

No. 786,220.

PATENTED MAR. 28, 1905.

F. E. KEMPF.  
PRINTING COUPLE APPLIANCE.

APPLICATION FILED SEPT. 12, 1903. RENEWED DEC. 3, 1904.

Fig 1

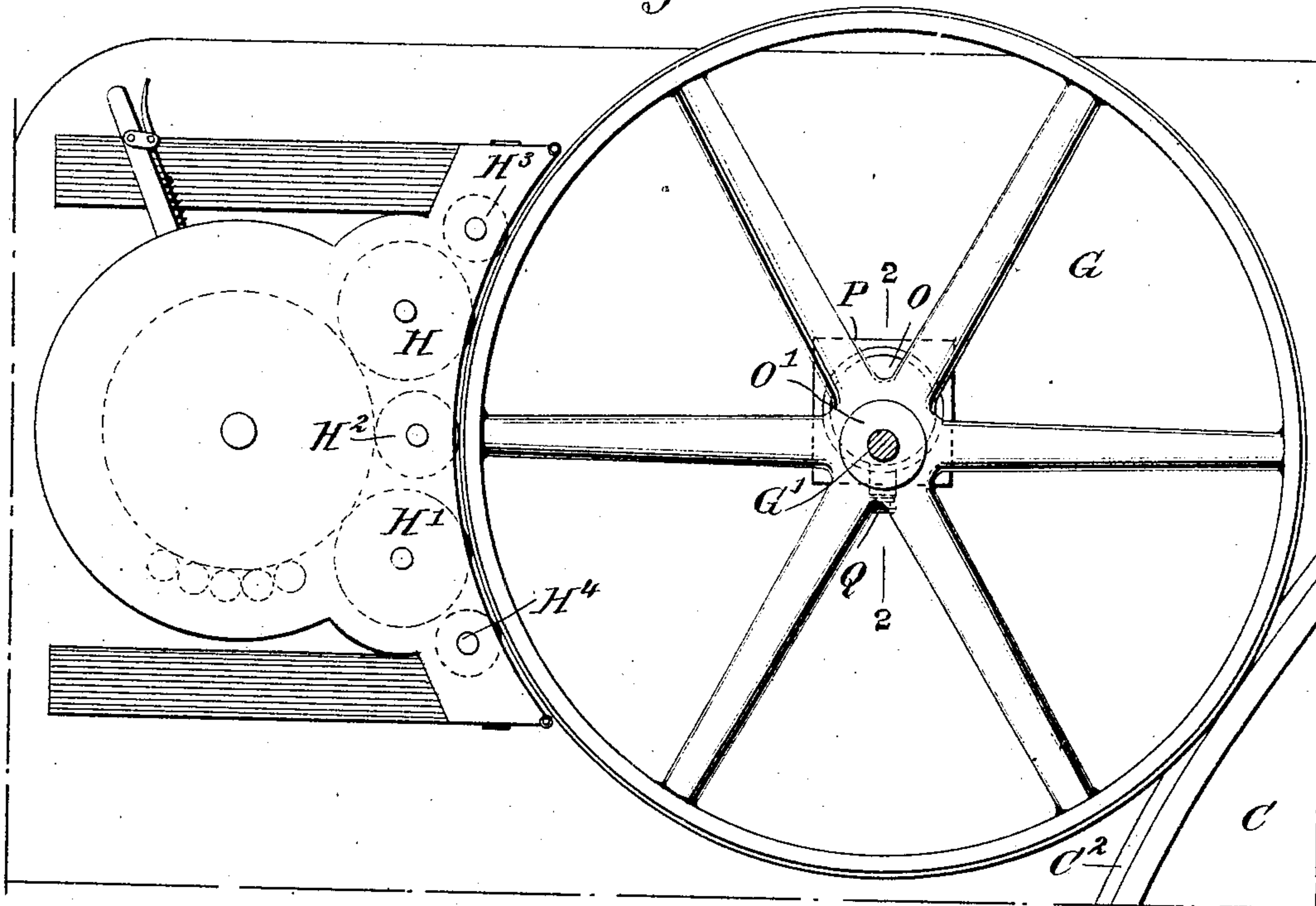


Fig. 2

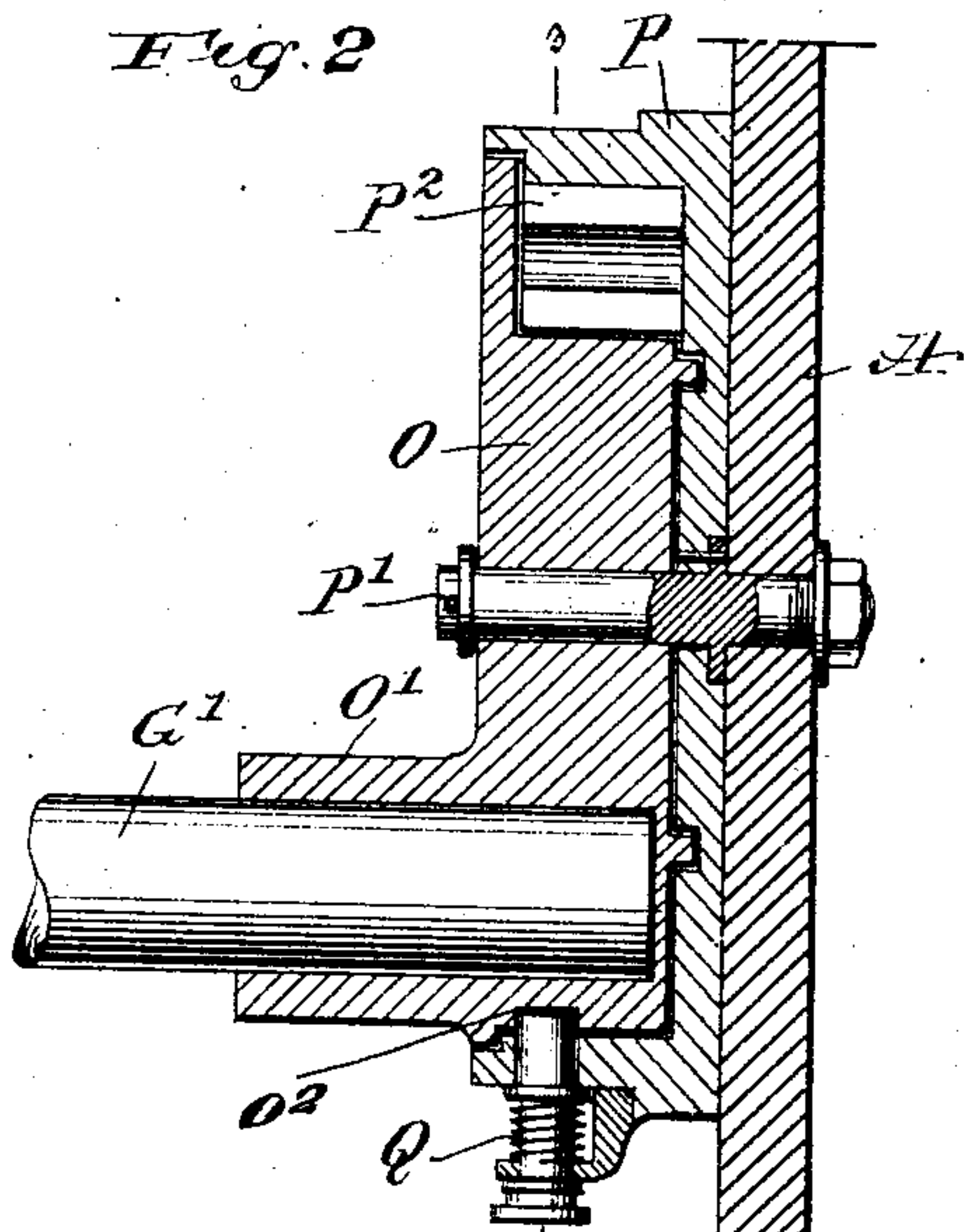
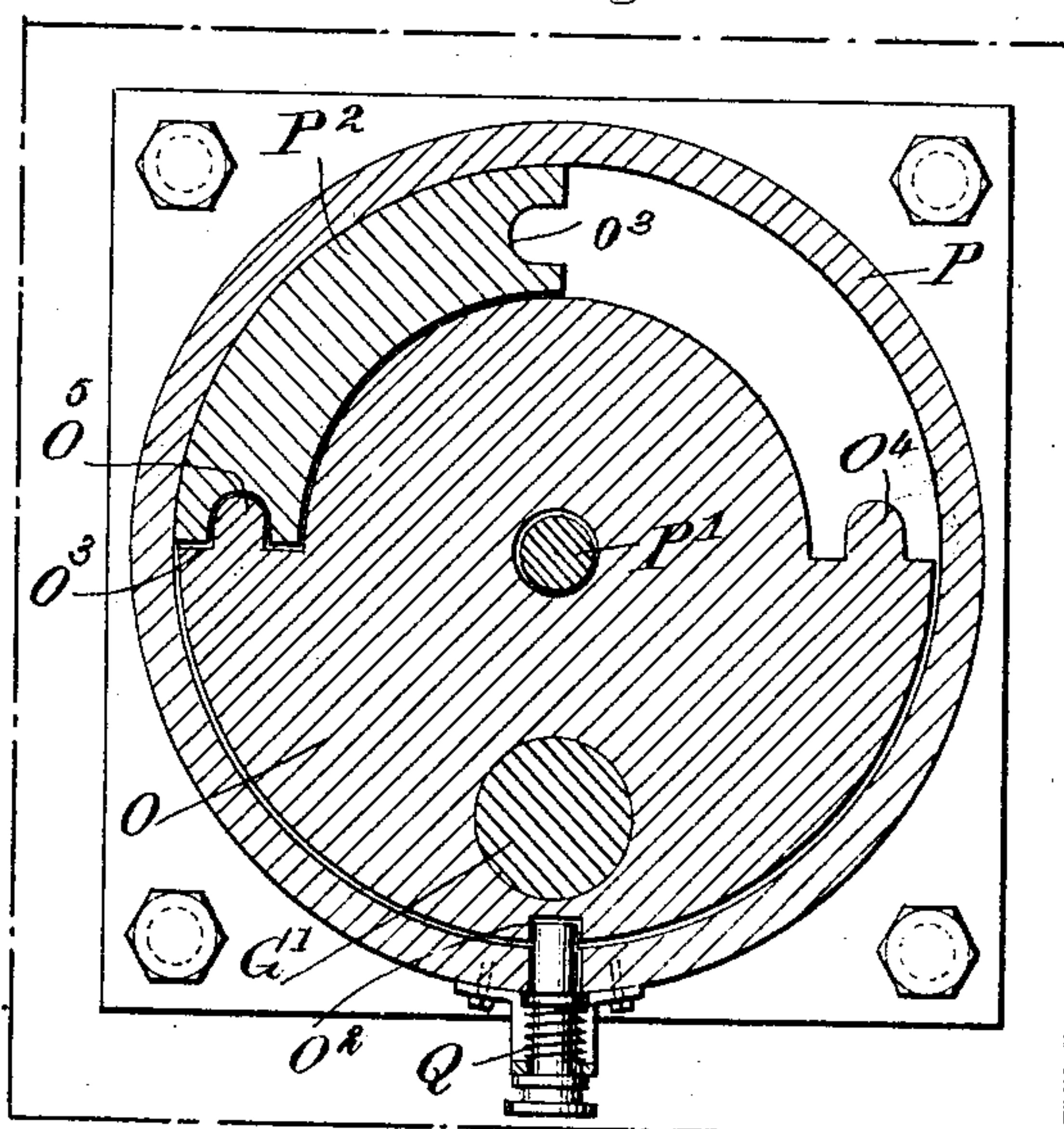
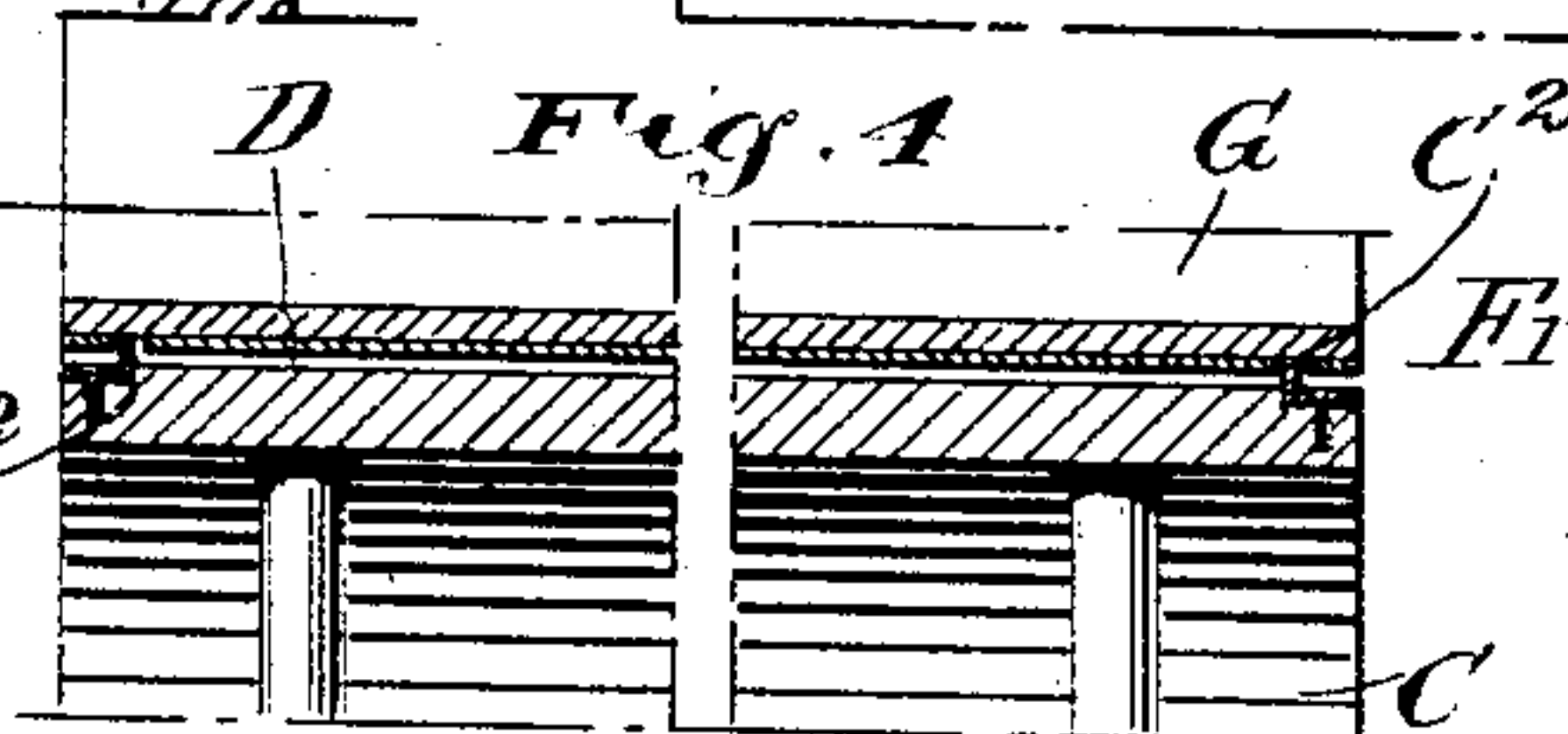


Fig. 3



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# UNITED STATES PATENT OFFICE.

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## PRINTING-COUPLE APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 786,220, dated March 28, 1905.

Original application filed May 7, 1903, Serial No. 156,043. Divided and this application filed September 12, 1903. Renewed December 3, 1904. Serial No. 235,302.

*To all whom it may concern:*

Be it known that I, FREDERICK EMIL KEMPF, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and Improved Printing-Couple Appliance, of which the following is a full, clear, and exact description, this being a division of the application for Letters Patent of the United States for a multicolor-printing press granted to me October 4, 1904, No. 771,644.

The object of the invention is to provide a new and improved printing-couple appliance arranged to permit quick adjusting of the printing-cylinder relative to the inking apparatus and the impression-cylinder to enable the printer to conveniently and easily "make ready" and insure perfect impressions.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement. Fig. 2 is an enlarged transverse section of the same on the line 2 2 of Fig. 1. Fig. 3 is a sectional side elevation of the same on the line 3 3 of Fig. 2, and Fig. 4 is a sectional plan view of the web-guides on the impression-cylinder extending into grooves on the printing-cylinder.

In the multicolor-printing press shown and described in the application for Letters Patent above referred to two impression-cylinders are employed, around which passes a web receiving impressions from printing-cylinders grouped around each impression-cylinder, each of the printing-cylinders being provided with an inking apparatus of special construction and more fully described in a divisional application, Serial No. 233,888, filed November 22, 1904.

In the present drawings but a single printing-cylinder G is shown in contact at one side with an impression-cylinder C and in periph-

eral contact at the other side with the rollers H, H', H<sup>2</sup>, H<sup>3</sup>, and H<sup>4</sup> of the inking apparatus. The printing-cylinder G is geared with the impression-cylinder C for the cylinders to rotate in unison, and the printing plates or type containing the matter to be printed in a desired color upon the web D are clamped or otherwise secured to the peripheral face of the printing-cylinder G, which is normally in contact with the web D and in peripheral contact with the several rollers of the inking apparatus.

Now in order to allow of shifting the printing-cylinder G relative to the inking-rollers of the inking apparatus and the impression-cylinder C the following device is provided: The printing-cylinder G has its shaft G' journaled at each end in a bearing O', formed or secured eccentrically on a disk O, (see Figs. 2 and 3,) mounted to turn on a stud P' within a casing P, bolted or otherwise secured to the side of the frame A of the printing-press. The disk O is normally locked in position in the casing P by a suitable spring-catch Q engaging one of a plurality of recesses O<sup>2</sup>, formed in the peripheral face of the disk O. Now when the spring-catch Q is withdrawn by the operator then the disk O can be swung around in its casing P, so as to carry the shaft G' along to move the printing-cylinder G in or out of contact with the web D and the inking-rollers of the inking apparatus. Thus when the printing-cylinder G is out of contact with the web and the inking-rollers the operator is enabled to quickly adjust the web and then bring the printing-cylinder G back into position, so as to insure a proper impression of the printing-cylinder on the web held on the impression-cylinder. In order to limit the swinging motion of each disk O in its casing P, I provide a fixed segmental stop P<sup>2</sup> within the casing and extending in a recess formed on one-half of the peripheral portion of the disk O, suitable tongues O<sup>4</sup> O<sup>5</sup> being provided on the disk to engage corresponding grooves O<sup>3</sup> in the ends of the stop P<sup>2</sup>. (See Fig. 3.)

It is understood that by the arrangement described any one of the inking devices can



be readily rendered inactive whenever desired by swinging the corresponding printing-cylinder G into an outermost or inactive position relative to the web and the rollers H, H', H<sup>2</sup>, H<sup>3</sup>, and H<sup>4</sup>. In order to prevent the web D from shifting transversely during its travel around the impression-cylinder C, the latter is preferably provided near each side with an annular flange or guide C<sup>2</sup>, (see Fig. 4,) preferably made in sections and bolted or otherwise fastened to the rim of the cylinder C. The web D extends between the flanges, and hence is prevented from moving transversely, thus insuring a proper register of the various color imprints. The flanges C<sup>2</sup> extend into annular grooves in the rims or the plates of the printing-cylinders.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a printing-press, a printing-cylinder having annular grooves in its rim, and an impression-cylinder having annular guides on its periphery adjacent to the ends thereof and entering the grooves of the printing-cylinder, as set forth.

2. A multicolor-printing press having a printing-cylinder, revoluble disks in which the cylinder is eccentrically journaled, fixed casings in which the disks are mounted to turn, and means for locking the disks against movement in the casings, as set forth.

3. A multicolor-printing press provided with a fixed casing having a cylindrical recess,

a disk mounted to turn in the said casing and having an eccentric bearing for a printing-cylinder shaft, the disk having a portion of the peripheral face cut out, and a fixed segment in the casing, extending into the cut-out portion, to limit the turning of the disk within the casing, as set forth.

4. A multicolor-printing press provided with a fixed casing having a cylindrical recess, a disk mounted to turn in the said casing and having an eccentric bearing for a printing-cylinder shaft, the disk having a portion of the peripheral face cut out, a fixed segment in the casing, extending into the cut-out portion, to limit the turning of the disk within the casing, and a spring catch slidable on the casing and adapted to engage and lock the disk in either of its two positions, as set forth.

5. A multiprinting-press, a printing-cylinder, fixed casings, disks mounted to turn on a central axis in the casings, each disk being provided with an eccentric bearing in which the printing-cylinder is mounted, means for locking the disk to the casing, and means for limiting the turning movement of said disks, as set forth.

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

FREDERICK EMIL KEMPF.

Witnesses:

ARAD E. DAY,

EDWARD A. DARLING.