

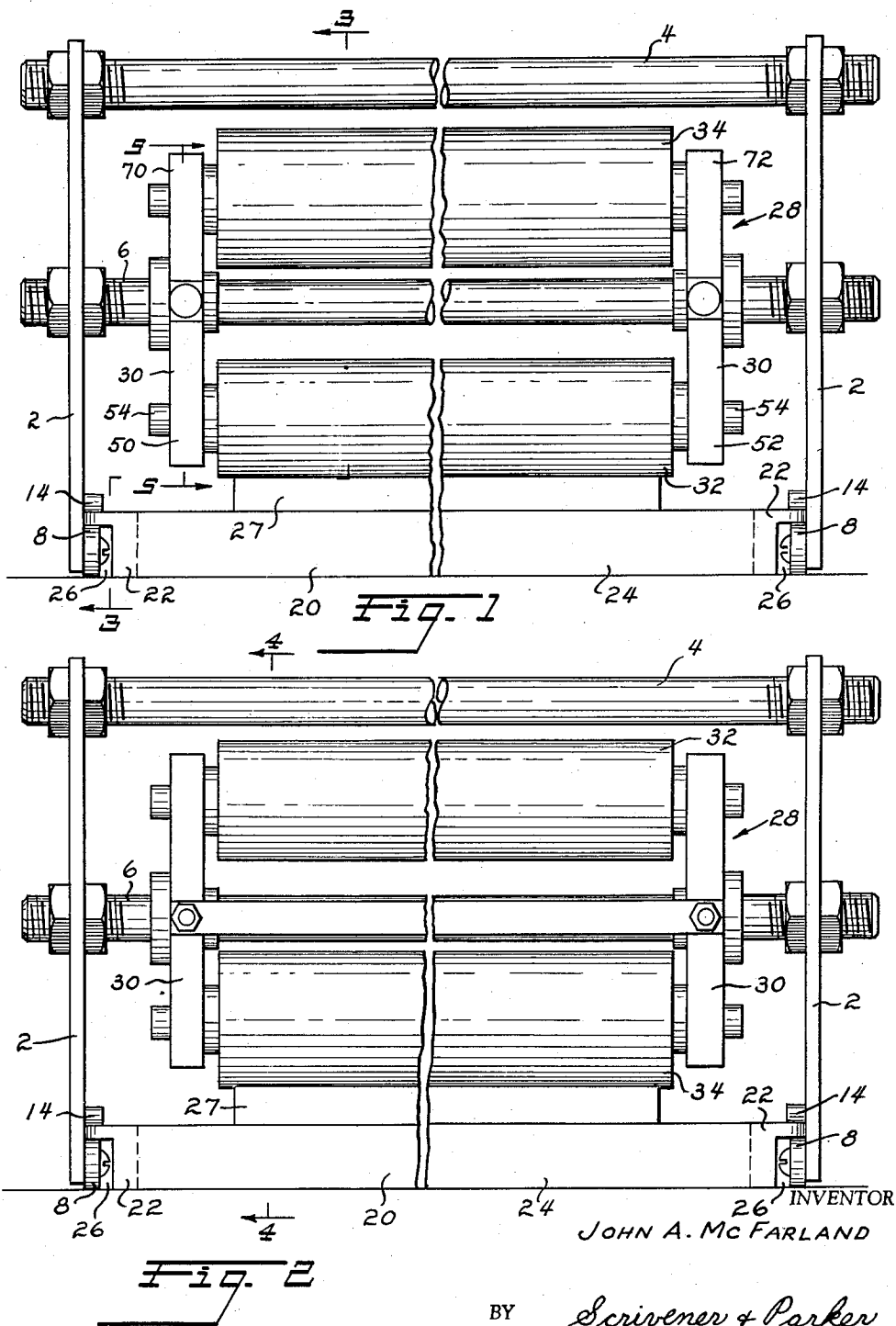
Sept. 1, 1959

J. A. McFARLAND
PORTABLE PROOF PRESS

2,901,971

Filed Aug. 30, 1956

3 Sheets-Sheet 1



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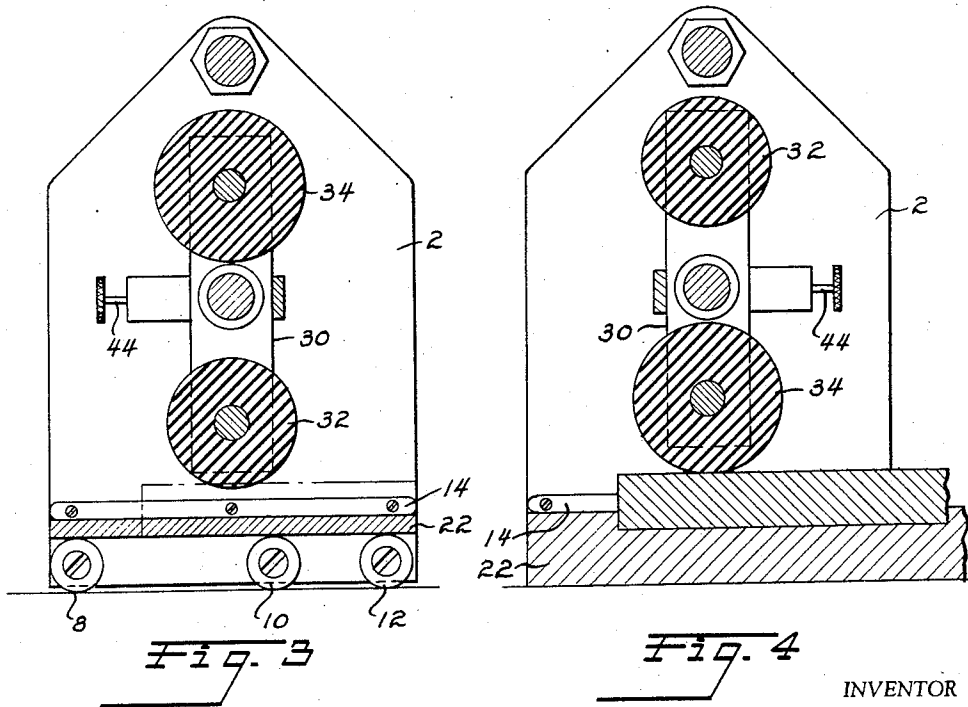
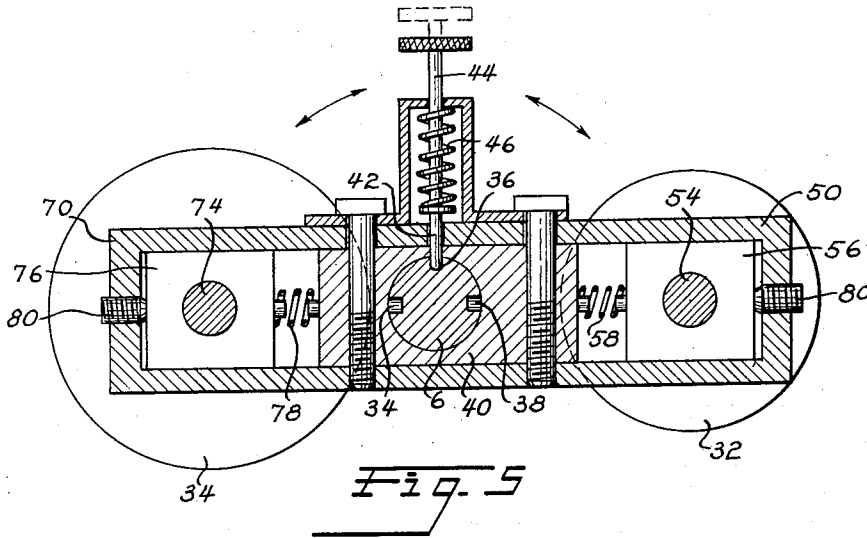
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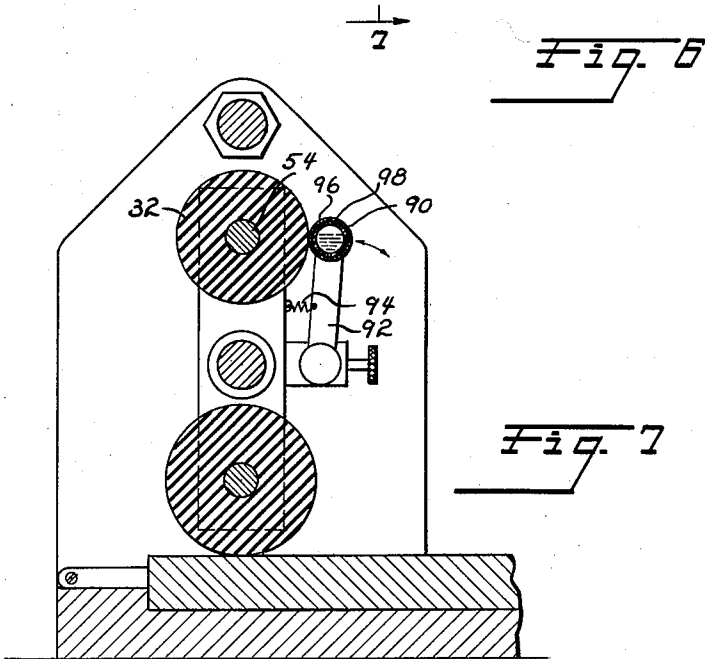
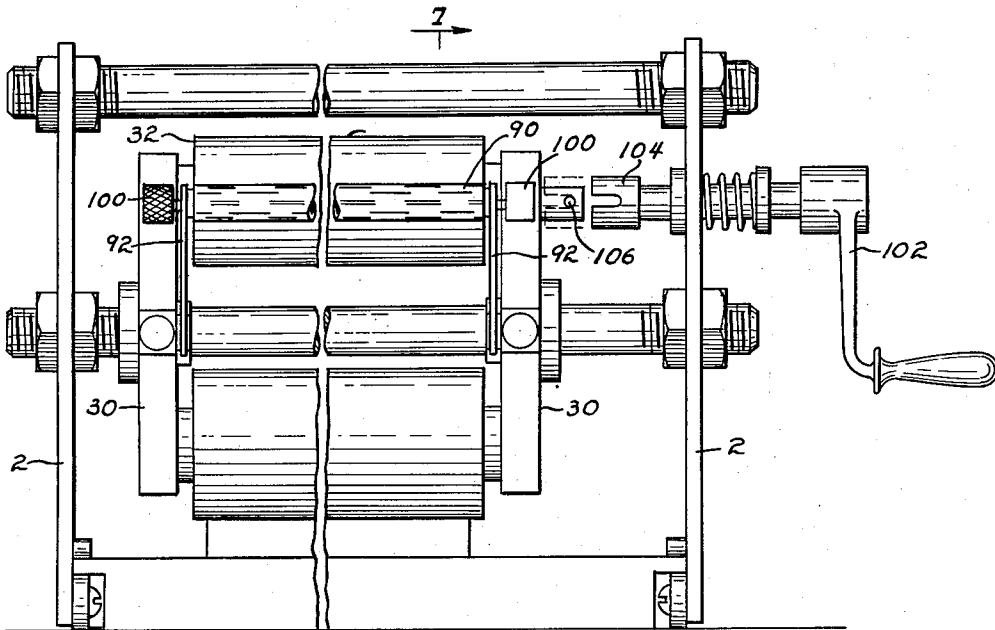
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PORTABLE PROOF PRESS

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Application August 30, 1956, Serial No. 607,074

7 Claims. (Cl. 101—269)

This invention relates broadly to the art of printing and, more particularly, to means used in printing for making a proof copy of set type. While the invention is useful in all printing operations it has a particular field of usefulness in the printing of newspapers and, without in any way limiting the invention or the claims which define it, the invention will be described in this application in connection with the printing of a page, or part of a page, of a newspaper.

In the usual and conventional printing of a newspaper each page, or any part of a page, is made up by assembling slugs of type in a chase on a table or bench known as the make-up bank. After this is done and the type is locked in the chase, the form, as it is known, is moved, usually on a wheeled carriage, to a stationary proof press where it is moved from the carriage to the press. After a proof sheet is made the form is moved from the press onto the carriage and taken back to the make-up bank. The sole purpose of this laborious and time-consuming operation is to make a proof sheet from which it may be determined whether changes must be made in the type which is locked in the form. My invention has the same purpose, which is the making of a proof sheet, and its principal object has been to provide a means of making a proof sheet which will require a minimum time, which will eliminate the necessity of moving the made-up forms, and which may be carried out at the make-up bank. Another principal object of the invention has been to provide a device which may be applied directly to a made-up form at the make-up bank or elsewhere in order to take a proof of the set type without moving the form itself and which is light in weight and easily portable, whereby it may be moved from form to form to take proofs, thereby eliminating any necessity of moving the forms to the proof press and, further, eliminating any need for the usual stationary proof press.

An embodiment of my invention is illustrated in the accompanying drawings, in which:

Fig. 1 is a front elevational view of a portable proof press according to the invention in operative position on the chase of a made-up form, showing the inking roller below the pressure roller;

Fig. 2 is a view which is similar to Fig. 1 except that the positions of the two rollers are reversed;

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1;

Fig. 4 is a sectional view taken on line 4—4 of Fig. 2;

Fig. 5 is an enlarged sectional view taken on line 5—5 of Fig. 1;

Fig. 6 is a front elevational view of a modified form of my invention, and

Fig. 7 is a sectional view taken on line 7—7 of Fig. 6.

The portable proof press provided by my invention and illustrated in the drawings comprises a rigid frame having spaced, parallel, vertical side plates 2 connected at their upper parts by a rod 4 and at their central parts by a shaft 6. Adjacent the lower edge of the inner face of each side plate there are provided three rollers 8, 10, 12 which extend in a row parallel to the horizontal lower

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edge of the plate and are spaced apart in such a way that roller 8, which is adjacent to one side edge of the plate, is spaced from the nearest roller 10 by a distance greater than the spacing between rollers 10 and 12. An elongated metal member 14 is attached to the inner face of each side plate 2 above the rollers 8, 10, 12 and has a horizontal lower edge spaced above the rollers. This rigid frame, with the parts which are to be described hereinafter, is adapted and intended to be mounted on a chase 20 for the purpose of taking a proof of the type within the chase. As is well known to the art, a chase consists of a rectangular metal form having side members 22 and end members 24 defining a central opening somewhat larger than the printed area of a newspaper page and within which slugs of type are assembled and locked. In accordance with the invention the two parallel side members of such a chase are undercut, as shown at 26, to form parallel passages which receive the rollers 8, 10, 12. Instead of being undercut the side members of the chase may have longitudinally-extending metal strips attached to their outer side surfaces, which are of less vertical height than the side members and thus provide passages beneath these strips in which the rollers are received. In either case the passages are of proper size to receive the rollers 8, 10, 12 and the parallel members 14 on the side plates 2 are spaced from the rollers a sufficient distance to permit the horizontal lower surfaces of these members to loosely engage the upper surfaces of the side members 22 of the chase when the portable proof press is put onto the chase. It will thus be seen that the frame which has been described may be picked up, put onto a set-up form with the rollers 8, 10, 12 of the two side plates in the passages 26 in the side members of the chase and the horizontal, lower surfaces of the members 14 in loose engagement with the upper surfaces of the side members 22 of the chase and, with the parts in these positions, the frame and its associated parts may be moved back and forth from end to end along the chase by pushing and pulling on the rod 4.

Means are provided by the invention for alternately inking the set up type 27 within the form and applying pressure to the type through the intermediary of a sheet of paper placed on the type. Such means comprise a carriage 28 which is mounted on the shaft 6 and which has spaced end members 30, an inking roller 32 and a pressure roller 34. The end members 30 are preferably identical in construction and each comprises an elongated metallic member which is journaled adjacent its center on the shaft 6 so that it may be rotated about and with respect to the shaft. Adjacent each of its ends the shaft 6 is provided in its outer surface with three elongated slots 34, 36, 38 which extend lengthwise of the shaft and the longitudinal center-lines of which are spaced at 90° intervals about the shaft, the middle slot 36 opening vertically upwardly and the two other slots 34, 38 being at opposite sides of the shaft when the carriage 28 is in its normal or inoperative position as shown in Fig. 5. Each end member 30 has a bearing block 40 surrounding the shaft 6 and a radial opening 42 is provided in each of these bearings through which a headed locking pin 44 extends. A spring 46 surrounds each pin 44 and constantly urges the pin toward shaft 6 to a position in which the end of the pin extends into one of the slots 34, 36, 38 to thereby lock the carriage 28 to the shaft.

As described above, each end member extends radially outwardly in opposite directions from the shaft 6, thus providing aligned members at the opposite ends of the shaft 6 which provide means for supporting the opposite ends of the inking and pressure rollers. Thus, the parts 50, 52 of the two end members are aligned with

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each other and rotatably support the opposite ends of a shaft 54 which is covered with suitable material to form an inking roller. Each of the parts 50, 52 of the two end members is hollow and has within it a block 56 having an opening within which an end of shaft 54 is journaled. A compression spring 58 is disposed between each block 56 and the central block 40 of the end member and constantly urges the block 56 and shaft 54 outwardly. At the other side of shaft 6 the parts 70, 72 of the two end members extend radially outwardly from shaft 6 and have substantially the same construction as the parts 50, 52 of the end members, thereby providing a resilient support for the pressure roller. Thus, the parts 70, 72 are aligned with each other and rotatably support the opposite ends of a shaft 74 which is covered with suitable material to form a pressure roller. Each of the parts 70, 72 is hollow and has within it a block 76 having an opening within which an end of shaft 74 is journaled. A compression spring 78 is disposed between each block 76 and the central block 40 of the end member and constantly urges the block 76 and shaft 74 outwardly. An adjusting screw 80 is tapped into the end wall of each of the parts 50, 52, 70, 72 of the end members and may be selectively turned to adjust the tension of the springs 58, 78.

The pressure roller 34 is preferably slightly larger in diameter than the inking roller 32 and if this is the case the parts 50, 52 which support the inking roller must be made longer than the parts 70, 72 which support the pressure roller in order that the distances between the axis of shaft 6 and the outermost points of the peripheries of the inking and pressure rollers will be equal.

The distance between the axis of shaft 6 and the outer surface of the pressure roller at the point where it engages the type is slightly greater than the distance between the axis of shaft 6 and the upper surface of the type in the made-up form and when the pressure roller is moved in the described manner in engagement with the type the springs 78 which urge the pressure roller outwardly will be compressed, thus forcing the surface of the pressure roller into tight engagement with the type. The distance between the axis of shaft 6 and the outer surface of the inking roller 32 is slightly greater than the distance between the axis of shaft 6 and the upper surface of the type in the made-up form and when the inking roller is moved in the described manner into engagement with the type the springs 58 which urge the inking roller outwardly will be compressed, thus forcing the surface of the inking roller into tight engagement with the type.

It will be seen that the carriage which includes the two end members and the inking and pressure rollers is a unitary structure mounted on shaft 6 and capable of being moved about and with respect to the shaft to three positions in which it may be locked. Thus, if it is desired to take a proof of type in a made up form the portable proof press provided by the invention is first adjusted so that the carriage 28 is in its middle position, as shown in Fig. 3, with the end members horizontal and the inking and pressure rollers in side by side relation. The press is now placed on the made up form at the make-up bank, or elsewhere, with the rollers 8, 10, 12 positioned within the passages 26 in the side members 22 of the chase and the horizontal lower surfaces of the members 14 loosely engaging the upper surfaces of the side members of the chase. The portable press is now in position to be operated and the next step in its operation is to ink the type in the form. In order to do this the pins 44 are pulled outwardly against the force of springs 46 until their ends come out of the middle slots 36. The carriage may now be rotated about shaft 6 through an angle of 90° until the inking roller is vertically below the pressure roller, as shown in Figs. 1 and 3 and in which position the pins 44 may be released to cause the springs 46 to force them into the slots 34.

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The entire proof press is now moved back and forth along the entire length of the made-up form causing the inking roller to pass over and engage and ink all of the type within the form.

After the inking of the type is completed the portable proof press is moved to the end of the form, but not moved off of the form, and a sheet of newsprint is placed over the type. The pins 44 are pulled out of the slots 34 and the carriage is rotated about shaft 6 until the pressure roller is vertically below the inking roller, as shown in Figs. 2 and 4, in which position the pins 44 may be released to permit the springs 46 to force them into slots 38, thus locking the carriage from rotation with respect to shaft 6. The entire portable proof press is now moved along the entire length of the made up form, causing the pressure roller to press the newsprint into engagement with the type after which the portable proof press may be removed from the form or it may be moved to one end of the form and a second proof taken by removing the printed sheet of newsprint, placing a fresh sheet on the type in the form and repeating the described operation.

The spacing of the rollers 8, 10, 12 which is described above permits the portable proof press to be partly moved beyond the end of a chase, by allowing the rollers 8 to pass out of the ends of the passages 26 while preventing the other rollers 10, 12 from coming out of the passages. This permits the portable proof press to be moved to a position where it is not above the type in the form, thus permitting the printed sheet of newsprint to be replaced by a new sheet.

Any suitable means may be provided within the scope of the invention for supplying ink to the inking roller, and in Figs. 6 and 7 of the drawings I have illustrated an embodiment of the invention in which such a means is incorporated in the portable proof press. This means comprises a tubular ink reservoir 90 which is supported on the outer ends of pivoted arms 92, the inner ends of which are supported on or adjacent the central parts of the two end members 30. The outer surface of the reservoir is in engagement with the outer surface of the inking roller 32 and is constantly urged into such contact by springs 94 which extend between the arms 92 and the end members 30. The reservoir 90 comprises two tubes 96, 98 which fit one within the other and have closed ends and are rotatable with respect to each other by knurled knobs 100 on their ends to bring apertures in the tubes into register, thus permitting ink to flow from the reservoir to the inking roller, after which the two tubes may be rotated relatively to each other to stop the flow of ink. A crank 102 is journaled in one of the side plates 2 and has a fitting 104 on its inner end which may be engaged with a fitting 106 on the end of the shaft 54 which supports the inking roller. In order to replenish the supply of ink on the inking roller the carriage 28 is turned to the position in which the inking roller is above the pressure roller, as shown in Figs. 2 and 4, and tubes 96, 98 are turned relatively to each other to permit ink to flow from the ink reservoir to the surface of the inking roller, the crank 102 is pushed inwardly in order to engage the fittings 104, 106 with each other and the crank is then turned, causing the inking roller 32 to be rotated. Ink will flow from the reservoir 90 to the surface of the inking roller and when the entire surface has been covered the crank may be withdrawn and the knobs 100 on the reservoir tubes turned in order to close the apertures in the reservoir.

While I have described my invention in this application applied to the making of a proof copy from "type" it will be apparent that it is equally applicable to the making of a proof copy from photo-set plates, photo-engraved plates, stereotype or any other plates or other devices used in the printing art to transfer words, pictures or any other intelligence to paper or other mate-

rial. It is therefore to be understood that the word "type" as used in this specification and in the appended claims means, generically, type, plates and all other devices for performing the above-described function. Further, while I have referred in this application to type "locked" in a chase, it will be understood that the invention may be used to make a proof copy regardless of how or whether the type is held in the chase.

While I have described and illustrated one embodiment of my invention, it will be apparent to those skilled in the art to which the invention relates that other embodiments, as well as modifications of that disclosed, may be made and practised without departing from the spirit or scope of the invention, for the limits of which reference must be made to the appended claims.

What is claimed is:

1. A manually portable device for taking proof copy from type in a made-up form having spaced parallel side members, comprising a rigid frame having spaced side members for movement along and over the side members of the form, a shaft extending between the side members of the frame, a carriage rotatably mounted on said shaft and comprising an inking roller and a pressure roller which are parallel to each other and arranged on diametrically opposite sides of said shaft, means for selectively locking said carriage against rotation with respect to the shaft in a first position in which the inking roller is vertically below the pressure roller and positioned to engage type in the form and in a second position in which the pressure roller is vertically below the inking roller and positioned to engage type in the form, resilient means constantly urging each of said rollers in a direction radially outwardly of said shaft, and means for guiding said device in movement along the form and to retain the device on the form against the pressure of said resilient means, comprising a plurality of rollers mounted on each of the frame side members adjacent the lower edges thereof for engagement with the outer surfaces of the side members of the form.

2. A manually portable device for taking proof copy from type in a made-up form having spaced parallel side members which are recessed along their lengths at their exterior side faces to form shoulders, comprising a rigid frame having spaced side members for movement along and over the side members of the form, a shaft extending between the side members of the frame, a carriage rotatably mounted on said shaft and comprising an inking roller and a pressure roller which are parallel to each other and arranged on diametrically opposite sides of said shaft, means for selectively locking said carriage against rotation with respect to the shaft in a first position in which the inking roller is vertically below the

pressure roller and positioned to engage type in the form and in a second position in which the pressure roller is vertically below the inking roller and positioned to engage type in the form, resilient means constantly urging each of said rollers in a direction radially outwardly of said shaft, and means for guiding said device in movement along the form and to retain the device on the form against the pressure of said resilient means, comprising a plurality of rollers mounted on each of the frame side members adjacent the lower edges thereof for engagement with the lower surfaces of said shoulders and an elongated member attached to each of said frame side members adjacent the upper surface of each shoulder for engagement with said upper surface.

3. A device according to claim 2 comprising, in addition, a reservoir roller mounted on said carriage and having its periphery in engagement with said inking roller.

4. A device according to claim 3 in which the reservoir roller is mounted on the carriage for movement toward and away from the inking roller, and comprising in addition means constantly urging the reservoir roller toward and into engagement with the inking roller.

5. A device according to claim 3 comprising, in addition, means mounted on said frame for rotating the inking roller to cause simultaneous rotation of the reservoir roller.

6. A device according to claim 2, in which the shaft is provided with a plurality of openings therein which are spaced at 90° intervals about the shaft, said openings adapted to receive the said means for selectively locking the carriage against rotation.

7. A device according to claim 6 in which the means for selectively locking the carriage against rotation comprises a pin slidably mounted on said carriage and adapted and positioned to be selectively moved into one of the said shaft openings to thereby lock the same.

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