(No Model.)

S. E. CONNER & J. P. FINCH.

HARVESTER CUTTER.

No. 275,595. Patented Apr. 10, 1883.

Fig. 1.

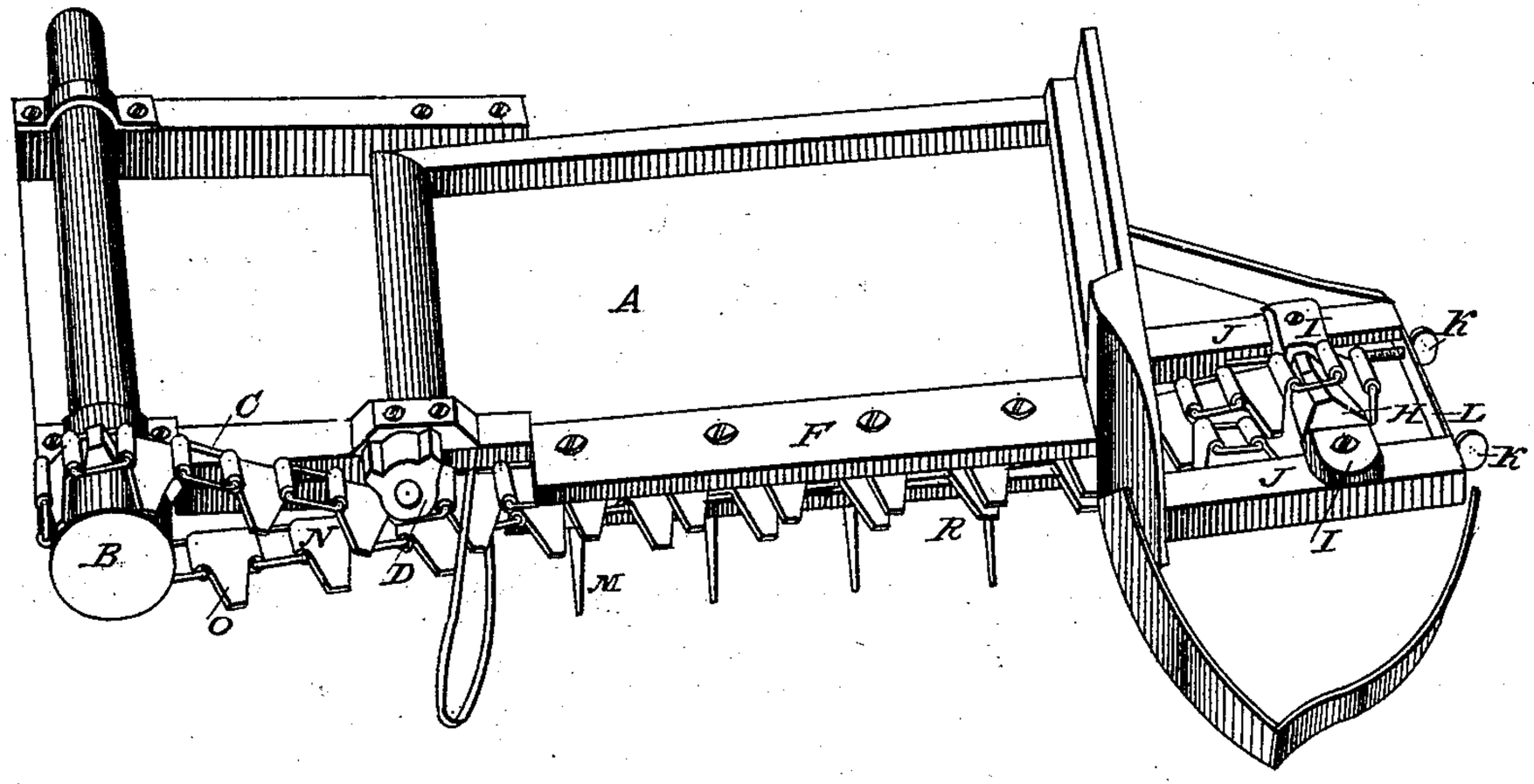


Fig. 2

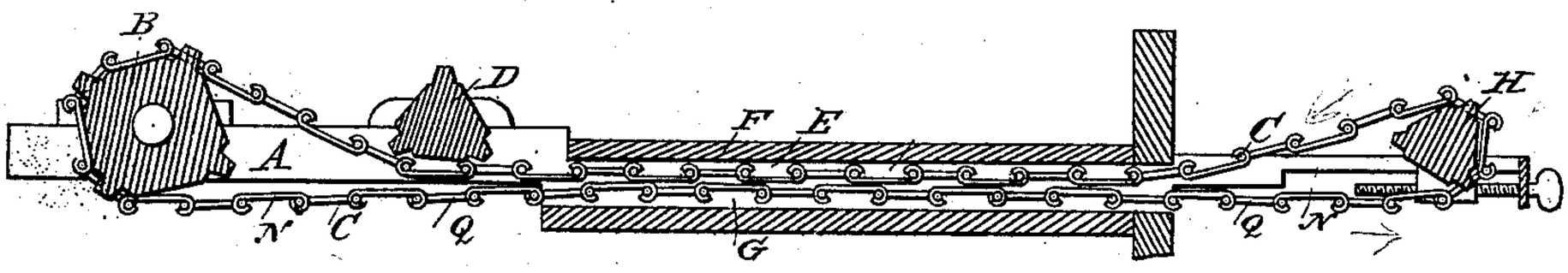


Fig. 3

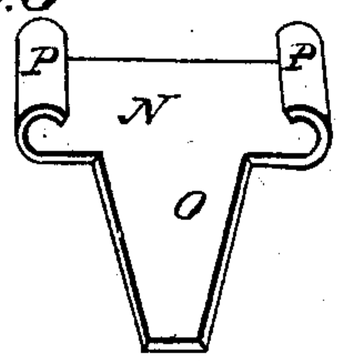
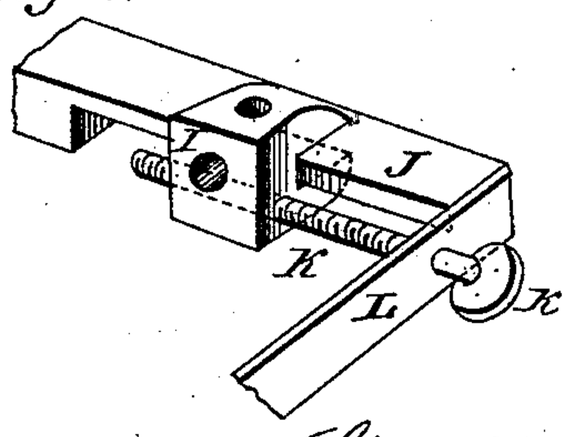


Fig. 4.



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UNITED STATES PATENT OFFICE.

SANFORD E. CONNER AND JAMES P. FINCH, OF VINTON, IOWA.

HARVESTER-CUTTER.

SPECIFICATION forming part of Letters Patent No. 275,595, dated April 10, 1883.

Application filed December 27, 1882. (No model.)

To all whom it may concern:

Be it known that we, SANFORD E. CONNER and JAMES P. FINCH, of Vinton, in the county of Benton and State of Iowa, have invented certain new and useful Improvements in Harvester-Cutters; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of our improved harvester-cutter. Fig. 2 is a cross-section of the same, and Figs. 3 and 4 detail views.

Similar letters of reference indicate corresponding parts in all the figures.

Our invention relates to that class of harvester-cutters traveling in an endless belt or chain; and it contemplates certain improvements in the construction and combination of parts of the same, as hereinafter more fully described and claimed.

Cutter-blades have formerly been constructed having the blades fastened upon a shank or base, having a hook or catch upon each side, either in the same plane as the blade or bent at right angles to the same, which had certain disadvantages which our improvement contemplates to overcome. In cutters where the shank and the blade are in the same plane the blades are apt to become loose from the shanks, being either fastened by rivets or screws, which would in course of time wear out and work loose, causing injury to the machine, and the shanks and their engaging-hooks being manufactured of metal having none or very little flexibility, had necessarily to be made sufficiently open to admit the links coupling the cutters together, which would cause the links to separate from the hooks if the chain became slackened. When the shanks are bent at right angles to the blades they would be subject to the same disadvantages; and, furthermore, the bending of the shank would necessarily weaken the metal in the same. These disadvantages we purport to obviate by constructing the blade and shank or base of one piece of flexible steel, the base forming two laterally-extending wings bent upward and curved inward and slightly downward, so that the flat hooks formed thereby may catch over the straight sides of a square or rectangular link, the springiness of the ends of the hooks allowing the sides of the links to be slipped in or out, while they will hold them firmly if the chain is slackened, a certain amount of force being necessary to remove the links from the hooks catching over and partially around their sides, which will be more particularly pointed out and described with reference to the lettered drawings in the following portion of the specification.

In the accompanying drawings, the letter A represents part of the frame of a harvester. B is the drive-pulley, connected by suitable gearing to the drive-axle or drive-wheel of the machine, and C is the endless chain. The chain of knives travels from the drive-pulley B under a guide-pulley, D, which brings the two parts of the chain close together, so as to allow them to travel with their flat sides facing each other, in a groove, E, between two flat bars, F and G. At the other end of the frame is another pulley, H, over which the chain passes and enters the groove E on its return. This pulley is journaled in boxes I, which slide on bearings J J in the outer end of the frame, and are operated by screws K, passing through a cross-piece, L, at the end of the pieces J. By tightening or loosening the screws K the tension of the chain may be adjusted and slack taken up.

The lower grooved bar, G, is provided with fingers M, by which the knives are prevented from coming in contact with stones, stumps, or other obstructions on the ground.

The chain C consists of a knife-link and an open link alternately, and the drive-pulley B and the guide-pulleys are provided with sprockets engaging the open links as they pass over them.

The knife N has a blade, O, which may be of any approved shape, and has at its base two wings, P, which are turned upward and inward and slightly downward, so as to form flat hooks, which engage the ends of the open links Q, which are plain square links. The hooks or wings P, being but slightly turned inward and downward, admit of the knives being easily removed, and the links are held firmly in place when in the chain by the tension-pulley H and the springiness of the hooks.

It will be seen that the knives moving in op-

posite directions between the bars F and G, which form the groove E, and are recessed in their facing surfaces for the passage of the raised portion of the knives and the links, as shown at R, will cut the grass or grain in front, and having no stationary cutter-fingers they will not be so easily clogged.

The single knives can be easily removed and sharpened, or new ones substituted in a very short time, and the draft in a machine provided with endless chain is lighter than one provided with a reciprocating bar.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

1. In a harvester-cutter of the described class, the endless cutter-chain consisting of the knife-links N, consisting of a blade, O, having two upward, inward, and slightly downward turned wings or hooks, P, upon the sides of its base, the whole link made of one piece of elastic steel, and the rectangular open links Q, adapted to be held clamped by said hooks, as and for the purpose shown and set forth.

2. A harvester having drive-pulley B, guide-pulleys D and H, and recessed or grooved bars F and G, in combination with the cutter-chain C, consisting of knives N, having blades O, and laterally extending upward, inward, and downward turned hooks P, made of one piece of spring metal, and rectangular open links Q, as and for the purpose shown and set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

SANFORD E. CONNER.
JAMES P. FINCH.

Witnesses:
A. B. FORRESTER,
WILLIAM T. MELVIN.