D. E. James.

Printing Press.

No. 22184. Patented Nov. 30. 1858

Fig: 1.

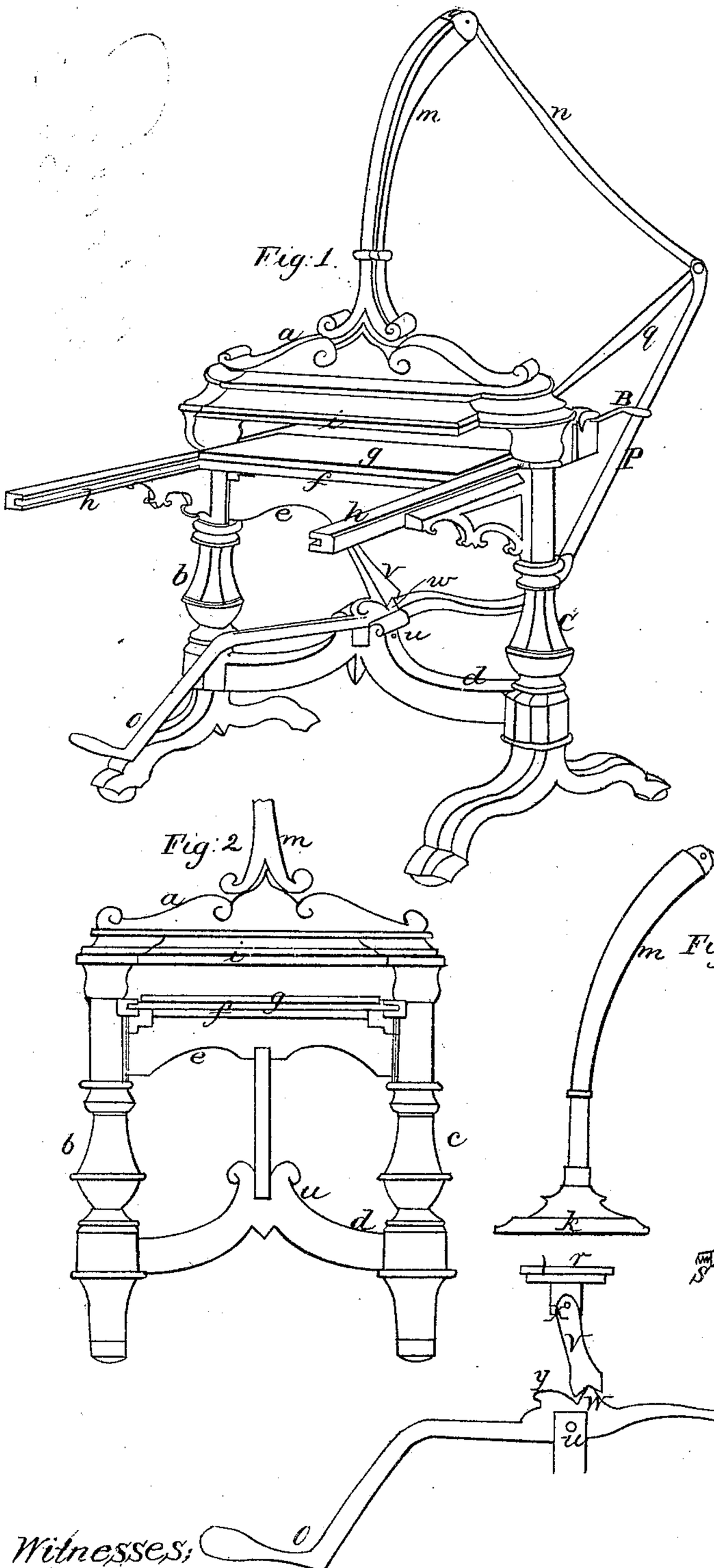


Fig: 4.

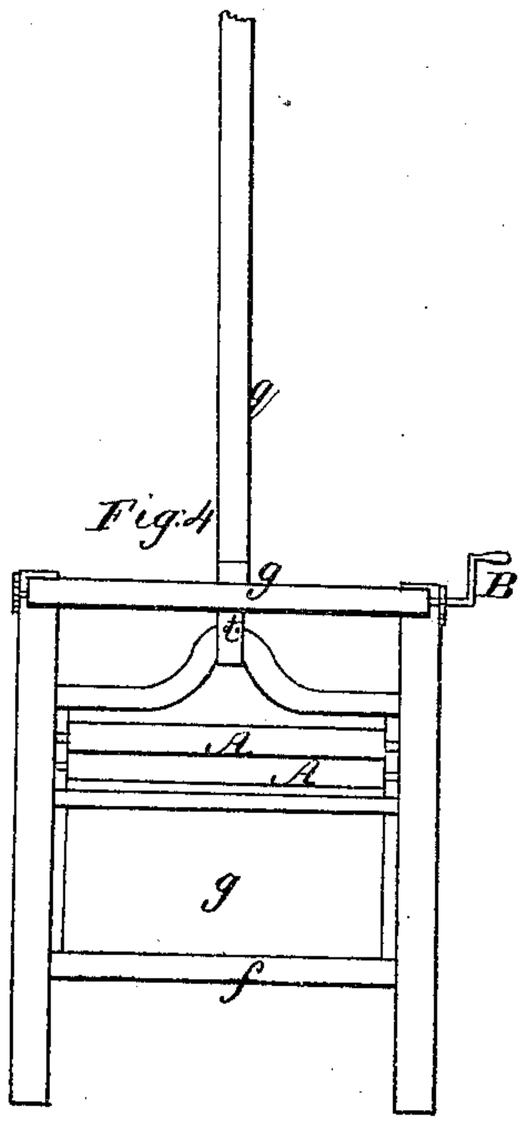
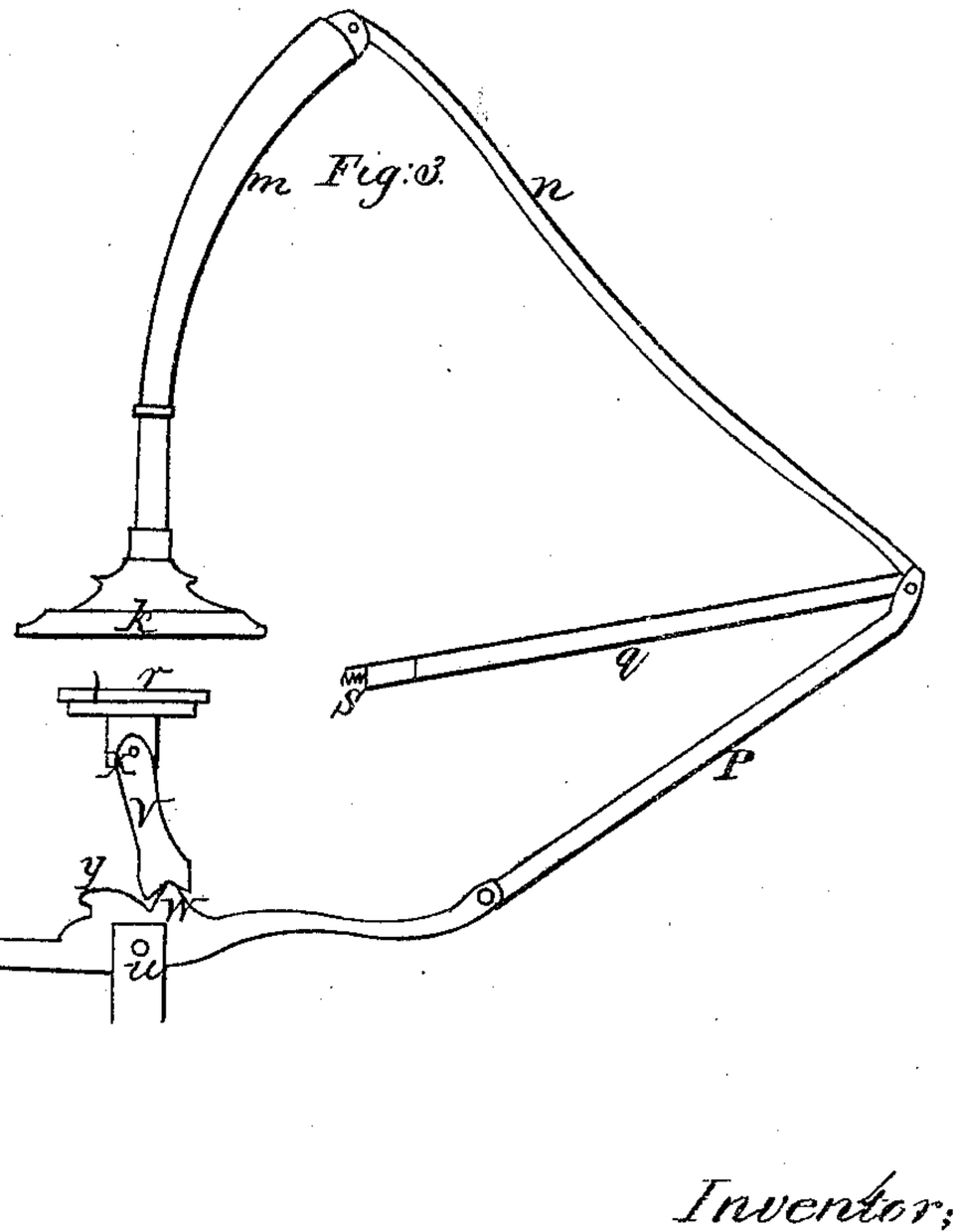


Fig: 2

Fig: 3.



Witnesses;
Wm Baker
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Inventor;
David E James

UNITED STATES PATENT OFFICE.

DAVID E. JAMES, OF UTICA, NEW YORK.

PRINTING-PRESS.

Specification of Letters Patent No. 22,181, dated November 30, 1858.

To all whom it may concern:

Be it known that I, DAVID E. JAMES, of the city of Utica, in the county of Oneida and State of New York, have invented a new and useful Printing-Press for Printing Cards, Bill-Heads, and the like; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, of which—

Figure 1, is a perspective elevation of the entire machine when all its parts are put together for use. Fig. 2, is a front elevation of the main body of the press. Fig. 3 is a side or transverse view of the leverage by which the machine is operated including the platen *k*, and the platform *l*. Fig. 4, is a face view of the carriage for the tympan, or that part of the machine which is moved back and forth horizontally for carrying the cards or paper, and also for carrying the inking rollers and applying the ink to the type.

The same letters mark like parts in all the figures.

The plan of the press is designated to furnish the means by which one person may by a continuous operation, place the cards to be printed, upon the press, print them and remove them; inking the type leg the same movement which carries and returns the paper; and doing the whole work complete, and with great despatch.

The platen for holding the type is placed above and the cards or paper to be printed, beneath it. The carriage which conveys the card to be printed is moved horizontally to a position directly under the type, when the horizontal movement is arrested, and the same pressure of the hand upon the lever which occasioned the horizontal movement being continued, raises the tympan with the card upon it, perpendicularly, pressing the card against the type above, and printing it.

a, *b*, *c*, (Fig. 1,) is the stationary frame of the machine, consisting of the two upright standards *b*, and *c*, connected together by the cross bar *d*, which restrains the leverage of the machine; and by the cap or head block *a*, which forms the reversed platen for holding the type. The form containing the type is slid under the platen to its proper position, and held there by the common device of ways fixed to the under side of the platen, at the sides of the form.

The cross bar *e*, (Fig. 1), which sustains the platform *l*, (Fig. 3,) is movable in a perpendicular direction, being governed by slots or ways at the ends. It supports a plane, or platform which, when the horizontal movement of the carriage is arrested, is made to rise against the tympan bearing the card to be printed, and lifts it against the type above, and thus executes the printing. The movement of the lever O, being then reversed, the tympan again falls, and is withdrawn by the carriage.

f, is the edge of the carriage, and *g*, is the tympan lying upon it. The carriage moves horizontally in ways *h*, *h*, at the sides. It is shown in the figure, in a position directly underneath the plates *i*.

m, is a fixed post, or standard, resting on the top of the head block *a*, and serves merely to sustain the elevated end of the lever *n*.

The leverage by which the press is operated is shown most distinctly in Fig. 3. It is here seen as it presents itself in a side view of the press. The same system of leverage is however seen in Fig. 1, its parts being designated by the same letters as in Fig. 3.

o, is the prime mover, and is shown here as when worked by hand.

p *q*, *n*, are secondary levers: *p* is made to move *q*, the latter being attached to and operating the carriage. *n*, serves only to hold and steady the movements of *p*, and *q*.

The carriage and tympan are not shown in Fig. 3. They move in the space *r*; the lever *q*, being attached to the frame of the carriage, not by a fixed, and immovable connection, but by a flat strap or clasp fixed to the frame of the carriage, and passing over the end of the lever loosely, so that the lever may slide back and forth within the clasp, and a small spiral, or other elastic spring connects the end of the lever to the frame of the carriage; and so that when the lever *q*, is required to be drawn out still farther after the horizontal movement of the carriage is arrested, it is permitted to do so by the expansion of this elastic spring; leaving the carriage stationary while the tympan with the card to be printed is raised against the type above, and returned again to the carriage.

s is the spiral spring used in the connection of the lever q, with the carriage. This connection is also shown at s, (Fig. 4,), the spring being here out of sight within the clasp t, on the end of the lever q.

The lever o, (Fig. 3,) works upon the fulcrum pin u. The post v, swings on the pin x, and opening in a V shape at the lower end, stands on the edge w, of the lever o, as shown in the figure.

The position of the several parts as shown in Figs. 1, and 3, is as when the carriage, with the tympan, is immediately under the platen and type, and ready for the card, or paper to be raised in the act of printing. Now it is evident that as the ax edge w, occupies a position on the lever beyond the fulcrum u, if the lever is depressed at the end o, the post v, will be brought nearer to a perpendicular, and the platform l, will thereby be raised, carrying up the tympan which lies loosely on the carriage, and pressing the card against the type on the platen above. While this is done, the carriage meeting an obstruction in its horizontal movement, remains stationary, the lever q, extending out the required length by means of the expansion of the spiral spring s. The lever o is then again raised, which first brings back the tympan with the printed card, to the carriage, which up to this point has remained stationary. This brings the parts again to the position shown in the figure. It is now evident that if the upward movement of the lever o, is continued, it will be powerless upon the post v, the ax edge w, leaving its contact with the post, the end of the latter will fall back upon the elevation y, of the lever without effect, and be ready to return to its position on the ax edge, by the reverse movement. This further lifting of the lever o, however by the operation of the secondary levers n, p, q, brings out the carriage on the ways, and delivers the printed card within convenient reach of the operator. He is then enabled to remove the printed card, and to put another blank in its place, and then again by depressing the lever the printing is done as before.

The inking of the type is performed by the same movement which does the printing. The inking rollers are placed upon the carriage. They are seen at A, A, (Fig. 4) occupying a position in advance of the tympan. Their surfaces are of such an elevation as to brush the type upon the platen by the horizontal movement back and forth of the carriage; in this manner keeping the type supplied with ink. The distributing roller which supplies the rollers A, A, with ink, is placed above the latter, and is itself, supplied with ink in any of the ordinary modes in use. It is denoted in Fig. 1, by the crank B; but nothing is claimed in regard to supplying the ink to the rollers, as this may be done in any of the known modes.

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

1. The arrangement, and combination of the leverage as herein described, through which the operations of the press are performed, including the use of the spring s, which permits the extension of the lever q while the carriage is at rest, as described.

2. I also claim, in combination with the said arrangement of leverage, the swinging post v, and its connection with the lever o, as described. The whole being arranged, and operating substantially in the manner herein set forth.

DAVID E. JAMES.

Witnesses:
WM. BAKER,
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