No. 858,465. PATENTED JULY 2, 1907.

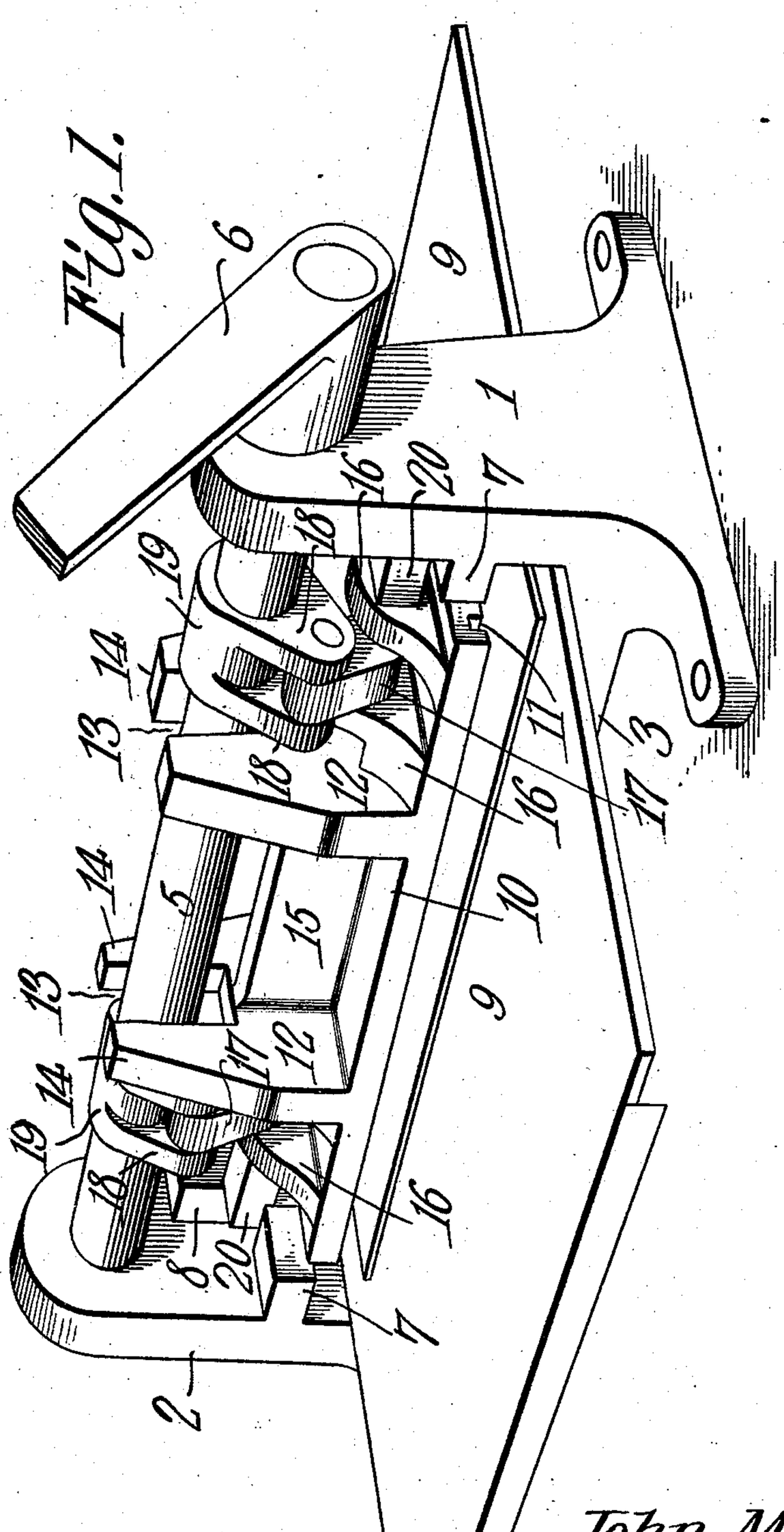
J. McNAUGHTON.

PRINTING PRESS.

APPLICATION FILED FEB. 26, 1907.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

E. F. Stewart

C. Daniels

John McNaughton,

INVENTOR.

By C. A. Snow & Co.

ATTORNEYS

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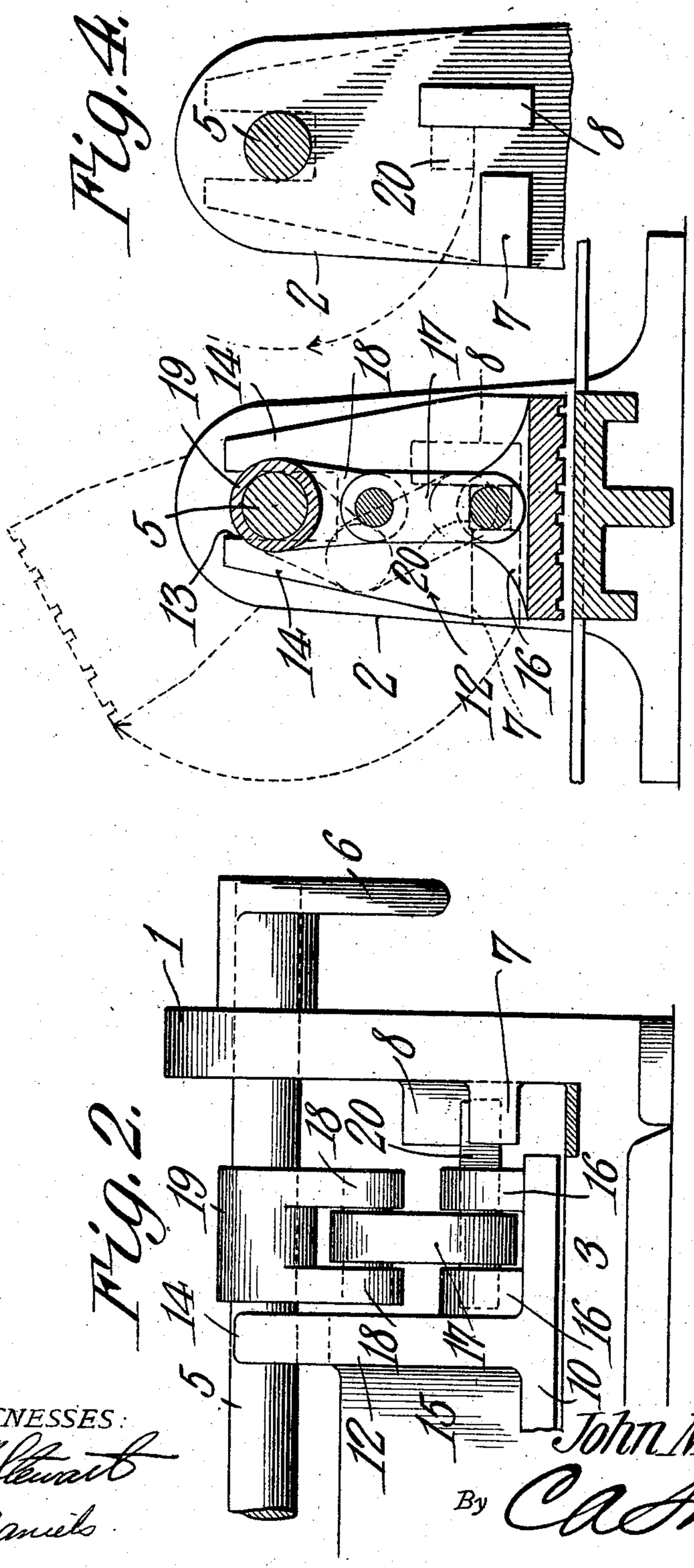

Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

JOHN McNAUGHTON, OF LONDON, ONTARIO, CANADA.

PRINTING-PRESS.

No. 858,465. Specification of Letters Patent. Patented July 2, 1907.

Application filed February 26, 1907. Serial No. 359,369.

To all whom it may concern:

Be it known that I, JOHN McNAUGHTON, a subject of the King of England, residing at London, in the Province of Ontario and Dominion of Canada, have invented a new and useful Printing-Press, of which the following is a specification.

This invention has reference to improvements in printing presses, and its object is to provide a simple and easily operated form of printing press designed more especially for the printing of signs, cards, and other prints of like character.

The invention consists essentially of a bed-plate for holding the article to be printed and a movable type-holding member having a limited range of movement to and from the bed-plate perpendicular thereto and then movable to expose the type face of the type-holding member for inking the same, or for changing the type. At the same time provision is made for obtaining heavy pressure such as is obtained from the larger and more complex presses. The type-carrying member is connected to an operating lever by toggle connections so that the desired pressure for the imprint may be obtained, and this imprint will therefore be equal to that obtained by a power press. This toggle connection serves as a means for withdrawing the type-carrying member from the bed for a limited distance, after which the bed is free to be rotated by the toggle connection about the axis of the operating lever so as to bring the type-bearing face of the type member upward into position to be inked or to change the type.

The invention will be fully understood from the following detailed description taken in connection with the accompanying drawings forming part of this specification, in which,—

Figure 1 is a perspective view of the improved printing press with the operating handle partly broken away; Fig. 2 is an elevation of one end of the press showing the parts in section and broken away; Fig. 3 is a vertical section through the toggle connection and the parts shown in Fig. 2 with portions shown in dotted lines in different phases of the operation; Fig. 4 is a side view of one of the standards with the operating shaft in section and parts indicated in dotted lines.

Referring to the drawings, there is shown a frame consisting of two end standards 1—2 connected near their bottom portions by a cross-piece 3 strengthened by edge and central webs 4, which latter are best shown in Fig. 3. Journaled in the upper ends of the standards 1—2 and extending between and through the same is a shaft 5 having on the end projecting through and beyond the standard 1 a manipulating lever or handle 6. On the inner face of each standard 1 and 2 there is formed an inwardly-projecting lug 7 and adjacent thereto but spaced therefrom is another lug 8 rising to a greater height than the upper face of the lug 7. The space between the lug 7 and the lug 8 is arranged so as to occupy the same vertical plane as does the shaft 5. The upper face of the cross-piece 3 is flat, and this cross-piece constitutes the bed-plate upon which the article to be printed is placed, and in order to accommodate articles of different size flat extensions 9 are arranged on each side of the bed-plate, and these extensions or tables 9, may be supported in any appropriate manner.

The type-carrying member consists of a casting 10 having a flat, rectangular, type-carrying portion provided with longitudinal grooves 11, preferably rectangular in cross section and in number sufficient to provide for as many lines of type as it is desired to print with the particular press forming the subject of this invention. This type-carrying member is provided on its back with two ears 12—12 having the end remote from the type-bearing member provided with an open-ended slot 13 flanked on each side by legs 14 arranged to straddle the shaft 5, and these ears and the type-bearing member are further strengthened by an integral, longitudinally-disposed web 15. Between each ear 12 and the corresponding end of the type-bearing member 10 is arranged a pair of lugs 16—16 between which a link 17 is pivoted at one end, and the other end of this link is pivoted between two parallel members 18—18 of a rock arm 19 fast upon the shaft 5. The structure is such that the rock arm 19 and the link 17 constitute a toggle connection between the shaft 5 and the type-carrying member 10. From the lug 16 nearest the end of the type-bearing member 10 there projects a finger 20, shown as square in cross section but which may, if desired, be otherwise shaped. The type-carrying member 10 is of such length as to pass easily in the space between the free ends of the lugs 7 and 8 on one standard and the lugs 7 and 8 on the other standard, while the fingers 20 project far enough beyond the ends of the type-carrying member 10 to engage in the space between the contiguous faces of the lugs 7 and 8 on each standard 1 and 2. If desired, the fingers 20 may be so shaped as to pass through the lugs 16 and the links 17 and constitute the pivotal support for the corresponding end of the links 17, as indicated in dotted lines in Fig. 2, in which case those portions of the fingers 20 where they pass through the links 17 will be suitably rounded to form bearings for these links. When the shaft 5 is turned in its bearings by means of the operating lever 6, in the proper direction, the toggle connection between the shaft and the type-carrying member 10 will cause the latter to be moved in a straight line, being guided by the lugs 7 and 8 through the intermediary of the fingers 20. After moving in this manner for a short distance the fingers 20 are raised above the lugs 7 and the toggle connections are then free to move the type-bearing member around the shaft 5 as an axis until its type-carrying surface is uppermost and within easy reach so that type carried thereby may be inked or type may be inserted or changed as desired. On re-

versing the movement of the lever 6 the type-bearing member will be again moved about the shaft 5 as an axis through the action of the toggle connections and the retaining action of the legs 14 straddling the shaft 5 and the type-bearing face will be brought toward the bed member through an arc-shaped path until the fingers 20 engage the lugs 8, after which the type-bearing member will be constrained to move directly toward the bed-plate until the type carried by this type-bearing member are brought into contact with the surface to be printed and which is supported upon the bed-member. The pressure in the act of printing may be made as great as desired by the proper proportioning of the toggle levers. It will be understood, of course, that in place of the toggle levers exerting the pressure upon the type-carrying member, cams may be used for the same purpose. It will be observed that while I have described the bed-plate as being approached by the type-carrying member in a vertical direction, the bed-plate may be arranged at any angle and the printing member may approach the same at any angle to the vertical so long as the approach is perpendicular to the face of the bed-plate, and that the different portions of my inventions are not necessarily limited to the exact location in which I have described them, since, for instance, the type-carrying member operating as described may be used in connection with other types of press than the one here shown and described, and the type-carrying member may be arranged to receive any suitable form or style of type.

It will be apparent that the printing press forming the subject of the present invention is of the greatest simplicity of structure and at the same time heavy, clear, sharp impressions are readily obtained of a character equal to those obtained on heavy and complex jobbing presses, while at the same time great facility is offered for the inking of the press and the changing of the type. The press therefore is especially adapted for printing signs, cards and other matter where but a few impressions are made and where quick changes of type and ease of handling, as well as small initial cost of the press, are desirable.

I claim:—

1. In a printing press, a bed-plate, standards at each end thereof having inwardly projecting, spaced lugs of different height, a shaft extending between the upper ends of said standards, a type-carrying member having portions straddling said shaft and other projecting portions arranged to engage in the lugs on the standards, and means for moving the type-carrying member toward and from the bed-plate.

2. In a printing press, a bed member, a type-carrying member, a rock shaft, parts of the type-carrying member embracing said rock shaft, toggle connections between the rock shaft and the type-carrying member, and means for constraining the movement of the type-carrying member for a portion of its travel through a path at right angles to the plane of the face of the bed member.

3. In a printing press, a stationary bed-plate, a movable type-carrying member, a rock shaft, portions of said type-carrying member straddling said rock shaft, toggle connections between the rock shaft and the type-carrying member, projecting portions on said type-carrying member, and stationary parts of the press engaging said projecting portions of the type-carrying member during a portion of the travel of the type-carrying member to and from the bed-plate.

4. In a printing press, a bed-plate, standards at each end thereof having inwardly-projecting, spaced lugs of different height, a rock shaft journaled in the upper ends of said standards, a lever for operating said rock shaft, a type-carrying member having portions straddling said rock shaft and other projecting portions arranged to engage between the lugs on the standards, and toggle connections between the rock shaft and the type-carrying member.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN McNAUGHTON.

Witnesses:
HART H. McNAUGHTON,
H. K. JENNINGS.