

J. A. CORNISH.
Straw-Cutters.

No. 152,342.

Patented June 23, 1874.

Fig. 1.

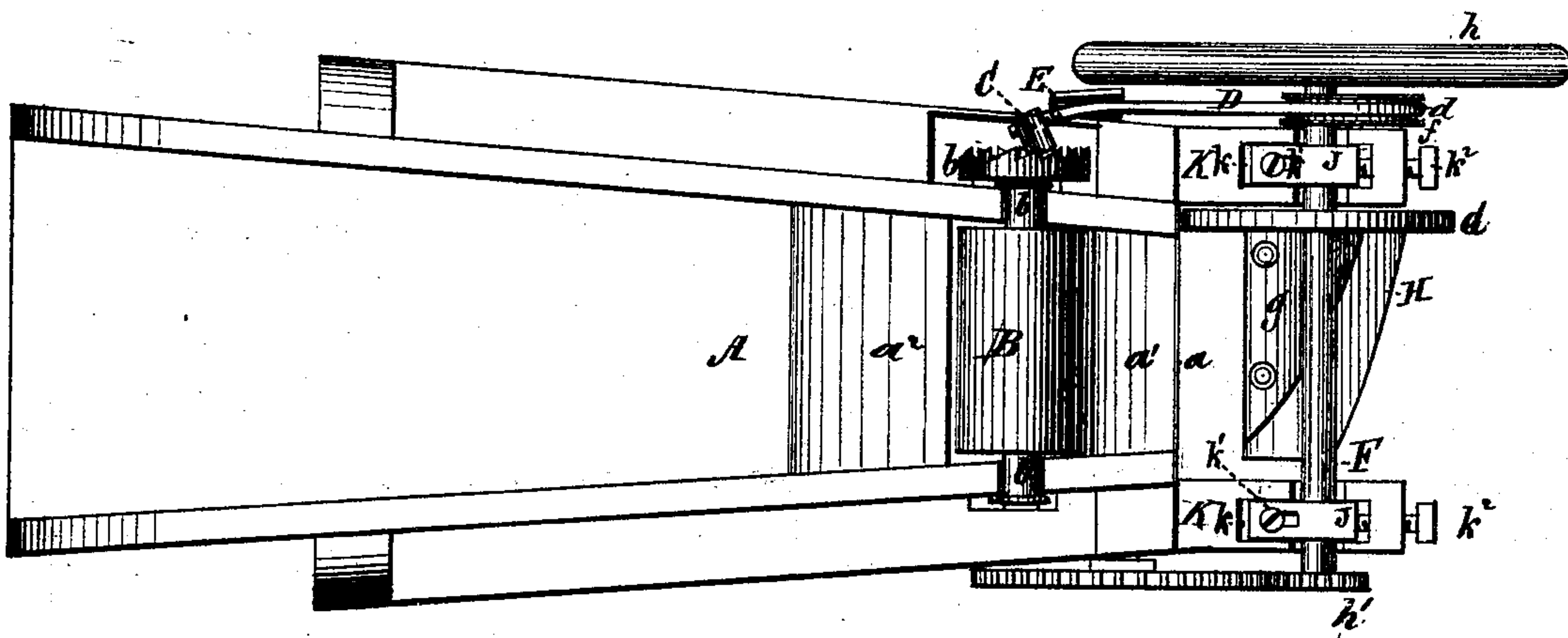
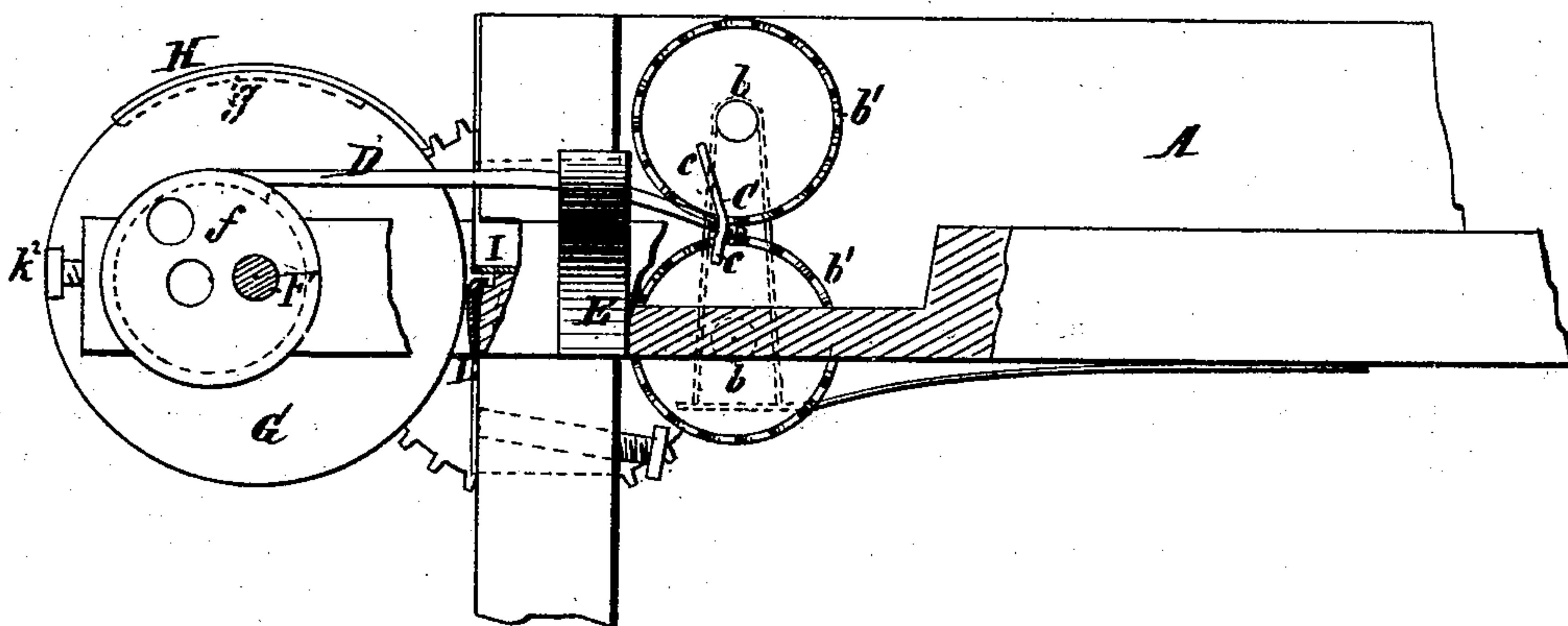


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN A. CORNISH, OF MARSHFIELD, MISSOURI.

IMPROVEMENT IN STRAW-CUTTERS.

Specification forming part of Letters Patent No. **152,342**, dated June 23, 1874; application filed May 28, 1874.

To all whom it may concern:

Be it known that I, JOHN A. CORNISH, of Marshfield, in the county of Webster and State of Missouri, have invented a new and Improved Hay and Straw Cutter; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a plan view, and Fig. 2 an elevation in longitudinal section.

The invention relates to hay and straw cutters; and consists in certain features of improvement, that will first be fully described, and then pointed out in the claims.

A represents the cutting-box, provided with a front cross-plate, *a*, and also with two guide-plates, *a*¹ *a*², between which are located the feed-rolls B B. Each of the latter has an end disk, *b*, with a circumferential ratchet-flange, *b*¹, the two wheels being arranged in the same vertical plane, so that a plate, C, fitted or screwed on the end of a reciprocating yoke-rod, D, may work one ratchet-wheel with each end *c*. The yoke *d* of rod surrounds a grooved cam, *f*, on shaft F. E is an inclined vertical guide, against which works the yoke-rod D, the latter being lifted on the rise of the greatest convexity of cam *f*, and thus allowed, by the outward and upward incline of guide, to move out easily from the ratchet-teeth, while on the downward movement of this cam convexity the guide presses the rod D and plate C inwardly. By this means the plate C is freed from the ratchets, and made to catch both the ratchets at exactly the right time. The degree of convexity or eccentricity of cam *f* may be changed by means of a series of shaft-holes at different distances from the center. The cutter-shaft F is cast in one piece with a disk, G, having the flange *g*. On this flange the diagonally edged and curved cutter H is fastened, and with it rotates. By this construction a more stable and solid cutter-stock is secured, which, as the knife requires a very accurate adjustment, and is liable in other machines to be wrenched out of its

proper relative position to the bed-knife I, is quite important. The shaft F, provided with its balance-wheel *h* and pinion *h*¹, is journaled in movable bearings J J, to admit of a quick and ready adjustment of the rotary cutter to or from the bed-knife. These bearings are preferably bifurcated pieces of metal, whose slotted prongs embrace and slide on a tenon, *k*, as well as on screws *k*¹ *k*¹ in the recessed ends of bars K K. In the latter are also front and rear guide-grooves, in which the bearings are held at any point of adjustment by the rear set-screws *k*² *k*². The rotary cutter H, in operating against the bed-knife, becomes beveled or dubbed off on its front edge, and requires, therefore, attention and labor to remove and grind. To avoid this I arrange a spring-plate, L, just below the bed-knife I and roughen it with emery, or form a grinding-surface thereon in any other way, so that as the rotary cutter passes downward the wear from the bed-knife is automatically taken up as fast as it occurs.

I have found by practical experiment that these several improvements contribute materially to the facility with which the machine may be worked, to the uniformity with which the hay or straw may be cut, and to an increased durability of the machine.

Having thus described my invention, what I claim as new is—

1. The described combination, with the feed-roll-shaft ratchet-disks *b b*, of the plate C, fastened between its ends to reciprocating-rod D, to operate simultaneously both disks.

2. The inclined guide E, combined with plate C, yoke-rod D, and rotary eccentric F, substantially as set forth, to guide the plate in and out of the ratchet-teeth.

3. The cutter H, applied to the supporting-flange *g* of a rotary disk, G, and adjustable thereon, as and for the purpose specified.

4. The grinding spring-plate L, arranged in a straw or hay cutter just below the bed-knife I, as and for the purpose set forth.

Witnesses: J. A. CORNISH.

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