

G. P. FENNER.
INKING ARRANGEMENT FOR PRINTING PRESSES.

APPLICATION FILED MAY 11, 1904.

3 SHEETS—SHEET 1.

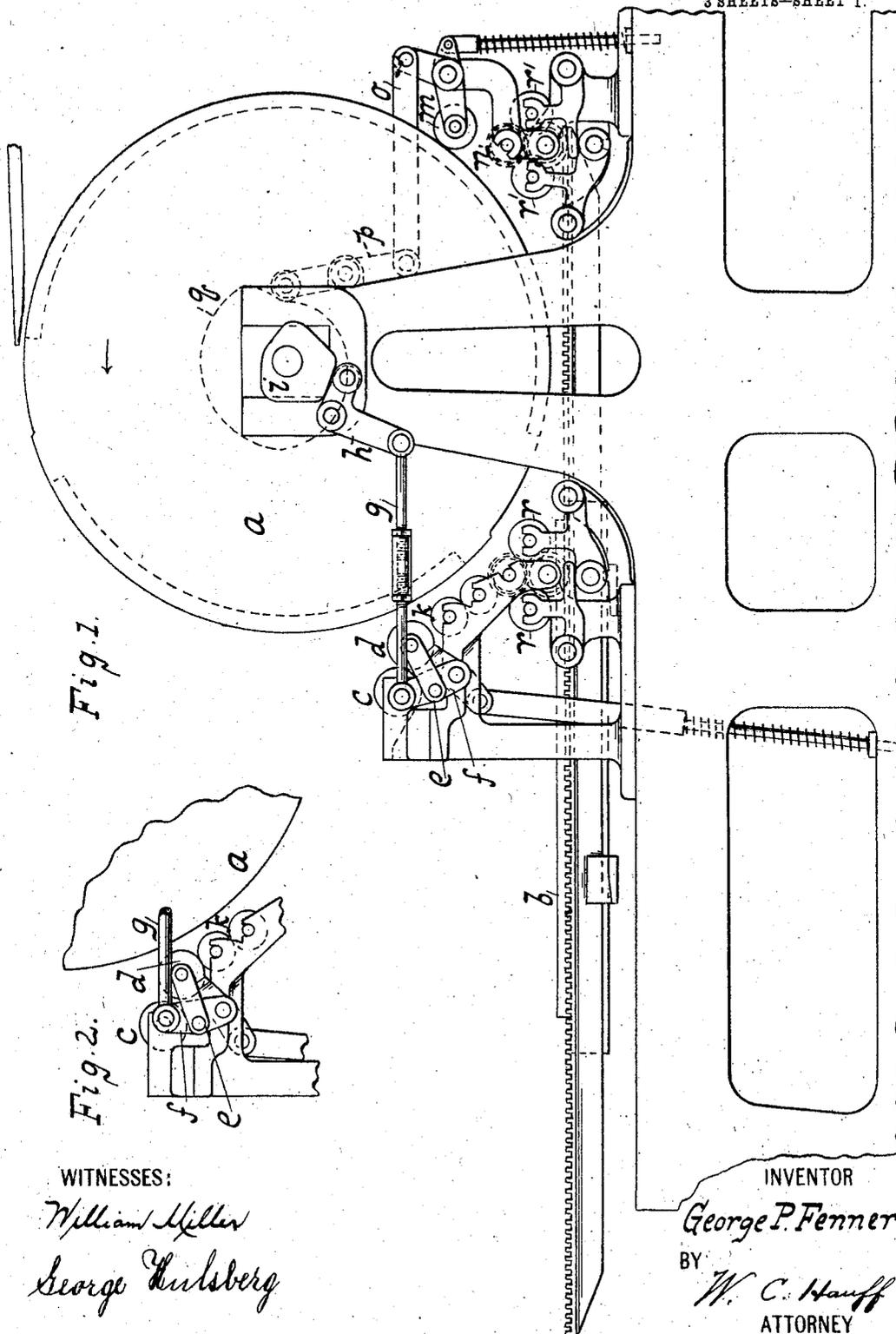


Fig. 1.

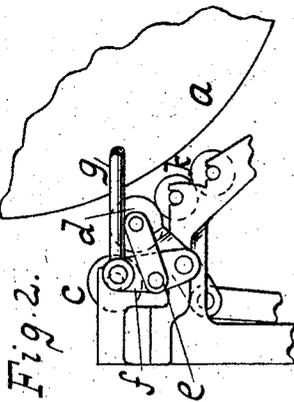


Fig. 2.

WITNESSES:

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George Kulsberg

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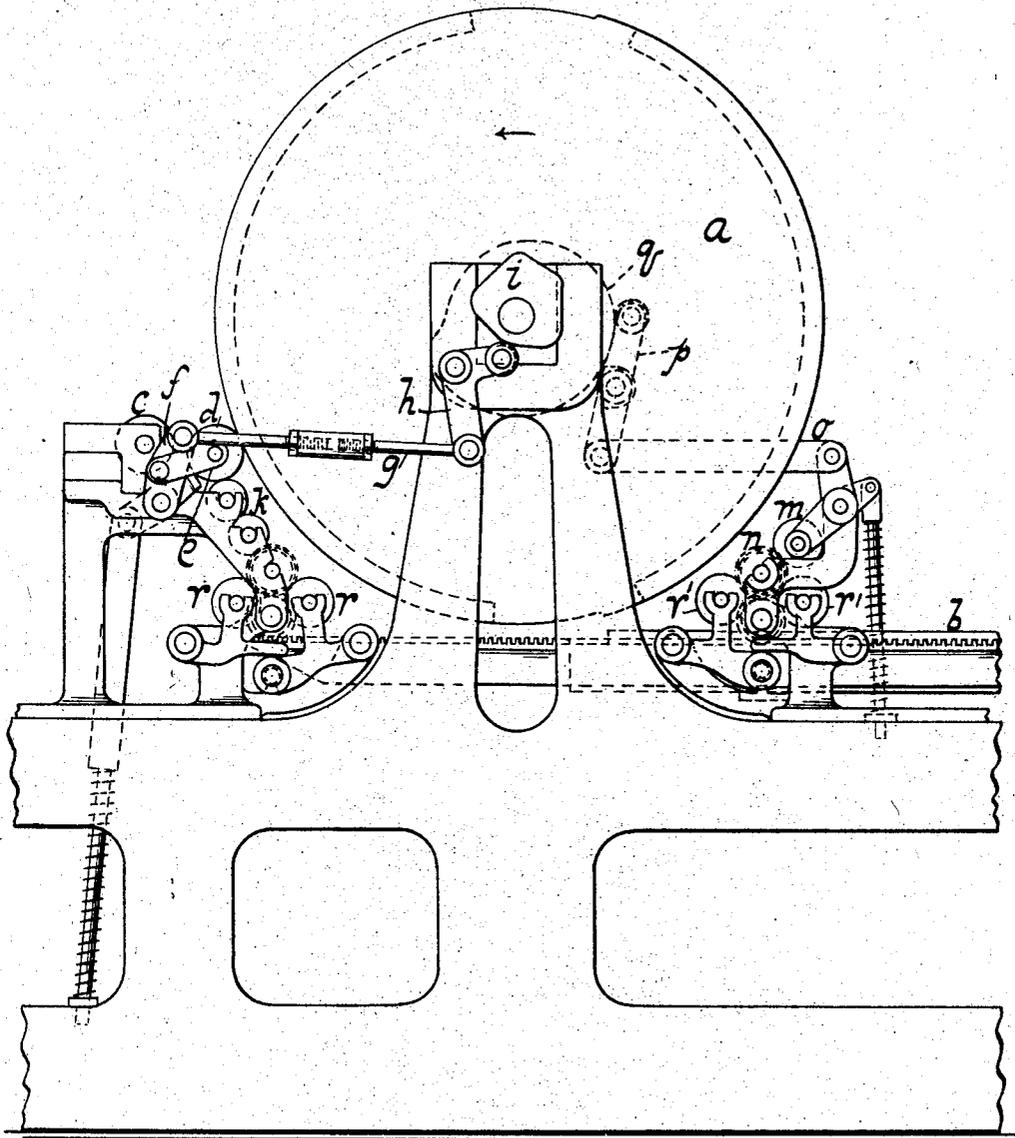
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PATENTED AUG. 1, 1905.

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Fig. 3.



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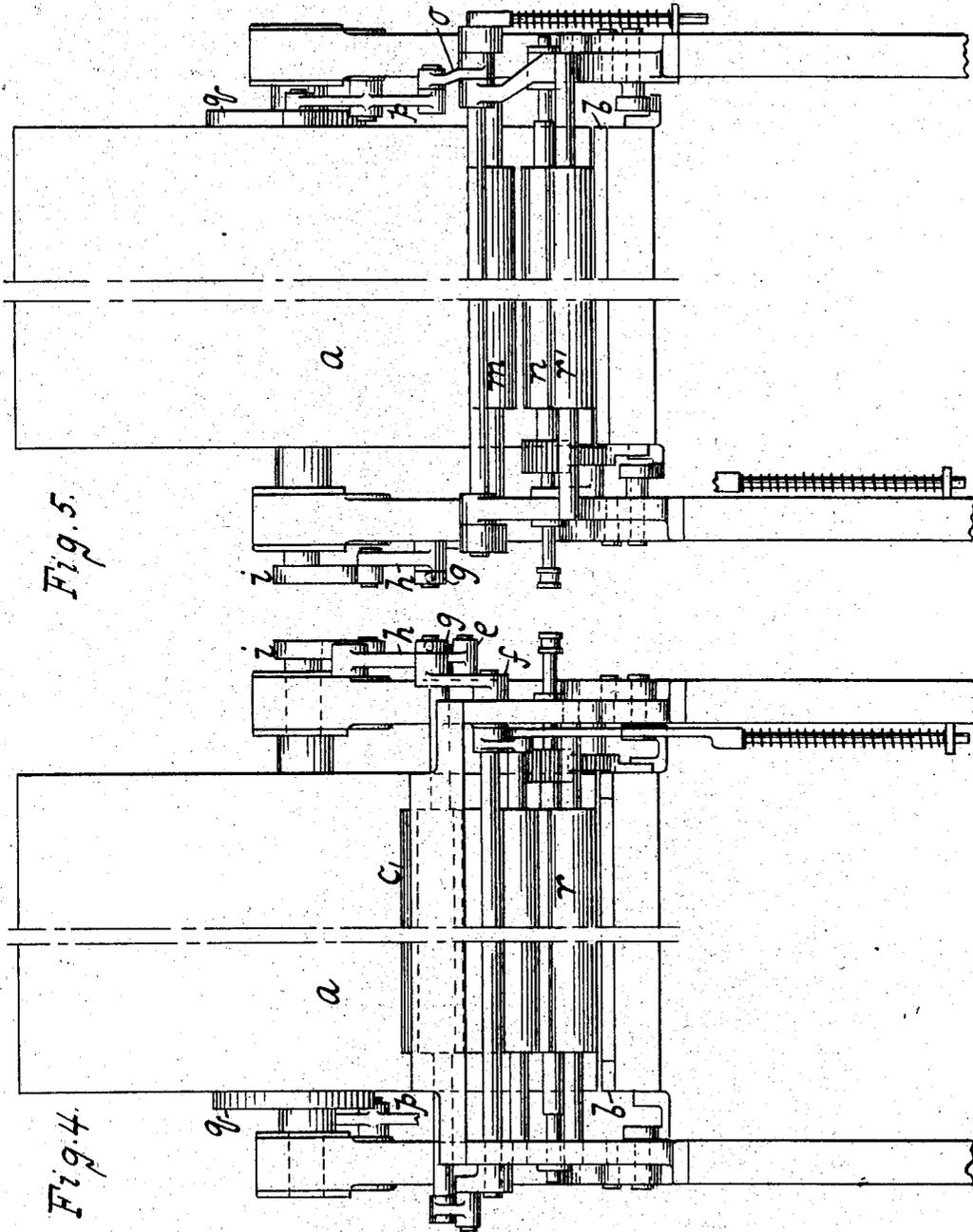


Fig. 5.

Fig. 4.

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UNITED STATES PATENT OFFICE.

GEORGE P. FENNER, OF NEW LONDON, CONNECTICUT.

INKING ARRANGEMENT FOR PRINTING-PRESSES.

No. 796,309.

Specification of Letters Patent.

Patented Aug. 1, 1905.

Application filed May 11, 1904. Serial No. 207,451.

To all whom it may concern:

Be it known that I, GEORGE P. FENNER, a citizen of the United States, residing at New London, county of New London, Connecticut, have invented new and useful Improvements in Inking Arrangements for Printing-Presses, of which the following is a specification.

By means of this invention an inking arrangement can be obtained for a drum-cylinder press with so-called "short-run" bed. This short run makes it possible to print a large sheet on a comparatively small press, and thus increase speed and decrease cost. I have patented arrangements for accomplishing this work in various ways, one method being to have a fountain on both sides of the cylinder—that is, for each series of ink-rolls to have a fountain of its own. Another way was to allow the ink-rolls on the rear side of the cylinder to be charged with ink from time to time by tripping the cylinder and also by receiving more or less ink from the type which was charged with ink on the front side of the cylinder.

The present arrangement contemplates the use of but one fountain. Ink is taken from this fountain and placed on a series of rolls in front or at one side of the cylinder and also against a portion of the impression-cylinder, which is not used for a printing-surface, and as ink is taken from the impression-cylinder by the series of rolls back of the cylinder it is conducted from this cylinder to the type.

This invention is set forth in the following specification and claims and illustrated in the annexed drawings, in which—

Figures 1, 2, and 3 show in side elevation different positions of the inking arrangement. Fig. 4 is a front elevation of Fig. 1. Fig. 5 is a rear elevation of Fig. 1.

In the drawings is shown an impression-cylinder *a* and a type-bed *b*. An ink-fountain roll is shown at *c*. A duct-roller *d* is supported by arms *e*, pivoted to lever *f*.

A link *g* connects lever *f* with lever *h*, actuated by cam *i* on the shaft of the cylinder. This arrangement serves to move the duct-roll from contact with the fountain-roll, Fig. 1, to the vibrator *k*, Fig. 2. This movement occurs while the type-bed is moving from the back or delivery end of the press to the forward end of the press. During this movement the duct-roll is brought into contact with a portion of the surface of the cylinder, Fig. 3, and at the same time remains in contact with the roller *k*. The motion of

roller *k* and of the impression-cylinder is at this time in the same direction. After depositing ink on that portion of the cylinder which serves as an ink-plate the duct-roll *d* returns from the cylinder to the position shown in Fig. 2. It remains in this position until the roll *k*, which is being driven by the action of the bed, comes to a practical stop because of the stopping of the bed. At this point roll *d* leaves roll *k* and is brought into contact with roll *e*, while duct-roll *d* has no revolving motion.

A rear duct-roll is shown at *m* and a vibrator at *n*. The link *o*, actuated by lever *p* and cam *q*, causes the rear duct-roll to leave vibrator *n* while the bed is moving from the rear to the forward part of the press. Rotary motion is thus imparted to the rear duct-roll, so that it comes into contact with the ink-surface of the cylinder while they are revolving in unison. The rear duct-roll is held into contact with the ink-surface of the cylinder during the stopping and reversing of the bed at the forward end of the stroke. This rear duct-roll also leaves the ink-surface of the cylinder in time to allow the impression-surface of such cylinder to pass without touching. The duct-roller *m* comes into contact with the vibrator *n* after the type-bed is started again on the forward stroke from the rear to the front of the press. There is thus imparted to roller *n* the same direction which it had when roller *m* was in contact with it at the previous stroke of the bed. In other words, duct-roller *m* leaves vibrator *n*, comes into contact with cylinder *a*, leaves the cylinder, and comes back into contact with vibrator *n* again without reversing its rotary motion.

The ink-rolls of ductor *d* are shown at *r* and those of ductor *m* at *r'*. When the bed is at its extreme forward position, Fig. 1, the ink-rolls *r* do not quite pass over the type, as the back edge of the type or bed stops short or before passing under the rolls *r*. Neither do rolls *r'* pass entirely over the type, as in its rear stroke the bed stops short of rolls *r'*. (See Fig. 3.) The rollers *r* and *r'* are raised from contact at the point where the bed respectively reverses. This raising from contact, however, is not a new feature.

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

1. An impression-cylinder having a distributing-surface or ink-plate portion and type-bed combined with a series of rolls made to deliver ink to the cylinder and to the type, a

ductor-roll and a second set of rolls permanently out of contact with the cylinder and made to receive ink from the ductor and deliver the same to the type.

2. An impression-cylinder having a distributing-surface and vibrator-roller, combined with a duct-roller made to contact with the cylinder and vibrator, a second vibrator clear of the cylinder, a second duct-roller made to contact with the cylinder and second vibrator, and a type-bed.

3. An impression-cylinder with distributing-surface and vibrator-roller, combined with a duct-roller and ink-roller, a cam on the cylinder, and a lever-and-link connection from the duct-roller to the cam for moving said duct-roller to and from contact respectively with the font, the vibrator and the cylinder.

4. The combination with ink-rolls and a bed making a short run or partial contact with the respective rolls, of an impression-cylinder with distributing-surface and ductor-roll-

ers, one of the ductor-rollers being made to convey ink to the cylinder and to some of the ink-rollers, and the other ductor-roller being made to take ink from the cylinder and convey it to other ink-rollers said inking-rollers being out of contact with the impression-cylinder.

5. A reciprocating type-bed, an impression-cylinder with ink-distributing surface or ink-plate portion, a vibrator and a duct-roller made to contact with the cylinder and then to contact with the vibrator at about the moment of reverse of the bed so that said duct-roller will maintain its rotary motion in the same direction.

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

GEORGE P. FENNER.

Witnesses:

EVA L. HUDSON,
A. A. SMITH.