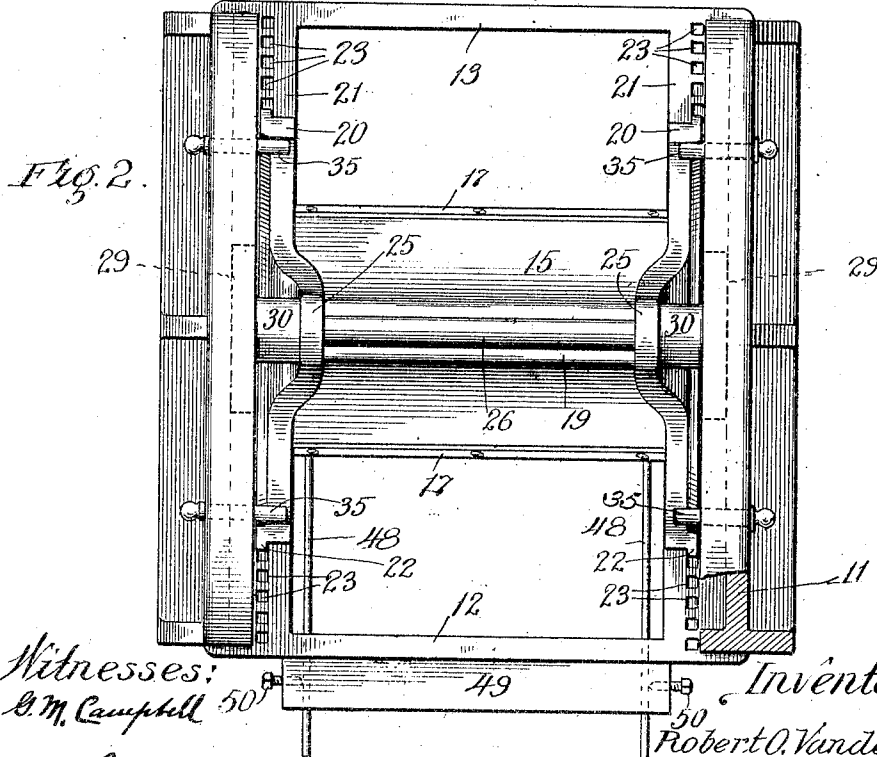
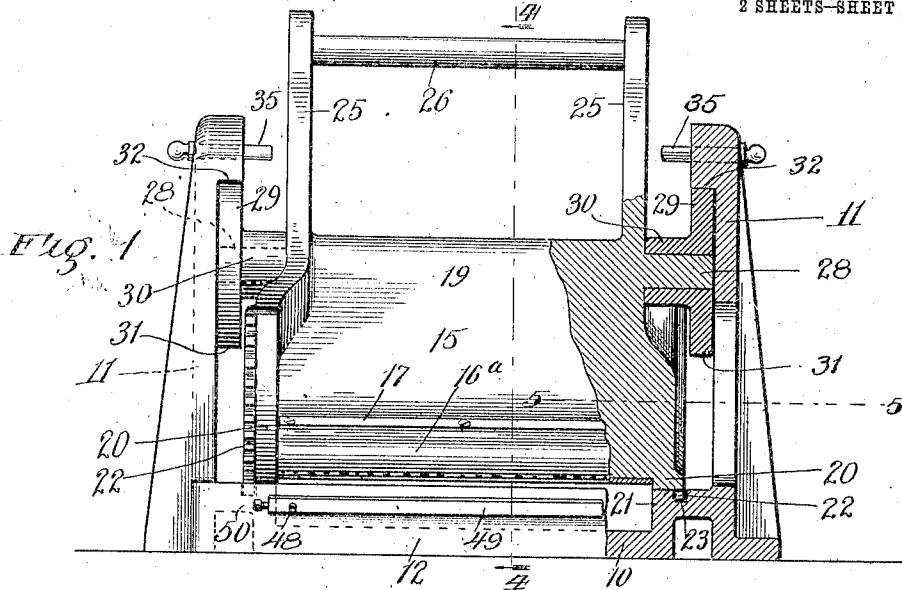


R. O. VANDERCOOK.
MACHINE FOR PRINTING PROOFS.
APPLICATION FILED FEB. 8, 1909.

1,042,848.

Patented Oct. 29, 1912.

2 SHEETS—SHEET 1.



Witnesses:

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Inventor:

Robert O. Vandercook

by *Paul H. Brown*

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2 SHEETS-SHEET 2.

Fig. 3.

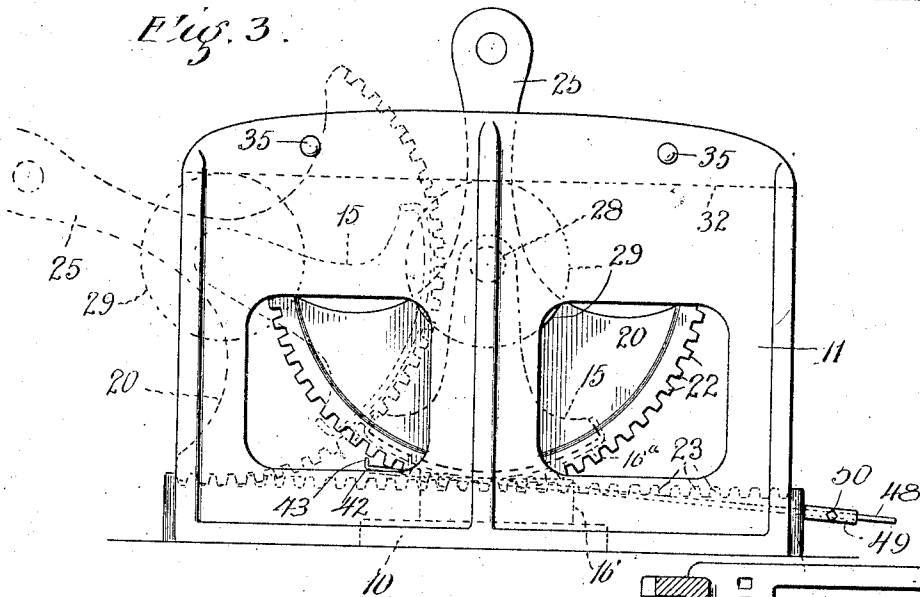


Fig. 4.

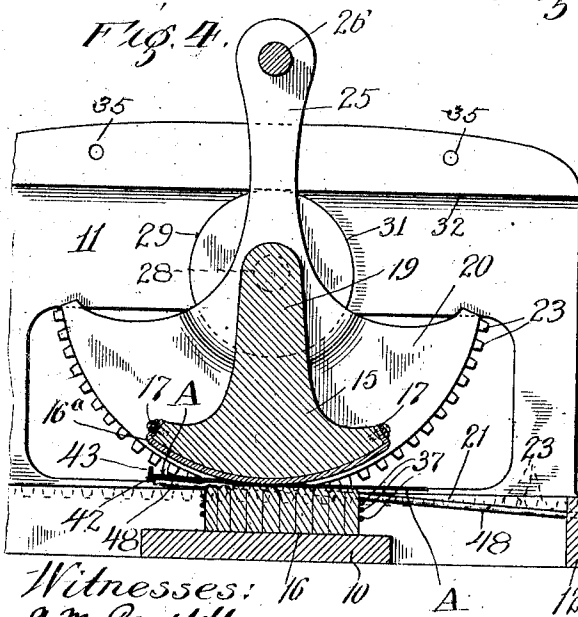
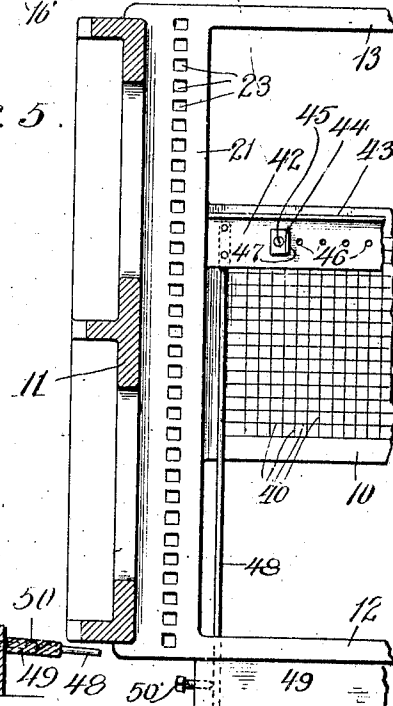


Fig. 5.



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UNITED STATES PATENT OFFICE.

ROBERT O. VANDERCOOK, OF FRUITVALE, CALIFORNIA.

MACHINE FOR PRINTING PROOFS.

1,042,848.

Specification of Letters Patent.

Patented Oct. 29, 1912.

Application filed February 8, 1909. Serial No. 476,695.

To all whom it may concern:

Be it known that I, ROBERT O. VANDERCOOK, a citizen of the United States, and a resident of Fruitvale, in the county of Alameda and State of California, have invented certain new and useful Improvements in Machines for Printing Proofs; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a novel press for printing proofs or taking proof impressions from composed types or forms of different kinds preparatory to final printing therefrom, and the invention consists in the matters hereinafter set forth and more particularly pointed out in the appended claims.

The object of the invention is to provide a simple, convenient, efficient and readily operated press for printing proof or other copy from types, cuts and engravings made by any process and which is constructed and arranged to give a positive and uniform impression by a firm and unyielding pressure of the printing elements and thereby insure a clean-cut impression on any kind of stock, and insure detection of imperfections and deficiencies in the printing faces of the types, cuts or engravings, and which readily lends itself to accurate adjustment of interchangeable tympan.

As shown in the drawings:—Figure 1 is an end elevation, partially broken away, of a proof printing press made in accordance with my invention. Fig. 2 is a top plan view of the press. Fig. 3 is a side view thereof. Fig. 4 is a vertical section on the line 4—4 of Fig. 1. Fig. 5 is a partial horizontal section on the line 5—5 of Fig. 1.

As shown in the drawings, 10 designates a fixed, horizontal type bed which, as herein shown, is made an integral part of a type bed frame but may be made separate therefrom and fixedly attached thereto. Said frame embraces two vertical, parallel side members or plates 11, 11, between the lower margins of which the type bed extends, and front and rear connecting members 12 and 13, respectively, which, as herein shown, are integral with and join the side members rigidly together.

15 designates a rocking, segmental impression member which is located over the

type bed 10 and with its convex surface facing the bed plate, and is adapted to press a proof sheet against the composed types or form 16 supported on the type bed. The lower curved face of the impression member is provided with an interchangeable tympan 16^a to adapt the press to work of different characters. The tympan is turned at its side margins upwardly against the sides of said impression member and is attached thereto by any suitable form of clamping device 17. The impression member is formed with a central, upwardly extending transverse web portion 19. The said impression member is herein shown as made integral with supporting rockers or bearers 20, one at each end of the impression member, and the lower convexly curved faces of said rockers are concentric with the curved bearing face of the impression member. The said rockers are arranged to rest and roll on upwardly facing rails 21, 21 arranged parallel with each other, one at each side, and above the level of the type bed. As herein shown, said lower curved faces of the rockers are provided with teeth 22 which engage a series of notches 23 formed in the rails 21, whereby the impression member is held from shifting relatively to the type bed. The curved bearing surfaces of the rockers extend a substantial distance beyond the sides of the impression member, whereby when the movable parts of the press assume the position indicated in dotted lines in Fig. 3, the bearing portion of the impression member will be swung clear of the type bed and the types or form supported thereon. Extending upwardly from the ends of said impression member are two parallel arms 25, 25 which are connected at their upper ends by a transverse cross bar 26, the whole constituting an operating handle by which to rock the impression member back and forth relatively to the type bed. Extending outwardly and oppositely from the rockers 20, and arranged concentrically with respect to the curved bearing faces of said impression member and the rockers, are two horizontal studs 28, 28 which carry bearing rollers 29, 29. Each of said bearing rollers comprises a hub portion 30 and a cylindric flange portion 31. Said cylindric flange portions of the bearing rollers engage downwardly facing tracks or bearing surfaces 32, 32 formed on the inner faces of the side plates of the frame near their upper margins. The said

downwardly facing bearing surfaces or tracks 32 are parallel with the rocker supporting rails 21 and the engagement thereof with the bearing rollers serves to hold the rockers 20 down upon their supporting rails and to prevent the impression member from rising during the rocking or printing movement thereof.

By reason of the concentric location of the studs 28 with respect to the curved bearing faces of the impression member 15 and the rockers 20, and the fact that the downwardly facing surfaces 32 against which said rollers bear are parallel with the rails upon which the rockers rest and roll, the said studs move in a straight path, parallel with the type bed, during the rocking movement of the impression member. The points of contact of the rockers with their supporting rails, and the line of contact of the impression member with the sheet A which receives the proof impression from the types will, therefore, always be vertically below the points of contact of the bearing rollers 29 with the downwardly facing surfaces or tracks, 32. The force which holds the impression member down to its work is, therefore, always exerted in a vertical direction and at right angles to the surface of the type or form from which the impression is to be taken. For the reasons above mentioned, there is little tendency of the impression member slipping on its support during the rocking or printing movement thereof, even though the toothed bearing surfaces of the rockers be omitted.

It will be noted that the downwardly facing bearing surfaces or tracks are located in a horizontal plane at a vertical distance from the horizontal plane containing the longitudinal central axis of the studs 28, that is to say, the axis of oscillation of the impression member, less than the radius of said impression member. Said downwardly facing bearing surfaces or tracks are thus brought close to the axis of oscillation of the impression member whereby the friction due to the operation of said impression member is greatly reduced and rendered almost negligible.

The side members, 11 of the type bed frame are provided near their upper sides, and adjacent to the ends thereof, with inwardly extending stop pins 35, 35 which are arranged to engage the upper margins of the rockers and serve to limit the rocking or rolling movement of the impression member, as clearly indicated in the dotted line position of the impression member in Fig. 3. Said pins, or at least the pair at one end of the frame, are designed to be removed, and when removed the impression member and the supporting rockers thereof may be readily removed from and inserted into the space between the side members of the frame.

The frame is open at its ends to permit such removal and to permit the impression member to be rocked to its extreme positions.

In the use of the device, the impression member is first swung or rocked to one limit of its movement, as indicated in dotted lines in Fig. 3. In this position of the parts the impression member is swung inwardly above and beyond the type bed, so that the composed types or form may be readily placed thereon and removed therefrom. This is due to the fact that the curved bearing surfaces of the rockers or bearers are extended a substantial distance beyond the bearing face of the type member, and the frame is so constructed as to permit the rockers or bearers to be rocked outwardly entirely to their ends. This feature of the construction is of great practical importance and contributes greatly to the convenient and rapid operation of the press. After the impression member has been rocked to the limit of its movement the composed types or form from which the impression is to be taken are placed on the bed plate 10. When the impression is taken from composed types the types may be confined together in any manner well known to printers. The types may be locked in a chase, or, as herein shown, they may be bound together by retaining strings 37 would around the same. After the types have thus been placed ink is applied thereto and the sheet of paper A which is to receive the impression is placed thereover. The impression member is then rocked from the position indicated in dotted lines in Fig. 3 to the opposite limit of its movement and, in rocking over the type, presses the sheet against the inked types or form to receive the proof impression therefrom.

Inasmuch as the impression member is supported on the rails 21, through the medium of the rockers 20, it will be observed that the sheet of paper which receives the proof impression will be pressed, with a uniform and relatively light, though positive, pressure on the inked types or form, thus securing a clear and uniform imprint. By reason of the fact that slippage between the impression member and the types or form supported on the type bed is avoided, the imprint will be without blur and, therefore, clear. A further result of supporting the impression member in the manner shown, relatively to the type bed and the types or form supported thereon, is that the curved surface of the impression member does not follow irregularities of the type surface. Therefore, in the event that any of the types or any part of the form be too low this will be indicated by a faint impression or no impression at all, and will thus give opportunity to properly aline the printing surface of the types or form before final

printing. Defects in the type faces will also be thus made apparent. Moreover, the construction of the press permits proofs to be printed on sheets of any weight desired.

5 The upper face of the type bed may be provided with the cross lines to pica scale 40, 40, shown in Fig. 5, which afford means by which the form or the group of composed types may be properly alined on the bed.

10 The type bed may be made of a width from front to rear of the machine to correspond with the maximum width of the proof sheets and the length of the type bed and impression member will be varied in different
15 presses to suit the dimensions and character of the work.

I may also provide a registering device for engagement with the advance margin of the sheet which receives the proof impression and by which the sheet may be properly registered. A form of registering device which may be conveniently used, and which I have herein shown, is made as follows: 42 designates a gage bar arranged transversely over the type bed in rear of the types or form supported thereon. Said gage bar is provided at its rear end with a vertical registering flange 43 arranged to engage the advance margin of the sheet to properly register the same. A movable or adjustable gage plate 44 is supported on the gage bar by means of a screw 45, adapted to enter any one of a plurality of apertures 46 of the gage bar. The said gage plate 44 is provided with a vertical flange 47 which presents a laterally facing shoulder against which to register the left hand margin of a sheet at its advance margin, in a familiar manner. By reason of the movability of the gage plate 44 it is adapted to register sheets A of different lengths. The said gage bar 42 is supported on the rear ends of rods 48, 48 which extend rearwardly through openings in the front transverse member 12 of the frame, one at each side of the frame. They are attached at their rear ends to the opposite ends of the gage bar. The said supporting rods 48 are connected at their front ends outside of the frame by means of a connecting bar 49 which is apertured for the passage of the rods 48 therethrough. The connecting bar may be fixed to the rods by means of set screws 50, 50 which extend through screw-threaded openings in the ends of said connecting bar and are arranged to impinge at their inner ends against the supporting rods. This arrangement of the connecting bar and rods permits the bar to be adjusted along the length of the supporting rods 48. Said connecting bar also serves as a stop to limit the rearward movement of the gage bar 42 and, by reason of the adjustment of the connecting bar 49 on the rods, the position of said gage bar from front to
65 rear of the type bed may be regulated as de-

sired to accommodate proof sheets of varying widths. The said rods 48 are preferably spring rods and may be arranged and mounted to normally hold the gage bar upwardly with its upper surface slightly above the types 16. Thus when a proof impression is to be made the sheet is laid with its advanced edge on the gage bar and properly registered, and at this time is slightly above the inked face of the types. Thereafter, when the impression member is swung or rocked forwardly it depresses the gage bar and also carries the sheet downwardly against the inked types or form. This arrangement also affords an additional precaution against the shifting of the sheet upon the inked face of the types or form and contributes to the neatness of the proof. The resiliency of the supporting rods of the gage bar and their longitudinal movement permits said bar to be raised above the level of the types or form and to be drawn forwardly thereover preparatory to inking the types or forms and thus avoid smearing the bar with ink during the inking operation. The gage bar is then moved forwardly over the types and backwardly into place at a time when the impression member occupies the position indicated in dotted lines in Fig. 3.

It will be obvious that the details of the press may be considerably varied within the scope of the invention, while retaining the general mode of operation and points of advantage hereinbefore enumerated. I do not, therefore, limit the inventive details to the particular details illustrated except as hereinafter made the subject of specific claims.

I claim as my invention:—

1. In a printing press comprising a horizontal type-bed, a frame therefor embracing vertical side plates, supporting rails at the sides of the type-bed, a rocking, segmental, impression member located between said side plates, rockers rigid with the impression member and supported on the said rails, the said side plates being provided with downwardly facing bearing surfaces parallel with said rails and located in a plane at a vertical distance from the axis of oscillation of said impression member less than the radius of said impression-member, laterally and oppositely extending studs carried by the impression-member, and rollers mounted on the studs adapted to have rolling engagement with said downwardly facing bearing surfaces.

2. A printing press comprising a horizontal type bed, a frame therefor embracing vertical side plates, supporting rails at the sides of the type bed, a rocking, segmental impression-member located between said side plates, rockers rigid with said impression-member and concentric therewith supported on said rails, the said side plates

being provided with downwardly facing bearing surfaces parallel with said rails and located in a plane at a vertical distance from the axis of oscillation of said impression member less than the radius of said impression-member, and the impression-member being provided with parts arranged for rolling engagement with said downwardly facing bearing surfaces, said impression-member being provided with upwardly extending arms connected by a cross member to afford a handle to rock the impression member.

3. A printing press comprising a horizontal type-bed, a frame therefor embracing vertical side plates, supporting rails at the sides of the type-bed, a rocking, segmental impression-member located between said side plates, rockers rigid with the impression member supported on said rails, the said side plates being provided with downwardly facing bearing surfaces parallel to said rails and located in a plane at a vertical distance from the axis of oscillation of said impression-member less than the radius of said impression-member, and the impression-member being provided with parts arranged for rolling engagement with said downwardly facing bearing surfaces, and stops extending inwardly from said side plates to limit the rocking movement of the impression member.

4. A printing press comprising a horizontal type bed, a frame therefor embracing vertical side plates, parallel supporting rails at the sides of the type bed, a rocking, segmental impression member located between said side plates, rockers rigid with the impression member supported on said rails, the said side plates being provided with downwardly facing bearing surfaces parallel with said rails, and the impression member being provided with parts arranged for engagement with said bearing surfaces, and stops extending inwardly from the ends of said side plates near their upper margins to limit the rocking movement of the impression member, said frame being open at its ends and the said stops being removable to permit the impression member and its rockers to be removed from and inserted between the side plates at the ends of said frame.

5. In a printing press comprising a horizontal type-bed, a frame therefor embracing vertical side plates, supporting rails at the sides of the type-bed, a rocking, segmental impression-member located between said side plates, rockers rigid with the impression-member and supported on the said rails, said rockers and said rails being pro-

vided with intermeshing teeth, the said side plates being provided with downwardly facing bearing surfaces parallel with said rails and located in a plane at a vertical distance from the axis of oscillation of said impression member less than the radius of said impression-member, laterally and oppositely extending studs carried by the impression-member, and rolls mounted on the studs adapted to have rolling engagement with said downwardly facing bearing surfaces.

6. In a printing press comprising a horizontal type-bed, a frame therefor embracing vertical side plates, supporting rails at the sides of the type-bed, a rocking, segmental impression-member located between said side plates, rockers rigid with the impression-member and supported on the said rails, the engaging faces of said rockers and said rails being provided with intermeshing teeth, and the toothed faces of the rockers extending beyond the curved surface of said impression-member, the said side plates being provided with downwardly facing bearing surfaces parallel with said rails and located in a plane at a vertical distance from the axis of oscillation of said impression-member less than the radius of said impression-member, laterally and oppositely extending studs carried by the impression member, and rollers mounted on the studs adapted to have rolling engagement with said downwardly facing bearing surfaces.

7. In a printing press comprising a horizontal type-bed, a frame therefor embracing vertical side plates, supporting rails at the sides of the type-bed, a rocking, segmental impression-member located between said side plates, rockers rigid with the impression-member and supported on the said rails, said rockers extending beyond the curved face of the impression-member, the said side plates being provided with downwardly facing bearing surfaces parallel with said rails and located in a plane at a vertical distance from the axis of oscillation of said impression-member less than the radius of said impression member, laterally and oppositely extending studs carried by the impression-member, and rollers mounted on the studs adapted to have rolling engagement with said downwardly facing bearing surfaces.

In testimony, that I claim the foregoing as my invention I affix my signature in the presence of two witnesses, this 4th day of February A. D. 1909.

ROBERT O. VANDERCOOK.

Witnesses:

W. L. HALL,

GEORGE R. WILKINS.