing Purposes; and I do solemnly and sincerely declare that the following is a full, true, and exact description thereof, reference being had to the drawing hereunto annexed—that is to say:

The object of my invention is to so construct the arming-press for producing devices on the covers of books and other articles as patented by me in England on the 21st day of May, in the year 1867, that it shall be available for printing purposes generally in addition to blocking book and other covers, and this I accomplish by arranging the pressure-table so that it can be moved in and out or to and fro under the die or press-head by rods or levers actuated by an eccentric cam or other mechanism for effecting the motion; and in order to adapt it for printing purposes I attach a frame to the rear of the press-head for carrying the necessary inking and distributing rollers, which frame also moves in and out or to and fro by other rods or levers leading from the same cam or cams or eccentrics as the pressure-table, the rollers being caused to pass under and come in contact with the under surface of an inking-table forming part of the heater-box, the inking-table being preferably of circular form and let into a frame or back plate, so that an intermittent rotary motion is imparted to it for distributing purposes by a catch or claw acting upon pins or notches on its top side or on its edge.

The invention will be well understood by referring to the accompanying drawings, of which Figure 1 is a sectional elevation of an arming-press patented by me as aforesaid, and in which the improvements before spoken of are introduced.

*a* is the foundation or bed of the press, on which four or any number of pillars or columns, *b b*, are fixed in the usual manner. These pillars carry the top plate or head, *c*, which firmly binds the whole together, and makes the press of sufficient solidity for the work it has to perform. The lower face of the top plate, *c*, carries a shaft, *d*, on the outer end of which the cam or eccentric *e* is keyed to hold it fast thereon, so that it partakes of the rotary mo-

tion given to the shaft by toothed or other gearing from any prime mover to draw in and push out the inking-roller frame, as required.

On the shaft and at mid-distance between the pillars *b b* is a link, *f*, in which works an eccentric plate, *g*, for giving the necessary rise and fall, and consequently the required pressure at each downstroke or fall of the press heater-box *h*, to which the link *f* is also attached in a manner well known, the straight up-and-down motion of the press heater-box being governed by guides or socket-plates *i i* on its corners riding against the pillars *b b*.

It should here be mentioned that the press as an arming or blocking press is not sought to be protected under Letters Patent, the parts before referred to being only spoken of to render the improvements intelligible, which improvements consist in attaching other mechanism to it, whereby it is capable of performing printing operations in addition to blocking operations.

The press heater-box *h*, which carries the die or printing type or blocks, is provided at its rear with a frame, *j*, forming the inking-table. It has a circular opening, into which a corresponding plate, *k*, is dropped. This plate *k* is provided with pins or studs *l l* on its upper surface, which are caught in succession by a spring-claw, *m*, at each forward movement of the inking-roller frame or carrier *n*. This frame or carrier *n* is supported on the sides of the press heater-box *h* and frame *n* by projections *o o* taking into grooves on the inner faces of it.

The sides of the frame or carrier have lugs *p p'*, for holding the inking and distributing rollers *q q'*, which are so arranged that one set—say *q*—at the end of the back stroke of the frame *n*, receives a supply of ink, which finds its way through the perforated bottom of the reservoir *r*, which is fitted on the back end of the press heater-box frame *j*. The rollers then, in the forward movement, bring the ink and spread it on the back portion of the circular table *k*, against which they are caused to travel, and as the table *k* is rotated by the spring-claw *m* it brings the inked portion round to the front, when the other rollers, *q'*, receive their supply for laying on the surface of the type or block from which the impression is to be taken. By this means the ink becomes evenly spread over the surface of the

inking-table by the rollers *q* before it comes round to the rollers *q'*. The pressure-table *s* also gets a sliding motion by means of rods *t* and levers *u v*, for the purpose of bringing it to the front, so that the sheet of paper to be printed or the book-cover to be blocked can be laid upon it, and this is an important part of the invention, because it admits of the paper or the book-cover being laid or "registered" upon it with a greater degree of certainty than under the old system—an advantage which will be understood and appreciated by all blockers of book-covers. Another advantage to be derived from it is that both side covers can be blocked at the same time, or two or more covers can be arranged on the pressure-plate *s*, as found convenient. Thus a deal of time will be saved by the employment of the sliding plate *s* over the ordinary stationary one. In addition to the above, the workman's hands will be clear of the descending die or press heater-box, so that their liability to become jammed or smashed is entirely obviated. I mention this because in all blocking-presses at present constructed the pressure-plate is a fixture under the die or head, or has only a movement up or down by means of screws or wedges to suit the thickness of cover to be blocked, whereas in my invention the pressure-plate has a to-and-fro movement given to it in addition to the up-and-down one for adjusting purposes; and I wish it to be understood that this to-and-fro movement of the pressure-plate can be applied to existing blocking-presses by fitting the necessary levers and rods thereto, to be actuated by a cam or eccentric on the main shaft *d*, or on a supplementary shaft.

The length of throw or travel of the pressure-plate *s* is determined by the distances of the cam-bowl *w* and the suspension pin or stud *x*, and the position of them.

In the drawings, Fig. 1, I have shown the cam or eccentric *e* on the main shaft *d*, and the bowl-lever *v* centered upon the pin *x* on the side of the top plate or head, *c*, while the lower end of it is connected to a rod, *u*, on a pin, *z*, projecting from one side of the frame *n*, to establish the requisite sliding motion of the inking-roller frame, as before described. The inner end of this pin *z* carries the link or connecting-rod *t* of the pressure-plate *s*, so that the plate receives a corresponding motion to the inking-roller frame. By this means the

type or blocks are being inked while the impressed sheets are being removed and fresh blanks laid on, and vice versa.

In order to allow for the wear of the bowl and cam, I propose to fit an adjusting-screw in the collar or boss to press it up to the working-face of the cam; and to insure the pressure-plate stopping at the exact spot under the die, I fix a stop-piece, 2, on its under part and another, 3, on the supporting-plate. These stops abut against each other and register the position of the plate.

The under surface of the press heater-box is prepared in the ordinary way for receiving the die, and has the usual pockets or apertures for the gas-jets for heating them; but of course the gas is turned off to dispense with the heat when the press is used for printing purposes only. The circular inking-plate is simply dropped in in position, and to enable it to be lifted when it requires cleaning or otherwise, I make two of the pins or studs *l' l'* rather longer than the others to form handles, whereby it is easy of removal.

I have in Fig. 2 shown a detached view of the circular inking-plate and its supporting-frame *n*, and of the cam *e* in Fig. 3, for the purpose of showing their construction more clearly.

I do not in these Letters Patent confine myself to the exact details or arrangements of parts for producing the to-and-fro movement of the pressure-plate *s*, as those would be determined by the form of construction of press to which my improvements are to be fitted; neither to the arrangement for producing the to-and-fro movements of the inking mechanism when such is applied to blocking-presses; but

What I do consider novel under my improvements in presses for blocking and printing purposes, and desire to claim, is—

The heater-box *h*, inking-table *j*, and plate *k*, provided with the pins *l*, in combination with the spring-claw *m*, carrier *n*, lugs *p p'*, and rollers *q q'*, arranged to operate in connection with driving mechanism, substantially as set forth.

In witness whereof I, the said JOHN GOUGH, have hereunto set my hand this 12th day of October, 1870.

JOHN GOUGH.

Witnesses:

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