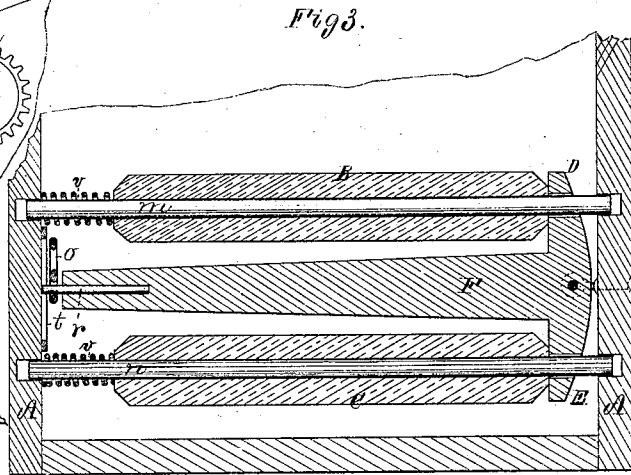
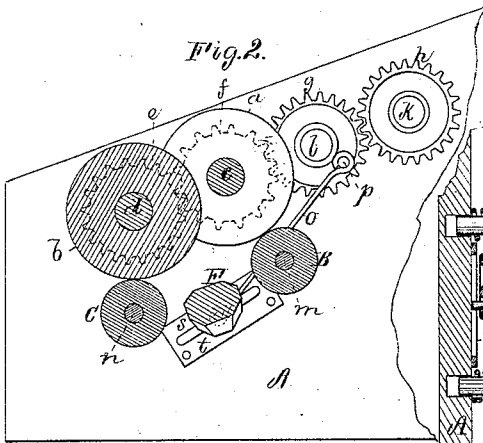
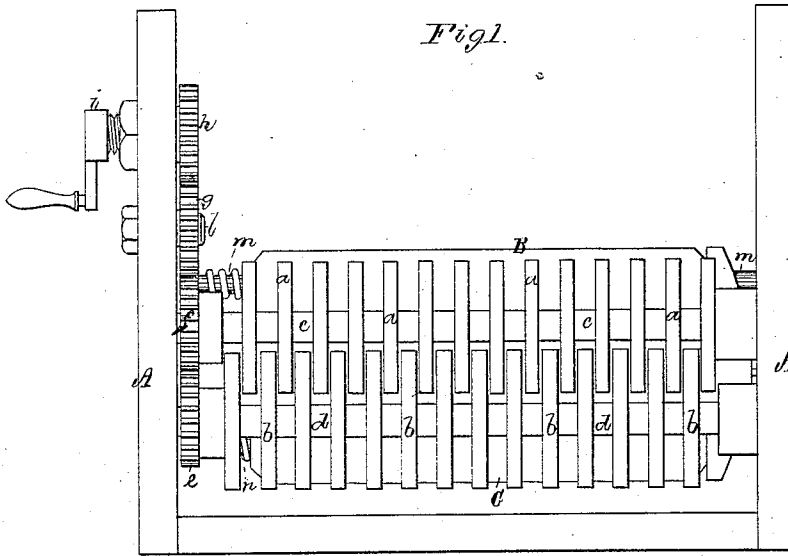


G. D. MORSE.
Inking Apparatus.

No. 153,177.

Patented July 21, 1874.



Witnesses.

S. W. Piper
L. N. Koller

George D. Morse.

by his attorney.

R. N. Eady

UNITED STATES PATENT OFFICE.

GEORGE D. MORSE, OF HAVERHILL, MASSACHUSETTS.

IMPROVEMENT IN INKING APPARATUS.

Specification forming part of Letters Patent No. **153,177**, dated July 21, 1874; application filed December 27, 1873.

To all whom it may concern :

Be it known that I, GEORGE D. MORSE, of Haverhill, of the county of Essex and State of Massachusetts, have invented a new and useful Inking Apparatus for Printing-Presses; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view, and Fig. 2 a transverse section, of it. Fig. 3 is a longitudinal section taken through the distributing-rollers.

The mechanism is for applying inks of different colors to the form-inking roller of a printing-press; and it relates to two sets or series of narrow rollers, and two distributing-rollers applied thereto, all as hereinafter set forth, and especially to the arrangement of mechanism for operating such distributing-rollers, or moving them endwise alternately, to effect distribution of the colors on the narrow rollers.

In the drawings, *a a a b b b* are two series of narrow rollers or cylinders mounted on two horizontal and parallel shafts, *c d*, there being any suitable number of rollers in each set or series. The rollers of each series are disposed with spaces between them to receive the rollers of the other series, also similarly arranged, all being as shown; or each of the rollers of one set may be disposed opposite and near a space between two rollers of the other set without entering such space. The shafts of said rollers *a b* are supported on a frame, *A*, and connected by gears *e f* so as to revolve synchronously. The gear *f* engages with a gear *g*, which, in turn, engages with a similar gear, *h*, provided with a driving or band wheel or crank, *i*. The shafts of the gears *g* and *h* are shown at *k l*, and project from the frame *A*. Underneath the two series *a a a b b b* of inking-rollers, and touching them, are two distributing-cylinders, *B C*, such as are used in printing-presses to effect even spreading of ink upon a roller. The bodies of the two rollers *B C* are to be of some elastic composition, such as glue and molasses, for instance. The shafts *m n* of the rollers *B C* have their bearings in the frame *A*, and turn in, and extend through, a vibratory lever, *D E*, pivoted at its middle to the frame *A*. An arm, *F*, projecting

from the middle of the lever *D E*, at right angles to such lever, and between the rollers, is provided at its end with a stud, *r*, to enter a slot, *s*, made in a plate, *t*, fixed to the frame *A*, (see Figs. 2 and 3.) A connecting-rod, *o*, pivoted at one end to the arm *F*, is also pivoted at the other end to a crank-pin, *p*, projecting from the gear *g*. On the shafts *m n* helical springs *v v* are placed, as shown in Fig. 3. Such springs, by bearing against the frame *A* and the contiguous ends of the rollers *B C*, serve to produce movements of the rollers endwise counter to those effected by the lever *D E*. During each revolution of the gear *g* a vibratory motion will be imparted to the arm *F*, whereby both of the rollers will be moved short distances endwise in opposite directions, so as to effect what is termed the "evening" or distributing of the ink on their respective series of rollers.

By the two series of rollers *a a a b b b*, arranged as shown in the drawings, different-colored bands or stripes of ink can be laid in close contact with each other upon and around a roller for inking a form of type, and the proper distribution of the inks for such bands can be effected by distributing-rollers, as explained.

In using my new inking apparatus, means are to be employed to apply different colors to the rollers *a a a b b b*; and devices are also to be employed to cause the roller which is to ink the form of type to move on and off both series of rollers and to rest thereon the requisite periods for being inked by them. While they revolve, and the form-inking roller is upon them, they will lay stripes of ink of different colors transversely upon and around it, such stripes touching or nearly touching one another, so that when the form-inking roller is drawn or moved over the form of type such roller will lay the colors thereon in parallel stripes or layers.

I do not claim coloring and distributing rollers, and inking-fountains, arranged and combined as shown in the patent No. 67,400, my apparatus being of simpler construction, and to be used with a common form-roller, which, prior to being run over the face of the type, is to be run upon the two sets of narrow rollers. My arrangement or mechanism for

moving the distributing-rollers endwise simultaneously in opposite directions is very simple and effective.

I claim—

In the type-roller inking-machine, provided with the two sets of shaping-rollers *a a b b*, gears *e f* and two distributing-rollers, B C, arranged as explained, the springs *v v*, the lever D E, arm F, guide *r*, slotted plate *t*, rod *o*,

crank-pin *p*, and gears *g h*, arranged and combined with the frame A and the shafts of said rollers *a b B C*, all being substantially as and to operate as explained.

GEORGE D. MORSE.

Witnesses:

R. H. EDDY,
J. R. SNOW.