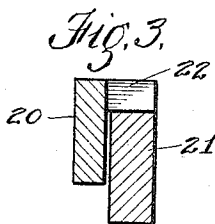
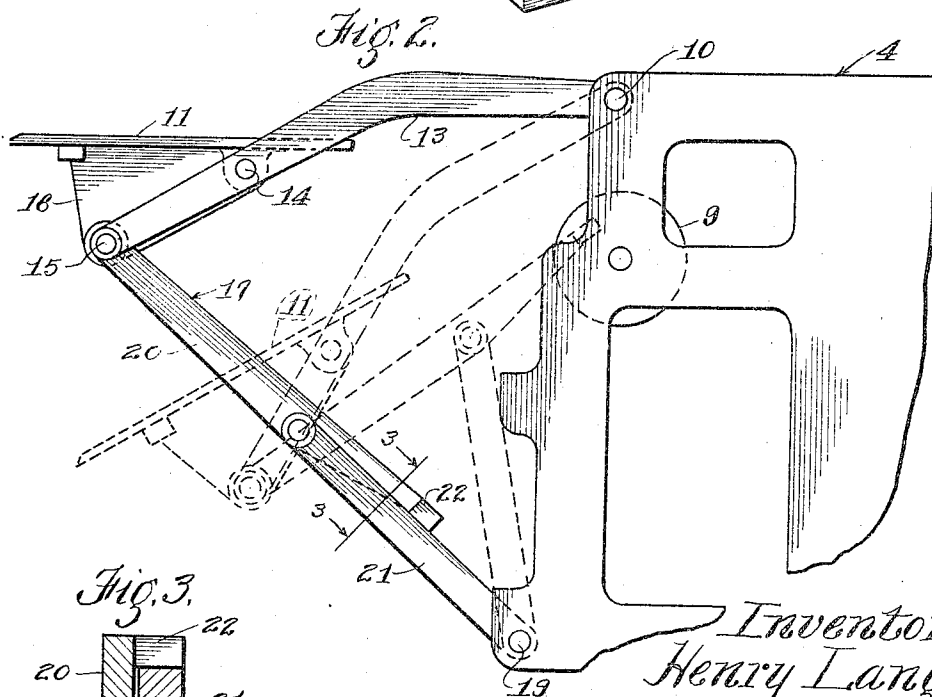
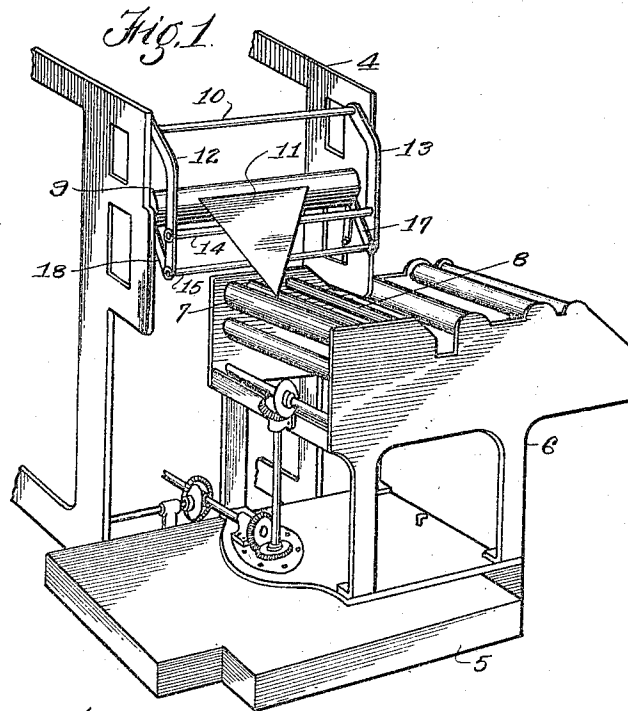


H. LANGE.
FOLDING MECHANISM FOR PRINTING PRESSES.
APPLICATION FILED JAN. 8, 1917.

1,305,129.

Patented May 27, 1919.



Inventor
Henry Lange.

by Edmund A. Strauss. *Atty.*

UNITED STATES PATENT OFFICE.

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TO OSCAR L. MOORE, OF CHICAGO, ILLINOIS.

FOLDING MECHANISM FOR PRINTING-PRESSES.

1,305,129.

Specification of Letters Patent.

Patented May 27, 1919.

Application filed January 8, 1917. Serial No. 141,163.

To all whom it may concern:

Be it known that I, HENRY LANGE, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented new and useful Improvements in Folding Mechanism for Printing-Presses, of which the following is a specification.

This invention relates to a folding mechanism for printing presses, whereby sheets delivered from the press are folded longitudinally.

It is an object of this invention to provide a press with a former which may be disposed to deliver work folded longitudinally or which may be disposed out of the way for delivering unfolded flat work.

My invention is especially adapted for use with presses of the type disclosed in the co-pending application of George C. Johnson, Serial Number 68,746, filed December 27, 1915.

I accomplish these objects by means of the embodiment of my invention illustrated in the accompanying drawing, in which:

Figure 1 is a perspective view of a press provided with my improved former, a portion only of the press being shown.

Fig. 2 is a fragmentary side elevation of a portion of the frame and the folder.

Fig. 3 is an enlarged sectional view as seen on the line 3—3 of Fig. 2.

The printing press illustrated is a multiple deck web press. The main frame of the press is indicated by 4. Mounted upon a bed plate 5 is an associating and delivering mechanism 6 which receives the webs of printed paper. The associating and delivering mechanism is pivotally mounted upon the bed 5 so that it may be swung through an angle of 180 degrees to deliver the finished work on either side of the machine. When swung through an angle of 90 degrees the associating rolls 7 and 8 are in position for receiving the web flat from the conducting roll 9 in the frame 4 which roll, in the present embodiment, is in a different horizontal plane from that of the rolls of the associating and delivering mechanism. Suitable gearing is provided for driving the associating and delivering mechanism in synchronism with the gearing driving the press.

Disposed between the side pieces of the frame 4 is a cross rod 10, upon which, preferably above the roll 9, is pivotally mounted a support for the former, or former plate, 11. The support comprises a pair of side bars 12 and 13 tied together adjacent the ends by a pair of rods 14 and 15. The former plate 11 is provided with a central rib 16 which is secured to the tie rods 14 and 15 intermediate their ends. By this construction the former plate is secured to the support and the web may pass between the members 12 and 13 without obstruction.

Pivotally secured at one end to the tie rod 15 are braces 17 and 18 between which the web may pass. The other ends of the braces are pivotally connected to the frame 4, preferably below the roll 9, as indicated at 19 in Fig. 2. The braces are foldable, provided with knuckle joints and are similar in construction. Brace arms 17 comprise a section 20 pivotally connected to a section 21 so as to fold relative thereto. An extension 22 overhangs the section 21 so that when the brace is opened, or unfolded, as shown in full lines in Fig. 2, it is prevented from buckling, the unfolding movement being limited by contact of section 21 with extension 22. The former plate is disposed above the conducting roll 9, when the braces 17 and 18 are open, this position being shown in Fig. 2. The web of paper is then delivered from the conducting roll 9 beneath the former plate to the associating and delivering mechanism. In this condition it is flat work. To place the folder, or former in position for delivering work folded longitudinally, the braces 17 and 18 are folded, dropping the former plate 11. This position of the former plate is shown in dotted lines in Fig. 2. The former plate is then disposed in position for longitudinally folding the work. It will be seen that the former plate is bodily movable; is translatable into and out of operative relation with that portion of the web flowing from the conductor roll 9 to the associating and delivering mechanism.

It is obvious that I have provided a former plate which is quickly and conveniently disposed in either position for folding the work, or for delivering flat-work, and when delivering flat-work, it is in such a position

that it does not interfere with the delivery of the printed product. Heretofore, it has been necessary to remove the plate by loosening the attaching means by which it is secured to the frame, and then taking it down.

What I claim is:

1. The combination of a frame, a former plate, and adjustable bracket means, said bracket means comprising a support to which said plate is secured and pivotally attached to said frame, and a brace having a knuckle joint, said brace pivotally secured at one end to said frame and at the other end to said support.

2. The combination of a frame, a conducting roll, side bars pivotally connected to said frame, a former plate secured to said side bars and braces pivotally secured to said side bars at one end and to said frame at the other end, said braces having knuckle joints, whereby said former may be disposed in front of said roll for folded work, and above said roll for flat work.

3. The combination of a frame, side bars pivotally connected to said frame, a former plate secured to said side bars, and braces pivotally secured to said side bars at one end and to said frame at the other end, said braces having knuckle joints.

4. In an apparatus of the character described, in combination, a conducting roll, associating and delivering mechanism to which a web is delivered from said roll, and a former connected for bodily movement into and out of normal operative relation to that portion of the web flowing from the conducting roll to the associating and delivering mechanism, said connections comprising a foldable brace including pivotally joined brace sections one of which is pivoted to said former, and means adapted to limit the unfolding movement of said sections relative to each other.

5. In an apparatus of the character described, in combination, a conducting roll, associating and delivering mechanism to which a web is delivered from said roll, a former connected for bodily movement into and out of normal operative relation to that portion of the web flowing from the conducting roll to the associating and delivering mechanism, said connections comprising a pivoted former support, a foldable brace including pivotally joined brace sections, one of which is pivoted to said former, and means adapted to limit the unfolding movement of said sections relative to each other.

6. In an apparatus of the character described, in combination, a frame, a conducting roll, associating and delivering mechanism to which a web is delivered from said roll, and a former connected for movement into and out of normal operative relation to that portion of the web flowing

from the conducting roll to the associating and delivering mechanism, said connection comprising former supporting members pivoted to said frame and between which the web is adapted to pass, and foldable former braces pivoted to said frame and between which said web is adapted to pass.

7. In an apparatus of the character described, in combination, a frame, a conducting roll, associating and delivering mechanism to which a web is delivered from said roll, and a former connected for movement into and out of normal operative relation to that portion of the web flowing from the conducting roll to the associating and delivering mechanism, said connection comprising former supporting members pivoted to said frame and between which the web is adapted to pass, and foldable former braces pivoted to said frame and between which said web is adapted to pass, said braces comprising knuckle jointed sections collapsible in a direction to permit movement of said former to normal operative relation to said web.

8. In an apparatus of the character described, in combination, a frame, a conducting roll, associating and delivering mechanism to which a web is delivered from said roll, and a former connected for movement into and out of normal operative relation to that portion of the web flowing from the conducting roll to the associating and delivering mechanism, said connections comprising a pair of side bars pivoted to said frame above the supporting roll and between which said web is adapted to pass, a pair of tie rods connecting said side bars and to which said former is secured intermediate their ends, and a pair of foldable former braces pivoted to said frame below said conducting roll and to said side bars and between which the web is adapted to pass.

9. In an apparatus of the character described, in combination, a printing press, associating and delivering mechanism, and a folder movable into and out of position to cooperate with the printed web flowing from the press to the associating and delivering mechanism, said associating and delivering mechanism being adjustable to receive either the folded or unfolded web.

10. In an apparatus of the character described, in combination, a printing press, associating and delivering mechanism, and a folder movable into and out of position to cooperate with the printed web flowing from the press to the associating and delivering mechanism, said associating and delivering mechanism being pivotally adjustable to receive either the folded or unfolded web.

11. In an apparatus of the character described, in combination, a printing press, associating and delivering mechanism, and a

folder movable into and out of position to cooperate with the printed web flowing from the press to the associating and delivering mechanism, said associating and delivering mechanism being adjustable to receive either the folded or unfolded web, and means to support said folder out of said cooperative position.

12. In an apparatus of the character described, in combination, a printing press, associating and delivering mechanism, a former connected for movement into and out of normal operative relation to that portion of the web flowing from the press to the associating and delivering mechanism, said associating and delivering mechanism being adjustable to receive either the folded or unfolded web, and said connection comprising a pair of pivoted side bars, and a brace pivotally connected to said bars and adapted

to support the former when out of cooperative relation with said web.

13. In an apparatus of the character described, in combination, a printing press, associating and delivering mechanism, a former connected for bodily movement into and out of normal operative relation to that portion of the web flowing from the press to the associating and delivering mechanism, said associating and delivering mechanism being adjustable to receive either the folded or unfolded web, and said connection comprising a pair of pivoted side bars, and a brace pivotally connected to said bars and adapted to support the former when out of cooperative relation with said web.

In witness that I claim the foregoing I have hereunto subscribed my name this 22nd day of December, 1916.

HENRY LANGE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."