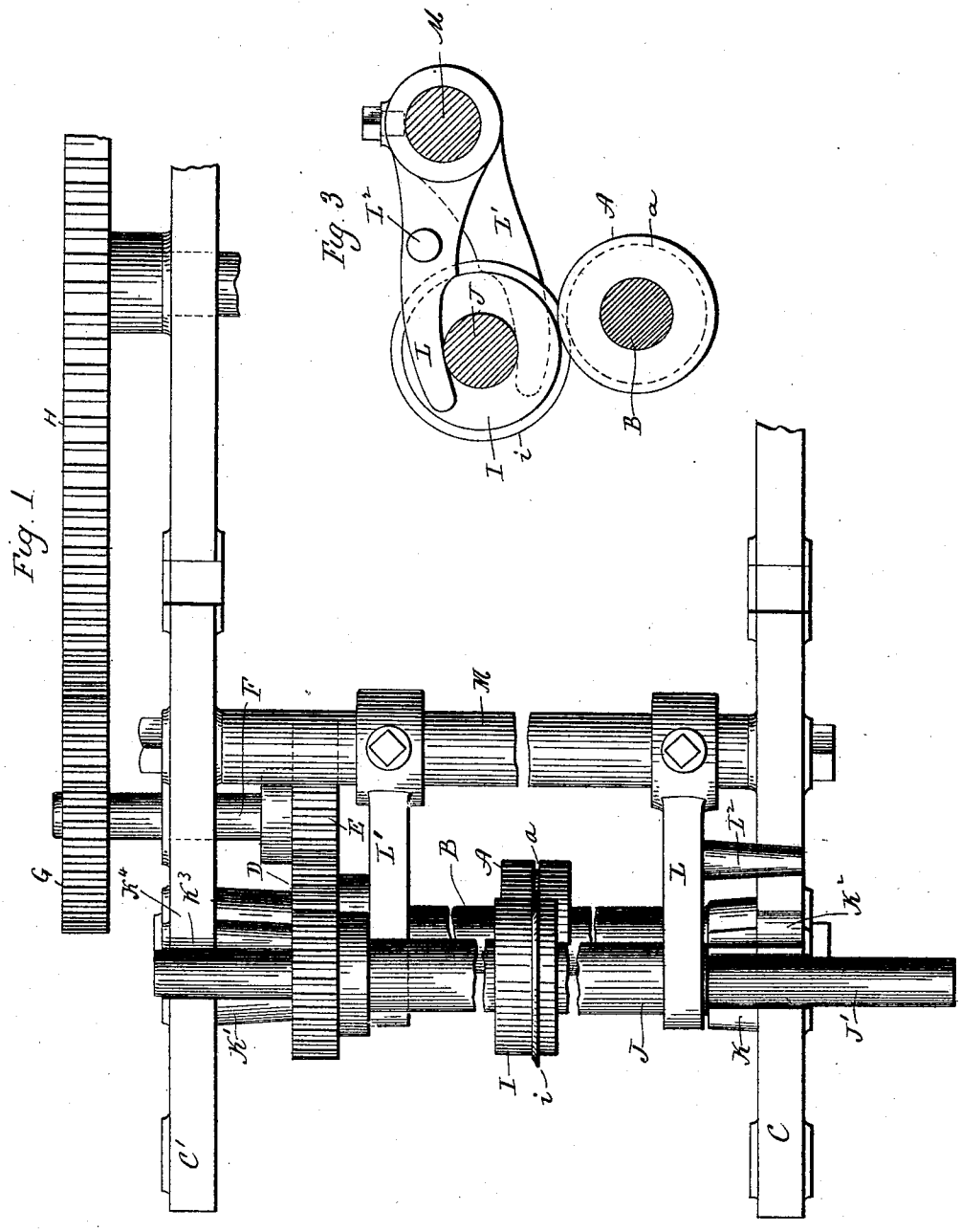
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W. S. HUSON.

ROTARY PAPER CUTTER FOR PRINTING PRESSES.

(Application filed July 1, 1899.)

(No Model.) 2 Sheets—Sheet 1.



Witnesses.
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Lillian D. Kelsey

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

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Fig. 2

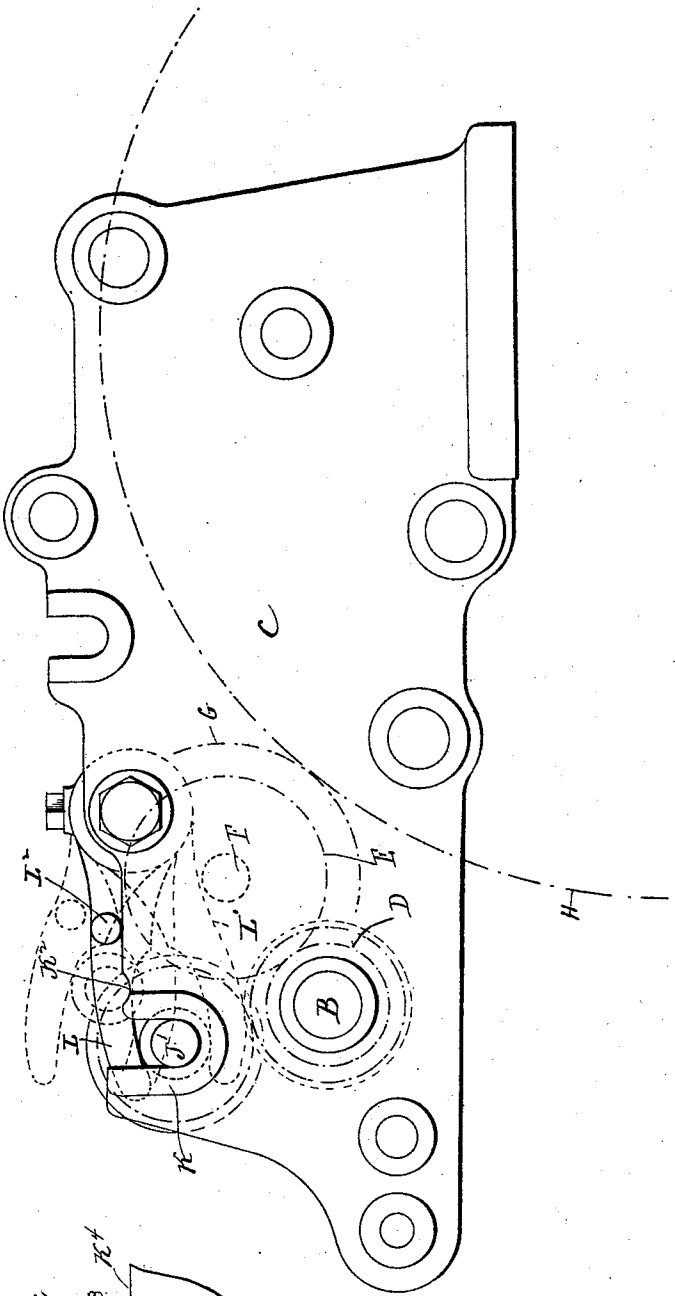
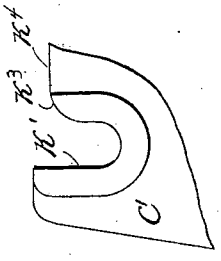


Fig. 4



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UNITED STATES PATENT OFFICE.

WINFIELD S. HUSON, OF DERBY, CONNECTICUT, ASSIGNOR TO THE WHITLOCK MACHINE COMPANY, OF SAME PLACE.

ROTARY PAPER-CUTTER FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 636,997, dated November 14, 1899.

Application filed July 1, 1899. Serial No. 722,485. (No model.)

To all whom it may concern:

Be it known that I, WINFIELD S. HUSON, of Derby, in the county of New Haven and State of Connecticut, have invented a new Improvement in Rotary Paper-Cutters for Cylinder Printing-Presses; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a plan view showing the application of my invention to a front-delivery cylinder printing-press; Fig. 2, a view in side elevation of the outer side of the press; Fig. 3, a detached sectional view showing the upper and lower arms and the rock-shaft to which the said arms are secured; Fig. 4, a detached view of the fixed open bearing of the inner end of the shaft of the upper cutter.

My invention relates to an improvement in rotary paper-cutters for cylinder printing-presses, the object being to produce a simple, compact, and convenient device constructed with particular reference to the temporary retirement or bodily removal of the upper cutter.

With these ends in view my invention consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

As herein shown, my invention is applied to a cylinder printing-press of the class in which the sheet is delivered from on top and in front of the impression-cylinder; but I would have it understood that it is not limited to presses of that particular construction, but may be used wherever available in other presses—as, for instance, those presses known as "back-delivery" presses.

In carrying out my invention I mount the lower cutter A, which is formed in the usual manner with a groove *a*, upon a horizontally-arranged shaft B, the ends of which are permanently journaled in the side pieces C and C′ of the press-frame. This shaft is provided at one end with a pinion D, meshing into an intermediate pinion E, mounted upon the inner end of a short shaft F, journaled in the side piece C′ of the frame and provided at its outer end with a larger driving-pinion G, meshing into the cylinder-gear H, by which the cutters are driven. The upper cutter I, which is provided in the usual manner with a cutting edge *i*, entering the cutting-groove *a* of the lower cutter A, is mounted upon a shaft J, the ends of which are located in fixed open bearings K and K′, respectively formed in the side pieces C and C′. These open bearings permit the shaft J to be lifted upward out of them for the bodily removal of the upper cutter I and the said shaft from the press or lifted out of the said bearings and moved into a retired position without being removed from the press.

For the described retirement of the upper cutter and its shaft the bearing K is formed with a vertical front wall and with a lower rear wall having a shallow seat K^2 formed close to it in the side piece C, as shown in Fig. 2, while the bearing K′ is formed with a vertical front wall and a lower rear wall, which is beveled at K^3, as shown in Fig. 4. The outer end of the shaft J is extended to form a handle J′, as shown in Fig. 1.

For the retirement of the upper cutter and its shaft I employ two arms L and L′, located near its opposite ends and both rigidly secured at their rear ends to a rock-shaft M, mounted at its ends in the side pieces C and C′ of the frame. The arm L, which is the outer arm, extends over the shaft J, as seen in Fig. 3, while the arm L′, which is located at the inner end of the shaft M, extends under the shaft J, as also shown in the same figure. A heavy pin or stud L^2, mounted in the arm L, is arranged to engage with the upper edge of the side piece C, so as to limit the downward movement of the arm L, and hence the downward movement of the arm L′ and the rocking movement of the shaft M.

When it is desired to remove the upper cutter from the machine, the shaft J is grasped and lifted bodily out of its open bearings K and K′ and drawn away from the arms L and L′, which are then returned by gravity to their normal positions, in which they are held by the engagement of the pin L^2. When, however, it is desired not to remove the upper cutter and its shaft bodily from the machine, but simply to throw the said cutter out of ac-

tion and temporarily retire it, the handle end J′ of the shaft J is seized and lifted vertically against the arm L, which, being rigidly mounted upon the rock-shaft M, turns the said shaft and simultaneously lifts the arm L′ against the under face of the opposite end of the shaft J, whereby both ends of the shaft are simultaneously lifted out of their bearings. The handle end J′ of the shaft is then pushed rearward, so as to cause the outer end of the shaft to drop into the shallow seat K^2, at which time the opposite end of the shaft will ride up over the bevel K^3 of the bearing K′ and rest upon the upper edge of the side piece C′ at the point K^4. (Shown in Fig. 4.) The shaft will rest in this position of retirement until it is desired to again bring the cutters into operation, when the handle end J′ of the shaft J is lifted and the shaft worked out of its shallow seat K′, after which the ends of the shaft will gravitate back into the open bearings K and K′. I am thus enabled very conveniently to remove the upper cutter bodily from the press either for sharpening it or for getting it out of the way altogether or to temporarily retire it—as, for instance, when the press has become fouled by a sheet of paper.

I wish particularly to call attention to the fact that although the bearings of the upper shaft are open and permit the bodily removal or retirement of the shaft they are fixed bearings and prevent the shaft from getting out of alinement when in its operating position, being in this respect superior to pivotal or otherwise movable bearings for the upper shaft.

I would have it understood that I do not limit myself to the exact details of construction herein shown and described, but hold myself at liberty to make such changes as fairly fall within the spirit and scope of my invention.

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

1. In a rotary cutter for cylinder printing-presses, the combination with a lower cutter, of an upper cutter, a shaft upon which the same is mounted, fixed open bearings for the upper shaft, whereby the same may be lifted out of the said bearings, and means coacting with the upper shaft for lifting it into a retired position in the press when it is desired not to remove it bodily therefrom, the said means comprising a rock-shaft and two arms rigidly secured to the respective ends thereof, one arm extending under one end of the upper-cutter shaft and the other arm extending over the other end of the said upper-cutter shaft.

2. In a rotary cutter for cylinder printing-presses, the combination with the lower cutter, of an upper cutter, a shaft therefor, fixed open bearings for the ends of the said shaft one end of which is extended to form a handle, a rock-shaft, and two arms rigidly secured to the said rock-shaft at the ends thereof, one arm extending under one end of the upper-cutter shaft, and the other arm extending over the other end of the upper-cutter shaft.

3. In a rotary cutter for cylinder printing-presses, the combination with the lower cutter, of an upper cutter, a shaft therefor having its outer end extended to form a handle, fixed open bearings for the shaft, a rock-shaft, an arm rigidly secured to the said rock-shaft and extending over the handle end of upper-cutter shaft, and a corresponding arm secured to the inner end of the rock-shaft, and extending under the inner end of the upper-cutter shaft.

4. In a rotary cutter for cylinder printing-presses, the combination with the lower cutter, of an upper cutter, a shaft therefor, fixed open bearings for the upper shaft, a seat formed adjacent to the bearing which receives the outer end of the said shaft for the reception of the said shaft when it is lifted into its retired position in the press, and means coacting with the said upper-cutter shaft for lifting it into its said retired position, and comprising a rock-shaft and two arms located at the opposite ends thereof, and respectively extending under and over the opposite ends of the upper-cutter shaft.

5. In a rotary cutter for cylinder printing-presses, the combination with the lower cutter, of an upper cutter, a shaft therefor, fixed open bearings for the ends of the said shaft the outer bearing having a seat formed closely adjacent to its rear wall, and the rear wall of the inner bearing being beveled, and means coacting with the said upper-cutter shaft for lifting it into its said retired position, and comprising a rock-shaft and two arms located at the opposite ends thereof, and respectively extending under and over the opposite ends of the upper-cutter shaft.

6. In a rotary cutter for cylinder printing-presses, the combination with a lower cutter, a shaft therefor, gearing between the said shaft and the cylinder-gear, an upper cutter, a shaft therefor, a pinion mounted upon the said shaft, and meshing into a pinion mounted upon the lower shaft from which it is driven, fixed open bearings for the ends of the shaft of the upper cutter, whereby the said shaft may be bodily removed from the press, and means coacting with the said upper-cutter shaft for lifting it into its said retired position, and comprising a rock-shaft and two arms located at the opposite ends thereof, and respectively extending under and over the opposite ends of the upper-cutter shaft.

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

WINFIELD S. HUSON.

Witnesses:
JULIUS G. DAY,
WALTER RANDALL.