T. F. ELSWORTH.

INKING MECHANISM FOR PRINTING MACHINERY.

APPLICATION FILED APR. 2, 1915.

1,210,156.

Patented Dec. 26, 1916.

2 SHEETS—SHEET 1.

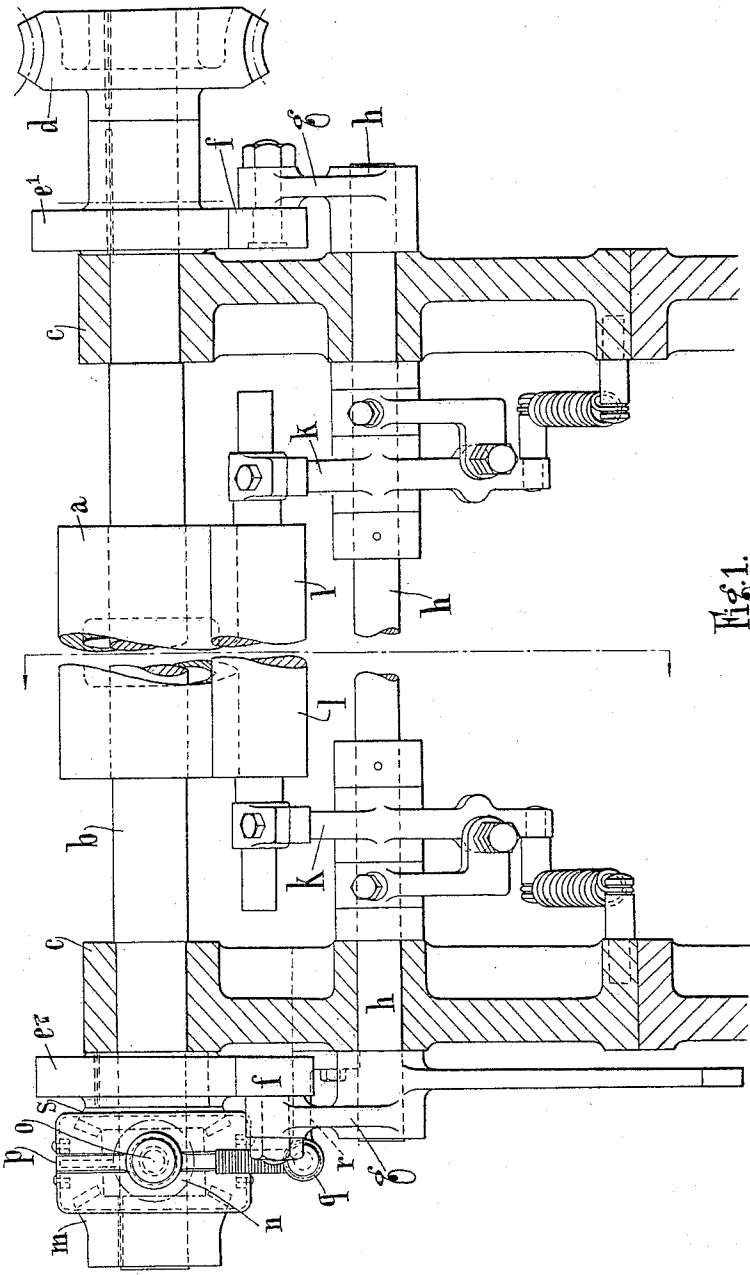


Fig. 1.

Witnesses

Joseph Nagy

Chas. K. Wright

Thomas Frank Elsworth Inventor

by Munn & Co.

Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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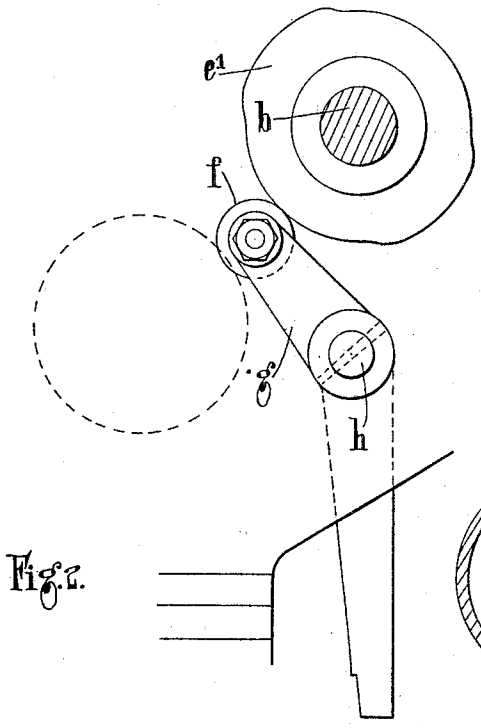


Fig. 2.

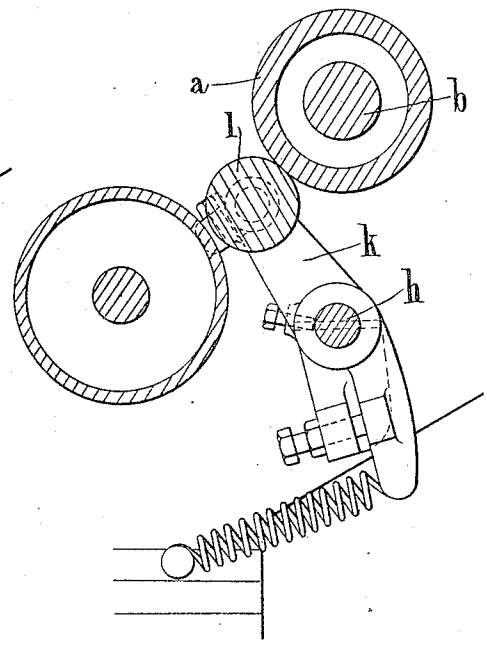


Fig. 3.

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Chas. R. Wright

Thomas Frank Elsworth Inventor

by Munn & Co

Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

THOMAS FRANK ELSWORTH, OF LEEDS, ENGLAND, ASSIGNOR TO GEORGE MANN & COMPANY, LIMITED, OF LEEDS, ENGLAND.

INKING MECHANISM FOR PRINTING MACHINERY.

1,210,156. Specification of Letters Patent. Patented Dec. 26, 1916.

Application filed April 2, 1915. Serial No. 18,727.

To all whom it may concern:

Be it known that I, THOMAS FRANK ELSWORTH, a subject of the King of Great Britain and Ireland, and residing at 9 Temple Crescent, Beeston Hill, Leeds, in the county of York, England, have invented certain new and useful Improvements in Inking Mechanism for Printing Machinery, of which the following is a specification.

The present invention relates to the inking mechanism for printing machinery.

In some forms of printing machinery it is necessary that the ink carrying roller forming a portion of the ink fountain should run continuously, and in such machines a vibrating roller which comes in contact occasionally with the ink fountain roller is provided to carry the ink forward to the distributing or inking rollers.

The present invention consists in means by which the duration of the dwell of the vibrating roller upon the ink fountain roller can be varied, while the machine, including the ink fountain roller, is in motion.

The invention further consists in obtaining a variable duration of dwell of the vibrating roller upon the ink fountain roller, by operating the vibrating roller by means of two cams, one of which is positively secured to a continuously rotating shaft, while the other is loosely mounted on this shaft and caused to rotate by a train of wheels, one of which is secured to the shaft and another of which is held by an adjustable attachment to the framework of the machine.

The invention further consists in the improved inking mechanism for printing machinery hereinafter described.

In carrying the invention into effect according to one example, the fountain roller is rotated continuously, and is carried by a shaft on which there are mounted concentrically two cams, one fixed to the shaft and the other mounted loosely. The loose cam is fixed to a bevel wheel loose on the shaft, and is caused to rotate by a bevel wheel mounted in a carrier capable of a circular adjustment, and gearing with a bevel wheel fixed to the shaft. The carrier for the intermediate bevel wheel can be fixed in any given position relatively to the framework of the machine, so as to advance or retard the second cam. The relative position of the two cams will determine the duration of the dwell of the vibrating roller upon the ink fountain roller, and it will be seen that this duration of dwell can be altered while the machine is in motion.

Referring to the accompanying drawings:—Figure 1 is a longitudinal elevation, and Figs. 2 and 3 are sectional end elevations of the mechanism shown in Fig. 1.

In the example illustrated, the ink fountain roller a is mounted on a shaft b, carried in journals in the framework c c. The shaft b is rotated continuously by means of a worm wheel d and worm (not shown). On the shaft b there is fixed a cam e^1, which operates the runner f (Fig. 2) carried on the lever g, which is fixed on the shaft h. The shaft h also carries the lever k, on which is mounted the vibrating roller l (see Figs. 1 and 3). At the other end of the shaft b there is fixed a bevel wheel m in gear with a bevel pinion n, mounted on a pin o, which is carried in a frame p, loosely mounted upon the shaft b. The frame p carries also a segmental worm wheel in gear with a hand-operated worm q. The worm q is mounted in a bracket r attached to the framework c. In gear with the bevel pinion n there is also a bevel wheel s, loose upon the shaft b, this bevel wheel being fixed to a cam e^2, which operates on the shaft h in a similar manner to the operation of the cam e^1.

It will be seen that by turning the hand-operated worm q, the bevel pinion n will cause a relative movement between the bevel wheels m and s, and so a relative movement between the cams e^1 and e^2. The length of time during which the vibrating roller l dwells upon the ink fountain a can thus be varied at will during the continuous motion of the roller a.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:—

In printing machinery, means for varying the dwell of a vibrating roller on an ink fountain roller, comprising in combination a continuously rotating driving shaft, an ink fountain roller fixed to said shaft, a cam positively secured to one end of said shaft, a second cam loosely mounted on said shaft, a train of wheels adapted to rotate said cam relatively to said shaft in a direction opposite to the direction of rotation of said shaft, one of said wheels being secured to said

shaft and another of said wheels being held by a member adjustable about the axis of said shaft, means in a fixed position relatively to the machine for adjusting said member, a rocking shaft, a vibrating roller carried by arms on said rocking shaft and means for rocking said shaft actuated by both said cams, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS FRANK ELSWORTH.

Witnesses:
A. S. CROWDER,
J. SANDERSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents Washington, D. C."