

(No Model.)

M. BOICE.  
HARVESTER.

No. 598,848.

Patented Feb. 8, 1898.

Fig. 1.

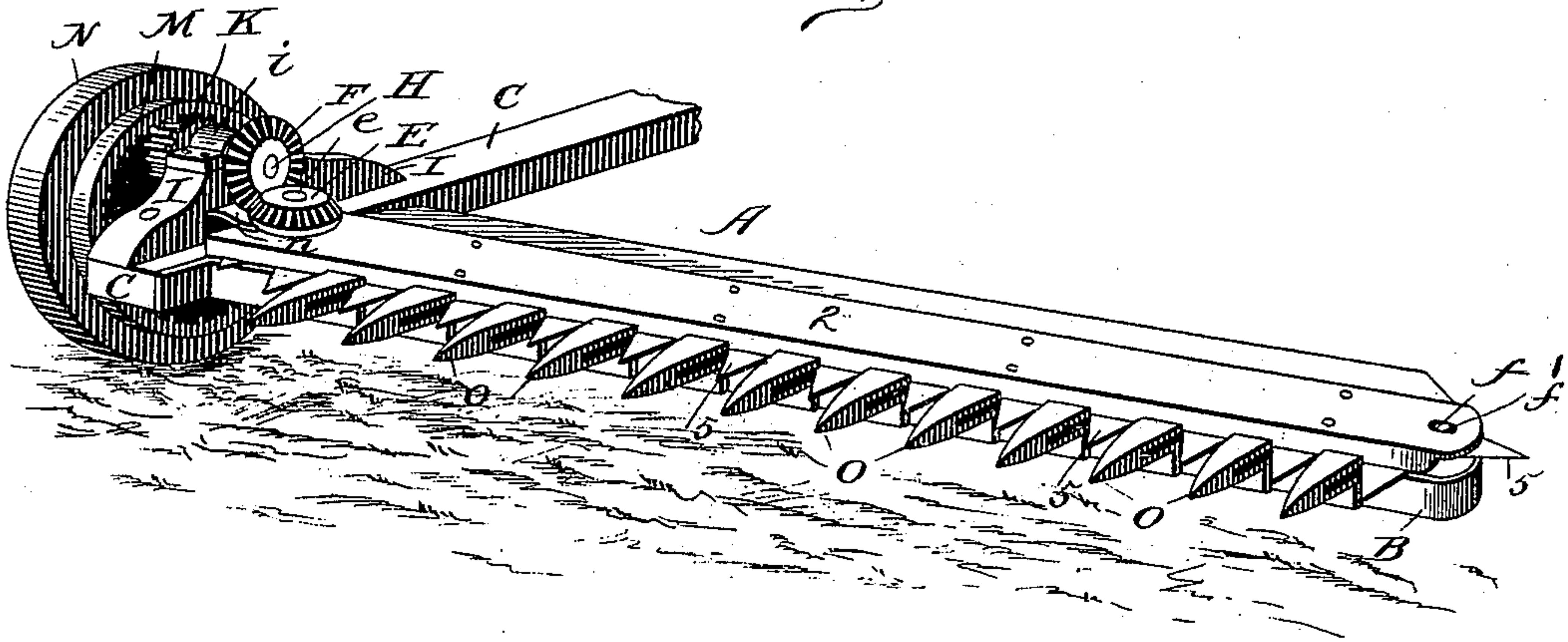


Fig. 2.

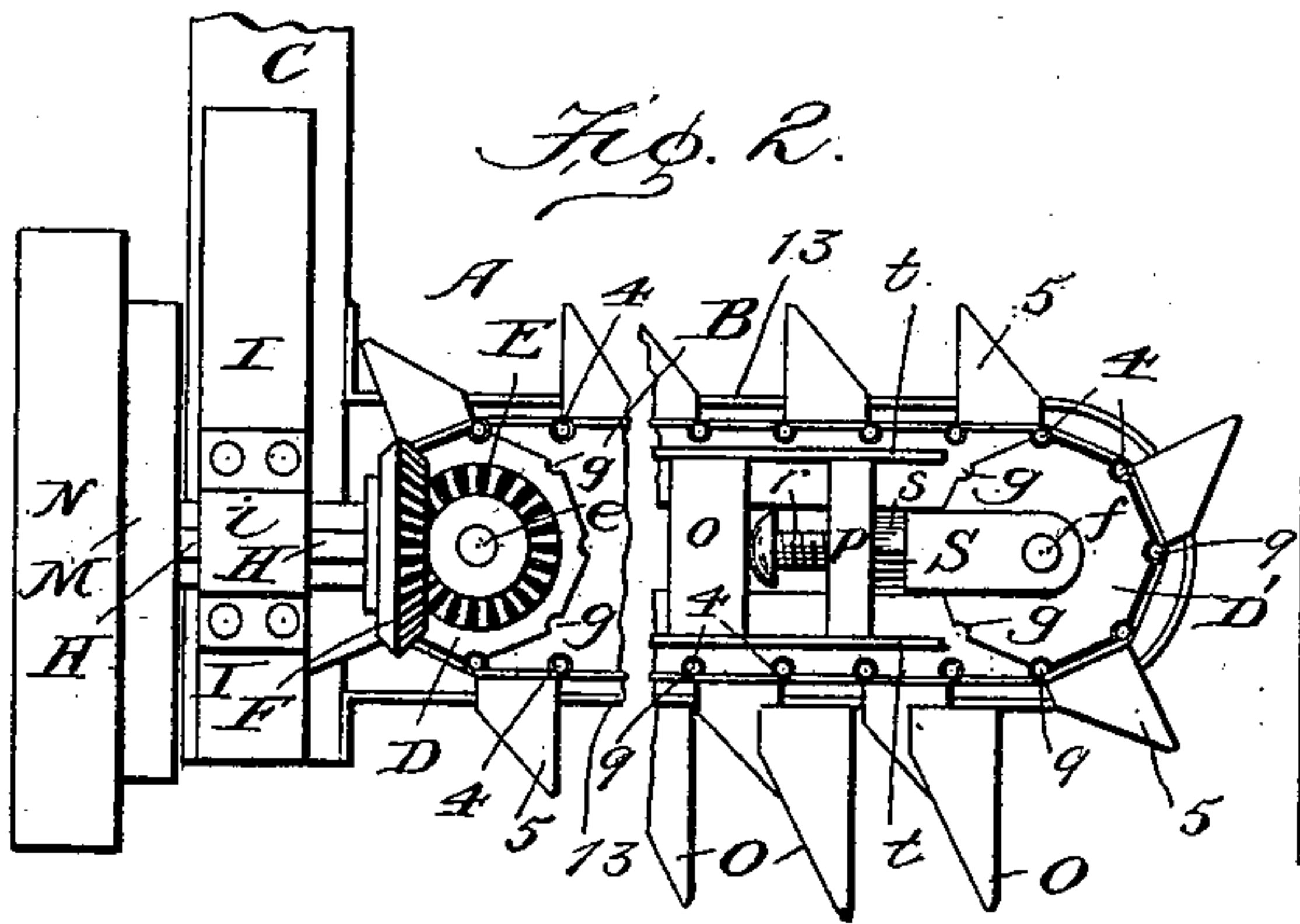


Fig. 3.

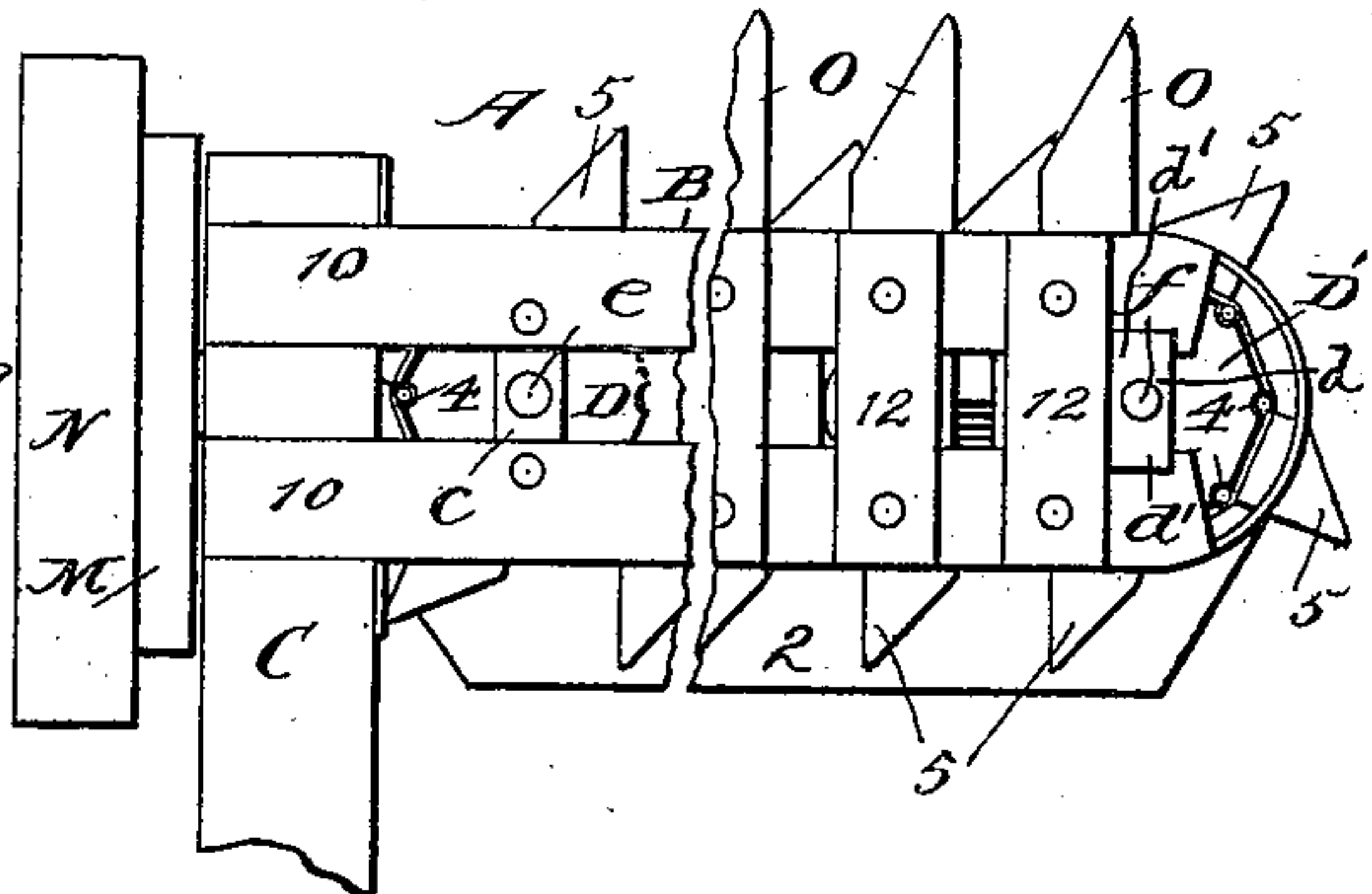


Fig. 4.

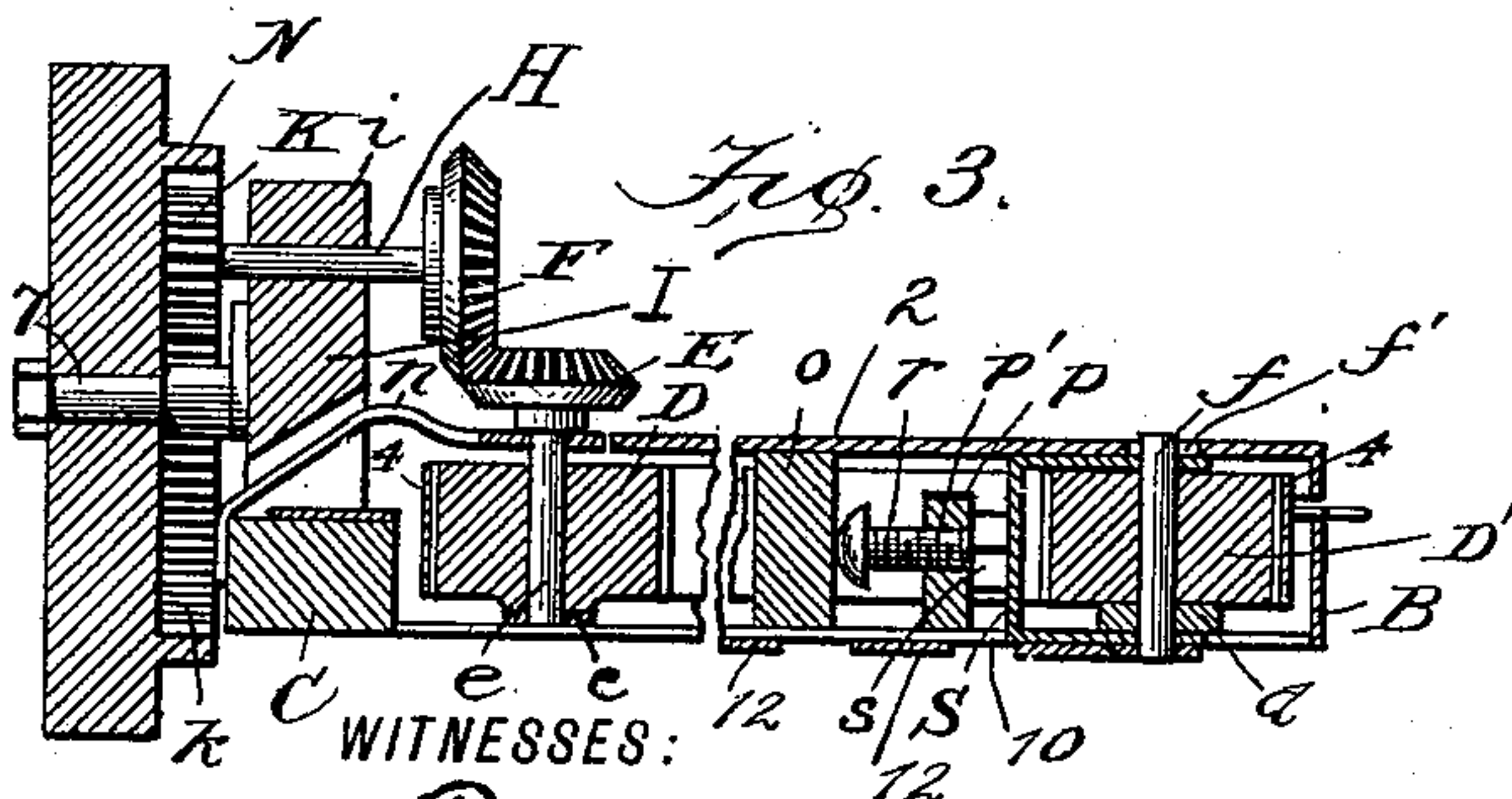
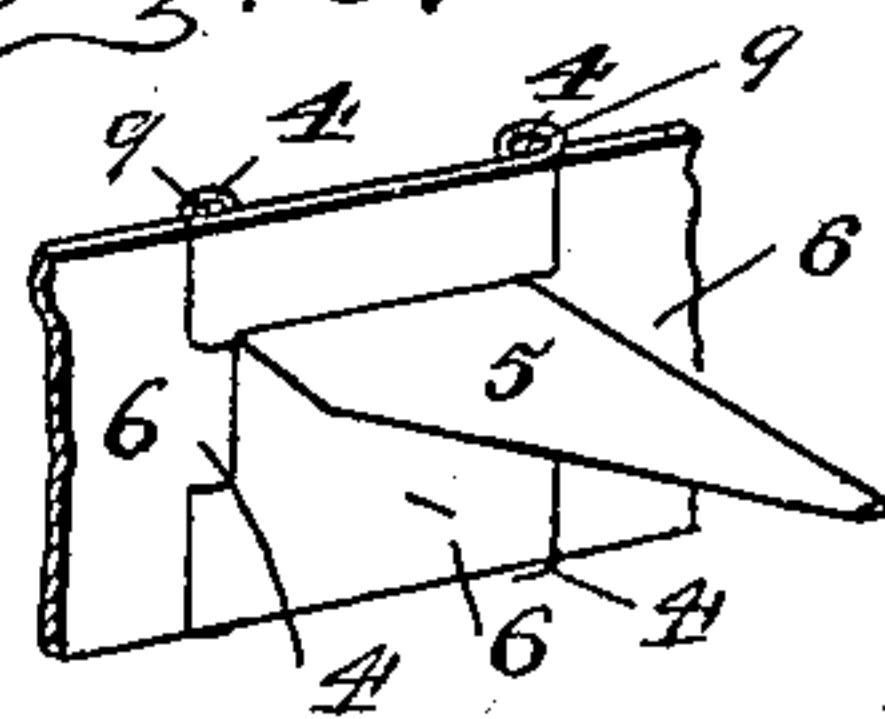


Fig. 5.



WITNESSES:

J. C. Finney.  
Bessie Logan.

INVENTOR

Martin Boice.

BY

C. A. O. Lacey  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

MARTIN BOICE, OF MITCHELL, SOUTH DAKOTA.

## HARVESTER.

SPECIFICATION forming part of Letters Patent No. 598,848, dated February 8, 1898.

Application filed November 19, 1896. Serial No. 612,743. (No model.)

*To all whom it may concern:*

Be it known that I, MARTIN BOICE, a citizen of the United States, and a resident of Mitchell, in the county of Davison and State of South Dakota, have invented certain new and useful Improvements in Harvesters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

My invention has relation to sickle-bars for harvesters, and more particularly to that class of harvesters provided with endless cutters which revolve horizontally around supporting-pulleys; and the object is to provide a simple and effective device of this kind.

To this end the novelty consists in the construction, combination, and arrangement of the same, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings the same reference characters indicate the same parts of the invention.

Figure 1 is a perspective view of my improved sickle-bar. Fig. 2 is a top plan view with the supporting case or frame removed. Fig. 3 is a longitudinal section. Fig. 4 is a bottom plan view, and Fig. 5 a detail perspective view of a section of the endless sickle-bar.

A represents the longitudinal sickle-bar frame, fixed to and supported by the brace C, carried by the machine. (Not shown.)

N represents the usual ground-wheel, mounted on a fixed shaft 7, secured to the pillow-block I. This wheel N is provided with an integral internal gear-wheel M, the teeth *k* of which mesh with a pinion K, fixed on one end of a horizontal shaft H, journaled in a bearing *i* in the pillow-block I. The opposite end of the shaft H carries a beveled gear-wheel F, which meshes with a similar gear-wheel E, fixed on the upper end of a vertical shaft *e*, journaled in the sickle-bar frame A.

D represents a horizontal drive-sprocket fixed on the vertical shaft *e*, which carries the endless-band cutters 5 5, and this end-

less band is composed of a series of plane plates 6 6, formed with parallel cylindrical interlocking sleeves 4 4, pivoted together by a pin 9. The lower end of the vertical shaft *e* is journaled in a cross-brace *c*, and its upper end below the hub of the bevel gear-wheel E is journaled in the outer horizontal arm of a spring-bracket *n*, secured to the main brace C. This spring-bearing for the upper end of the shaft *e* keeps the gear E in mesh with the gear F.

D' represents a horizontal pulley mounted on a vertical shaft *f* in the outer end of the parallel arms of the bracket S, longitudinally adjustable in the outer end of the frame A by means of the screw *r*, engaging the threaded orifice *p'* in the transverse brace *p*, rigidly secured between the horizontal parallel guide-flanges *t t*, secured in the frame A, and *s* represents a lock-nut on the screw *r*, which retains the screw in its adjusted position. It will thus be seen that the endless cutter-band, which comprises the plates 6 6, is mounted on the pulleys D D' and has a continuous motion imparted to it in one direction by the ground-wheel, as above explained.

The upper end of the vertical shaft *f* has a bearing in the horizontal slot *f'* in the outer end of the top plate 2 of the frame A, and the lower end of said shaft is journaled on a transverse bearing-block *d*, having horizontal lateral projections *d' d'* at its ends, which project over upon the contiguous edges of the parallel horizontal plates 10 10, forming the open bottom of the frame A, and these longitudinal plates 10 10 are braced at suitable intervals by the transverse plates 12 12.

The pulleys D D' are polygonal-faced, and at the apex of the angle formed by the contiguous faces is a vertical groove *g*, which receives the hinged sleeves 4 4 of the endless cutter-band to drive it, the blades 5 5 traveling between the usual guard-fingers O O, while the hinged plates 6 6, comprising the cutter-band, travel between the vertical parallel walls 13 13 of the frame A and the parallel guide-flanges *t t*.

Although I have specifically described the construction and relative arrangement of the several elements of my invention, I do not desire to be confined to the same, as such



changes or modifications may be made as clearly fall within the scope of my invention without departing from the spirit thereof.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. The combination with the frame, A, provided with the pillow-block I, and the fixed shaft, 7, of the ground-wheel, N, mounted on said shaft and provided with the internal gear-wheel M, the shaft, H, mounted in said pillow-block, the pinion, K, fixed on the inner end of said shaft and meshing with the internal gear-wheel M, the beveled gear-wheel, F, mounted on the outer end of said shaft, the vertical shaft *e*, provided with the polygonal-faced drive-sprocket D, and the spring-arm, *n*, fixed to the main brace, its free horizontal end forming a bearing for the upper end of the shaft *e*, substantially as shown and described.

2. The combination with the frame, A, comprising the parallel vertical walls 13 13, the parallel vertical guide-flanges *t t*, the transverse brace, P, connecting said flanges *t t*, and forming a support for the adjusting-screw *r*, nut *s*, and the bracket S, of the shaft, *f*, jour-

naled in the parallel arms of said bracket and carrying the pulley D', and having its upper end extending into the longitudinal slot, *f'*, in said frame, the transverse bearing-block, *d*, the outer ends of which are formed with lateral projections, *d' d'*, sliding on the plates 10 10, and forming a bearing for the lower end of said shaft *f*, the vertical shaft *e*, the bevel gear-wheel E, and the sprocket D, fixed on said shaft, the spring-arm, *n*, having one end fixed to the main brace C, and its free end forming a bearing for the upper end of said shaft *e*, the endless sickle-bar, engaging the sprocket D and pulley D', and the horizontal shaft H, a bevel gear-wheel F, mounted on the outer end of said shaft meshing with the gear-wheel E, a pinion, K, fixed on the inner end of the shaft H, and the ground-wheel, N, formed with the integral, internal gear-wheel M, meshing with the pinion K, substantially as shown and described.

In testimony whereof I hereunto set my hand in the presence of two witnesses.

MARTIN BOICE.

Witnesses:

N. C. BRAS,  
J. A. MAGUIRE.