(No Model.)

C. D. HILLABOLD.

CUTTING APPARATUS.

No. 458,231. Patented Aug. 25, 1891.

FIG. 1.

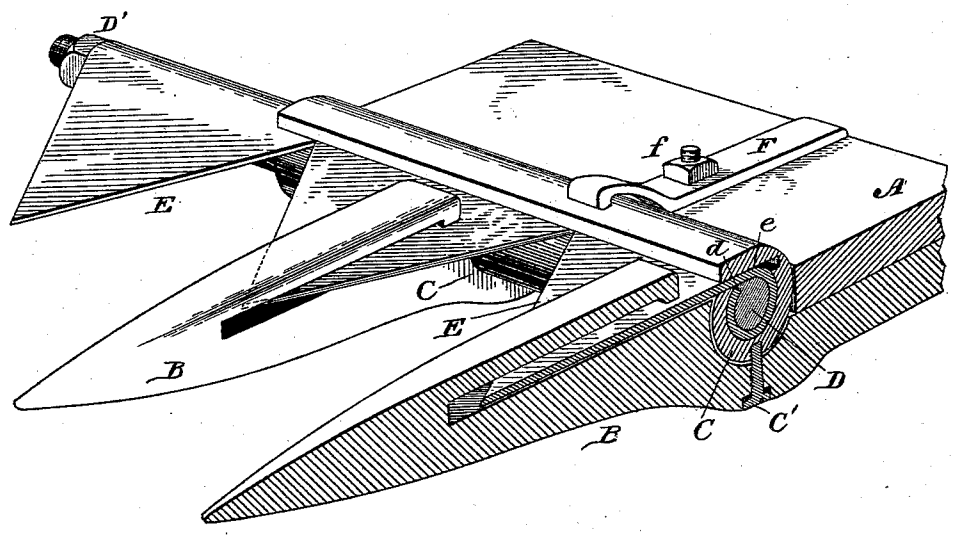
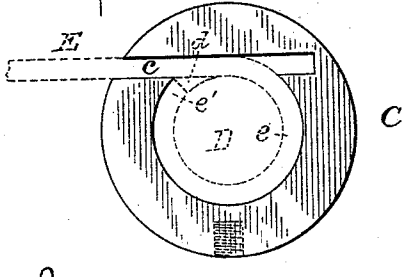


FIG. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES D. HILLABOLD, OF CANTON, KANSAS, ASSIGNOR OF ONE-HALF TO M. S. BENTZ, OF SAME PLACE.

CUTTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 458,231, dated August 25, 1891.

Application filed October 9, 1890. Serial No. 367,472. (No model.)

To all whom it may concern:

Be it known that I, CHARLES D. HILLABOLD, a citizen of the United States, residing at Canton, in the county of McPherson and State of Kansas, have invented certain new and useful Improvements in Cutting Apparatus for Harvesters; and I 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 of reference marked thereon, which form a part of this specification.

My invention relates to harvesting-machines; and it consists in certain improvements in the cutting mechanism, as hereinafter set forth, and particularly pointed out in the claims.

Figure 1 in the drawings is a perspective sectional view of a cutting apparatus embodying my improvements. Fig. 2 is an end view of a modified guide-tube.

The finger-bar A is of the usual construction, and is provided with fingers B, of any desired pattern. In the upper side of the fingers, just in front of the finger-bar, is a cylindrical transverse groove which receives the guide-tube C. Screws C′ are tapped into the tube through the bottoms of the fingers and hold it rigidly in place. The tube extends substantially the entire length of the finger-bar and affords a continuous guide to the moving parts.

The cutter-bar D consists of a cylindrical rod, somewhat smaller in diameter than the guide-tube. It carries the knives E, which may be of the usual triangular shape, with beveled edges. The base of each knife is rolled into a cylindrical tube *e*, of such exterior diameter as to fit smoothly within the guide-tube C, its inner diameter being such as to slide snugly upon the cutter-bar D.

The bar is preferably provided with a longitudinal rib *d*, of suitable shape to fit the triangular space at the point where the rear edge *e′* of the knife comes in contact with its under side. This rib keeps all the knives in line. They are slipped over the outer end of the cutter-bar until it is full, when a lock-nut D′, screwed upon its threaded end, clamps them all firmly in place. When the cutter-bar and knives are slid into the guide-tube C, the knives are received in and project through a horizontal slot *c*, running the entire length of the tube tangential to the upper side of its bore, and of a width suitable to permit the knives to slide snugly therein.

In order to take up the wear on the edges of the slot, a series of clamping devices is arranged to press upon the upper side of the guide tube. If desired, the back of the guide-tube may be weakened to render it more yielding under the action of the clamps. This is preferably done by extending the slot *c* across and beyond the bore of the tube, as clearly shown in the drawings. The clamps which I prefer consist of bars F, whose front ends bear upon the upper side of the guide-tube. The bars are attached to the finger-bar A and provided with bolts and nuts *f*, by means of which their pressure on the guide-tube can be adjusted. Upon increasing the pressure of these clamps the upper part of the tube is sprung down, and thus the wear of the slot *c* can be taken up. The upper part of the tube may be cylindrical, as shown in Fig. 2; but it is preferably thickened somewhat, as illustrated in Fig. 1, to afford greater strength and stiffness along the edge of the slot. In some cases it may be preferable not to weaken the back of the tube, and I do not wish to confine myself to that precise construction. Moreover, the rib *d* on the cutter-bar is not absolutely essential and may be omitted if found best or more convenient.

It will be seen that my improved apparatus is easy to construct, is readily taken apart for repairs or for sharpening the knives, and is strong and durable.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the finger-bar and fingers, of the guide-tube C, having the horizontal slot *c*, the knives E, projecting through said slot and having a tubular portion adapted to slide in the tube, and the cutter-bar D, fitting into said tubular portions of the knives, substantially as described.

2. The combination, with the knives E, having their bases rolled into a cylindrical tube

e, of the cutter-bar D, fitting into said tube and provided with a longitudinal rib *d* to keep the knives in line, substantially as described.

3. The combination, with the finger-bar, of the guide-tube C, having the longitudinal slot *c*, the knives E, projecting therethrough, and clamps bearing upon the upper side of the guide-tube, substantially as described.

4. The combination, with the finger-bar, of the guide-tube C, having the horizontal slot *c*, extending across and beyond the bore of the tube, and clamps attached to the finger-bar and pressing upon the upper side of the tube, substantially as described.

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

CHARLES D. HILLABOLD.

Witnesses:
WILLIAM F. SOMMERS,
H. PELTON.