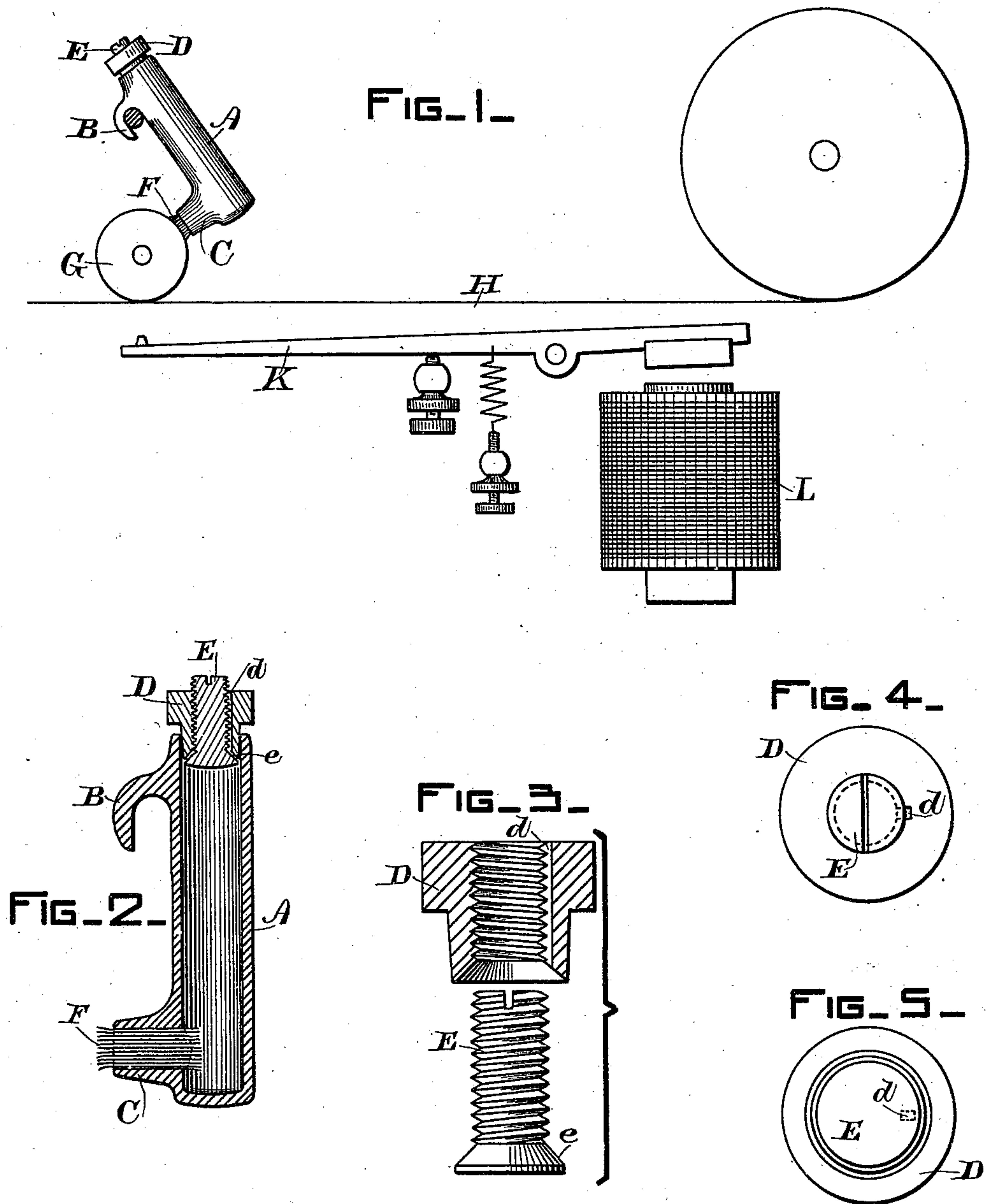


(No Model.)

F. A. TURNER.
INKER FOR PRINTING ROLLERS.

No. 547,973.

Patented Oct. 15, 1895.



WITNESSES

W. H. Bentley
V. J. Hayes

INVENTOR

Frank A. Turner
by E. M. Bentley
Atty.

UNITED STATES PATENT OFFICE.

FRANK A. TURNER, OF CHELSEA, MASSACHUSETTS, ASSIGNOR TO THE GAMEWELL FIRE-ALARM TELEGRAPH COMPANY, OF NEW YORK, N. Y.

INKER FOR PRINTING-ROLLERS.

SPECIFICATION forming part of Letters Patent No. 547,973, dated October 15, 1895.

Application filed September 20, 1894. Serial No. 523,587. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. TURNER, a citizen of the United States, residing at Chelsea, county of Suffolk, State of Massachusetts, have invented a certain new and useful Improvement in Inkers for Printing-Rolls, of which the following is a specification.

My invention relates to an improvement in apparatus for inking printing-rolls, and is especially applicable to rolls used in printing-telegraphs and the like. It may, however, be used in inking rolls for any purpose. One of the methods now in common use is to partially submerge a roll in a horizontal position in a vessel to which the roll is permanently attached in such way as to freely rotate in the ink which the vessel contains. A second roll rotating at the end of a swinging arm is adapted to make contact with the submerged roll, and after thus becoming inked the arm is swung over to a position where the roll will rest upon the printing-roll and thus supply ink to the printing-roll. A still simpler method is to apply ink to a hand-roll, which is then pressed against the inking-roll. Neither of these methods is free from objections. Both require the care of an attendant, since renewed applications of ink to the printing-roll are necessary. Furthermore, with such means as have been described it is difficult to get a uniform distribution of ink upon the surface of the printing-roll, and either blotting or illegibility is likely to result.

The object of my invention is to automatically ink printing-rolls in a uniform manner by applying the ink directly to the roll, and by the use of the apparatus which I have devised for this purpose no care or attention is necessary after the ink-supply reservoir has once been filled. The supply will be constant and regular until the last drop has been exhausted in the reservoir.

Referring to the drawings, Figure 1 represents the inker as applied to an inking-roll of a printing-telegraph. Fig. 2 is a vertical section of the inker. Fig. 3 is a sectional view of the bushing with the seat-valve in elevation, and Figs. 4 and 5 illustrate details of the bushing construction.

A is a cylinder, preferably of metal, pro-

vided with the hooked ear B near its upper end. On the same side with the ear B, but at the opposite end, is a hollow nipple C, communicating with the interior of the cylinder. The lower end of the cylinder is closed, while into the upper open end is tightly fitted the bushing D, making the cylinder perfectly air-tight at that end. The interior of the bushing D is threaded to receive the screw-valve E. The lower border of the central opening in the bushing D is countersunk, forming a seat, so that the portion *e* of the screw may make with it an air-tight joint.

The interior of the bushing D is vertically grooved at *d*, the groove extending from the top as far as the inner edge of the countersunk portion, so that when the screw-valve is tightly seated no opening appears at that end. The other end of the groove, however, opens out alongside the head of the valve on the outer end of the bushing. The inner end of the bushing forming the valve-seat is shown in Fig. 5, the outer end in Fig. 4. When the screw-valve is tightly seated, the outer end or head projects slightly beyond the bushing D and is provided with the usual slot by means of which the valve may be turned.

The hollow nipple is tightly filled with fibrous material, such as felt. (Represented at F, Fig. 2.) Any material capable of absorbing ink properly would answer the same purpose as felt.

In operation the inker is suspended by means of the hooked ear B from a rod or an eye forming part of the receiving-instrument, so that the felt F, projecting from the nipple C, shall rest upon the printing-roll G in the position indicated in the drawings. H is the strip upon which the message is printed. K is the printing-lever, actuated by the magnet L. The printing-roll G rotates when a message is received. The details of the printing mechanism forming no part of my invention are therefore not further described.

To operate the inker, it is merely necessary to fill it with ink, and then by slightly turning the screw the valve will be raised from its seat sufficiently to allow air to pass into the interior of the cylinder through the groove *d*. The flow of ink through the felt F can thus

be regulated, and the rotating printing-roll G, upon which the felt bears, takes off the ink uniformly from the felt.

It has been found that by properly adjusting the valve E when the inker has been freshly filled no further regulation is necessary, even though the receiving-instrument should be inoperative for any reasonable length of time, and the inking-roll therefore remains stationary. No attention need be given the inker until the supply of ink is exhausted and it again requires filling.

Any number of inkers may be used with a single receiving-instrument, the number of printing-rolls determining the number of inkers required, or a single roll, if it be of sufficient length, may have two inkers supplying it.

What I claim as new, and desire to secure by Letters Patent, is--

1. The combination with a printing roll of an inker therefor, consisting of a chamber containing ink, loosely suspended so as to rest upon the said roll and provided with an opening filled with fibrous material forming a bearing point for the chamber upon the roll and with means for regulating the admission of air thereto and for suspending it in position upon the roll.

2. The combination with a printing roll of an inker therefor consisting of a chamber containing ink, loosely attached at one end to a fixed part of the apparatus and at the other

end resting upon the said roll, the said chamber being provided with an opening containing fibrous material which forms a bearing therefor on the roll and with means for regulating the admission of air thereto.

3. An inker for printing rolls consisting of a closed chamber provided with means for regulating the admission of air thereto and with an opening at one end containing fibrous material and with means for suspending the same loosely above a printing roll so as to be capable of moving bodily with relation thereto.

4. An inker for printing rolls consisting of a chamber having at one end means for loosely attaching the same so that it may be capable of moving bodily and at the other end an opening containing fibrous material, there being also means provided for regulating the admission of air thereto.

5. An inker for printing rolls consisting of the chambers A, having a hook B for loosely suspending the same, the nipple C in the side thereof containing fibrous material F and the valve E for regulating the admission of air to the chamber.

In witness whereof I hereto set my hand this 15th day of August, 1894.

FRANK A. TURNER.

Witnesses:

W. H. BENTLEY,
N. F. HAYES.