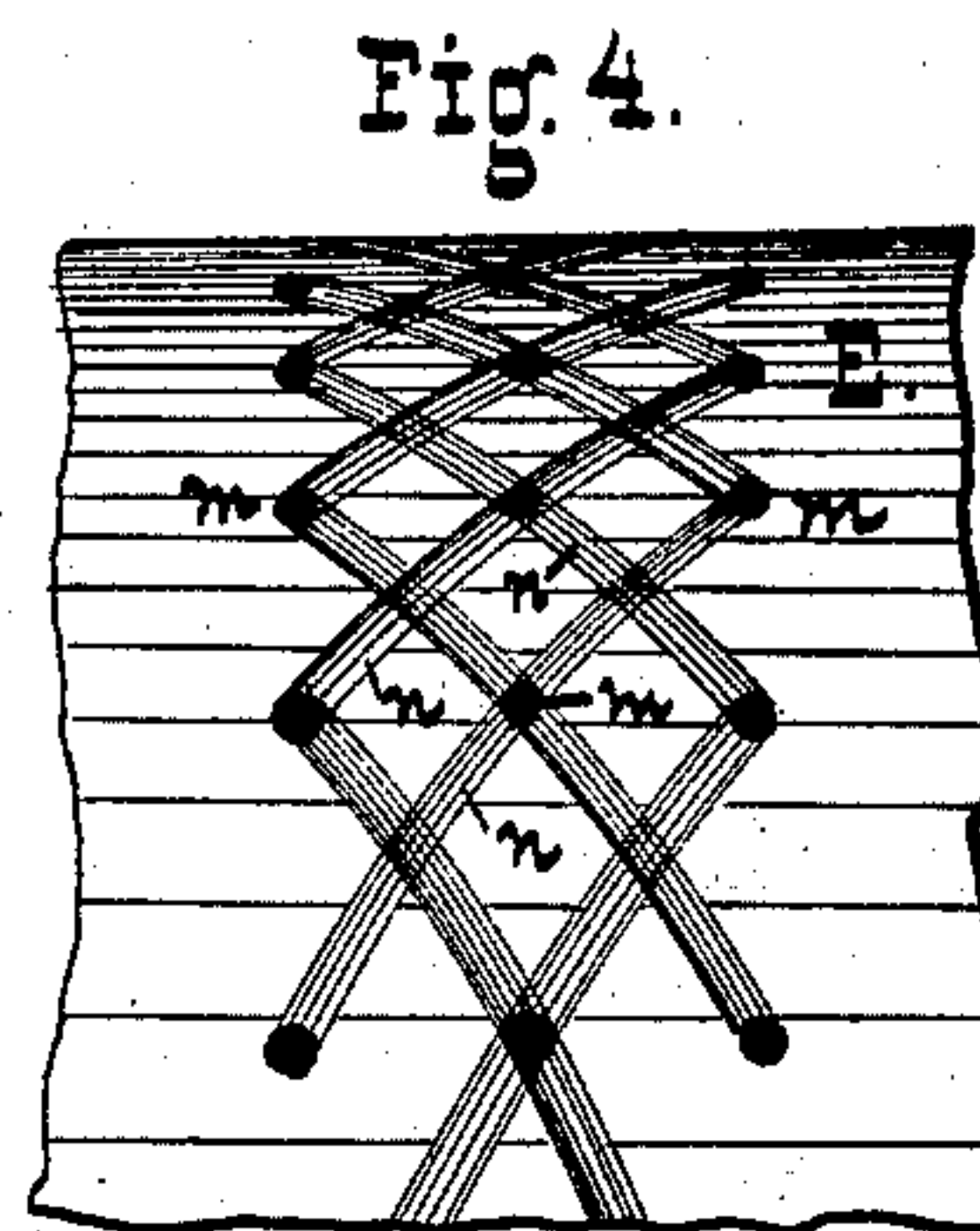
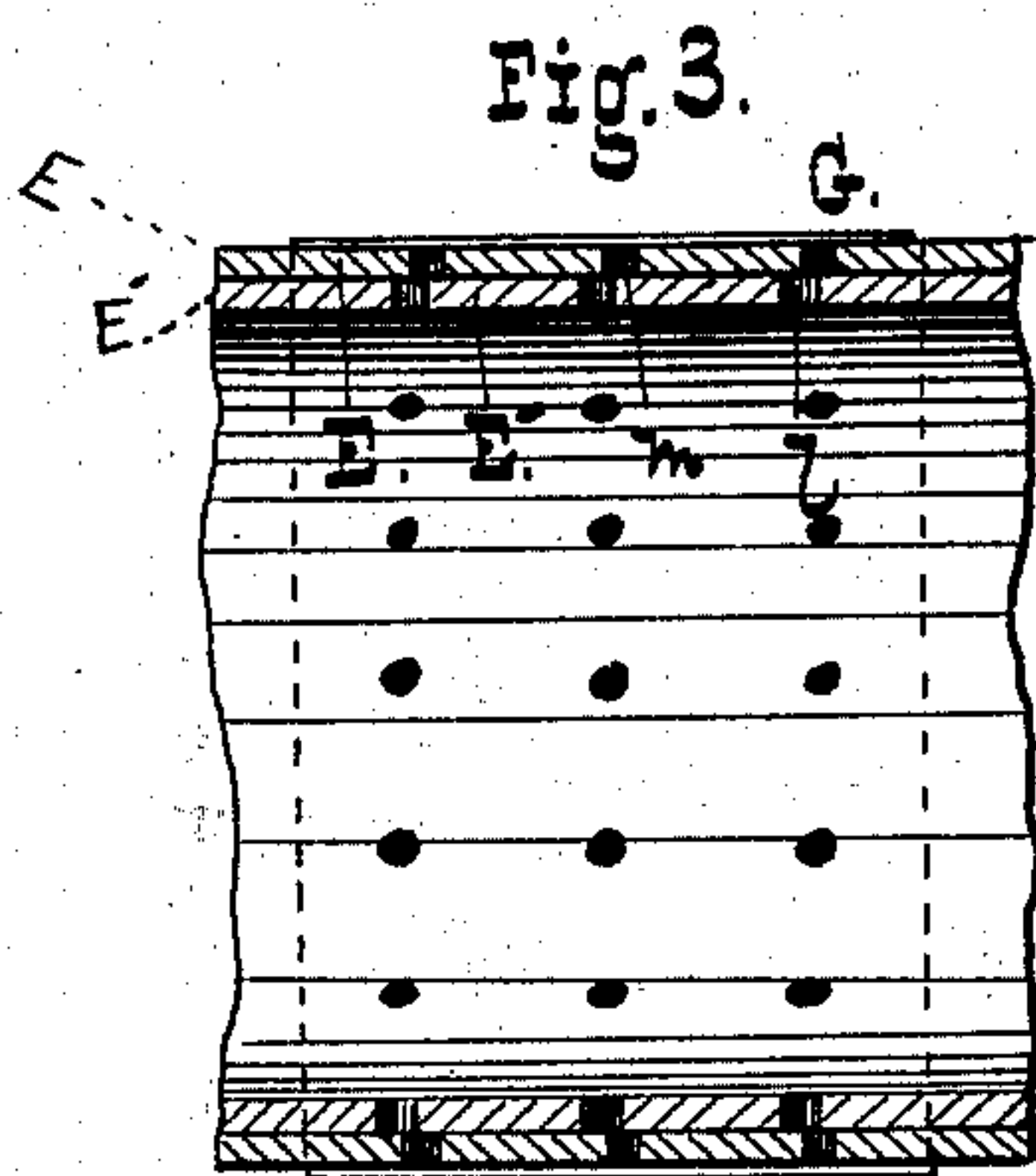
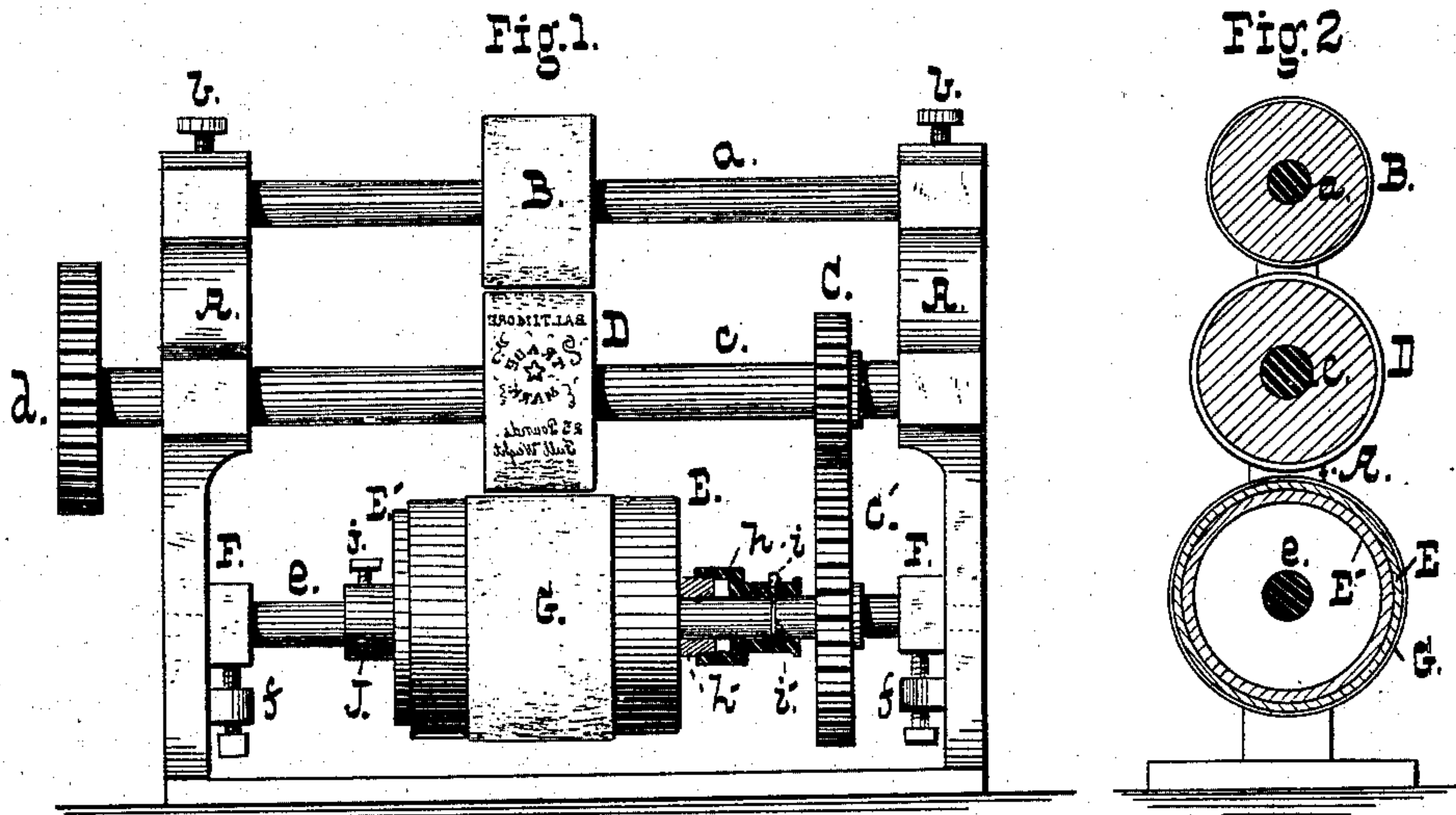


(No Model.)

F. E. PORTER.  
Printing Machine.

No. 242,977.

Patented June 14, 1881.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

FREDERICK E. PORTER, OF BALTIMORE, MARYLAND.

## PRINTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 242,977, dated June 14, 1881.

Application filed April 20, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK E. PORTER, of Baltimore city, State of Maryland, have invented certain new and useful Improvements in Printing-Machines; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of the machine; Fig. 2, a central vertical transverse sectional view of the same. Fig. 3 is a longitudinal sectional view, on an enlarged scale, of the inking device; and Fig. 4 is a side elevation of a portion of the same.

My invention has reference to devices for printing labels, trade-marks, or other matter upon the web of paper in transit to the paper-bag machine; and my said invention consists in certain features of construction of the inking device, whereby a more even and uniform flow of ink to the pad or felt and more perfect inking of the type are secured than in machines of the same class as heretofore made.

My invention consists, further, in certain combinations of parts, as hereinafter more fully set forth and claimed.

In the drawings, A A are uprights, in which are mounted in suitable bearings shafts *a c*. The shaft *a* carries the impression-cylinder B, which is covered with rubber or equivalent yielding material, and, in a word, is similar in construction to an ordinary proof-press roller. The journals of the shaft *a* are made vertically adjustable in their bearings by set-screws *b*, so as to regulate the pressure of the roller B upon the type-cylinder D. The latter is mounted on the shaft *c*, and is provided with suitable devices of any well-known form for locking up the type on its face. On the shaft *c* is a wheel, *d*, that is driven by any suitable means, and a second wheel, C, that meshes with a wheel, C', on the shaft *e*. The journals of the shaft *e* have their bearings in blocks F, that are made vertically adjustable by means of set-screws *f*.

On the shaft *e* is mounted the inking device, which consists of two hollow cylinders, E E', having perforations *l m*. (See Fig. 3.) The cylinders have each an exterior head, and the cylinder E telescopes or slides upon the cylinder E', fitting closely thereon.

On the shaft *e* is mounted a sleeve, *h*, through

which passes a set-screw, *i*, that enters an annular groove, *i'*, on the shaft, as shown. The other end of the sleeve is internally threaded, and screws upon a boss, *h'*, that is integral with the head of the cylinder E, and is provided with a feather or spline, whereby it is made to turn with the shaft.

Through a boss, J, on the head of the cylinder E' passes a screw, *j*, rigidly securing the cylinder on the shaft.

It will be understood that on turning the sleeve *h* the cylinder E is made to slide upon the inner cylinder, so that the holes *l m* may be made to register more or less perfectly, or the holes of the inner cylinder may be completely closed. A series of grooves, *n*, connect the holes *m* on the face of the outer cylinder, forming interlacing channels, as shown.

G is the inking belt or ribbon, which is of felt or equivalent absorbent fibrous material, and covers the perforated portion of the cylinder E.

Such is the construction of the device.

In operation the cylinder is supplied with ink, which runs through the holes *l m* and channels *n*, saturating the felt G. Type are secured on the drum D, and the machine is set in motion by power applied to the wheel *d*. The web of paper is led between the cylinder B and drum D, and thence to the bag-machine. As the drum revolves against the felt G the type are inked and the paper is pressed down upon them by the roller or cylinder B, printing the design or label on the web. The relative sizes of the gears are such that the type do not strike twice in succession on the same points of the felt G, and a uniform inking is secured. The grooves *n* afford a number of channels for supplying the ink to the ribbon or felt and secure a perfectly uniform inking of the felt.

The work of the machine is thoroughly satisfactory, the impression on the paper being nearly, if not quite, equal in appearance to that produced by the ordinary printing-press, while avoiding the cost of two handlings of the material.

The bag-manufacturer can afford to deliver printed bags at a cost only exceeding by interest on plant, wear and tear, and cost of ink that of the unprinted bags.

What I claim is—

1. In a machine for printing an endless or continuous sheet, an impression-cylinder, a type-cylinder, and an inking-cylinder adapted, as described, to feed the ink through perforations to a felt or ribbon, the surface of the inking-cylinder beneath the ribbon being grooved, whereby the ink is evenly distributed, substantially as described.

2. In combination with the inking-felt, the perforated cylinder E, having grooved surface beneath the felt, as set forth.

3. In combination with the cylinders E E', having perforations, as set forth, the interlacing grooves *n*, and ribbon or felt G, as set forth.

FREDERICK E. PORTER.

Witnesses:

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