No. 747,580. PATENTED DEC. 22, 1903.

J. W. BOLGER.

PRINTING DEVICE FOR PAPER ROLLS.

APPLICATION FILED OCT. 28, 1899.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1

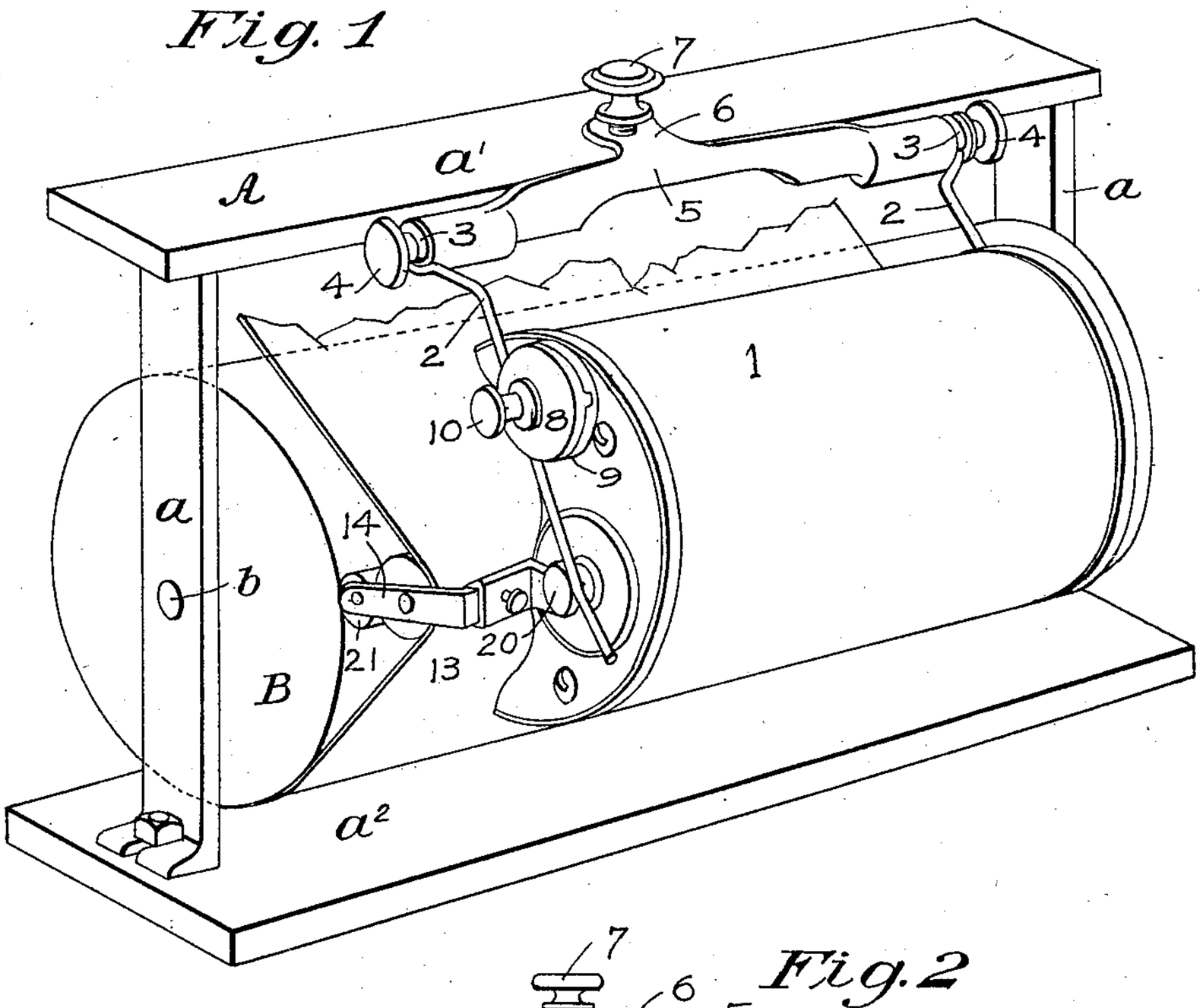
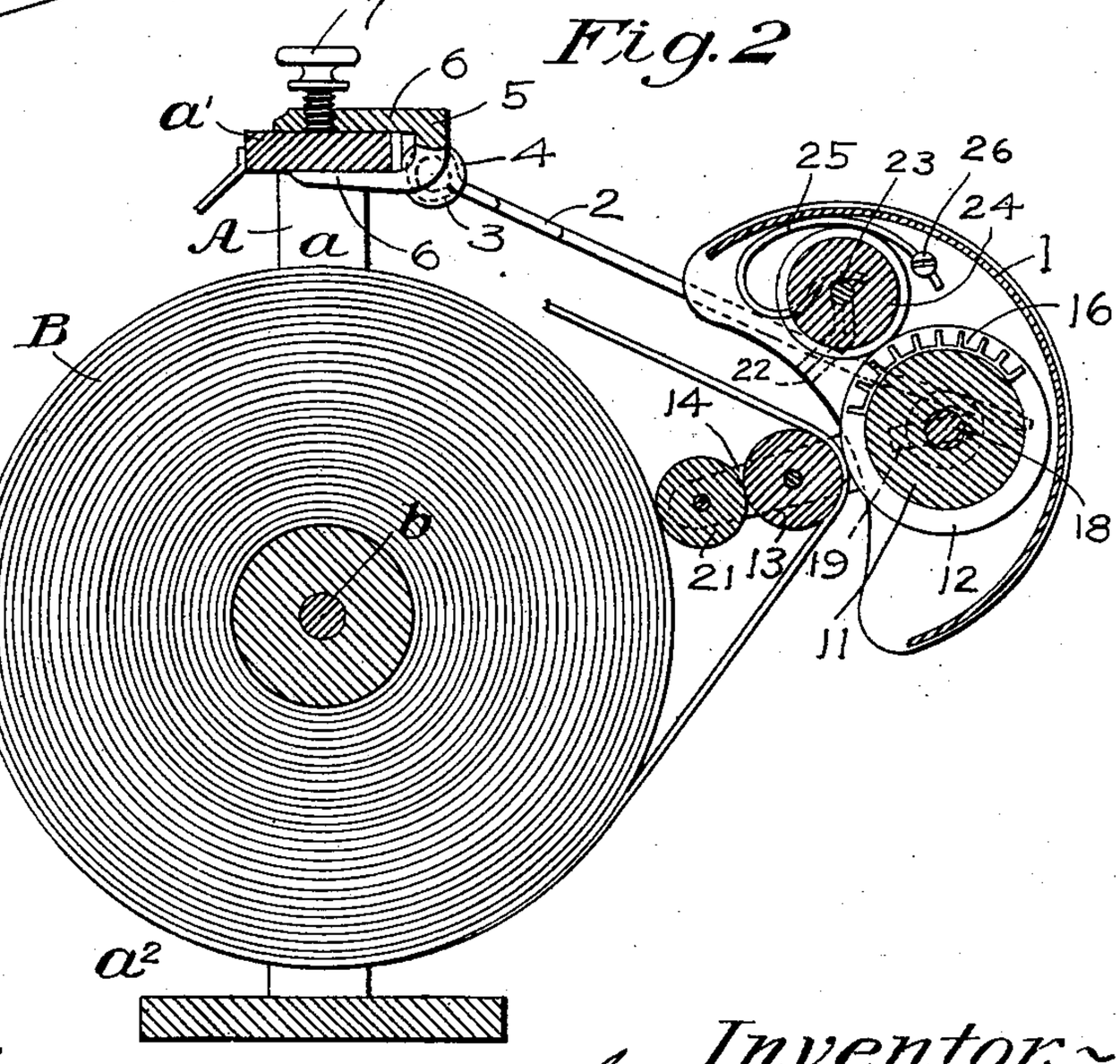


Fig. 2



Witnesses:-
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Geo. H. Mayer

Inventor:-
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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3

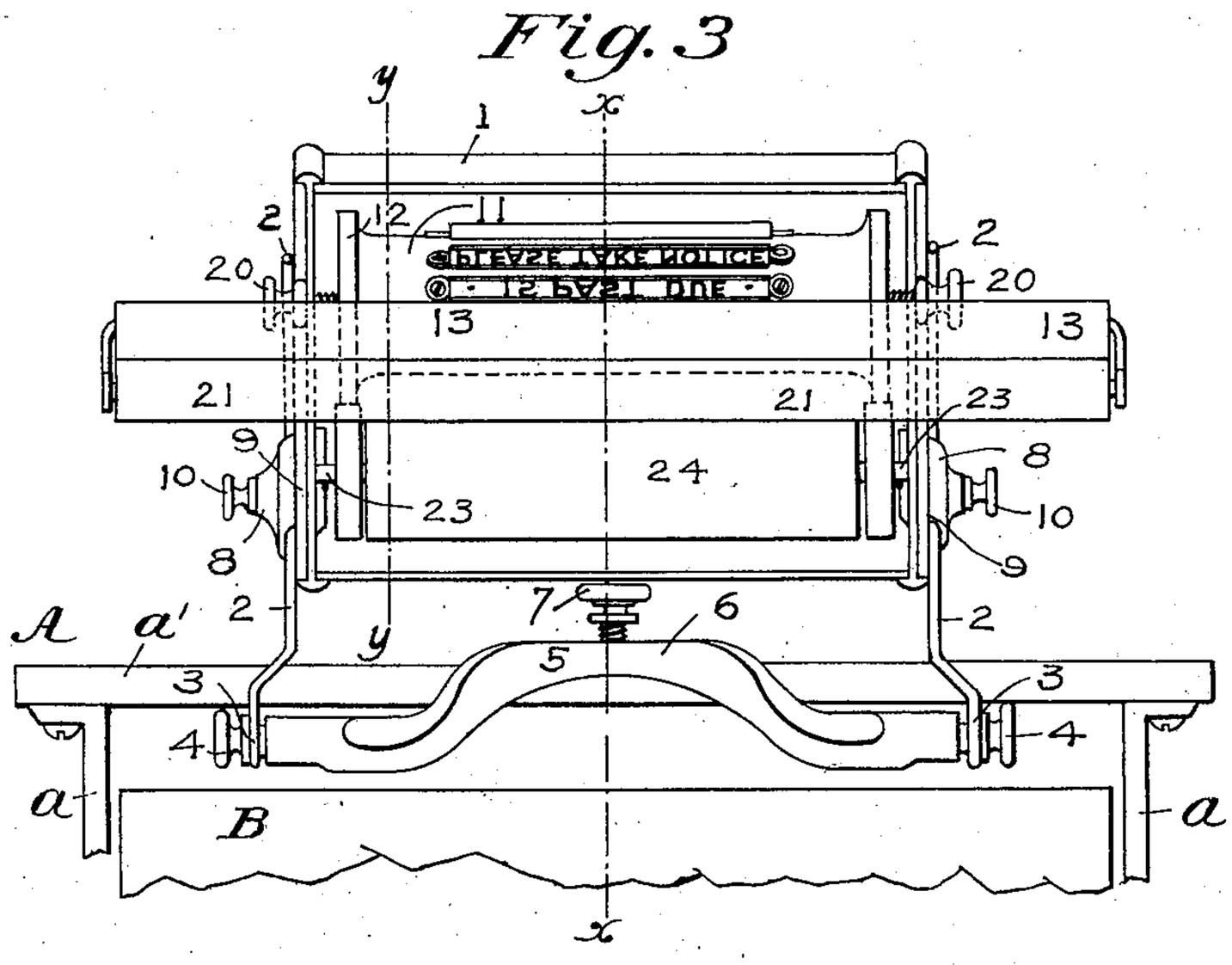

Fig. 5

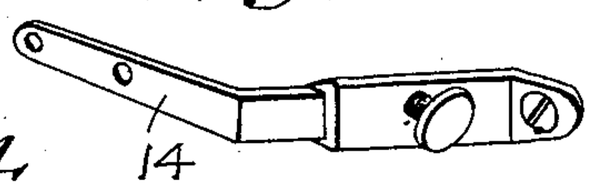

Fig. 4

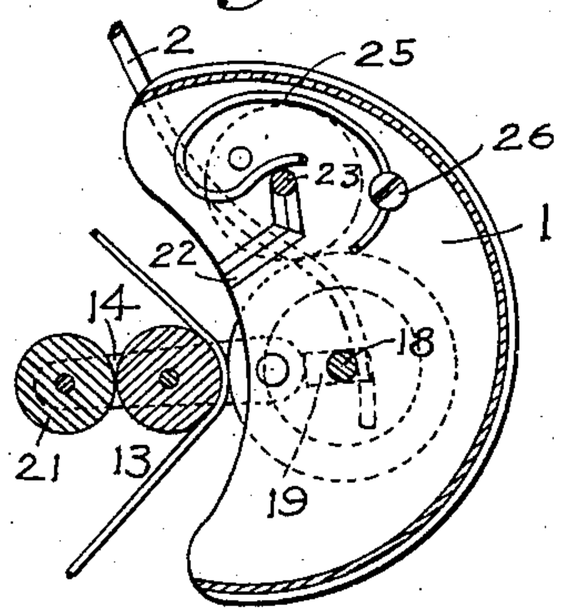

Fig. 6

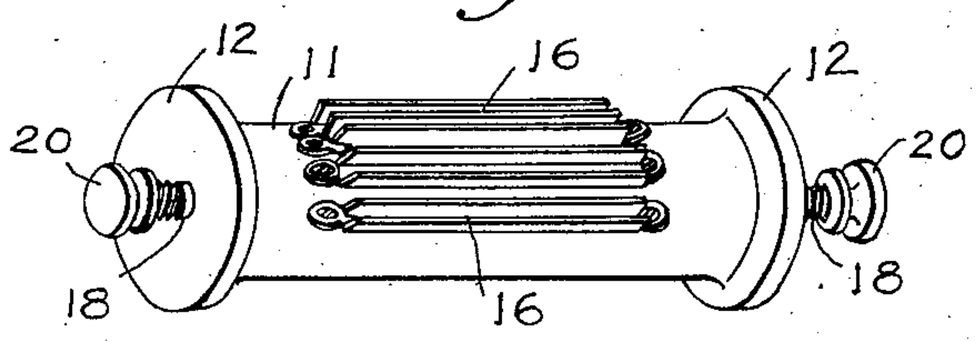

Fig. 7

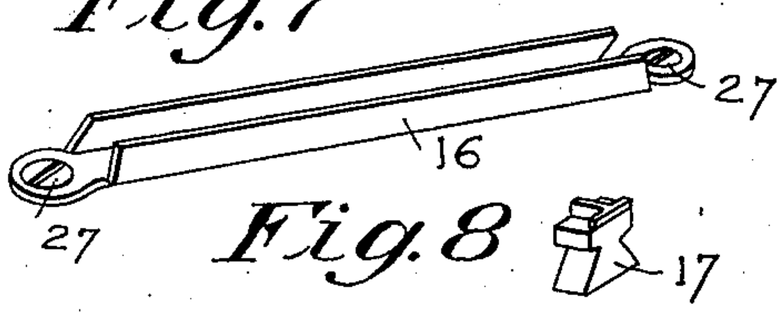

Fig. 8

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No. 747,580. Patented December 22, 1903.

UNITED STATES PATENT OFFICE.

JAMES W. BOLGER, OF STRATFORD, CANADA.

PRINTING DEVICE FOR PAPER-ROLLS.

SPECIFICATION forming part of Letters Patent No. 747,580, dated December 22, 1903.

Application filed October 28, 1899. Serial No. 735,040. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. BOLGER, a subject of the Queen of Great Britain, residing at Stratford, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Printing Devices for Paper-Rolls, of which the following is a specification.

My invention is especially designed for attachment to a wrapping-paper-roll holder to receive the paper therefrom evenly and truly at all times regardless of the variable size of the paper-roll, which may be readily adapted to various widths of paper and in which the printing-roll will always make a properly-regulated impression upon the paper.

To these and other ends hereinafter apparent my invention consists in certain details of construction fully set forth in the following specification and claims, reference being had to the accompanying drawings, wherein—

Figure 1 is a perspective view of my improved device applied to a wrapping-paper-roll holder; Fig. 2, a vertical sectional elevation in line *x x* of Fig. 3 when the printing device is in its working position; Fig. 3, a front elevation of the upper part of a roller-holder frame with the printing device raised up to give access to the type and other parts contained within its case; Fig. 4, a section in line Y Y of Fig. 3, with the printing device in working position and showing the means for holding the inking-roller in contact with the printing-roller; Fig. 5, an enlarged perspective detail of the extension-bracket for holding the guide-roller and the impression-cylinder; Fig. 6, a perspective view of the type-cylinder detached; Fig. 7, an enlarged perspective view of the type-holding channel-bar, and Fig. 8 an enlarged perspective view of the type adapted to fit said channel-bar.

Referring now to the details of the drawings by letter, A designates the frame of any suitable or well-known wrapping-paper-roll holder, consisting of vertical supports *a* for the spindles *b* of the paper-roll B, and cross-bars *a'* a^2 to connect said supports and to which the printing device is attached.

The casing 1 of the printing attachment is half-round or lune-shaped and is adjustably secured to pendulous rods 2, having loops 3 at their upper ends to receive thumb-screws 4, fitted into the opposite ends of a clamping-bar 5, the latter having jaws 6, the middle one of which is fitted with a clamping thumb-screw 7 to hold the said clamping-bar 5 securely to the cross-bar *a'* of the frame of the paper-roll holder. The printing device is thus securely held upon the frame to rest with the pressure of its weight only upon the paper-roll, thus allowing the latter to turn freely. The rods 2 are made of tempered steel and are secured to the casing by means of clamping-disks 8, secured centrally upon bosses 9 on the outer sides and ends of the casting by means of thumb-screws 10, which pass through the said disks and screw into the said bosses, the disks being preferably provided with notches upon their inner faces to receive the rods 2, the latter being thus securely held in any adjustable position upon the casing. The casing is made adjustable upon the rods 2 for two reasons—first, to allow the printing device to be placed at any required distance from the clamping-bar to adapt itself to the paper-rolls of various diameters, and also to decrease or diminish the pressure of the type-cylinder against the impression-cylinder in a novel manner, as follows:

The type-cylinder 11 is spool-shaped, the end disks 12 thereof rolling over the paper and holding it against an impression-cylinder 13, journaled in brackets 14, fixedly supported upon the ends of the casing 1 and the reduced portion of the type-cylinder having suitable means for holding channel-bars 16, into which rubber type 17 are set up and securely held to press against the paper which is drawn between the type-cylinder and the impression-cylinder. The ends of the shaft 18 of the type-cylinder passes through slots 19 in the ends of the casing 1, the said slots being directed toward the center of the impression-cylinder 13 and the shaft fitted with spools 20, the grooves of which receive the lower ends of the tempered-steel rods 2, which are caused to press against the said spools with any required degree of pressure by means of the clamping-disks 8, which securely hold the rods after they have been drawn and

bowed to the required tension to press the type-cylinder with sufficient force toward the the impression-cylinder to make a clean imprint upon the paper. The brackets 14, affixed to the ends of the casing, also carry a guide-roller 21, which rests upon and revolves at the same surface speed with the paper-roller and is also held parallel to the impression-cylinder to enable a clear imprint upon the paper in the event of the roll not being round or the surface even.

The inner sides of the ends of the casing 1 have L-shaped grooves 22 therein to receive the ends of the spindle 23 of the inking-roller 24, one arm of the groove being directed toward the axis of the type-cylinder and the other arm of the groove leading to the edge of the casing, thus to allow the inking-roller to be readily removed from or replaced within the casing after the type-roller has been removed therefrom. The inking-roller is held to press against the type-roller by means of springs 25, secured at one end to eyebolts 26, screwed into the ends of the casing from the inner sides thereof, the said springs being bowed around the ink-roller spindle and adapted to press with their free ends thereon to hold the said roller to bear with the required pressure upon the type-roller. It will thus appear that the printing device will always preserve an easily-regulated and constant adjustment both to properly ink the type and to press the type against the paper with any required degree of pressure which will not be interferred with by the constantly-diminishing diameter of the paper-roll or the strain or tension upon the paper when it is drawn from the roll. The paper will always roll off evenly from the roll, having first to pass between the type-cylinder and the impression-cylinder to the cutter or knife.

The brackets 14 are preferably made in adjustable sections, as shown in Fig. 5, to adapt them to receive the impression-cylinder 13 and guide-roller 21 of any required lengths to suit the width of the paper-roll. The type can be set in the cylinder or removed therefrom at any time without removing it by turning the casing up, as shown in Fig. 3 of the drawings.

The channel-bars 16, which receive the type 17, are secured by screws which pass through lugs 27, upon the ends of the channel-bars and screw into the type-cylinder and are made with outwardly-converging sides to receive and thus securely hold the type 17, the latter being formed, as shown in Fig. 8, with correspondingly-inclined or dovetailed sides to fit the said channel-bars.

The invention can be made, as described above, with rollers 13 and 21 or without them when the impression-cylinder will rest upon the roll and as the paper is drawn will cause the impression-cylinder, Fig. 6, to revolve.

I claim as my invention and desire to secure by Letters Patent—

1. The combination with a paper-roll and a supporting-frame thereof, of a bracket clamped to the top of the frame and provided with rearwardly-directed and pivotally-supported spring-arms, a casing adjustably secured on said spring-arms adapted to swing up over said supporting-frame, a spring-pressed ink-roll in said casing, a printing-roll also journaled in the casing, and a bracket engaged on each end of the casing, a plurality of rollers journaled thereon one of which engages against the paper-roll and another of which is journaled to receive the pressure from the printing-roll, and between which and the printing-roll the paper is passed as it is drawn from the roll.

2. In a printing attachment for paper-rolls the combination with a casing, of a transverse slot in the ends thereof, a laterally and upwardly extending groove on the inner surface of the ends of said casing, a shaft movable in and projecting through said slots, a type-cylinder rigidly fixed thereon, an inking-cylinder movably fixed in said grooves, a paper-roll holder, spring-rods pivotally secured thereon, adjustably secured to the ends of the casing and bowed to press against the type-cylinder shaft.

3. In a printing attachment for paper-rolls, the combination with the paper-roll frame adapted to hold a roll of paper therein, of a casing yieldingly supported from the frame in operative relation with the roll of paper, a type-cylinder and an inking-cylinder journaled in said casing, brackets secured to and projecting outwardly from the ends of the casing and an impression-cylinder journaled on the brackets, and over which the paper is drawn, and a roll also journaled on the brackets and adapted to track on the paper-roll when in operation, said casing being adapted to swing upwardly and rest in an inverted position upon said frame to enable the adjustment of the type on the type-cylinder.

4. In a printing attachment for paper-rolls, the combination with a pivotally supported and upwardly-swinging casing, of a type-cylinder and an inking-cylinder journaled therein, extensible brackets secured to the outer ends of the casing and projecting outwardly therefrom, an impression-cylinder journaled on said brackets positioned to engage the paper between the same and the type-cylinder and a guide-roller also journaled on the bracket in position to track against the paper-roll during the printing operation.

Dated at Stratford this 30th day of September, 1899.

J. W. BOLGER.

Witnesses:
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