

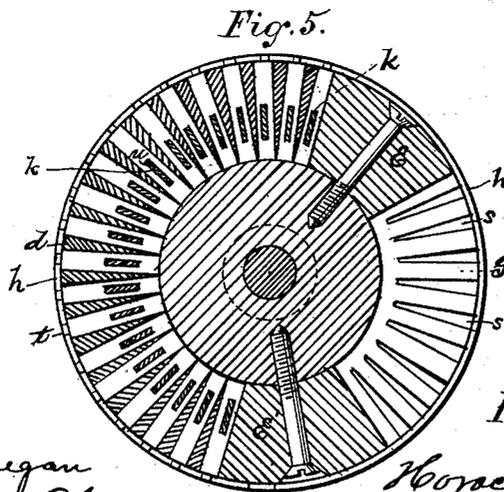
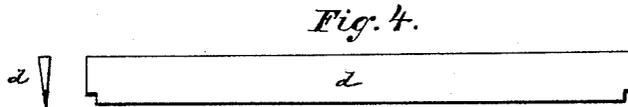
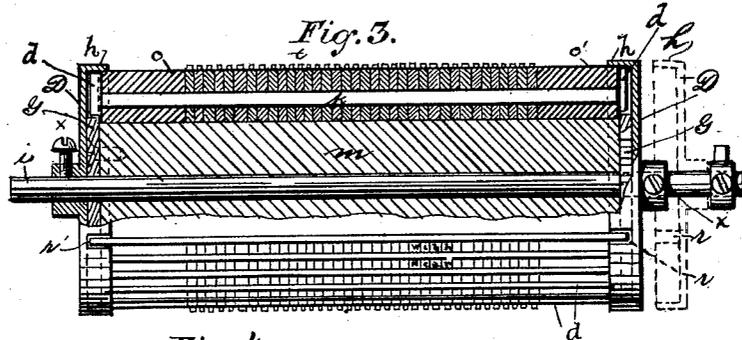
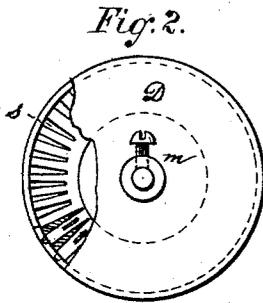
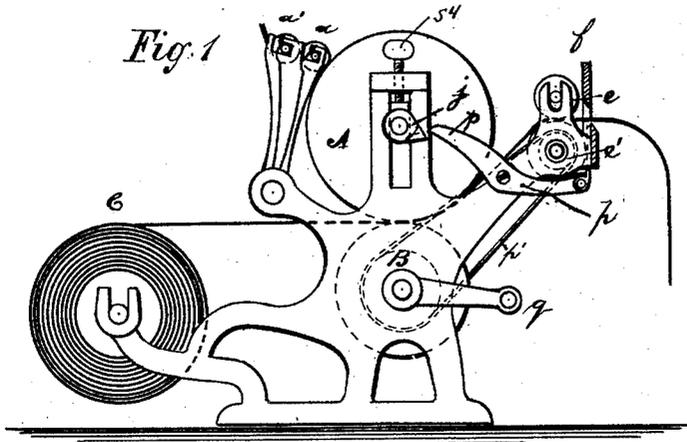
(No Model.)

2 Sheets—Sheet 1.

H. B. THOMPSON.
ROTARY PRINTING MACHINE.

No. 476,906.

Patented June 14, 1892.



Witnesses.

Edward J. Gavegan
Prentiss W. Chase

Inventor.

Horace Baldwin Thompson

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Fig. 6.

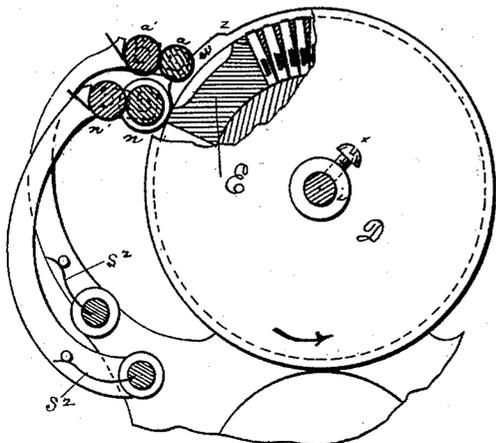


Fig. 7.

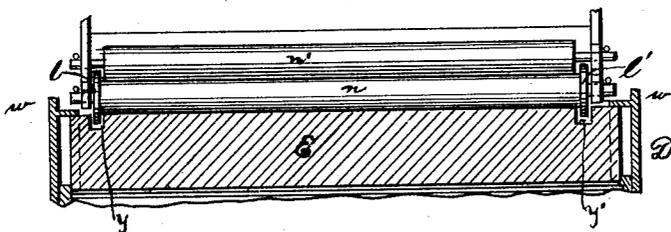
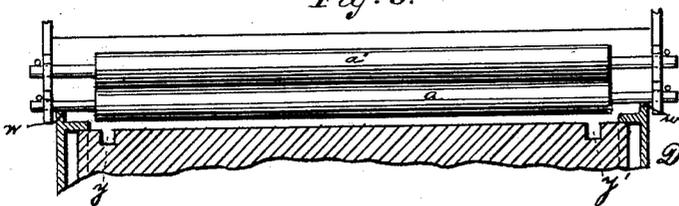


Fig. 8.



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UNITED STATES PATENT OFFICE.

HORACE PALDWIN THOMPSON, OF BROOKLYN, NEW YORK.

ROTARY PRINTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 476,906, dated June 14, 1892.

Application filed March 21, 1891. Serial No. 385,947. (No model.)

To all whom it may concern:

Be it known that I, HORACE BALDWIN THOMPSON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Rotary Printing-Machine, of which the following is a specification.

My invention relates to an improvement in rotary printing-machines; and it consists in the combination of parts hereinafter described, and particularly pointed out in the claims, and is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my machine. Fig. 2 is an end view showing the ends of the rules used to separate the lines of type, the type, and a part of a slotted disk used to hold the ends of the rules. Fig. 3 is a longitudinal view of a section of the type-roller, showing the type in position and the blocks which fill up the spaces between the side disks and the type. It also shows the manner of holding the type on the type-roller. Fig. 4 is a front and end view of the beveled rules. Fig. 5 is a section of the type-roller, showing the type, the ends of the rules, the slotted disk, the flange of a collar, and the blocks used for electrotypes. Figs. 6, 7, and 8 are views showing the inking-rollers and manner of raising one set of rollers from the type and bringing another set of inking-rollers in contact with the electrotypes when different colors are used. These latter figures are referred to in detail hereinafter.

Similar letters refer to similar parts throughout the several views.

The type-roller A is made of a cylinder *m* (wood or metal) about two inches in diameter and nine inches in length, Figs. 2 and 3. On each end of this cylinder or type-bed *m* is a slotted disk G of metal. These disks are as much greater in radius than the radius of the cylinder *m* as the length of the body of the type, so that when the bottom of the type rests on the cylinder *m* the shoulder of the type is even with the periphery of the disks G. Through the center of the cylinder *m* is a spindle *i*. The slots *s* in the disks G are the shape of the rules *d*, as shown in Figs. 4 and 5. The slots *s* are beveled or wedge-shaped, so that the lines of type all stand in line with the radii of the cylinder. These disks G are se-

cured to the ends of the cylinder *m*, so that the corresponding slots *s* of the disks are in a line parallel to the roller. Fitting over the disks G are collars D, having flanges *h*, Fig. 3. In these collars D are openings *r r*, about half an inch long and the depth of the flange *h*. These collars D fit on the spindle *i* and can be set at any place by means of the set-screws *x x*. The object of the openings *r r* is so the rules *d* and the line of type *t* can be put on or taken off the cylinder *m*. The flanges *h* are for the purpose of holding the rules *d* and the type *t* in place.

E E', Figs. 5 and 6, are wooden blocks held by screws on the cylinder *m*. One is intended to hold an electrotype for printing letter-heads and the other for an electrotype of a signature. This last block E' follows the last line of type.

a a' are inking-rollers, which feed ink to the type *t*.

n n', Fig. 6, are also inking-rollers, which feed ink to the electrotypes. The roller *n* is made with flanges *l l'*, Fig. 7, on the ends. These flanges *l l'* are the thickness of an electrotype and in diameter greater than the inking-roller *n*.

The inking-rollers *a* and *n* are mounted on hinged or pivoted arms, pressed forward by means of springs *s*².

B is a cylinder or roller covered with a yielding substance, (rubber or other material,) and is the impression-cylinder in connection with which the type-cylinder A revolves and coacts.

C is a web of paper used for printing. This passes between the rollers A and B up through the leading rollers *e e'* to the cutting device *f*. The rollers *e e'* are worked by a belt *p'* over pulley-wheels on the shafts of the rollers B and *e'*. The cutting device *f* is operated by a trip-lever *p* on the frame and a cam *j* on the shaft of the type-roller A. All the rollers are journaled in a frame and are worked by friction.

On the periphery of the collars D, Figs. 6 and 8, are cams *w*, in length the width of the electrotype-block E and of such a height that when the electrotype on the block E passes the inking-roller *a* the roller *a* will be thrown back, as shown in Fig. 8, and the electrotype pass under without being inked. As soon as

the end z of the cam w passes below the roller a the roller a again falls on the type. When the electrotype-block E reaches the inking-roller n , the flanges $l l'$ fall into the grooves $y y'$, made to receive them, and the electrotype is inked. The grooves $y y'$ are cut on each side of the electrotype and into the block E of sufficient depth to allow the flanges $l l'$ to drop in and bring the inking-roller n on the electrotype. As soon as the block E passes the roller n the roller n again rides out of the grooves $y y'$ and on the upper edges of the rules d . The type following the electrotype-block E is not in contact with the roller n . When the signature-electrotype is used on block E' , I use an adjustable flange or cam on both collars D . In the above description I assume the fact that I am printing in two colors—for example, purple and printing the electrotype and signature in black. The pressure of the inking-rollers a and n is by springs s^3 .

The type t used in this machine is made with a slot through the body, through which a bar k is passed. The ends of the bar k fit in blocks $o o'$ the thickness of the type. The blocks $o o'$ fill up the spaces between the type and the disks G .

The operation of my machine is as follows: A line of type t being set up in the stick, (frame used by type-setters,) a bar k is run through the slots u in the type. On the ends of the bar k are placed blocks $o o'$ of sufficient length to fill the spaces on both sides of the line of type t and the disks G . The collars D are turned on the spindle i until the openings $r r'$ are in a line with corresponding slots $s s'$ in the disks G . A beveled rule d is then placed in the slots $s s'$ and a line of type against the rule d . The collars D are then turned until the openings $r r'$ are in a line with the next corresponding slots $s s'$ in the disks G . Another rule d and a line of type is placed in the roller A , and so on until the whole composition is placed on the type-roller A . If desired, a block E' , containing an electrotype of a signature and one containing a letter-heading, may be placed on the roller in a line with the type. The flanges h on the collars D , projecting over the ends of the blocks $o o'$, hold the line of type in position. The rules d separate the lines of type and serve to keep them parallel. The rollers $a a'$ have a colored ink and the rollers $n n'$ black ink. By means of the thumb-screws s^4 a pressure is regulated between the type-roller A and the roller B . By turning the crank q the rollers A and B are caused to revolve, and as the electrotype on the block E approaches

the inking-roller a the flanges or cams w force the roller a back, and the electrotype passes without being inked. As soon as the end z of the cam w passes the roller a the roller a falls down again and the type receives the ink. When the electrotype reaches the roller n , which is held from the roller A by virtue of the disks $l l'$, the disks $l l'$ fall into the grooves $y y'$ and the inking part of the roller n rides on the electrotype. As soon as the disks $l l'$ reach the opposite side of the grooves $y y'$ the roller n is again raised and rides on the disks $l l'$, which bear on the upper edges of the rules d . As the electrotypes and type after being inked pass between the rollers A and B , an impression is made on the paper C . The paper C is then carried by means of the rollers $e e'$ to the cutting device f , which is worked by the lever p and the cam j , attached to the spindle i . The rollers $e e'$ are operated by a belt p' over pulley-wheels on the rollers B and e' .

What I claim, and desire to secure by Letters Patent, is—

1. The combination, with a cylindrical type-bed, of slotted types, bars for holding the latter, rules, blocks, and retaining means arranged at the ends of the bed for holding the type in place, substantially as described.

2. The combination, with a cylindrical type-bed, of slotted types, bars for holding the latter, beveled rules, two slotted disks, and retaining means arranged at the ends of the bed for holding the type and rules in place, substantially as described.

3. The combination, with a cylindrical type-bed, of slotted types, bars for holding the latter, beveled rules, blocks, two slotted disks, and two flanged collars for holding the type and rules in place, substantially as described.

4. The combination, with a cylindrical type-bed for holding type or electroplates, of rules, blocks, two radially-slotted disks, and two collars provided with inwardly-projecting flanges, substantially as described.

5. The combination, with a cylindrical type-bed, of rules and blocks, a pair of radially-slotted disks, and a pair of movable flanged collars, substantially as described.

6. The combination, with a cylindrical type-bed, of rules and blocks, two radially-slotted disks, and two movable and inwardly-flanged collars, each flange provided with a slot or opening, substantially as described.

HORACE BALDWIN THOMPSON.

Witnesses:

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