3 Sheets--Sheet 1.

G. W. PROUTY.

Treadle-Mechanism for Printing-Presses and Other Purposes.

No. 164,212. Patented June 8, 1875.

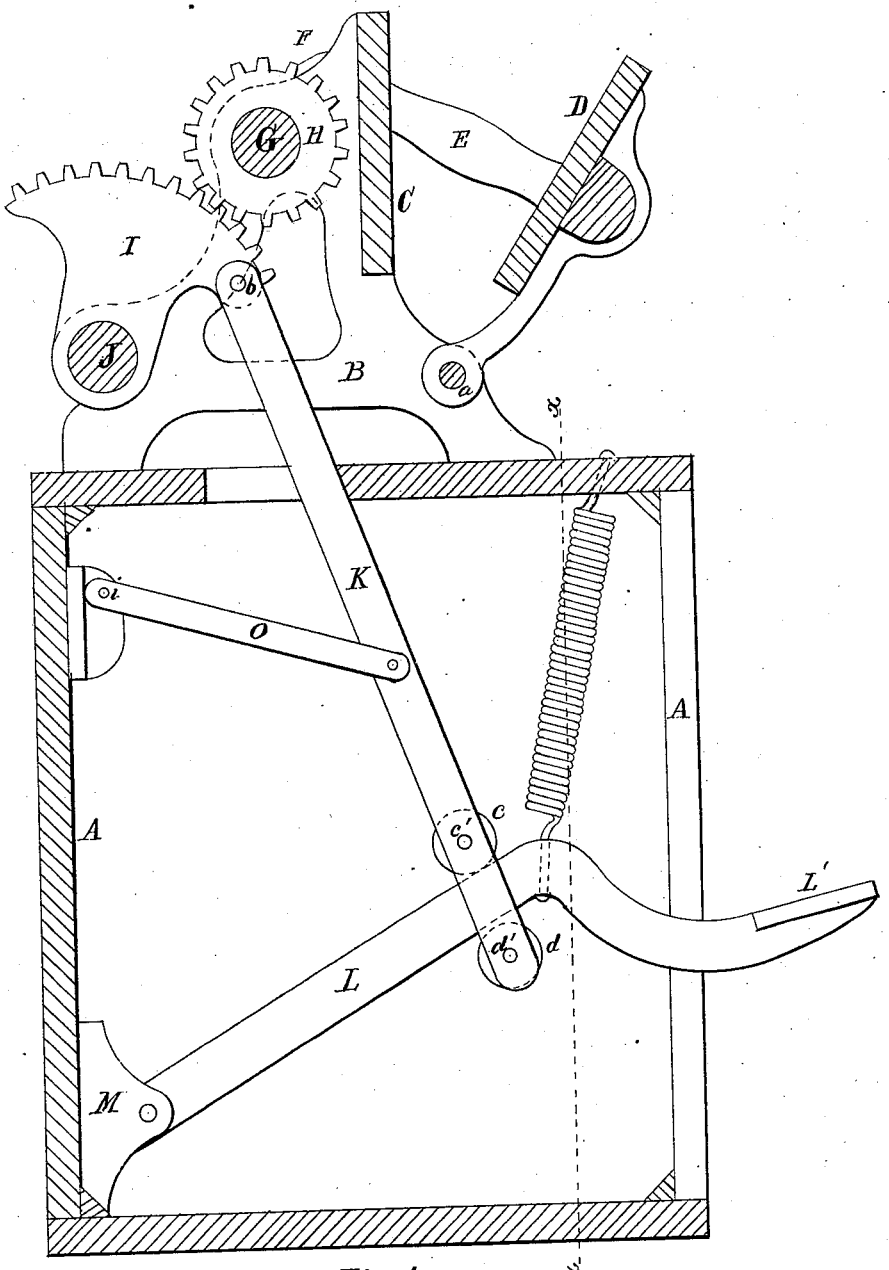

Fig. 1.

WITNESSES.

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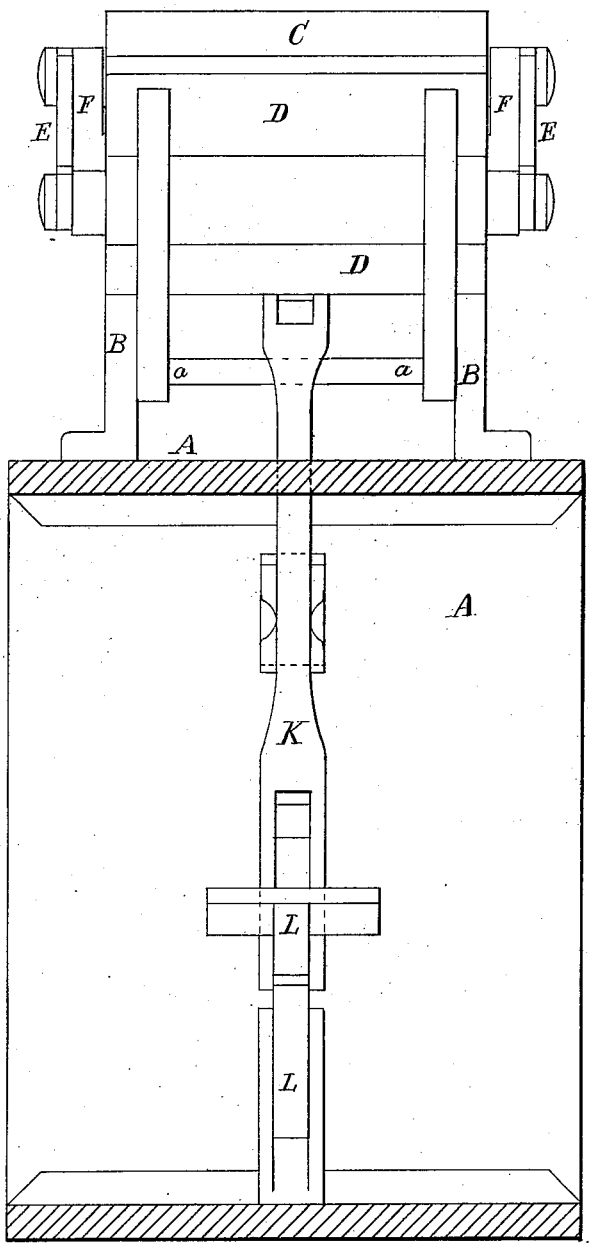

Fig. 2.

WITNESSES.

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G. W. PROUTY.

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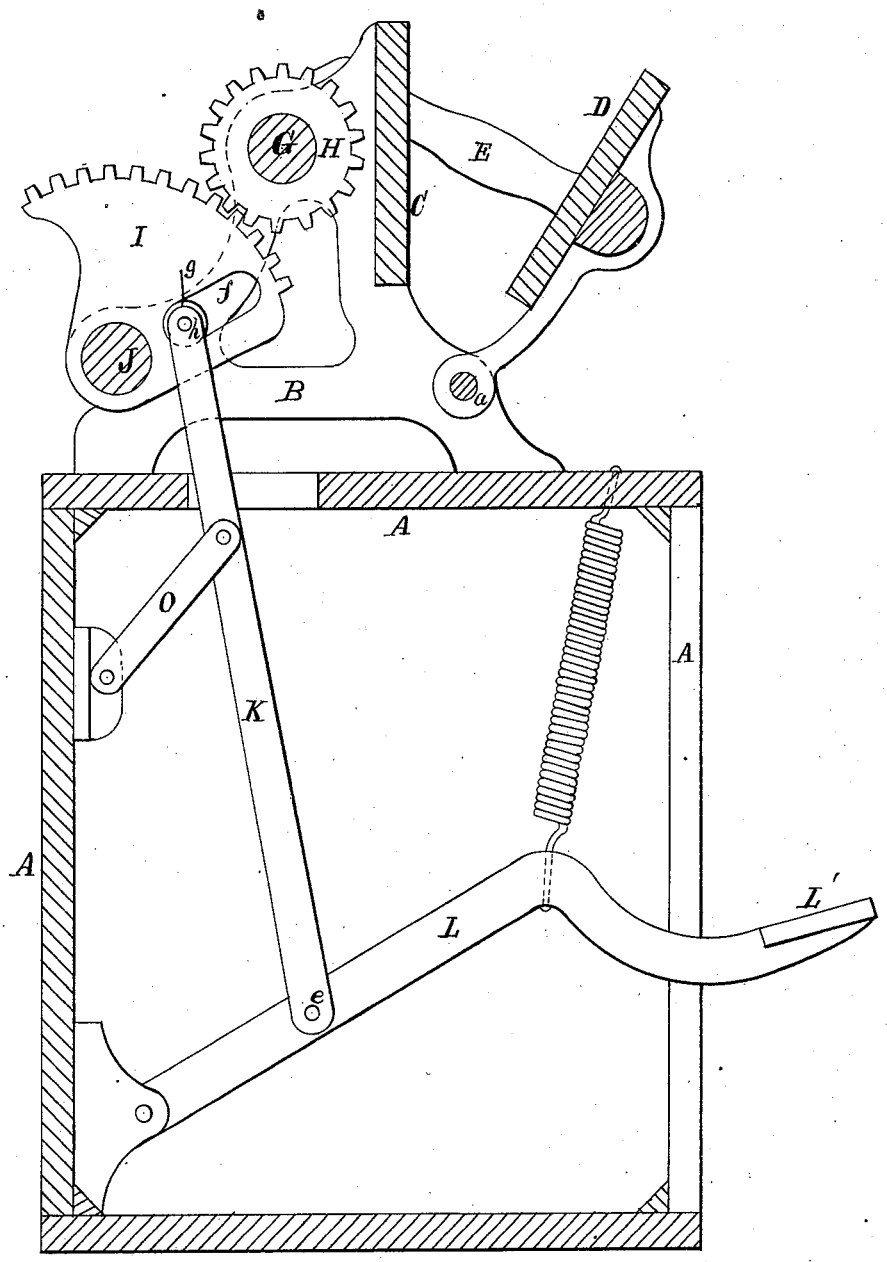

Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE W. PROUTY, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN TREADLE MECHANISMS FOR PRINTING-PRESSES AND OTHER PURPOSES.

Specification forming part of Letters Patent No. **164,212**, dated June 8, 1875; application filed February 10, 1875.

To all whom it may concern:

Be it known that I, GEO. W. PROUTY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Treadle Mechanisms for Operating Printing-Presses and for other Purposes, of which the following, taken in connection with the accompanying drawings, is a specification:

My invention relates to a treadle mechanism for operating the platen of a printing-press and for other purposes; and it consists in the combination, with a treadle, of a connecting-rod for transmitting the motion of the treadle to the platen of a printing or other mechanism, connected to said treadle, and other mechanism to be moved thereby, at one end by a fixed pivotal connection, and at the other end by a sliding or movable attachment and a radius-arm, one end of which is connected by a pivot to said connecting-rod, and the other to some fixed portion of the frame or stand, in such a position that a downward motion of the treadle and its connecting-rod will cause the end of said rod connected to the treadle to be moved along said treadle toward its pivotal point, or cause the opposite end of said rod to be moved away from the axis of the lever-gear or segment to which it may be connected with a constant, steady, and even motion, so as to increase the leverage of the mechanism, and consequently the power that can be exerted thereby, at the very time when the power is needed, while during the first part of the movement, when only sufficient power is required to move the parts, the leverage is diminished, thereby increasing the movement of the platen, or other device being acted upon, for a given movement of the treadle.

In the drawings, Figure 1 is a vertical section taken transversely of the platen-bed and operating-shafts of a printing-press, illustrating one mode of applying my invention. Fig. 2 is a vertical section through the stand, on line *x x* on Fig. 1, showing the mechanism in elevation; and Fig. 3 is a section similar to Fig. 1, illustrating a modification of my invention.

A is a wooden stand, upon which is mounted the frames B B of a printing-press. C is the type-bed; D, the platen hinged to the frames B B at *a*, and connected by the side links E E to the movable ends of the cranks F F, secured to the ends of the shaft G, mounted in suitable bearings in the frames B B, and having secured thereon the pinion or spur-gear H, which meshes into and is acted upon by the segment of a spur-gear, I, mounted upon the rocker-shaft J, also mounted in suitable bearings in the frames B B. K is a connecting-rod, pivoted at its upper end to the segment-gear I at *b*, and having its lower end forked, and provided with the trucks *c d*, mounted upon suitable axial pins *c' d'*, said trucks being placed a distance apart equal to the vertical width of the treadle-lever L, which is passed through the fork of said connecting-rod between said trucks, so that said rod or its anti-friction trucks *c d* may move freely along said treadle-lever, which is pivoted to the stand M at the rear side of the stand A, and is provided with the foot-pad L' in front of said stand A, said treadle-lever passing through a slot formed for the purpose in the front side of the stand A. Instead of using the two trucks *c d* in the lower end of the connecting-rod K, one truck only may be used, it being fitted to move in a slot formed for the purpose in the treadle-lever, substantially as illustrated in Fig. 3, where is shown a modification, in which the automatic variation of the leverage is obtained by moving the upper end of the connecting-rod instead of the lower end. In said modification the connecting-rod is pivoted to the treadle-lever L by the pin *e*, and the upper end is forked, so as to straddle or embrace between said fork the web of the segmental gear I, in which is formed the radial slot *f* to receive the anti-friction roll *g*, mounted upon the axial pin *h*, set in the forked end of the connecting-rod K. O is a radius-arm, pivoted at *i* to the stand A, and at *j* to the connecting-rod K, in such a position that a downward motion of said rod K, by moving said radius-arm about its pivot *i*, will cause the movable end of the rod K to be moved along the treadle-lever toward its axis, or along the slot *f* in the segmental gear I away from its axis, with a positive, steady, and regular motion, thereby changing the leverage,

and consequently the power, of the treadle, increasing the same at the time when great power is needed.

The operation of my improved treadle mechanism may be readily understood from the foregoing description without further explanation.

I am aware that a treadle mechanism having a variable leverage has been used before, and therefore I do not claim, broadly, such a device; but

What I claim as new, and desire to secure by Letters Patent of the United States, is as follows:

In a treadle mechanism for operating printing-presses and other machinery, the combination of a pivoted treadle, L, rod K, connecting said treadle to the device or devices to be operated thereby, and the radius-arm O, pivoted at one end to the rod K, and at the other to a fixed or stationary portion of the machine, all constructed, arranged, and operating substantially as described.

Executed at Boston, Mass., this 6th day of February, 1875.

GEO. W. PROUTY.

Witnesses:
WM. P. EDWARDS,
E. A. HEMMENWAY.