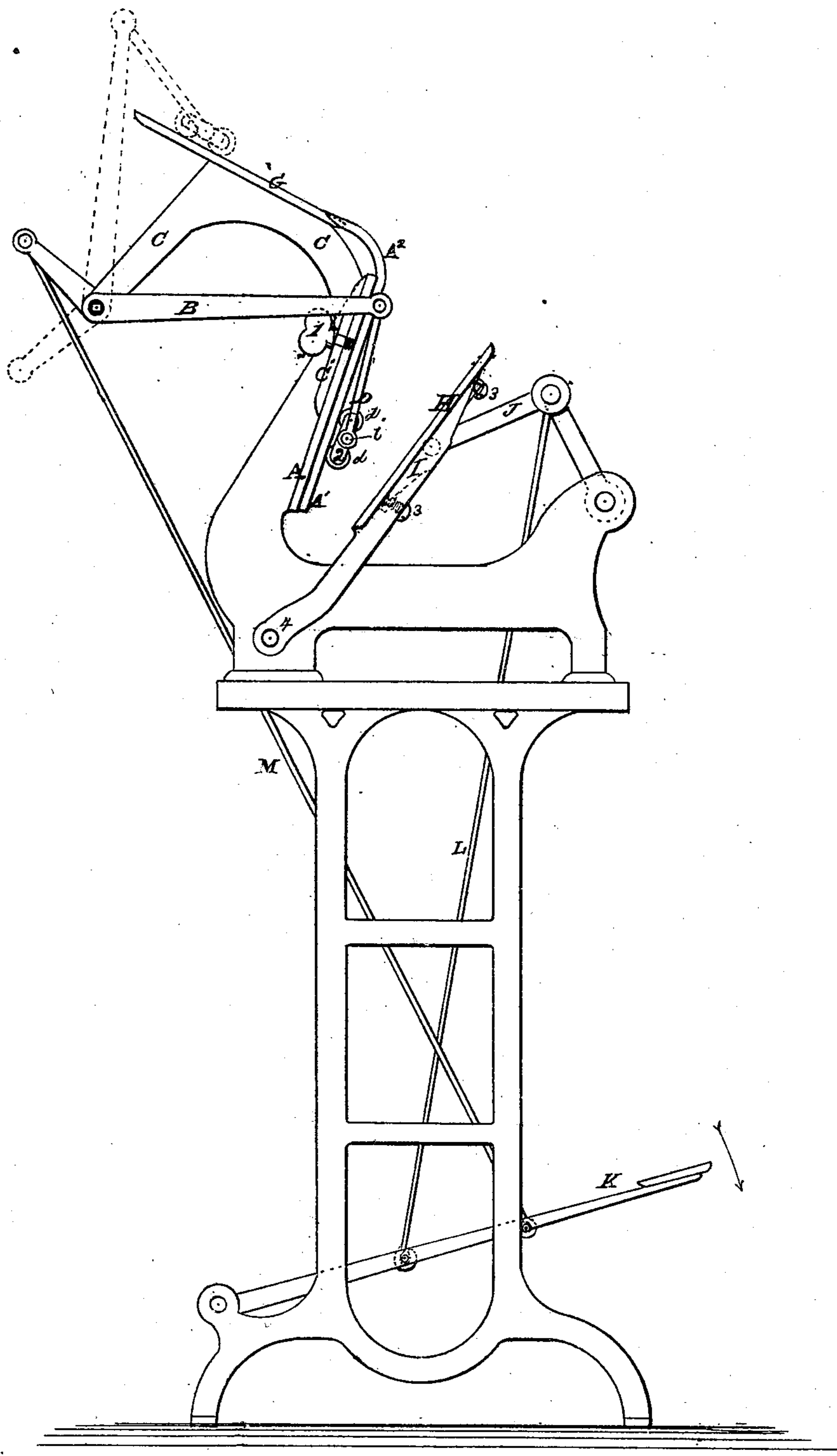


*E. H. Smith,  
Printing Press.*

*No. 111,581.*

*Patented Feb. 7, 1871.*



*Witnesses.  
E. H. Mason  
Wm. Johnson*

*E. H. Smith*

# UNITED STATES PATENT OFFICE

EARLE H. SMITH, OF BERGEN, NEW JERSEY.

## IMPROVEMENT IN PRINTING-PRESSES.

Specification forming part of Letters Patent No. **111,581**, dated February 7, 1871.

*To all whom it may concern:*

Be it known that I, EARLE H. SMITH, of Bergen, Hudson county, State of New Jersey, have invented an Improvement in Printing-Presses; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, which forms part of this specification.

This invention relates to printing-presses adapted particularly for small work. The object thereof is to simplify construction and reduce cost.

To enable others to make and use my invention, I will proceed to describe the same.

In the annexed drawing, which is a side elevation, A represents the type-bed of the machine. A' is the chase, holding the form. B shows a vibrating arm, of which there are two, one on each side of the press. These have their fulcrum or center of motion at the ends of projections or brackets C at the back of the type-bed A. At the extremities of arms B are hung pendent levers D, to which are attached the inking roller or rollers *d d*. If one roller only is used the journals thereof are formed right in the ends of said levers; but where two or more are employed, which is preferable, I provide journal-carriers 2 to furnish bearings for the journals of the rollers. Such carriers are pivoted to the extremities of the pendent levers, and are so fitted as to be free to oscillate on their pivots, in order that each roller may accommodate itself to the surfaces it passes over.

An ink-bed or distributing-plate, G, is supported on top of the brackets C.

H is the tympan. It is attached to a frame, I, that swings on centers or pivots 4. Said tympan is adjustable on the swinging frame by any usual device, 3, for bringing its surface in a plane coincident with that of the surface of the form or type.

The pressure is given by a toggle-joint, J, connected with a treadle, K, through a rod, L, and such treadle is also connected with the inking mechanism by a rod, M. It will, therefore, be seen that the one motion of the treadle operates both the inking and the impression mechanism at the same time.

I contemplate making the inking apparatus a separate thing from the press proper, for attachment to printing-presses usually inked by hand. When so made, brackets C, to which all the parts of the inking apparatus are attached, are made separate from the type-bed A, and put on by thumb-screws 1.

The operation of the press and the inking apparatus is as follows: When the treadle is raised the press is open for the reception of the sheet to be printed. When the same is inserted and the treadle started downward, the inking-rollers move from the lower edge of the chase and type-form upward and over the form, while the tympan moves slowly forward, the rollers escaping from between the tympan and form just as the press closes up.

During the last part of the forward motion, and also during the first part of the outward motion of the tympan, the motion of the rollers continues, causing them to traverse the distributing-plate G.

When the press is closed the arms B and levers D assume an acute angle where joined together, and the result is that when the arms B commence to move downward as the press opens, the levers D receive a thrust in the direction of the distributing-plate, causing the rollers to hug the plate closely, thus insuring adherence of the ink thereto.

I do not propose to confine myself to the above in all respects, but shall vary the same as circumstances require, while retaining the distinguishing features of the invention.

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

The combination, with the impression mechanism, consisting of the bed and tympan, and toggle-joint, worked from the treadle K, of the inking apparatus described, or the equivalent thereof, when operated by the same treadle, substantially as specified, the whole constituting a direct-acting self-inking treadle printing-press.

EARLE H. SMITH.

Witnesses:

WM. H. JOHNSON,  
ASA JOHNSON.