No. 717,138. Patented Dec. 30, 1902.

J. THOMSON.

CHANGER.

(Application filed Jan. 7, 1902. Renewed Sept. 29, 1902.)

(No Model.)

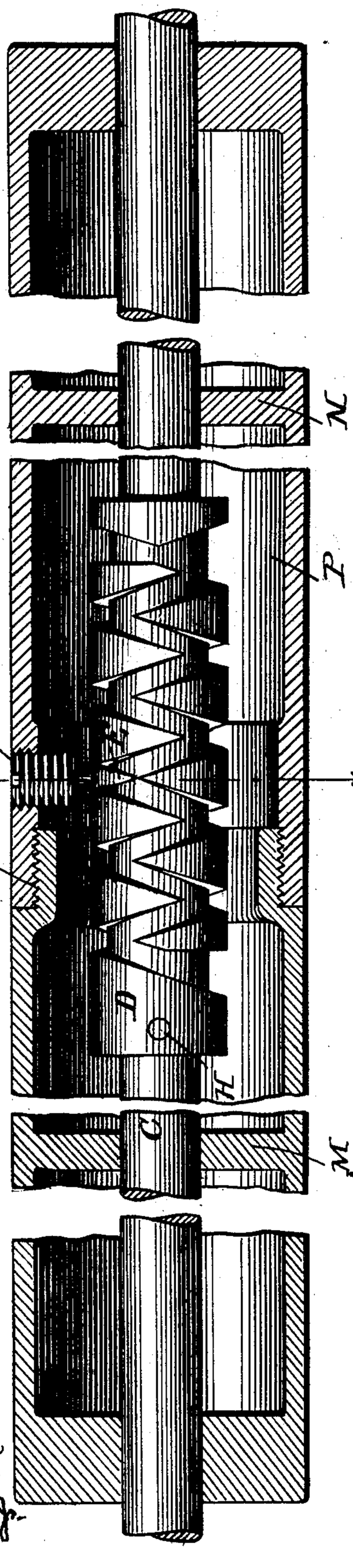

Fig. 1.

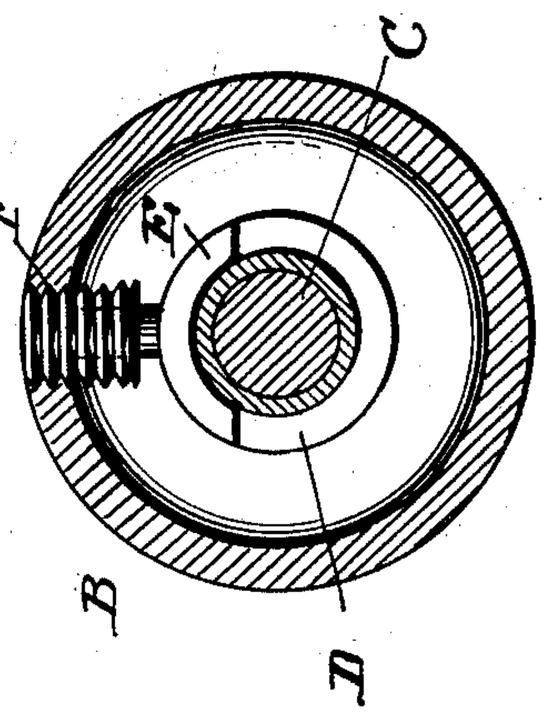

Fig. 2.

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UNITED STATES PATENT OFFICE.

JOHN THOMSON, OF BROOKLYN, NEW YORK, ASSIGNOR TO JOHN THOMSON PRESS COMPANY, OF JERSEY CITY, NEW JERSEY, AND NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

CHANGER.

SPECIFICATION forming part of Letters Patent No. 717,138, dated December 30, 1902.

Application filed January 7, 1902. Renewed September 29, 1902. Serial No. 125,336. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMSON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Changers, of which the following is a specification.

My invention relates to ink-distributing devices for printing-presses, and more particularly to the self-contained type of distributing-roller known as the "duplex-screw distributer or changer;" and it has for its object to secure more ample lubrication, greater durability, and facilitate manufacture, and this I effect by an improved construction which is less expensive than heretofore.

It is well known by those skilled in the art that in the prior construction of the duplex or cross screw changer there is excessive wear of the parts, producing imperfect action, breakage, and increased cost of maintenance. By means of my improved construction I overcome these objections, as described hereinafter and as shown in the accompanying drawings, in which—.

Figure 1 is a longitudinal center section of the changer complete; and Fig. 2 is an end view on the line A, Fig. 1.

In said drawings, B represents the changer-sleeve; C, the changer-shaft; D, the duplex or cross thread screw, in which operates the pivoted crescent or switch E, whose spindle vibrates in the "hollow screw" F.

The general operation of the crescent in the duplex thread, vibrating at each end of the thread and causing it to traverse back and forth, thereby hauling the sleeve as it is revolved and producing the so-called "changer action," is too well known to here require description.

In previous practice and also as shown in my improved construction, as in my application for Letters Patent, Serial No. 66,715, filed July 1, 1901, the duplex thread has been formed directly in the changer-shaft, and its disposal has been such that as the changer-sleeve travels back and forth the threads are alternately covered by the sleeve-bearings and exposed. Bearing in mind that the changer is operated by frictional contact on the distributing-rollers covered with ink, the consequence is that the bearing-surfaces can only be very sparingly lubricated. Moreover, when the threads become worn and inoperative the entire shaft must be discarded, and the said construction results in a rapid wear of the parts.

Now by forming the cross-thread in a part separate from the shaft, as a threaded sleeve on the shaft, with the threads cut in the outer surface thereof and then fixedly applying this sleeve to the changer-shaft, as by the pin H, not only may a new part be readily substituted without impairing the shaft in any way, but any material different from that in the shaft and best adapted for the duty required of the actuating part may be advantageously employed at a minimum cost.

One mode of construction is shown in which the changer-sleeve is formed of two sections, preferably of about equal length and suitably joined together, as by means of the screw connection J. This permits the sections of the changer-sleeve to be detached for ready access to the parts. Suitably disposed within one of the abutting ends of the sleeve are mounted the hollow screw F and crescent E to engage the duplex thread of the threaded part D. Preferably the changer-sleeve is provided with two interior diaphragms M N, which may also serve as additional bearings for the shaft. These diaphragms, with the sleeve B, inclose a space or chamber P, which serves as an oil-receptacle, which may be wholly or partially filled with oil, so that upon each and every revolution of the changer-sleeve the threads of the screw and all the bearing-surfaces of all the parts will be completely flooded with oil. Thus not only is the lubrication of the most perfect character, but there is no danger of escape of oil to deteriorate the ink of the distributing-rollers. It is found that the increased durability due to this system of lubrication is at least six times that of previous designs.

Without limiting myself to the precise construction shown, I claim—

1. The combination of a changer-shaft, changer-sleeve mounted thereon and carrying a crescent, and an operating-screw, the

sleeve having an oil-receptacle, substantially as set forth.

2. The combination of a changer-shaft, changer-sleeve mounted thereon and carrying a crescent, and an operating-screw, the sleeve having partitions on opposite sides of the screw forming an oil-receptacle, substantially as set forth.

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

JOHN THOMSON.

Witnesses:
JOHN MCKINNON,
HELEN M. BLANCHFIELD.