

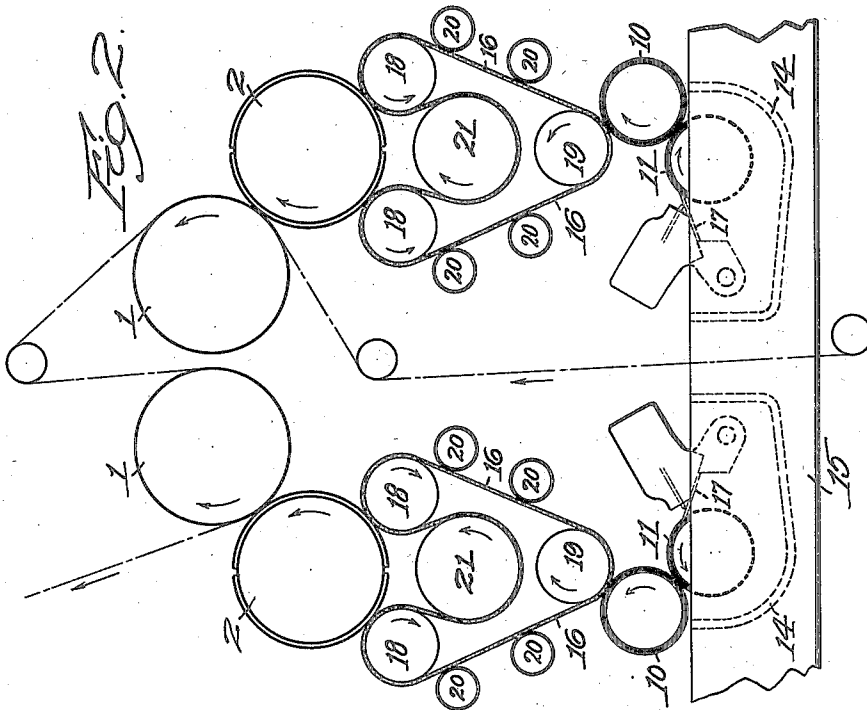
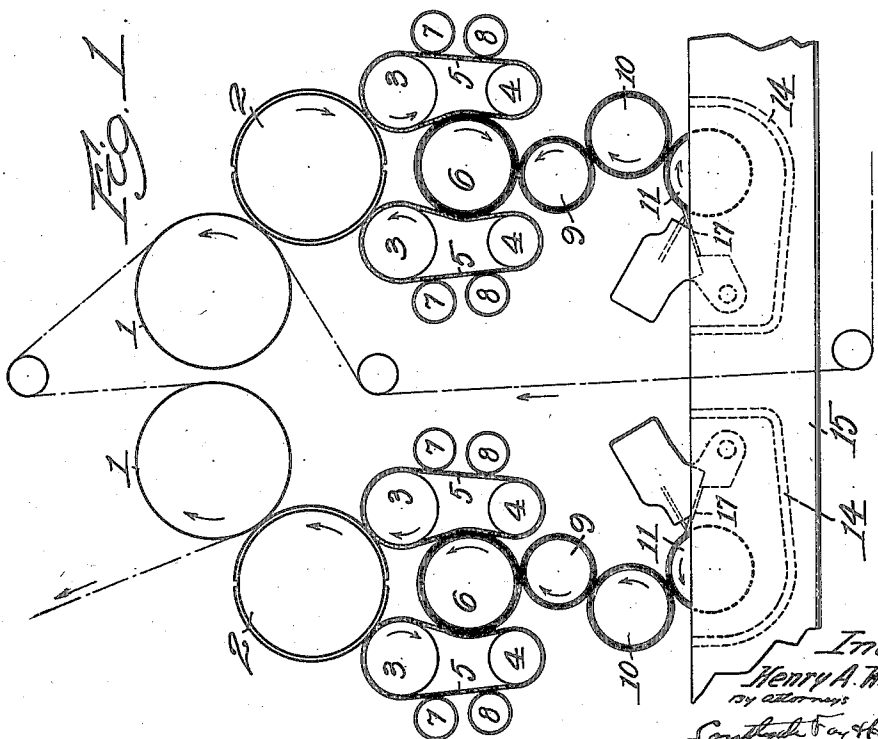
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INK MOTION

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INK MOTION

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5 Claims. (Cl. 101—350)

The principal object of this invention is to provide a practical means whereby the "ghosting" which manifests itself in uneven shades in the printing can be entirely avoided. This is done by providing an improved means for transferring the ink to the form rolls from the ink drum.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing, in which

Fig. 1 is an end view of a printing press unit carrying two ink motions constituting one embodiment of this invention, and

Fig. 2 is a similar view showing a modification.

One of the difficulties experienced in rotary web printing is the well known fact that when ink is transferred from the ink drum through a form roller to the printing plate the plate takes up a pattern of ink from the form roller. This pattern of reduced thickness of ink on the form roller is seldom eradicated as the form roller passes back in contact with the ink drum and then with the plate. This is the cause of "ghosting" which produces uneven shades, particularly in the dark areas of the printing. Attempts have been made to eradicate "ghosting", especially by longitudinal vibration of the ink drum. This and other efforts, however, have proved partially inadequate and the present invention is designed to fully eliminate the "ghosting" and to provide additional distribution against the surface of the element which, according to this invention, is provided in place of the form roller.

Referring to Fig. 1, the usual impression cylinders 1 cooperate with the usual plate cylinders 2 to form the printing couples. Ordinarily the plate cylinders are supplied with ink by form rolls which contact with the ink drum but, according to this invention, the form rolls are displaced by a different means for transferring ink in the form of an endless belt 5 which contacts with the printing spaces carried on the plate cylinder 2 and with the ink drum 6. In this form of the invention, one of these belts 5 is substituted for each one of the form rollers and it is carried by two cylinders 3 and 4, the former of which supports it firmly against the printing plates on the cylinder 2. Preferably the cylinder 4 is spaced from the ink drum 6 and the belt 5 has a free space between the two. Also on the back there are distributor rolls 7 and 8 of well known construction and function.

Of course, the ink is distributed from a fountain 14 located in a cavity in the base plate 15

and serving as a reservoir for the ink. The fountain roll 11 is provided as usual and the regulating blade 17 is shown. The fountain roll delivers ink to a pick-up roller 10 which, through transfer roller 9, supplies the ink drum 6 with the necessary amount of ink.

After the belt 5 contacts with the plates on the cylinder 2 it then contacts with the ink drum 6, which not only imparts a new supply of the ink but also tends to eradicate any pattern on the ink film.

After contacting with the ink drum 6 the belt passes around the roller 4 and then under the distributors 8 and 7 respectively which will smooth out any pattern left on the outer surface of the endless belt 5. In this way the reduced thickness of ink in a pattern on the belt is eliminated before it gets back to the plate cylinder.

It will be obvious that although I have shown two distributors 7 and 8, any desired number can be used to properly distribute the ink.

In the form shown in Fig. 2 a similar arrangement of printing couples is shown but here, instead of having a belt for each form roller, a single endless belt 16 is employed serving in place of two form rollers. This belt passes around two cylinders 18 and under cylinders 19 and 21 and several distributors 20 are employed, as many as may be desired. These distributors bear against the inked surface of the belt 16 and serve to eradicate any pattern left during previous contact with the plates.

In both cases the transfer of ink from the ink drum 6 directly to a form roll in contact with it and then directly to the plate is avoided by the interposition of the flexible belt 5 or 16. This belt is of a much greater length than the circumference of the cylinder 3 or 18. These belts may be made of any strong flexible material suitable for inking purposes.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what I claim is:—

1. In an inking mechanism, the combination of an ink drum and means for transferring the ink therefrom to the printing plates and back to the ink drum at a different point on the ink drum from that from which it was taken, with means for redistributing the ink on said means.

2. In a mechanism for inking the plates on

a plate cylinder, the combination with an ink drum and means for supplying ink thereto, of a cylinder spaced from the ink drum, an endless belt passing over the last named cylinder into
5 contact with the plates on the plate cylinder, a cylinder inside the endless belt for holding it against the ink drum, and distributing rollers engaging the belt on the side opposite the ink drum and between the two cylinders inside the
10 belt, for the purpose described.

3. In an ink distributing system, the combination with an ink drum, and means for supplying ink thereto, of two endless belts engaging the opposite sides of the ink drum, means for supporting said belts and pressing them against
15 the surface to be inked and means for distributing the ink on the surface of each belt.

4. In an ink distributing mechanism, the combination with a cylinder and a pair of cylinders located on opposite sides thereof and out of
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contact therewith, of an endless belt passing over each cylinder and around the first cylinder, said cylinders serving to press the belt against a surface to be inked and a cylinder adjacent to the first cylinder for guiding the belt. 5

5. In an ink distributing mechanism, the combination with a central cylinder and a pair of cylinders located on opposite sides thereof and out of contact therewith, of an endless belt passing over said cylinders and around the central cylinder, said side cylinders serving to press the belt against a surface to be inked, a cylinder adjacent to the central cylinder for guiding the belt, means for distributing ink to said belt against the last named cylinder, and means
10 on the inking side of said belt and located on opposite sides of the belt structure for distributing the ink on the belt between the two first named cylinders and the last named cylinder. 15

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