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PATENTED MAR. 12, 1907.

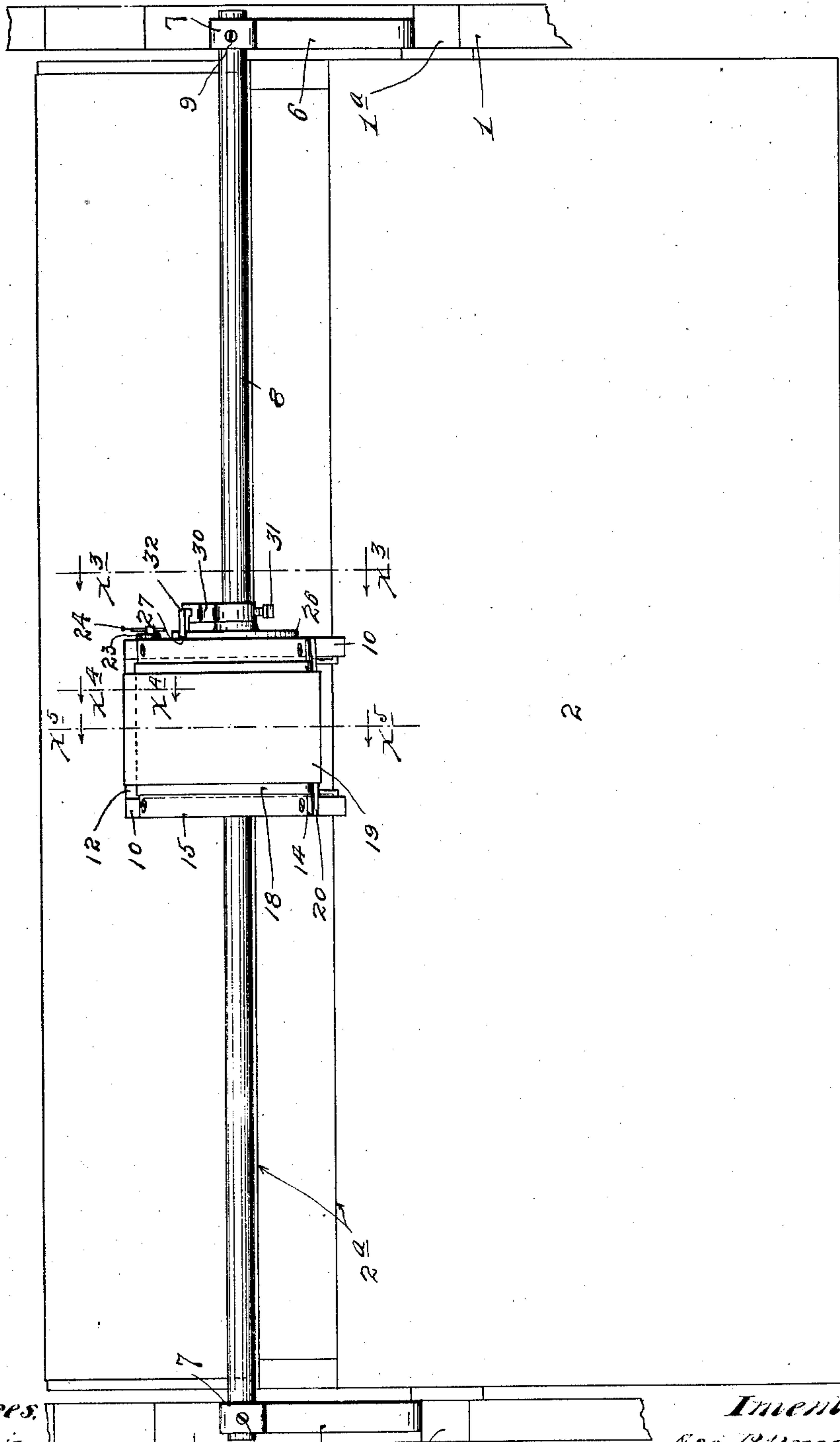
A. P. BROOKS.

AUXILIARY PRINTING ATTACHMENT FOR CYLINDER PRINTING PRESSES.

APPLICATION FILED NOV. 3, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

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AUXILIARY PRINTING ATTACHMENT FOR CYLINDER PRINTING PRESSES.

2 SHEETS—SHEET 2.

Fig. 2.

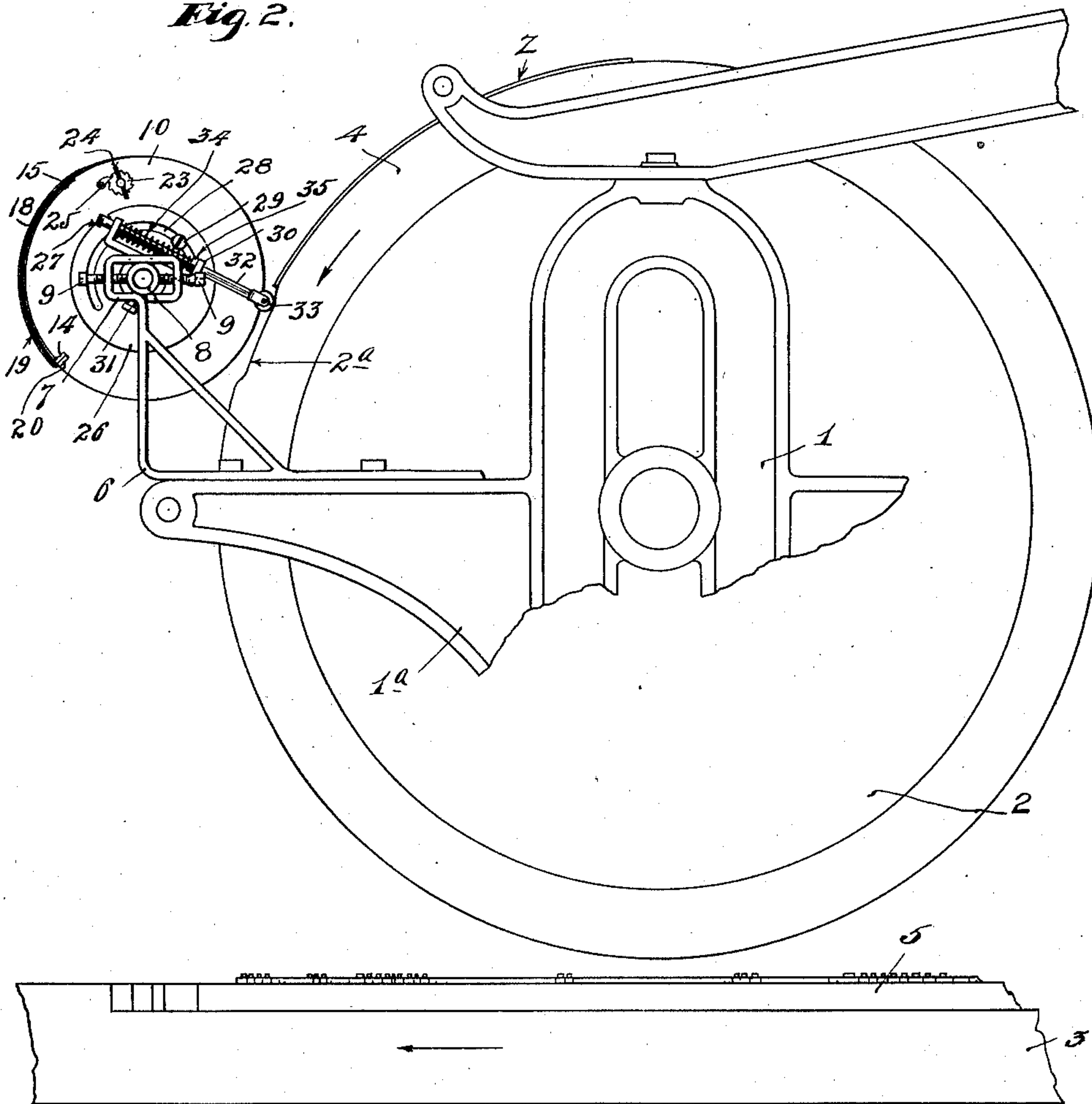


Fig. 3.

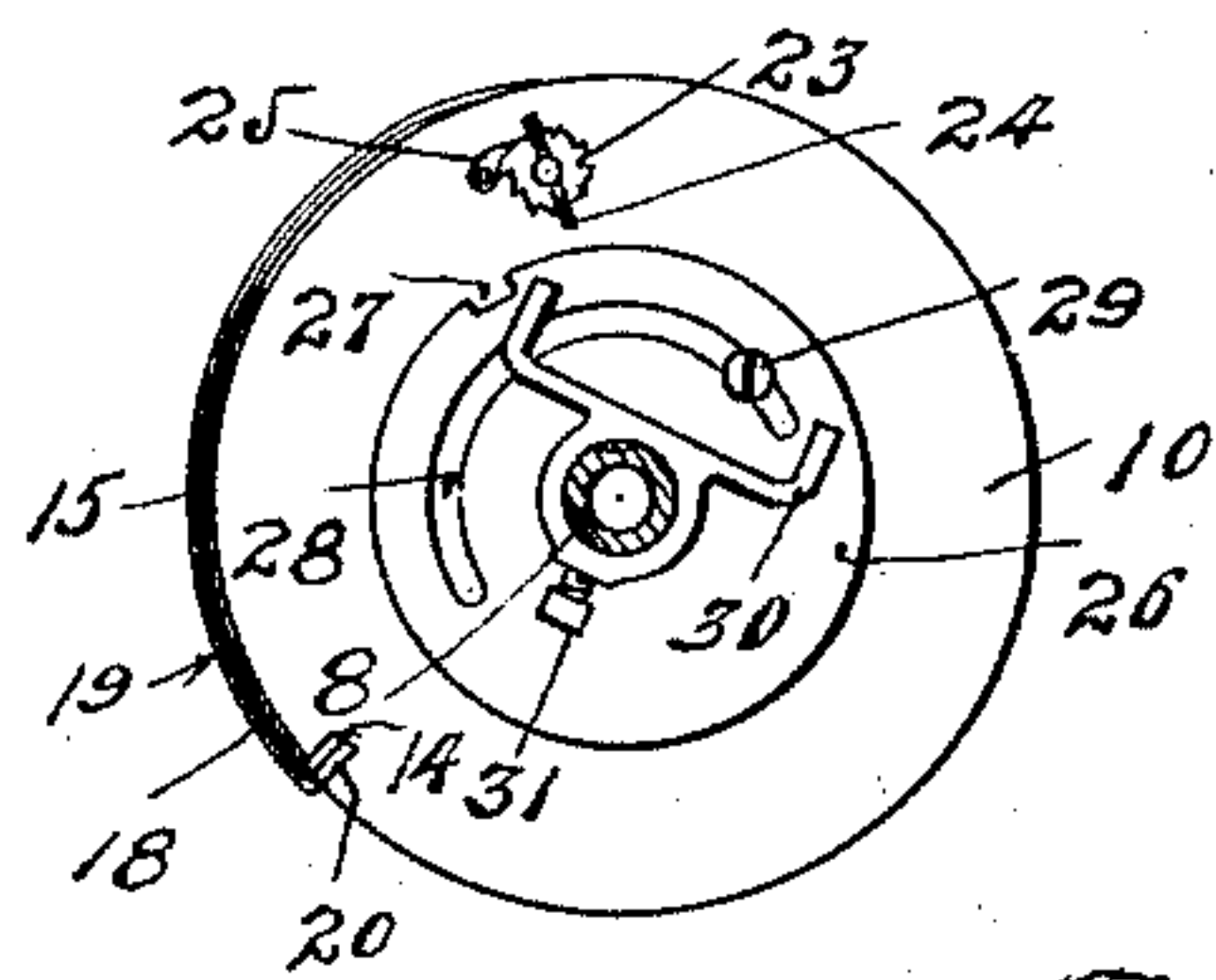


Fig. 4.

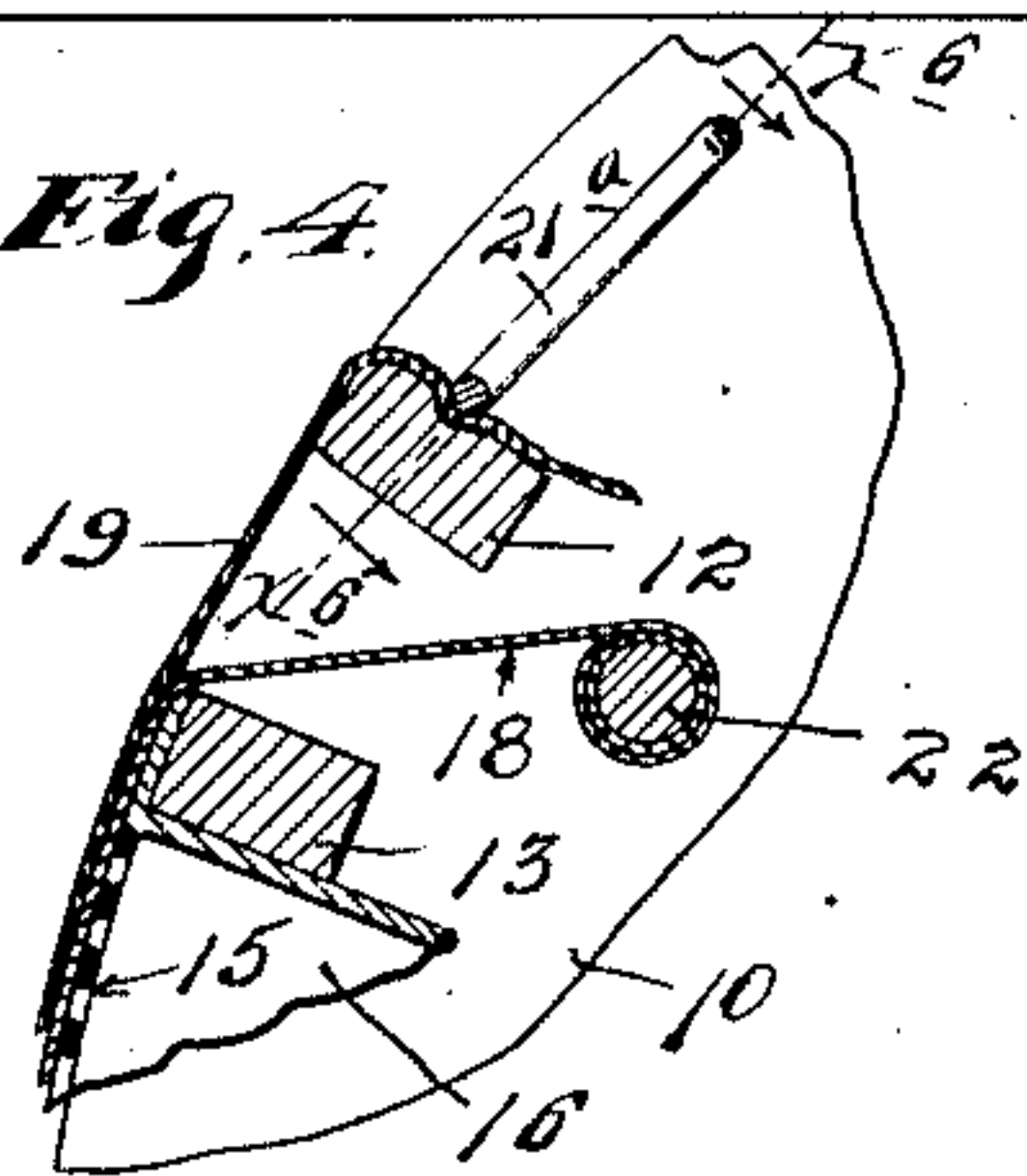


Fig. 5.

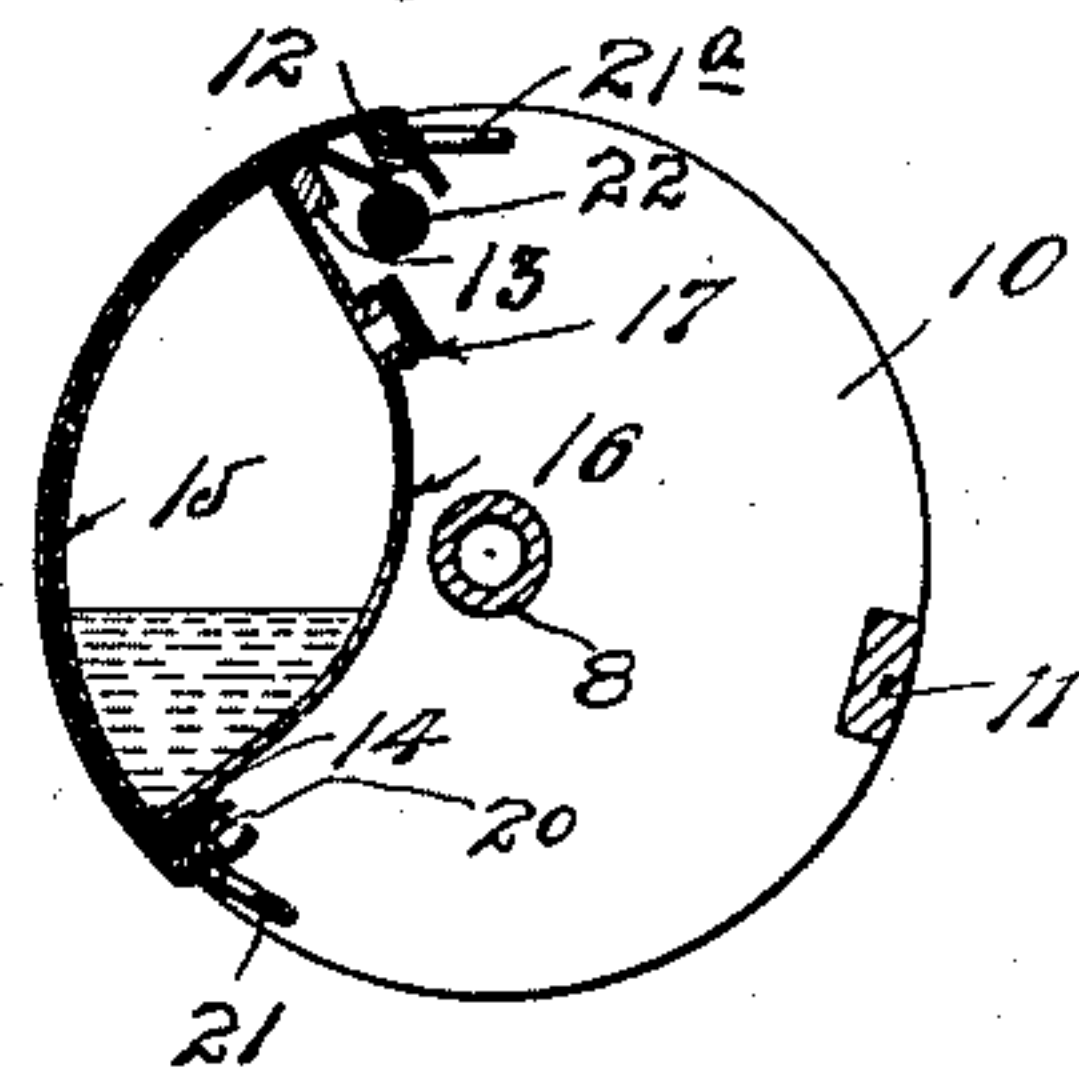
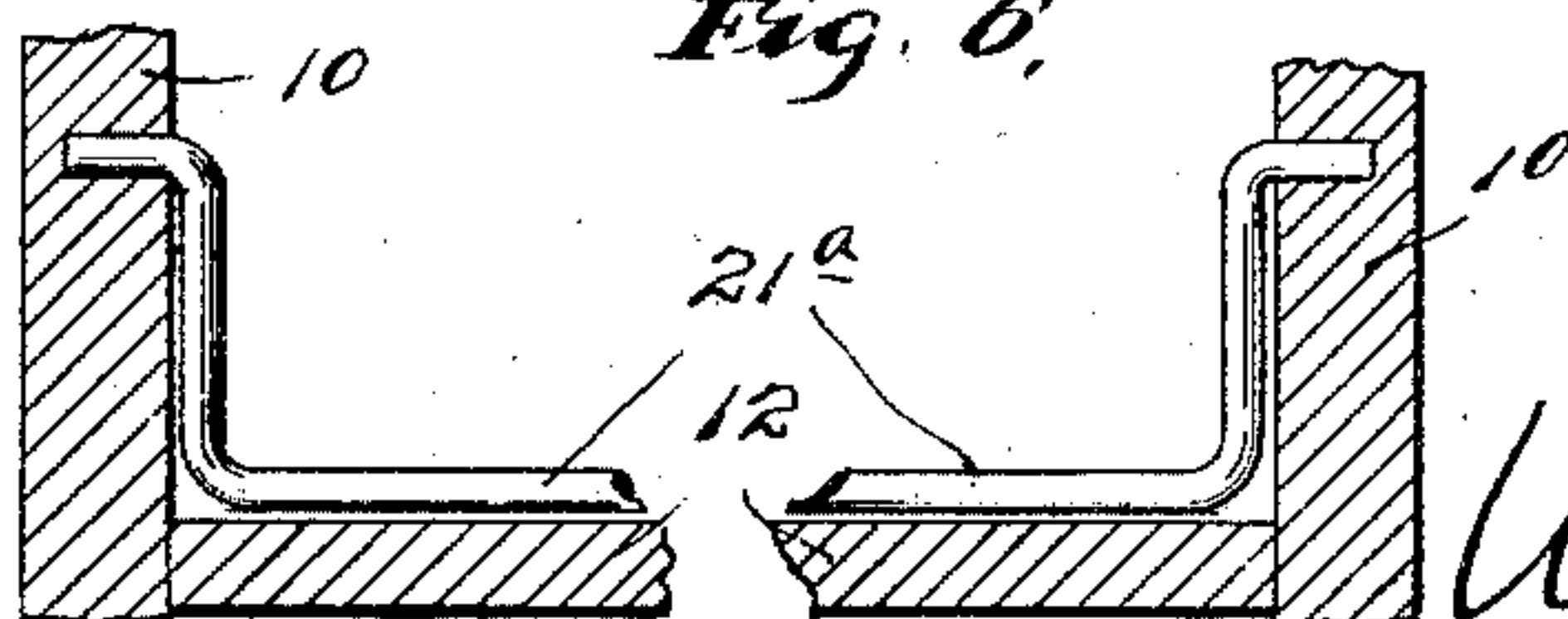


Fig. 6.



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AUXILIARY PRINTING ATTACHMENT FOR CYLINDER PRINTING-PRESSES.

No. 846,645.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed November 3, 1906. Serial No. 341,903.

To all whom it may concern:

Be it known that I, ASA P. BROOKS, a citizen of the United States, residing at New Ulm, in the county of Brown and State of Minnesota, have invented certain new and useful Improvements in Auxiliary Printing Attachments for Cylinder Printing-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an auxiliary printing attachment or device for cylinder printing-presses, and is especially directed to the provision of an improved means for printing in colors (one or more) on sheets of paper that are subsequently to be printed in the usual way by the press.

To the above ends the invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The so-called "auxiliary" printing device is adapted for application to cylinder-presses of standard construction, and it comprises a so-called "printing-cylinder" that coöperates with the tympan of the press-cylinder to print upon sheets of paper carried by said tympan letters, words, figures, or other matter within a certain space or spaces corresponding to places left therefor in the type-forms. These primarily-printed sheets are delivered in the regular manner to the type-forms and thence from the press.

The improved printing attachment is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a view in front end elevation, showing a portion of the cylinder-press having applied thereto one of my improved auxiliary printing devices. Fig. 2 is a side elevation of the parts shown in Fig. 1. Fig. 3 is a vertical section taken on the line $x^3 x^3$ of Fig. 1. Fig. 4 is an enlarged section taken through a portion of the auxiliary printing-cylinder on the line $x^4 x^4$ of Fig. 1. Fig. 5 is a complete section through the auxiliary printing-cylinder, taken on the line $x^5 x^5$ of Fig. 1; and Fig. 6 is an enlarged detail, with parts broken away, taken in section approximately on the line $x^6 x^6$ of Fig. 4.

My improved printing attachment is shown as applied to a cylinder-press of stand-

ard construction, and of the parts of which it is necessary to note only the frame 1 the cylinder 2, and the reciprocatory plate 3. The cylinder 2 has the usual peripheral tympan 4, and the plate 3 carries the type-forms 5. The character z indicates a sheet of paper carried by and held on the tympan 4 by the usual clamping devices (not shown) and which, under a rotary movement of the cylinder 2 in the direction of the arrow marked thereon in Fig. 2, is carried against the type-forms 5 in the usual way. The cylinder 2, just forward of the paper sheet z , is formed with a shallow depression or channel 2^a , that preferably extends entirely across or from end to end of the said cylinder.

Rigidly secured to forwardly-extended arms 1^a of the sides of the frame 1 is a pair of upwardly-extended brackets 6, which at their upper extremities are formed with elongated heads 7.

The numeral 8 indicates a non-rotary shaft or spindle (as shown, tubular in form) that extends transversely of the press in front of the cylinder 2, with its ends seated in the heads 7 of the brackets 6 and rigidly but adjustably secured thereto by opposing set-screws 9.

The auxiliary printing-cylinder is rotatively mounted on this shaft or spindle 8. This so-called "auxiliary" printing-cylinder is made up chiefly of a pair of laterally-spaced heads 10, that are rigidly connected and spaced apart by tie-bars 11, 12, 13, and 14. This cylinder is therefore partly open; but it must be formed with a segmental peripheral plate or portion 15, suitable to constitute a bearing and support for the stencil. As shown, this segmental stencil-support is perforated to constitute the outer wall of an ink-reservoir 16, that is rigidly but detachably secured to the tie-bars 13 and 14 and is provided at its inner portion with a cap-closed filling-nipple 17. The said plate 15 also preferably projects at its ends and overlaps, but is set into the heads 10 of the auxiliary printing-cylinder, so that the said cylinder-heads form bearings to relieve the pressure from the stencil and stencil-supporting plate 15. Over the perforate segmental plate 15 is tightly stretched a piece or web of cotton flannel 18, and over this web of cotton flannel the stencil 19 is tightly stretched. The lower end of the cotton flannel web 18 is clamped between the fixed bar 14 and a loose clamping-bar 20, and the lower end of the stencil 19 is clamped between the said bar 20 and a

clamping-bail 21, the ends of which latter are pivoted to the cylinder-heads 10. The upper end of the web 18 is wound upon a reeling-rod 22, mounted in the cylinder-heads 10 and provided at one end with a small ratchet-wheel 23 and a finger-piece 24, which ratchet-wheel is subject to a lock-pawl 25, pivoted to the adjacent head 10. By means of the reel just described the web 18 may be tightly stretched over the perforate metal supporting-segment 15.

The attachment is adapted to print in any style of type or other form of design, a stencil being first cut from the type desired, on an ordinary job-press in the usual way, using regular stencil-paper. The web 18, of cotton flannel or other suitable soft absorbent material, absorbs the ink delivered thereto through the perforations of the plate 15 or the ink otherwise applied thereto and delivers the same through the openings in the stencil-plate to print the letters, figures, or other characters.

The upper end of the stencil 19 is securely clamped to the cross-bar 12 by means of a pivoted lock-bolt 21^a. (See Figs. 4 and 6.) The clamping-bolts 20 and 21^a are alike, and Fig. 6 might be assumed to illustrate either or both thereof.

One of the cylinder-heads 10 carries a lock-disk 26, which is provided with a lock-notch 27. This disk 26 is rotatively adjustable with respect to the said head 10 and to that end is provided with a segmental groove 28, through which works a clamping-screw 29, having threaded engagement with the said head 10.

Rigidly but adjustably secured on the shaft or spindle 8, adjacent to the disk 26, is a pronged guide-bracket 30. A set-screw 31 works through the hub of the bracket 30 and engages the said shaft 8, thus rigidly but adjustably securing the said bracket to said shaft. Mounted to slide through the prongs of the guide-bracket 30 is a lock-bolt 32 having at its lower end a small antifriction-wheel 33, that is adapted to run over the tympan of the press-cylinder 2 and normally rests in the transverse depression 2^a thereof. A coiled spring 34 surrounds said bolt and reacts against one prong of the bracket 30 and against a collar 35 on said bolt and yieldingly presses the same toward the cylinder 2. At its upper or outer end the bolt 32 is provided with a laterally-bent lock-lug 36, that normally engages the notch 27 of the lock-disk 26, and thereby holds the auxiliary printing-press against rotation under its proper normal position.

The initial movement of the press-cylinder 2 in the direction of the arrow marked thereon in Fig. 2 will cause the wheel 33 to run onto a higher or outer portion of the tympan of said cylinder and will thereby move the lock-bolt 32 against the tension of the spring 34

and carry the lock-lug 36 thereof out of the lock-notch 27, and thereby release the auxiliary printing-cylinder. Simultaneously with this release of the auxiliary printing-cylinder its heads 10 are brought into frictional engagement with the tympan of the press-cylinder 2, so that the said auxiliary printing-cylinder will then be rotated frictionally under rotation of the said cylinder 2, and the stencil 19 will be brought against the paper sheet 2 in a manner which will properly print thereon in the space or spaces corresponding to those left blank in the type-forms 5. When the press-cylinder has made one complete rotation, the wheel 33 is again raised into the depression 2^a, and the spring 34, acting on the lock-bolt 32, again throws the lock-lug 36 into engagement with the lock-notch 27 of the lock-disk 26 and again locks the auxiliary printing-cylinder in its normal position.

By adjustments of the auxiliary printing-cylinder with respect to the lock-disk 26 it may be set in different normal positions, so as to properly regulate the initial printing action of the stencil on the sheet 2. By adjustments of the bracket 30 the lock-bolt 32 may be set for proper cooperation with the press-cylinder 2 and lock-notch disk 26. By adjustments of the ends of the shaft or spindle 8 on the bearing-heads 7 of the brackets 6 the heads 10 of the auxiliary printing-cylinder may be set for proper frictional engagement with the press-cylinder 2.

The ink-reservoir 16 being removable makes it an easy matter by substitution of reservoirs containing inks of different color to arrange the auxiliary printing device to print any desired color.

It is of course evident that any desired number of so-called "auxiliary" printing-cylinders may be applied on the shaft or spindle 8.

The auxiliary printing device or attachment described has been put into actual use on a printing-press and has been found highly efficient for the purposes had in view.

The attachment is of small cost and may be very easily applied to any standard cylinder-press.

The printing attachment may be moved into an inoperative position simply by adjusting the shaft 8 outward, so as to carry the cylinder-heads 10 out of positions in which they are capable of frictional engagement with the press-cylinder 2 under rotation of the latter.

What I claim is—

1. The combination with a cylinder-press having the usual printing devices, of an auxiliary printing-cylinder arranged for cooperation with the press-cylinder, a lock for holding said auxiliary printing-cylinder against rotation, itself arranged to be actuated by said press-cylinder, substantially as described.

2. The combination with a printing-press having a rotary tympan-equipped cylinder and the usual printing devices cooperating therewith, of an auxiliary printing-cylinder arranged to be frictionally driven by the press-cylinder, and a lock normally holding said auxiliary cylinder against rotation and itself arranged to be actuated by said press-cylinder, substantially as described.

3. The combination with a printing-press having a tympan-equipped cylinder and the usual cooperating printing devices, of an auxiliary printing-cylinder arranged to be frictionally driven by said press-cylinder, a lock for holding said auxiliary printing-cylinder in a normal position, means for varying the normal positions of said auxiliary cylinder with respect to said lock, and means whereby the said lock will be moved into operative and inoperative positions at the

proper times under rotation of the press-cylinder, substantially as described.

4. The combination with a cylinder-press, of an auxiliary printing-cylinder arranged to be frictionally driven by said press-cylinder, a notched lock-disk adjustably secured to one end of said auxiliary cylinder, a spring-pressed lock-bolt having a lock-lug engageable with the notch of said lock-disk to hold said auxiliary cylinder in a normal position, and cam-acting means carried by the press-cylinder and operative on said lock-bolt to control the locking and releasing movements thereof, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ASA P. BROOKS.

Witnesses:

HENRY N. TOMSEN,
NORMAN A. NELSON.