

(No Model.)

2 Sheets—Sheet 1.

W. C. WENDTÉ.

INKING APPARATUS FOR PRINTING PRESSES.

No. 520,345.

Patented May 22, 1894.

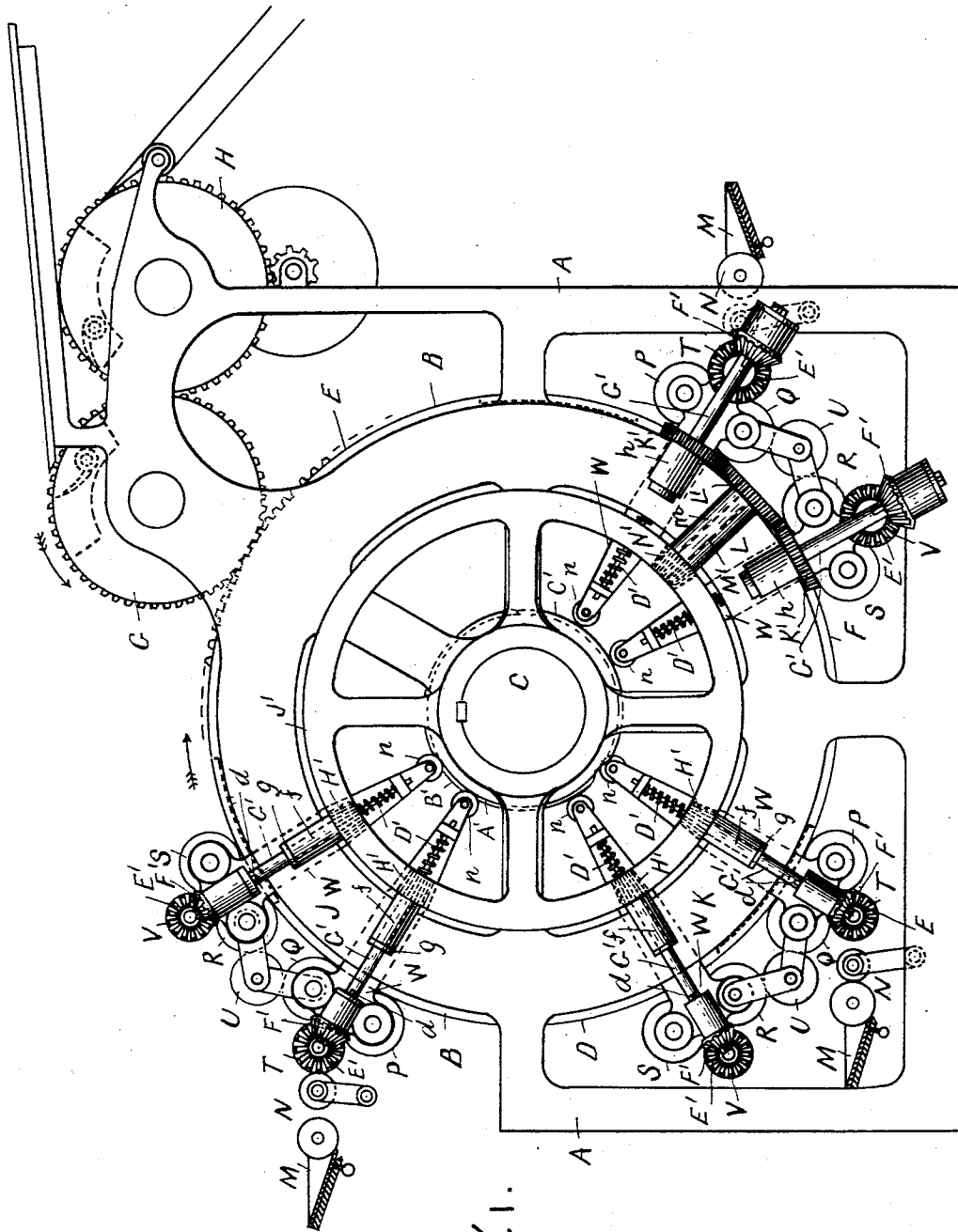


FIG. 1.

WITNESSES

W. W. Smith
Lena C. Amos

INVENTOR

William C. Wendt
Per Edwin W. Brown
Attorney

(No Model.)

2 Sheets—Sheet 2.

W. C. WENDTÉ.

INKING APPARATUS FOR PRINTING PRESSES.

No. 520,345.

Patented May 22, 1894.

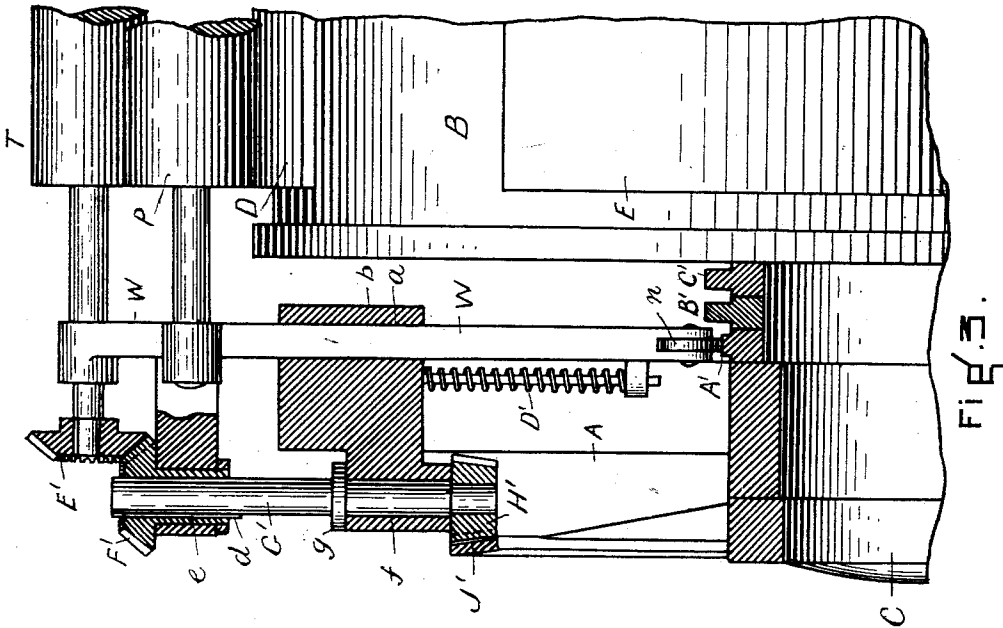


FIG. 1.

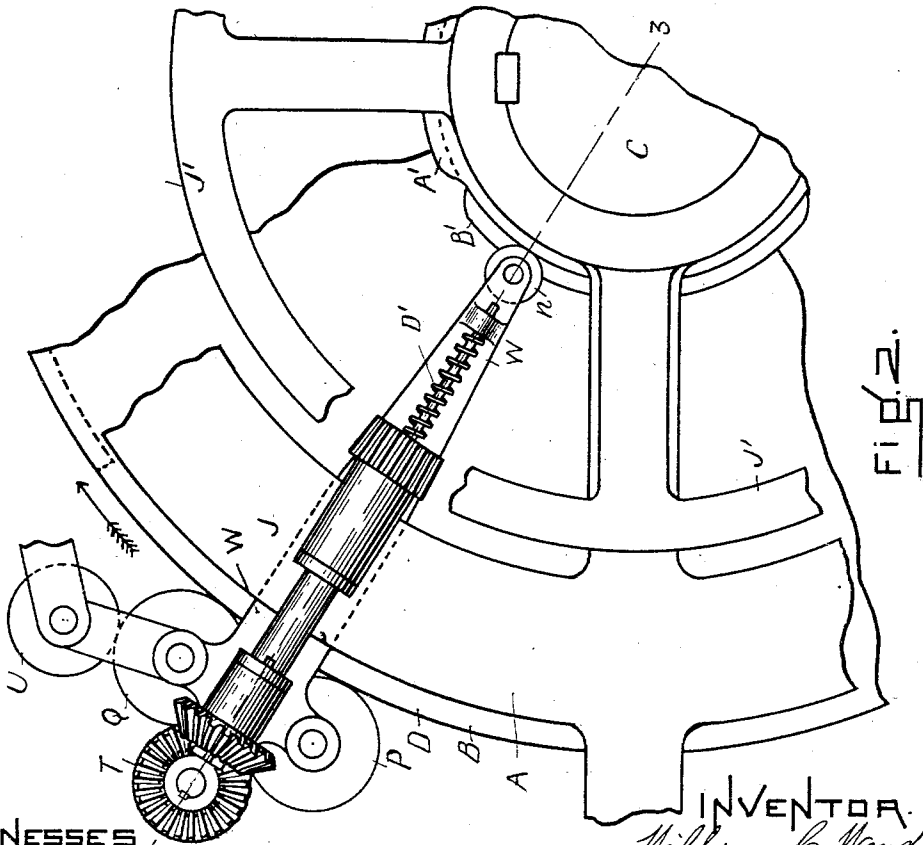


FIG. 2.

WITNESSES
W. C. Wendté
Lyona C. Huns.

INVENTOR.
William C. Wendté.
Per Edwin W. Brown.
Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM C. WENDTÉ, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO WILLIAM
H. FORBES, OF SAME PLACE.

INKING APPARATUS FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 520,345, dated May 22, 1894.

Application filed February 9, 1893. Serial No. 461,648. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. WENDTÉ, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Inking Apparatus for Printing-Presses, of which the following is a full, clear, and exact description.

This invention relates particularly to rotary presses for printing in two or more colors, and generally to all presses in which the inking rollers after rolling a form are raised to allow other forms or surfaces to pass freely thereunder; and the invention consists in a certain construction and arrangement of parts in a rotary printing press for accomplishing rotation of the inking rollers at all times during the operation of the press, whether they are engaged in inking forms or are raised above them all substantially as hereinafter fully described reference being had to the accompanying sheets of drawings in which is illustrated this invention in connection with a rotary press of a known type for printing in three colors, in which—

Figure 1 is a general view of such a press in side elevation. Fig. 2 is a detail face view of the essential parts of this invention, parts being broken away. Fig. 3 is a detail cross section on line 3—3 Fig. 2. Figs. 2 and 3 are enlarged.

In the drawings A represents a framework supporting the various parts of the press at one end or side only, there being a similar frame at the other end as usual.

B is a cylinder on the shaft C, carrying the printing surfaces or forms, D, E, and F.

G is the impression cylinder and H the delivery cylinder with tapes, &c.

It is not deemed necessary to particularly describe the impression and delivery cylinders and their attached parts as they do not constitute a part of this invention, and their construction and action are well understood. Each form D, E, F, has its own set J, K, and L respectively of inking rollers, which supply ink to that form only and are raised from contact with the other two forms as they pass under it. The sets J, K, are duplicates in all respects, therefore the description of one will answer for both, they being lettered alike; and the set L is like the two others in

its inking rollers and means for lifting the same, but it shows however an alternate arrangement of the parts constituting this invention and will be separately described hereinafter. The ink fountains M and ductors N are as usual, and do not need particular description herein and no means are shown for the customary endwise motion of the distributing rollers. There are four inking rollers P, Q, R, S, and distributing rollers T, U, V, in each set, and preferably, as shown, each set is driven by gearing at two points, so that one V of the distributing or rider rollers and two R, S, of the form rollers constitute a sub-set. The other rider U, is only for conveying the ink from one sub-set to the other. The riders T, V, drive the form rollers P, Q, R, S, by friction or surface contact as shown, but they can be driven by gearing if desired. The three rollers in each sub-set are each journaled at each end in a radially sliding frame or bar W, which moves in and out in a guideway *a*, of the portion *b*, of the frame A. The bars W extend toward the shaft C of form cylinder and bear by their inner ends on cams A', B', C', on the said shaft which cams one for each form respectively, are arranged as is usual in such presses to control the movement of the inking rollers to and from their forms so that each set of rollers will ink only the form to which it belongs, and will rise to prevent inking of the other forms. In this instance the cams raise the bars W and a spring D' on each bar connected thereto pulls it down. There are like cams on the other side of the press (not shown) which operate like bars in a like manner for controlling the movement of the other ends of the inking and distributing rollers for the same purpose. One end of each distributing roller T V in the sub-sets is prolonged beyond its bearing in the bar W as shown in Fig. 3 more particularly, and a bevel gear E' is fixed to it. This gear meshes with another gear F' which latter is a sleeve gear fitting and sliding longitudinally on the upper or outer end of a radial shaft G', and obliged to turn therewith by the spline *d*. The sleeve gear F' turns freely in the bearing *e*, which is a part of the bar W. The radial shaft G' is journaled near

its lower or inner end in a bearing *f* which is part of the frame A, and has a bevel pinion H' below the bearing *f* fixed on the shaft and meshing with a large gear J' fixed on the end of the form cylinder shaft C. A collar *g* on radial shaft G' coacts with the pinion H' to prevent any endwise movement of the shaft. It is plain that the form cylinder B being set into rotative motion, the gear J' will cause the distributing rollers T, V, to rotate through the medium of the pinions H' H', radial shafts G', sleeve gears F' and gears E', and that the action of the cams A', B', C', in raising or allowing to fall any of the bars W will not prevent or interfere in the least degree with the continuous and synchronous rotation of the distributing rollers, as the bevel gears E' and F' always remain in full mesh.

The set L illustrating an alternative arrangement of the gearing is described as follows: It is divided into two sub-sets like the others, and its various rollers are journaled in the same way, in radially sliding bars, of the same kind as in the other sets which are actuated by cams in the same way. There is also a bevel gear E' on one end of each distributing roller which meshes with a sleeve gear F' sliding on a spline on the end of a radial shaft G' as in the other sets, but the radial shafts are not prolonged so far toward the center of the form cylinder B, and their ends are journaled in bearings *h* on the frame A. There is a gear K' fixed for each radial shaft G' resting on the bearing *h* which engages with a gear L' which is fixed on another radial shaft M' which is intermediate to shafts G' and the radial shaft M' is journaled in a bearing *m* on frame A, and carries a pinion N' fixed on its lower end which meshes with the large gear J'. Thus the continuous rotation of the inking and distributing rollers is accomplished through the medium of only one pinion N' instead of the two pinions H' to each set as shown on the other sets J, K. This modification may be of convenience in practice. Thus is described how the continuous motion of the inking and distributing rollers is effected by this device. The use of this invention will result, in that ink applied to any one of the inking or distributing rollers, of a set will be continuously "broken up," and as the form rollers have at all times a surface speed which is the same as that of their respective forms they will, when brought down into contact with the latter, ink them smoothly and evenly without any slurring.

The inner end of each radial frame or bar has a friction wheel *n* which bears upon the cam to reduce friction. The cams in lieu of being attached to the cylinder shaft, can be on the end of the cylinder itself, or on any suitable part of the machine. Also the radial shafts on the frames or bars can be operated from the movement of the form cylin-

der shaft by any suitable arrangement of gearing.

Having thus described my invention, what I claim is—

1. In combination, a form cylinder, inking rollers for said cylinder, mechanism for raising the inking rollers from contact with a cylinder form, a radial shaft, bearing for the shaft, a sliding gear on the radial shaft, a distributing roller and a bevel gear on the end of the distributing roller for engagement with said radial shaft gear.

2. In combination, a form cylinder, inking rollers for said cylinder, a radial shaft, a bearing for the shaft, a sliding gear on said radial shaft, a distributing roller, a bevel gear on the end of the distributing roller for engagement with said radial shaft gear, a frame or bar to which the inking and distributing rollers and sliding gear are attached arranged to slide back and forth in a suitable guideway and a cam on the form cylinder shaft for operation on said frame or bar.

3. In combination, a form cylinder, a gear on the shaft of said cylinder, a frame or bar adapted to move back and forth radially in a suitable guideway, inking rollers pivoted thereto, a radial shaft, a sliding gear on said radial shaft, a distributing roller pivoted to said frame or bar, a gear on the end of the distributing roller engaging with said radial shaft gear, and a gear on said radial shaft engaging with said cylinder shaft gear.

4. In combination, a form cylinder, a concentric cam on the shaft of said cylinder, a bevel gear on said shaft, a frame or bar adapted to move back and forth radially in suitable guideways, and bearing on said cam, inking rollers pivoted thereto, a radial shaft, a bevel gear on said shaft, a distributing roller pivoted to said frame, a gear on the end of the distributing roller engaging with said radial shaft gear, and a gear on said radial shaft engaging with said cylinder shaft gear and means for maintaining the gears E' and F' constantly in gear with each other.

5. In combination, a form cylinder, inking rollers for said cylinder, a distributing roller, a frame or bar to which the inking rollers and distributing roller are attached arranged to slide back and forth in a suitable guideway, a gear on said distributing roller, a cam on the form cylinder shaft for operation on said frame or bar, a radial shaft, a bearing for said shaft, and a gear on said radial shaft adapted to engage and be engaged with said distributing roller gear at all times.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM C. WENDTÉ.

Witnesses:

EDWIN W. BROWN,
LEONA C. ARNO.