No. 631,126. Patented Aug. 15, 1899.

J. H. PROUTY.

INKING DEVICE FOR PRINTING MACHINES.

(Application filed Jan. 15, 1898.)

(No Model.) 2 Sheets—Sheet 1.

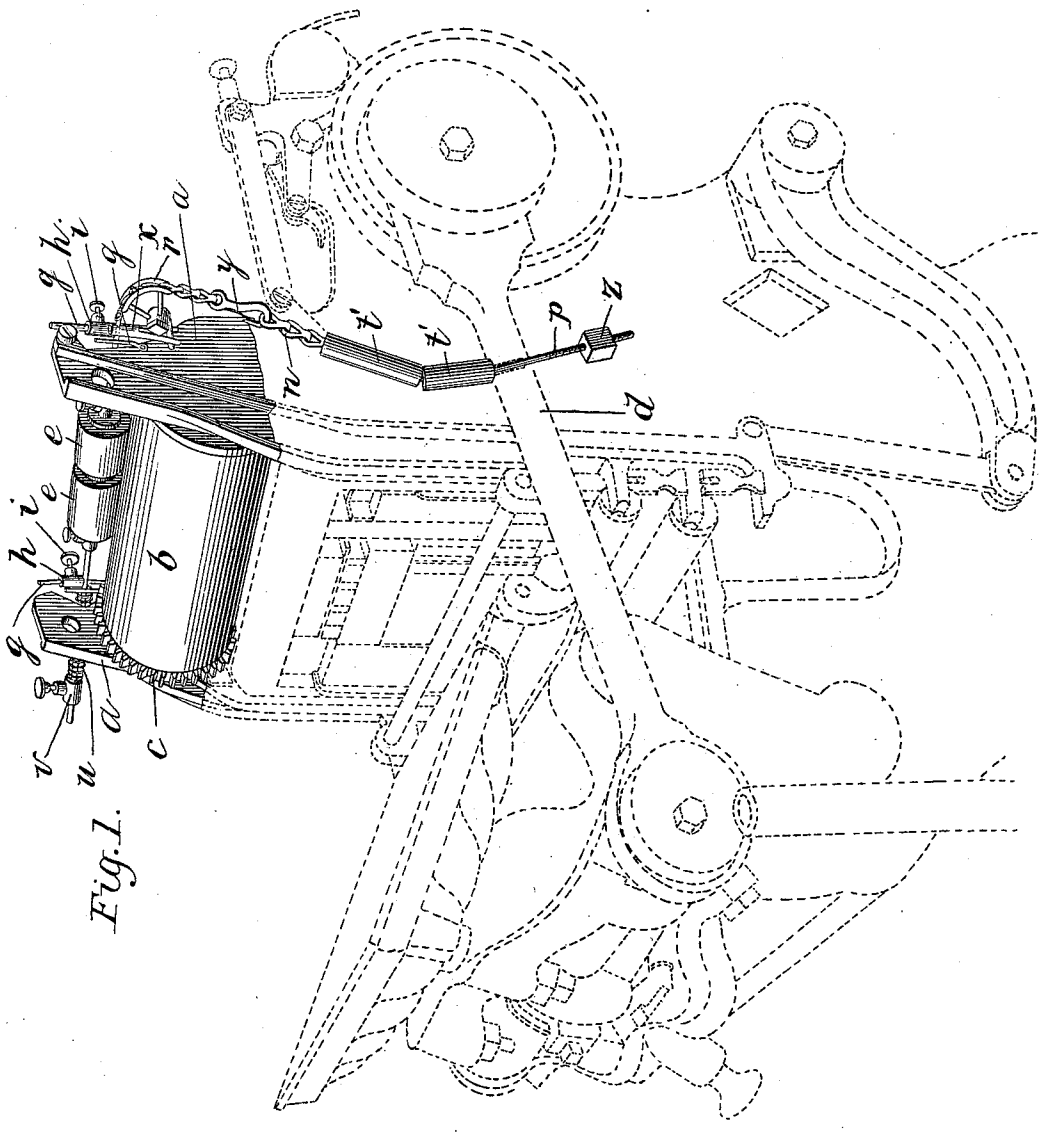


Fig. 1.

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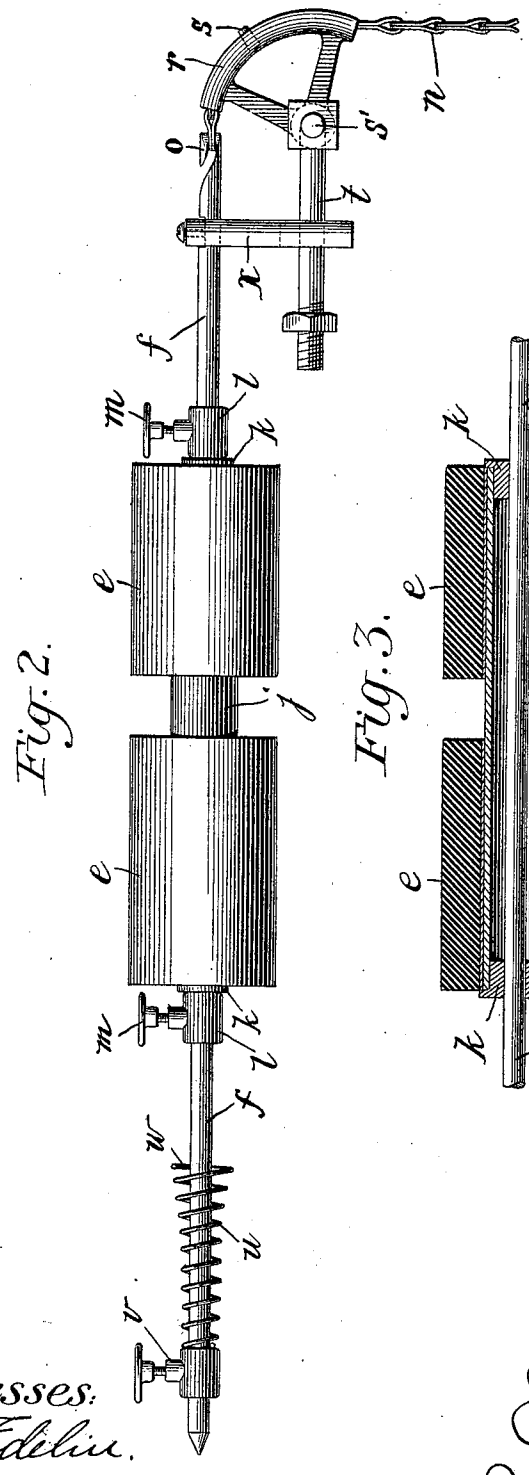


Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

JOHN H. PROUTY, OF ALBANY, NEW YORK.

INKING DEVICE FOR PRINTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 631,126, dated August 15, 1899.

Application filed January 15, 1898. Serial No. 666,812. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. PROUTY, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Ink-Distributing Apparatus for Printing in One or More Colors at One Printing; 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.

The invention has to do with the mechananism of printing-presses which acts to distribute the ink evenly on the surface of the large ink-cylinder.

The invention consists, generally speaking, of an ink-distributing roller resting upon and revolved by the large ink-cylinder, a connection between the end of the roller and the rod for moving the platen to and from the bed whereby the distributing-roller is moved endwise in one direction, and a spring at the other end of the roller whereby it is moved in the opposite direction, the roller itself being made up of independent sections, each being intended to spread a different-colored ink upon a certain part of the length of the cylinder.

The accompanying drawings, forming part of this specification, illustrate the best form of working out the invention, and in these drawings—

Figure 1 is a perspective view of a press embodying my improvements, all parts excepting those constituting my invention being shown in dotted lines. Fig. 2 is a side elevation of my ink-distributing roller and its operating connections, and Fig. 3 is a longitudinal section of the roller itself.

Referring first more especially to Fig. 1, *a a* denote the upper ends of the side pieces of any ordinary printing-press. In suitable bearings in these side pieces is journaled the usual large-sized ink-cylinder *b*, having a gear *c* at one end by means of which rotary motion is communicated to it from the main drive-wheel of the press. The letter *d* indicates the connecting-rod, attached at one end to the platen and at the other to a crank or disk on the main shaft, this being a well-known part of all presses of the type of that shown in the drawings and its purpose being to move the platen to and from the bed. The letter *e* denotes my ink-distributing roller. It rests loosely upon the large cylinder *b* and is revolved by frictional contact therewith, and in order to distribute the ink lengthwise upon the cylinder it is given an endwise reciprocation by mechanism which I will describe after explaining the preferred construction of the roller itself.

Referring to Figs. 2 and 3, *f* indicates a rod extending from side to side of the press and projecting beyond the side plates at both ends. This rod forms the shaft of the roller *e*, and it is loosely held at each end between two upright rods or posts *g g*, projecting from the side plates. The outer one of these rods is provided with an adjustable sleeve *h*, overhanging the shaft and serving to limit its upward movement, and the sleeve is furnished with a set-screw *i* for fixing it at different heights upon the rod *g*.

As the roller *e* is intended for distributing inks of different colors, it is necessarily made in sections lengthwise, and these sections are preferably made of roller-composition suitably spaced apart on hollow brass tubing *j* of considerably greater diameter than the rod *f*. At its opposite ends this tubing is provided with stoppers *k*, which form the bearings for the roller proper on its shaft. These stoppers fit the ends of the tubing tightly, but revolve on the rod *f*, and the object of mounting the roller-sections on this tubing is to provide an air-space between the shaft of the roller and the composition of which its inking-surface is formed, the fact that the roller turns on and not with the shaft making this desirable as a preventive of the conduction of the heat which is developed by the friction of the roller on the rod. The roller proper (the sections and the tubing *j*) is made adjustable along its shaft by means of sleeve-like stops *l l*, fitting on the rod and provided with set-screws *m m* for fixing them in different positions. The mechanism for effecting this endwise reciprocation of this distributing-roller consists of a connection between the platen-operating rod on one side of the press (it may be either) and one end of the roller and a spring reacting between the side plate of press at the opposite side of the press and the other end of the rod. This connec-

tion preferably consists of a flexible chain *n*, caught over a hook *o* on the end of the rod and provided with a threaded pin *p*, passing loosely through the platen-operating rod *d*, as near as conveniently may be to the vertical plane of the rod *f*, and having a fine-threaded adjusting-nut *z* below the rod. In passing from the end of the roller-shaft to the platen-operating rod the chain runs over a segmental sprocket-rocker *r*, being preferably secured thereto by a pin *s*, passing through one of the links of the chain. This rocker is journaled on a stud *s'*, projecting outward horizontally from the side plate of the press in the same vertical plane as the roller-shaft *f*, and rocks in the axial line of the roller as the latter moves to and fro over the surface of the ink-cylinder *b*.

It will be understood from this description that as the platen-operating rod moves down it will draw on the chain and pull the distributing-roller endwise over to the side of the press next the rod, and for the purpose of returning the roller I provide the end which projects outward from the opposite side plate with a spring *u*, which is preferably coiled around the rod and reacts between the side plate and an adjustable stop *v*, by means of which the tension of the spring may be varied. The inner end of the spring bears against the two rods *g g*, and in order to give it a stable seat I enlarge the end coils, as at *w*, Fig. 2, so that it may not tip or get caught in the rods.

I have already explained that the distributing-roller revolves upon its shaft instead of with it, and it is necessary to make some provision against the shaft turning. A convenient means for this purpose consists of a downwardly-extending forked guide *x*, which is secured to the rod *f* and straddles the stud that supports the sprocket-rocker, sliding therealong during the endwise reciprocations of the roller, thereby also furnishing a positive limit to the endwise movement of the roller, as the guide can only slide on the stud between its outer end and the nut at the inner end, which clamps it to the machine-frame.

The means for adjusting the roller proper on its shaft have already been described. I also provide for adjusting the position of both roller and shaft, and this I do by means of the hook *y*, which really forms part of the connection between the roller and the platen-operating rod. This hook is located between the sprocket-rocker and the rod *d* and provides for the adjustment of the length of the chain by hooking into its different links. I also provide means for adjusting the connection between the chain *n* and the platen-operating rod, this adjustment being for the purpose of obtaining a nicè adjustment of the lines of demarcation between the several colors put on the cylinder by the roller *e*, and the means consist of the nut *z*, screwing on the fine-threaded end of the pin *p* on the under side of the platen-rod.

The construction being as above described, the operation of the devlce needs no particular description, it being understood that the several sections of the distributing-roller are supplied with different-colored inks. This may be done by hand or in any other manner, my invention not being concerned therewith. The reciprocation of the roller *e* distributes the inks of the roller-sections in bands around the periphery of the cylinder *b*, the width of the bands and their position being determined by the several adjusting means already fully explained. Should it be deemed advisable to cover the chain to prevent its buckling or becoming entangled with other parts, it may be housed in short sections of rubber hose or tubing *t'*, as indicated in Fig. 1.

Having thus described my invention, what I claim is—

In a printing-press, the combination of the ink-cylinder, the sectional ink-distributing roller, the platen-operating rod, a sprocket-rocker mounted on a projection from the frame, a connection running over the rocker from one end of the roller-shaft to the platen-rod, a spring reacting between the frame and the other end of the shaft, and a forked guide and return-stop on the roller-shaft straddling the sprocket-rocker-carrying projection from the frame.

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

JOHN H. PROUTY.

Witnesses:
FRED C. HAM,
WM. H. A. MILLS.