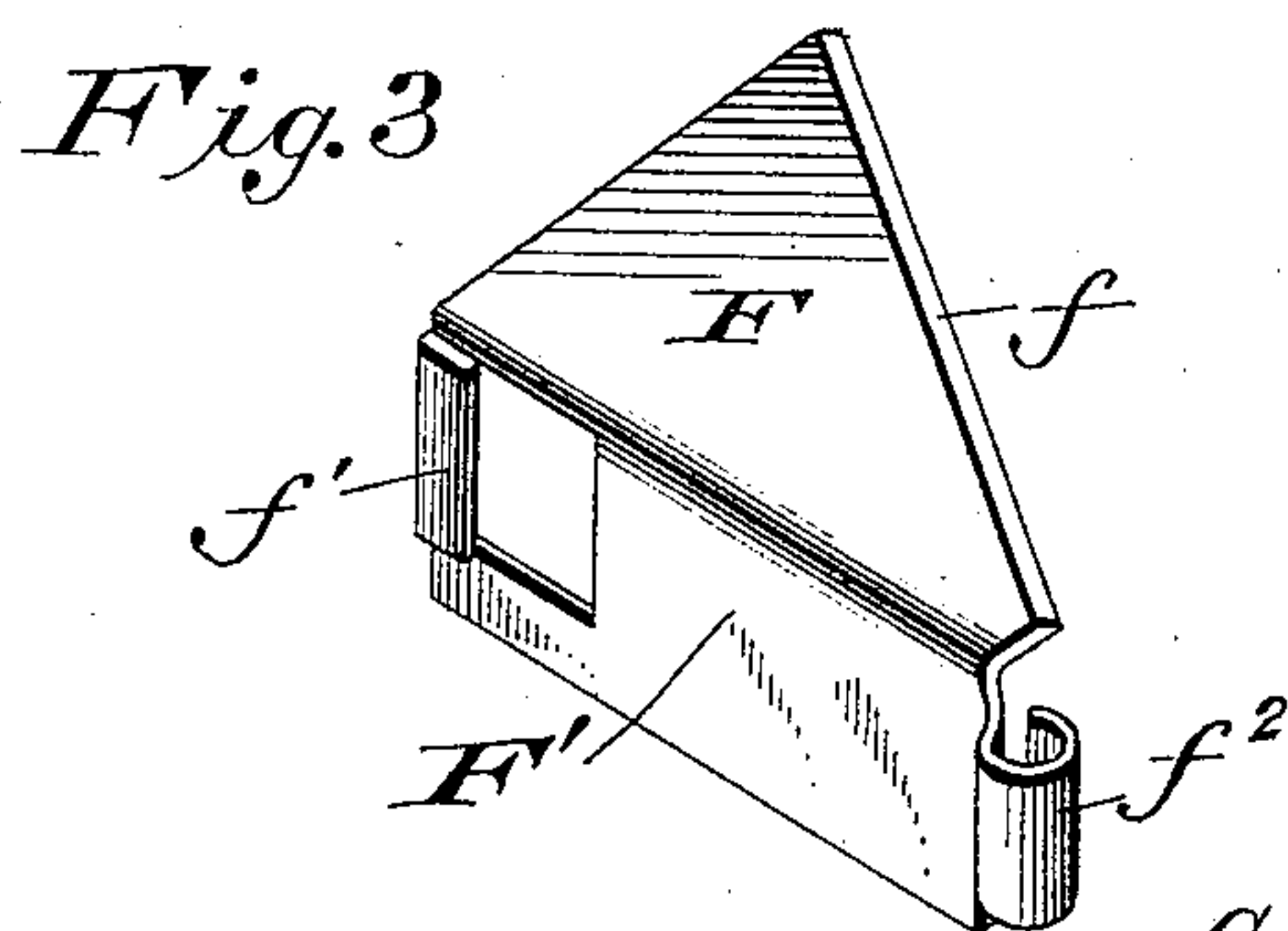
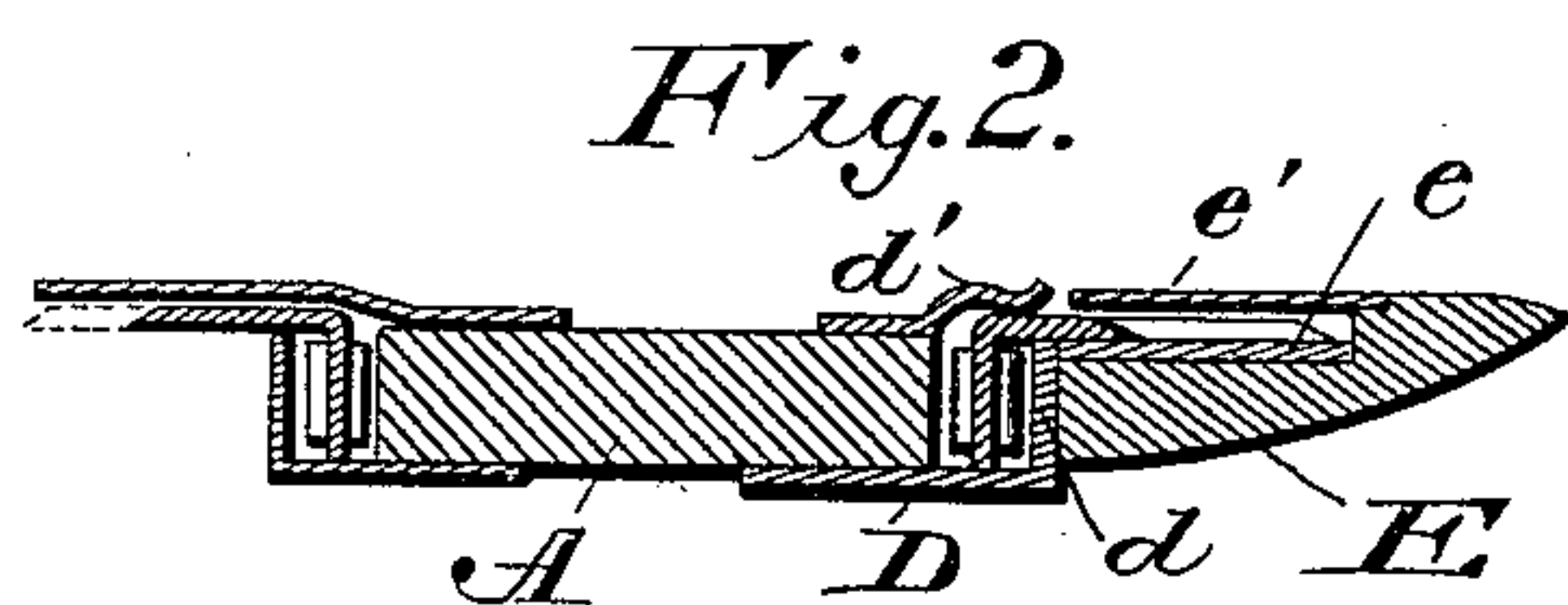
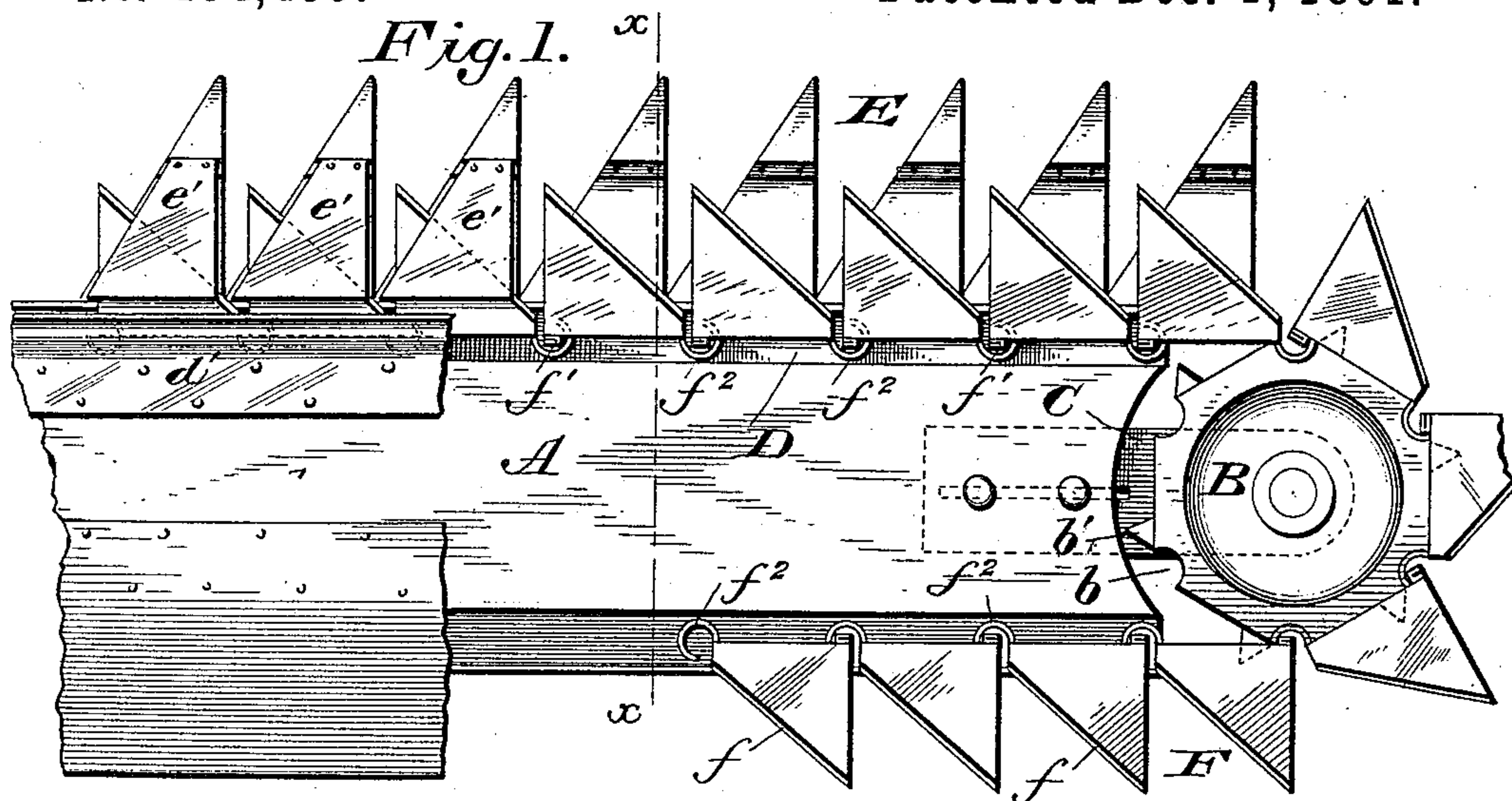


(No Model.)

G. M. COMBS.
SICKLE BAR.

No. 464,453.

Patented Dec. 1, 1891.



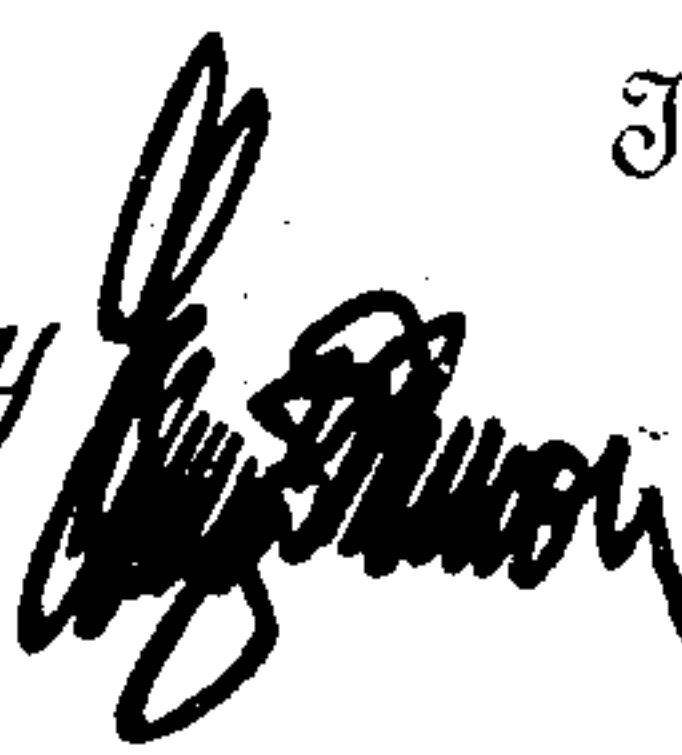
Gideon M. Combs.

Inventor

Witnesses

L. S. Elliott.

E. M. Johnson.

by  Attorney

UNITED STATES PATENT OFFICE.

GIDEON M. COMBS, OF PRESTON, KANSAS, ASSIGNOR OF ONE-HALF TO
GEORGE C. BROWN, OF GALLATIN, MISSOURI.

SICKLE-BAR.

SPECIFICATION forming part of Letters Patent No. 464,453, dated December 1, 1891.

Application filed February 12, 1891. Serial No. 381,207. (No model.)

To all whom it may concern:

Be it known that I, GIDEON M. COMBS, a citizen of the United States of America, residing at Preston, in the county of Pratt and State of Kansas, have invented certain new and useful Improvements in Sickle-Bars; 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, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in sickle-bars for harvesters; and it consists in providing an improved form of sickle-bar, in which the cutter-blades are beveled on one side and act in conjunction with the oppositely-beveled fingers, so that the grain will be severed by a shearing cut and caused to fall in the same direction, as will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a sickle-bar constructed in accordance with my invention. Fig. 2 is a sectional view through the line *xx* of Fig. 1. Fig. 3 is a detail perspective view of one of the cutter-blades detached.

A refers to the supporting-bar, which is suitably attached to the harvester-frame and is provided at each end with wheels B, one of which is driven from the driving-wheel of the harvester by means of a belt or other suitable mechanism. These wheels are hexagonal in shape and at each corner are provided with semicircular recesses *b*, to one side of which are points *b'*, and are mounted on stub-shafts carried by plates C, which are adjustably secured to the ends of the bar A, so that any slack which may arise by reason of the stretching or giving of the endless chain of cutters can be taken up. The bar A has secured to the under side thereof an angle-plate D, the portion *d* of which serves as a support for the fingers E, these fingers being provided with horizontal plates *e*, having a straight and an angular edge. Rear of the points of the fingers are attached rearwardly-projecting plates

e', beneath which and above the plate *e* the cutter-blades move, as shown. To the upper surface of the bar A is secured a strap *d'*, which lies over the recess within which the cutter-blades lie.

The cutter-blades F are made up of a single piece of sheet metal shaped to provide an angular cutting-edge *f* and bent to present a portion F' at right angles with the blade. An opening is provided in the portion F' of the blade, the end wall of which is re-enforced by having a portion of the metal removed to form said opening bent thereon, the inner edge *f'* being rounded, as shown. The opposite end of the portion F' of the cutter-blade is extended and coiled, as shown at *f*². A series of cutters thus constructed may be assembled to form an endless chain, the beveled or cutting edges *f* of which will all lie in the same direction, and said chain will be flexible to such an extent that it may turn around the roller or sprocket-wheels B. The plates *e* of the finger-bars may be beveled on their inclined edges.

The improved endless chain of cutters, when used in connection with the finger-bars hereinbefore described, is effective in operation, and it will be observed that a shearing cut will be given to the grain. It will also be observed that the grain will be gathered between the fingers and that the greatest pressure in cutting will come near the base of the knives. In a device thus constructed there is always an even tension upon the knife, and the knives fitting closely upon the plates of the finger-bars against which they are held by the strap *d'* render the cutters self-sharpening.

I am aware that prior to my invention it has been proposed to provide harvesters with endless cutters which revolve horizontally around supporting-pulleys, and I do not claim such construction, broadly, as my invention; but

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

1. In combination with a bar A, having secured thereto angle-bars forming front and rear recesses, strips secured to the upper side of the bar, the front strip lying partially over the recesses and the rear strip projecting rearwardly to cover the cutters, fingers carrying

plates e' , beneath which the endless chain of cutters passes, said cutters being made up of knives F and depending portions F' , formed integral therewith, said depending portions
5 having loops f^2 and re-enforced vertical portions f' , with apertures adjacent thereto, sprocket-wheels B , having straight faces, recesses b , and projections b' , with which the depending portions of the cutters engage, the
10 projecting portions on the sprocket-wheel being adapted to enter the apertures in the depending portion of the cutter, substantially as set forth.

2. The combination, with an endless chain of
15 cutters, which are flexibly connected directly

to each other and adapted for use in connection with a bar A , constructed substantially as shown, of a sprocket-wheel B , having straight faces and recesses b , within which the curved or looped portions f^2 of the cutter-
20 bar lie, and projecting portions b' adjacent thereto, which are adapted to enter apertures in the vertical portion of the cutter-bars, substantially as shown.

In testimony whereof I affix my signature in
25 presence of two witnesses.

GIDEON M. COMBS.

Witnesses:

N. G. ROBERTSON,

H. M. NICOL.