

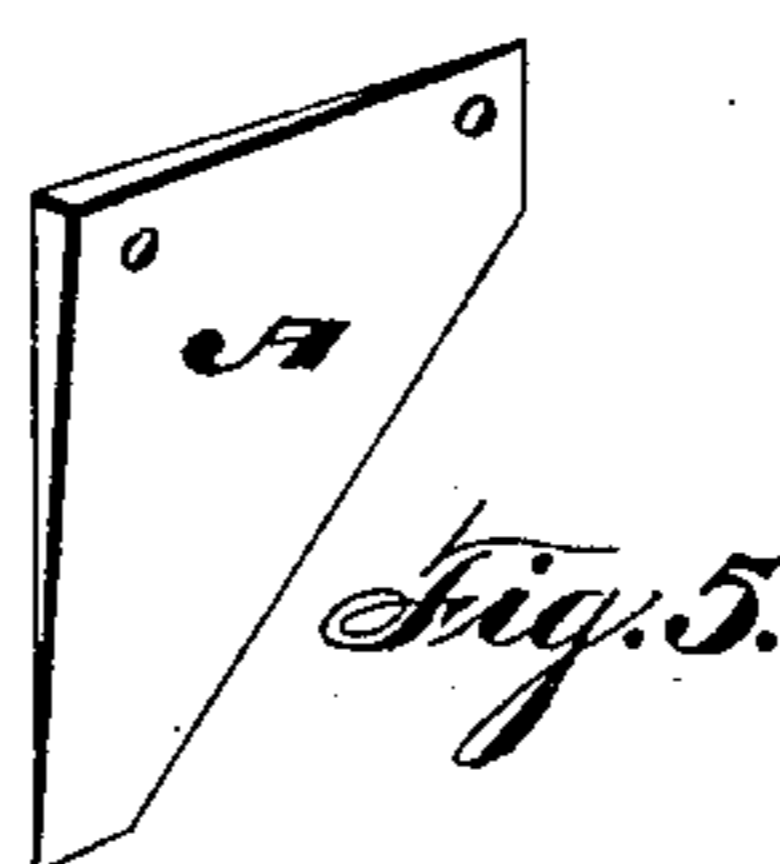
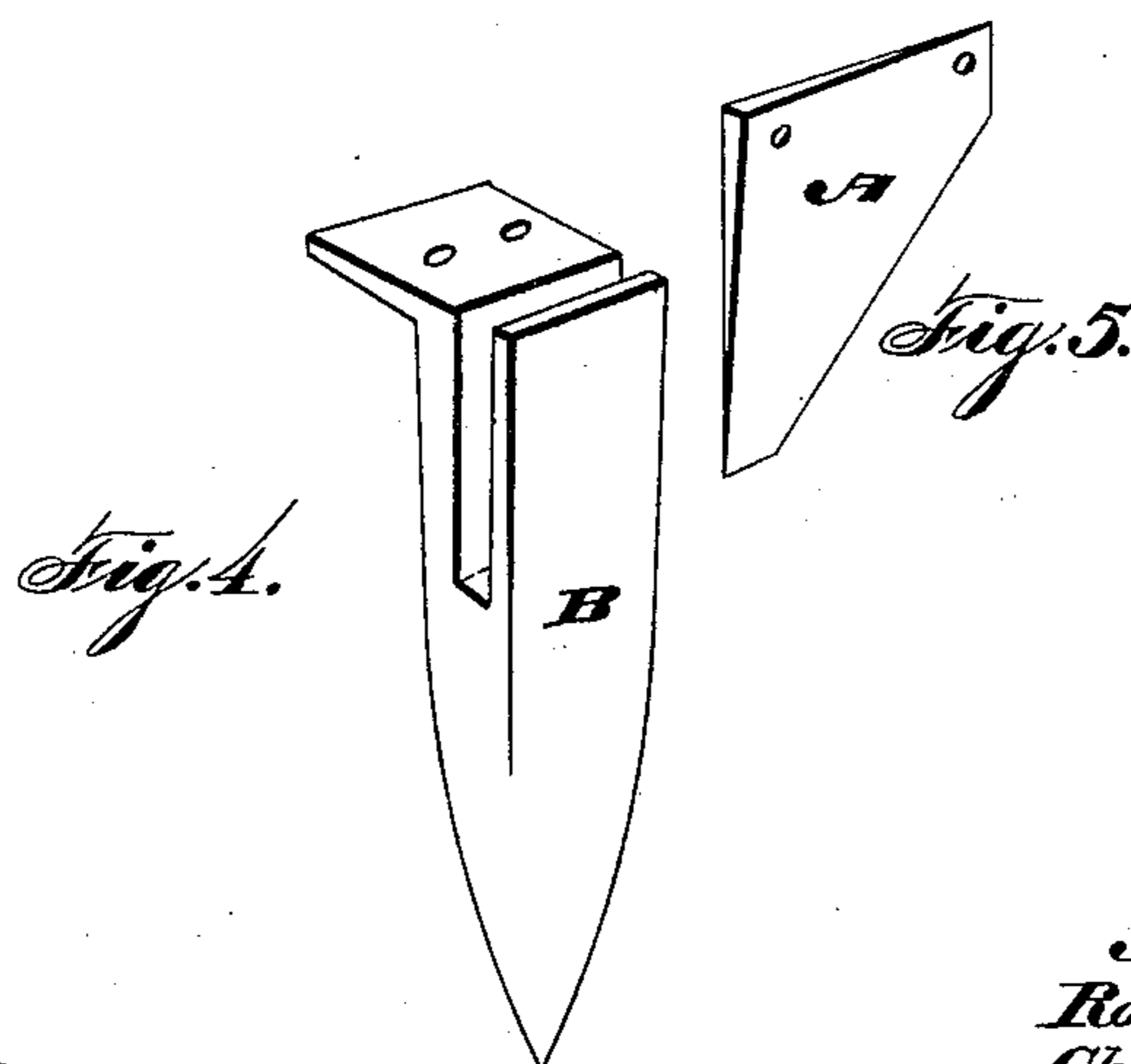
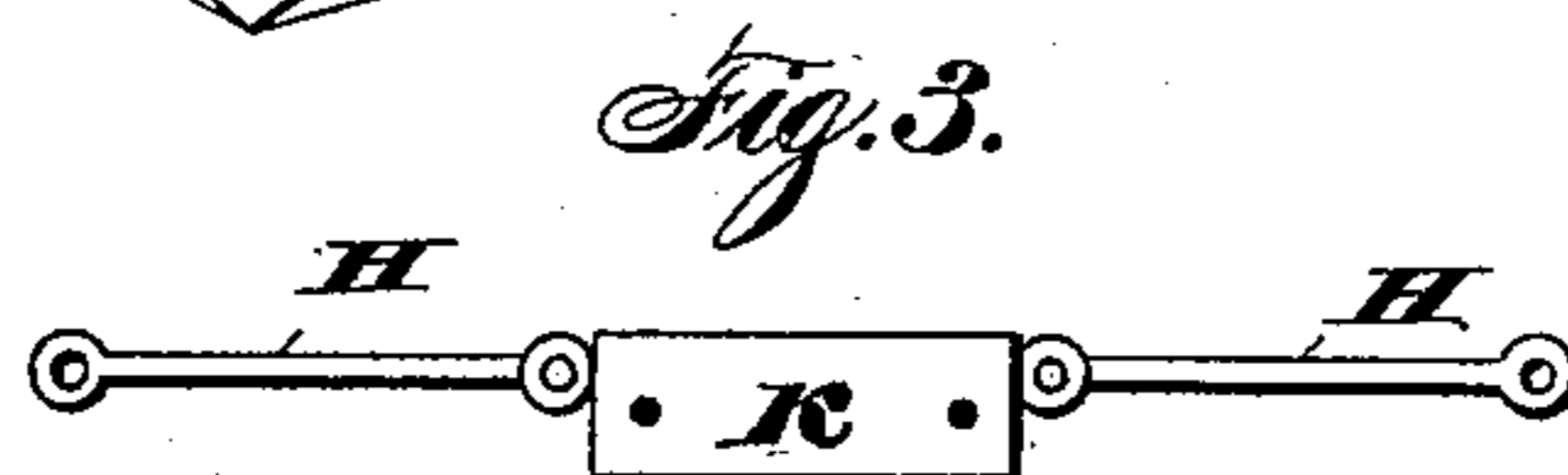
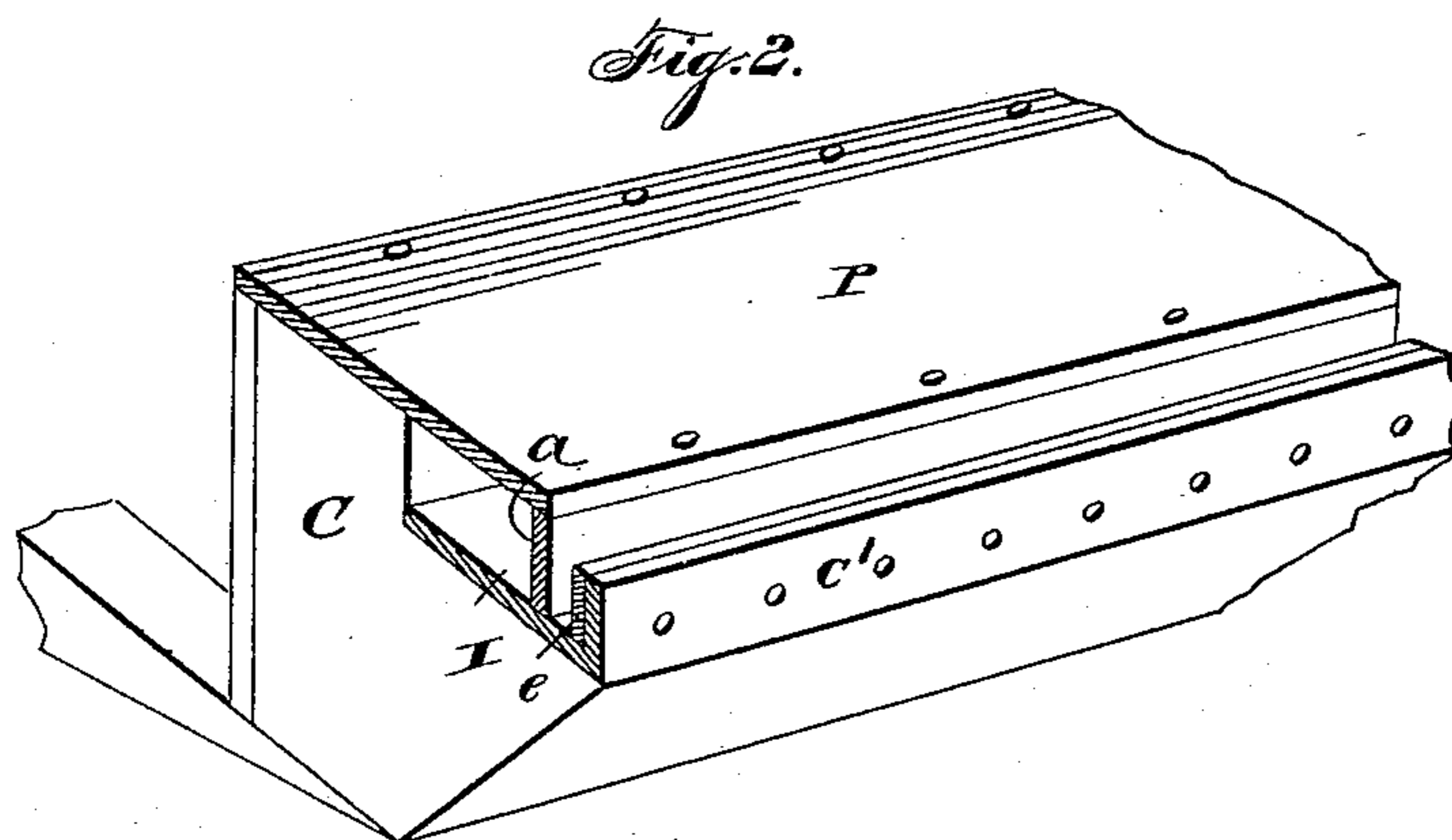
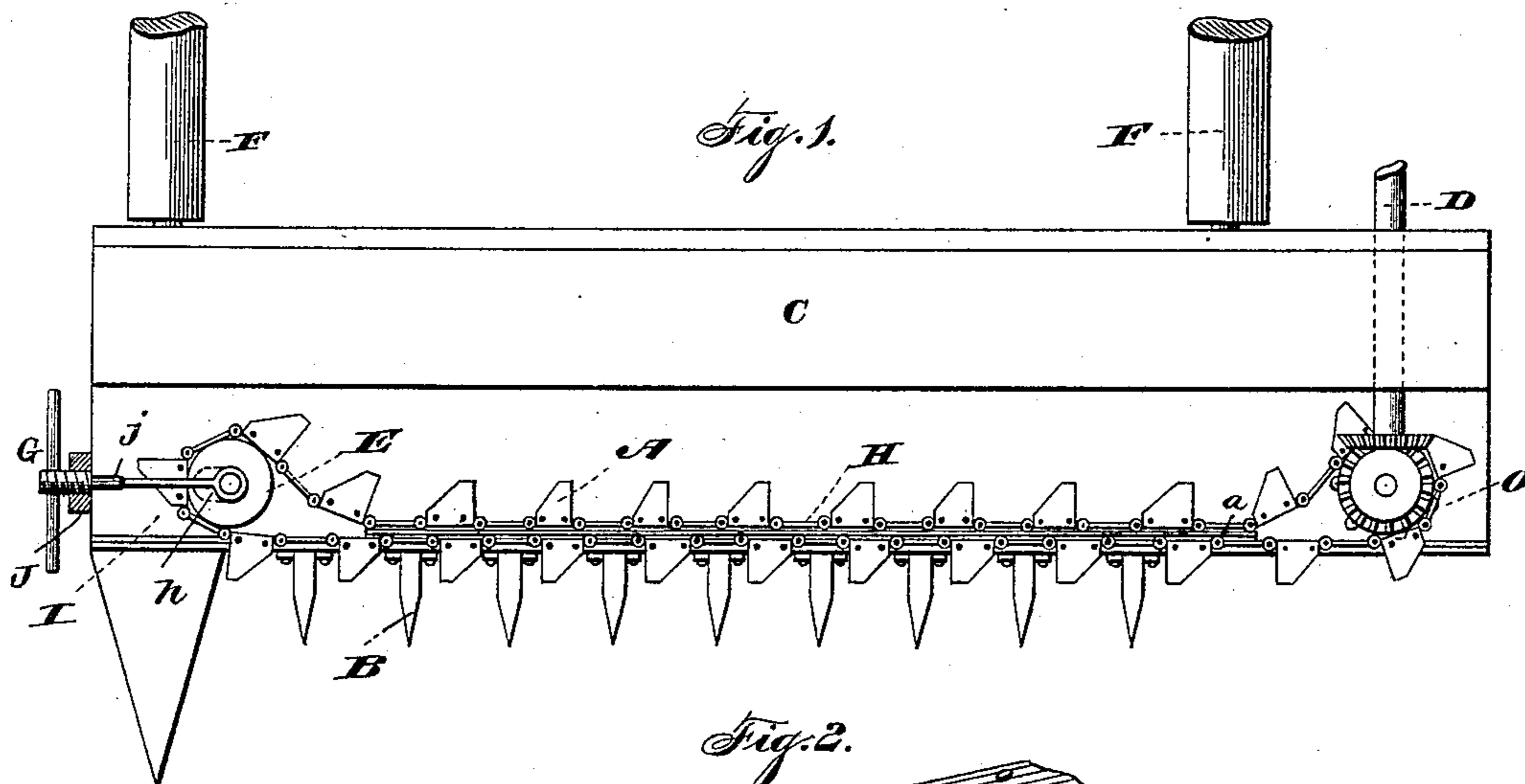
(No Model.)

A. CLARK & R. A. & C. ASHLEY.

ENDLESS CUTTING APPARATUS.

No. 397,224.

Patented Feb. 5, 1889.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ASA CLARK, ROBERT A. ASHLEY, AND CHARLES ASHLEY, OF STOCKTON, CALIFORNIA, ASSIGNORS TO SAID ASA CLARK AND ROBERT A. ASHLEY, AND LUCIUS E. ASHLEY, OF SAME PLACE.

## ENDLESS CUTTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 397,224, dated February 5, 1889.

Application filed November 16, 1887. Serial No. 255,364. (No model.)

*To all whom it may concern:*

Be it known that we, ASA CLARK, ROBERT A. ASHLEY, and CHARLES ASHLEY, citizens of the United States, residing at Stockton, in the county of San Joaquin and State of California, have invented certain new and useful Improvements in Endless Cutting Apparatus; and we do 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 the letters and figures of reference marked thereon, which form a part of this specification.

Our invention has relation to improvements in an endless cutting apparatus for harvesters and the like; and the novelty consists in the peculiar combination, arrangement, and adaptation of the various parts for service, as will be hereinafter more fully set forth, and particularly pointed out in the claims.

The invention and its advantages will be fully understood from the following description and claims, when taken in connection with the accompanying drawings, in which—

Figure 1 is a top plan of our improved endless cutting apparatus for harvesters and the like, with parts removed to more clearly show the interior mechanism thereof. Fig. 2 is a detail perspective view of the finger-bar. Fig. 3 is a detached plan view of a portion of the endless chain, showing the links and plate, to which latter the cutter-blades are adapted to be secured. Fig. 4 is a detail perspective view of one of the guard-fingers, and Fig. 5 is a detail perspective view of one of the cutters.

Similar letters of reference indicate corresponding parts in the several figures of the drawings, in which—

C denotes the finger-bar, constructed of wood or other desired material, said bar C being formed in its upper forward portion with a cut-away part or recess, in or upon which is adapted to be fitted an angle-iron bar, C'. This finger-bar C is adapted to be seated and supported in the usual manner upon the timbers of the platform of an ordinary harvester, mower, reaper, or header, and the like. The forward vertical flange of the angle-bar C' is

provided with a series of apertures, by means of which the guard-fingers may be secured thereto. These guard-fingers B are of the ordinary pattern, having the usual longitudinal slot made therein. The guard-fingers are also provided at their rear end with a vertical plate or flange having apertures, as shown in detail. (See Fig. 4.) By this means it will be clearly understood how the fingers are attached to the forward vertical flange of the angle-iron C'. To the inner side of this vertical wall I preferably secure a plate, e, which is designed to serve as a protection for the said vertical wall to prevent the same from undue wear caused by the endless cutter-chain striking it at that point.

F F designate rollers, around which is adapted to travel the usual apron or draper.

The endless cutter comprises the chain belt H, which is composed of links, every alternate one of which is provided with a horizontal cutter-carrying plate K, that is adapted to support a cutter-blade, A. The said plate K and the cutter A are each provided with apertures through which a bolt or rivet is passed which securely holds them together, or they may be fastened in any other desired manner. At one end of the finger-bar C, preferably the inner, the chain H extends around a sprocket-wheel, O, mounted upon a suitable shaft journaled in the finger-bar in any preferred manner. This sprocket-wheel O is provided with a bevel gear-wheel, which engages with a corresponding bevel gear-wheel mounted upon a shaft, D, which latter is thereby adapted to drive the aforesaid cutter-chain.

At or near the other or outer end of the finger-bar the chain H is passed around a pulley, E, mounted upon a shaft journaled in a longitudinal slot, h, formed in the finger-bar, the function of which will be presently explained.

It will be observed that by having the angle-bar C' constructed with the vertical flange and the finger-bar with the recess or cut-away part a guideway, I, is provided, as clearly shown in Fig. 2 of the drawings, which extends longitudinally the entire length of the finger-bar C, and in this guideway I the endless chain is adapted to travel.

It will be seen from Fig. 1 of the drawings

that as the chain travels along and within the guideway I the cutters carried by the said chain slide and pass over the edge of the vertical flange of bar C' through the slots of the guard-fingers B.

In order to prevent the two parallel portions of the endless chain H from striking and rubbing against each other, we provide a thin strip, *a*, preferably of wood, which is placed between the said portions of the chain and extend along the bar C, the path of the said chain, and is firmly held in position by having its lower edge secured to the horizontal portion of the angle-bar C' by suitable bolts or otherwise. This chain may be, if desired, entirely housed or covered by securing a thin bar, P, of iron or other suitable material, at its front edge to the upper surface of the separating-plate *a*, and at its rear edge to the rear side of the finger-bar C, as clearly shown in Fig. 2 of the drawings.

In the event of the endless chain becoming worn to such an extent that it will become loose or sag, or when it is found necessary to regulate the tension of the same in any way, we have provided a tightening device, (marked G,) as clearly shown in Fig. 1 of the drawings.

It will be observed from Fig. 1 of the drawings that the shaft carrying the pulley E is journaled in the slot in the bar C, (marked *h*.)

J is a post or bracket having a threaded bearing for the threaded tightening-rod *j*, such as usually employed in machines of this character. The other ends of the rods have eyes that are adapted to encircle the ends of the shaft carrying the pulley E.

Having described our invention, what we claim is—

1. The bar C, having its forward upper side recessed, as shown, in combination with the angle-iron secured in the said recess, the vertical strip *a*, secured to the angle-iron a short distance behind its vertical flange, the metallic strip P, secured upon the top of the bar C and extending over the strip *a*, the guard-fingers having perforated attaching-flanges, the endless chain composed of the links and alternately-arranged perforated plates upon which the cutters are secured, and means for driving the endless chain, substantially as specified.

2. The combination, with the bar C, having its forward upper side recessed, as shown, of the angle-iron secured in the said recess and having the vertical flange perforated, the vertical strip *a*, secured to the angle-iron a short distance behind the vertical flange, the chain composed of the links and alternately-arranged perforated plates, the cutters, the sprocket-wheel O at one end of the finger-bar, the bevel-gear on the shaft D, meshing with the sprocket-wheel, and the pulley E at the opposite end of said bar, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

ASA CLARK.  
ROBT. A. ASHLEY.  
CHARLES ASHLEY.

Witnesses:

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CHARLES H. WYMAN.