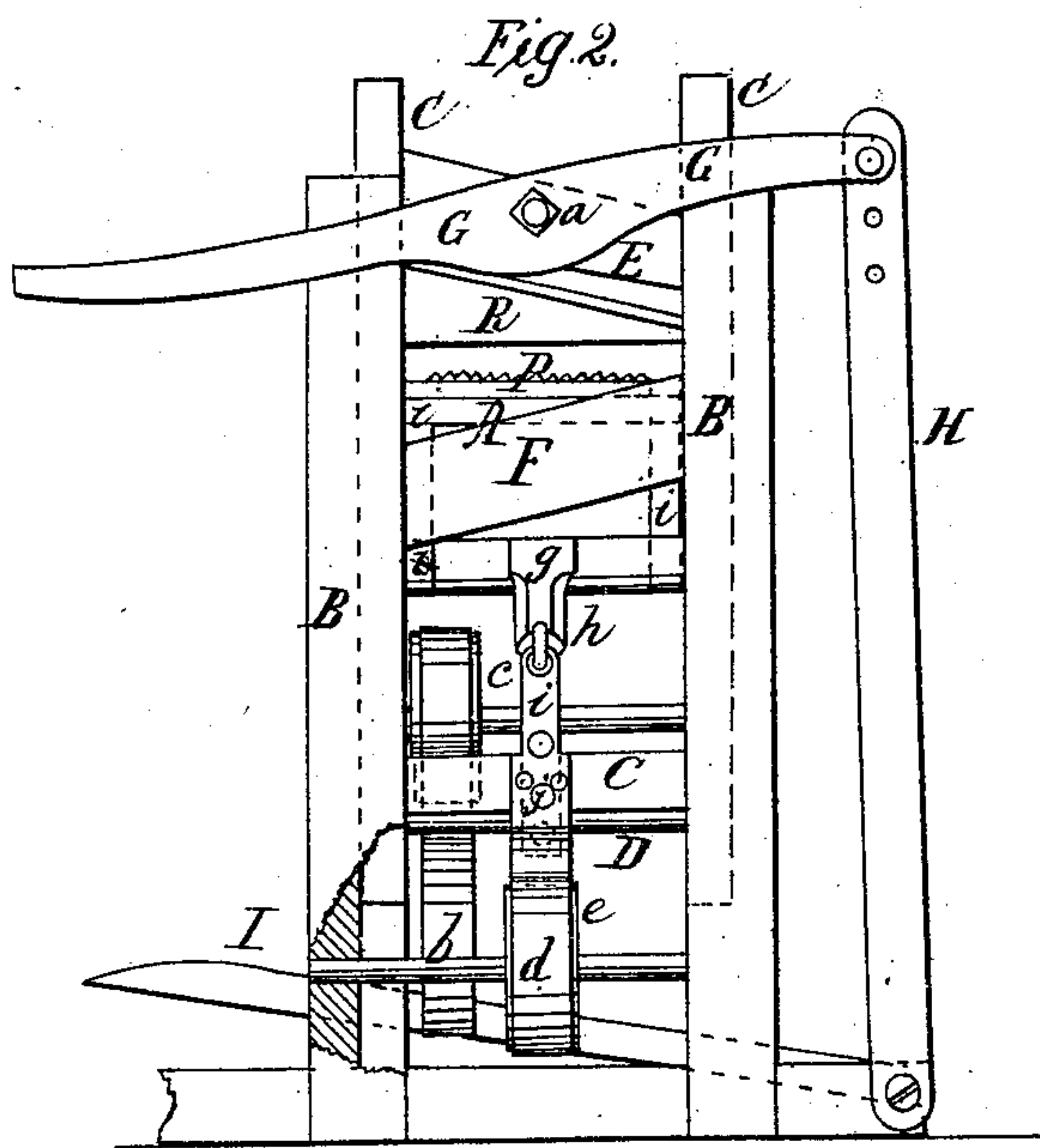
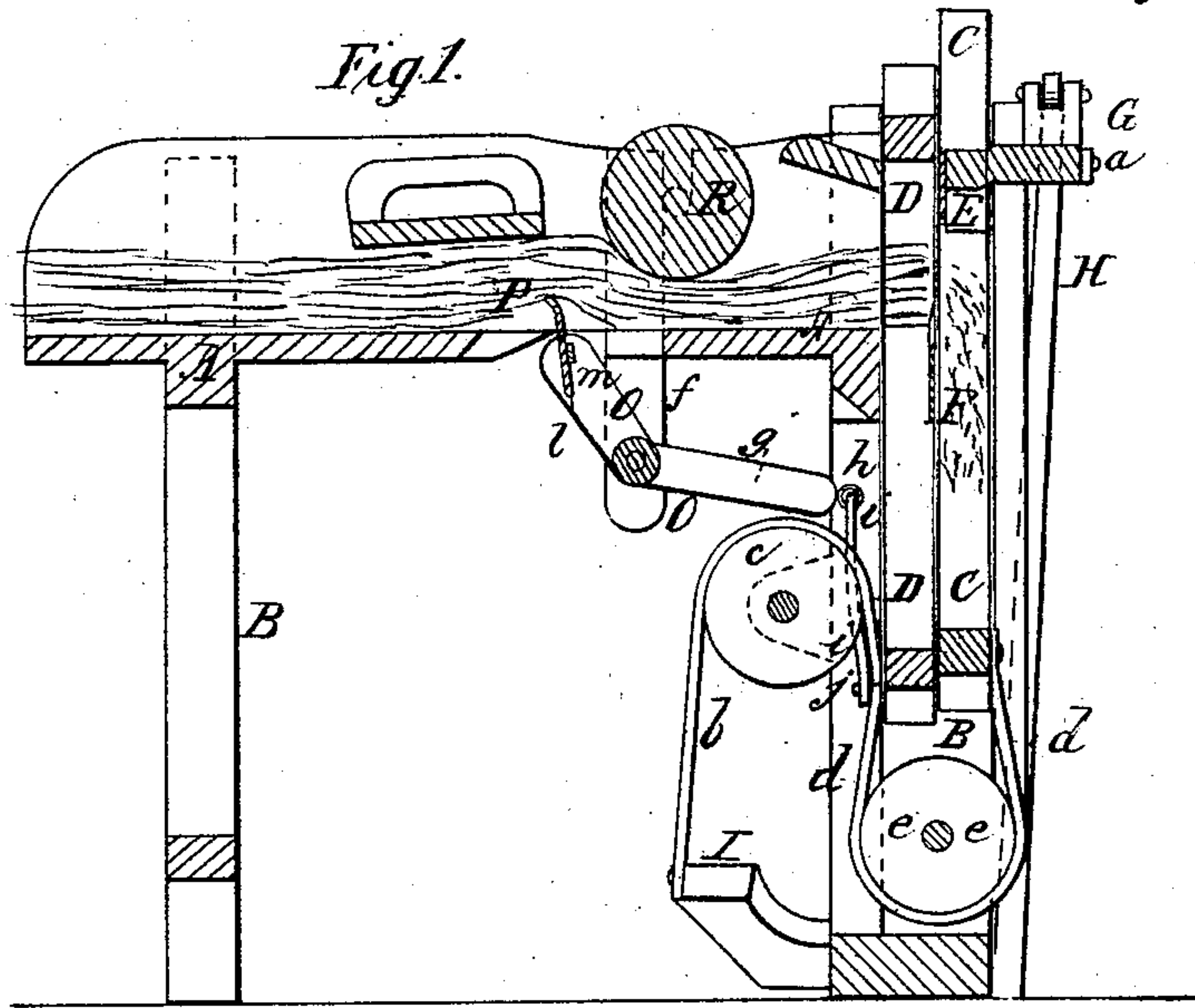


J. Amburn,
Straw Cutter.
No. 102,470. Patented May 3. 1870.



Witnesses,
Alex. F. Roberts
Wm. Dean Overell

Inventor,
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JULIUS AMBRUN, OF LEAVENWORTH, KANSAS.

Letters Patent No. 102,470, dated May 3, 1870; antedated April 28, 1870.

IMPROVEMENT IN STRAW-CUTTERS.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, JULIUS AMBRUN, of Leavenworth, in the county of Leavenworth and State of Kansas, have invented a new and improved Straw-Cutter; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

Figure 1 represents a vertical longitudinal section of my improved straw-cutter.

Figure 2 is a front elevation, partly in section of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to certain improvements on the straw-cutter for which Letters Patent of the United States, numbered 83,682, were granted to me on the 3d day of November, 1868.

The present invention has for its object to simplify the connection between the two reciprocating frames which hold the cutter, and to provide an effective automatic-feed apparatus, which will not operate while the straw is being cut, but only when the cutters are moved apart.

The invention consists first in the use of a strap, chain, or rope passing over a friction roller and connecting the two frames, so that the same will move in opposite directions.

The invention consists also in the use of a pivoted feed-rake, and its adjustable connections with the inner reciprocating frame.

A, in the drawing, represents the straw-box supported on posts B B, the front posts being grooved for the reception of the vertically-reciprocating frames C D, which hold the cutters E F, respectively.

G is the lever, having its fulcrum on a pivoted bar, H, and connected by a pivot, a, with the front frame C.

I is the treadle connected by a belt, b, which passes over a roller, c, with the rear or inner frame D. Thus far the apparatus is substantially as described in the aforesaid Letters Patent.

The two frames C D are connected with each other by a belt or chain, d, which passes around a pulley, e, whose axle has its bearings in the front posts B, as shown. By this belt d the racks and pinion described in the aforesaid Letters Patent are dispensed with, and a much more simple substitute therefor is applied.

When the lever G is swung up it will elevate the

frame C and draw down the frame D. The cutters are thereby moved apart.

When the straw is to be cut, the lever, as well as the treadle or the treadle alone, are swung down, causing both frames to move in opposite directions, and the cutters to pass each other.

O is an elbow crank pivoted to pendants f or other bars or parts of the frame under the box A.

The horizontal arm g of this crank is, by an eye-bolt, h, or its equivalent, connected with a bar, i, which is fastened to the lower part of the frame D by a pin, j.

Whenever the frame D is moved, the crank O is oscillated.

The other part of the crank consists of two arms, l l, between which a plate, P, is pivoted. The said plate has its upper edge, which projects through an aperture into the straw-box, toothed or serrated. Its lower part is heavier than the upper, and it therefore has a tendency to swing into a vertical position, as in fig. 1.

Its front face at the ends fits against shoulders m on the arms l. When the frame D is moved down, it causes the crank O to swing, so as to carry the plate P forward, the lower part of the same resting against the shoulders m; the plate is, during this motion, held straight, so that it will feed the straw in the box forward. When, however, the frame D is moved up during the cutting stroke, the crank O is swung back to carry the plate P backwards.

During this motion the said plate has no lower support, and swings therefore on its pivot, so as to clear the straw, which is consequently not disturbed by such motion.

R is a roller hung in the sides of the box A to hold the straw in place. The bar i can be lengthened or shortened as to its working capacity, to adjust the stroke of the feed-plate.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

1. The frames C D of a straw-cutter, when combined with the straps or belt d and roller e, to operate substantially as herein shown and described.

2. The pivoted feed-plate P, in combination with the elbow crank O, bar i, and reciprocating frame D, all arranged to operate substantially as herein shown and described.

Witnesses:

JULIUS AMBRUN.

HENRY HAVEKARST,

GEORG WALTER.