

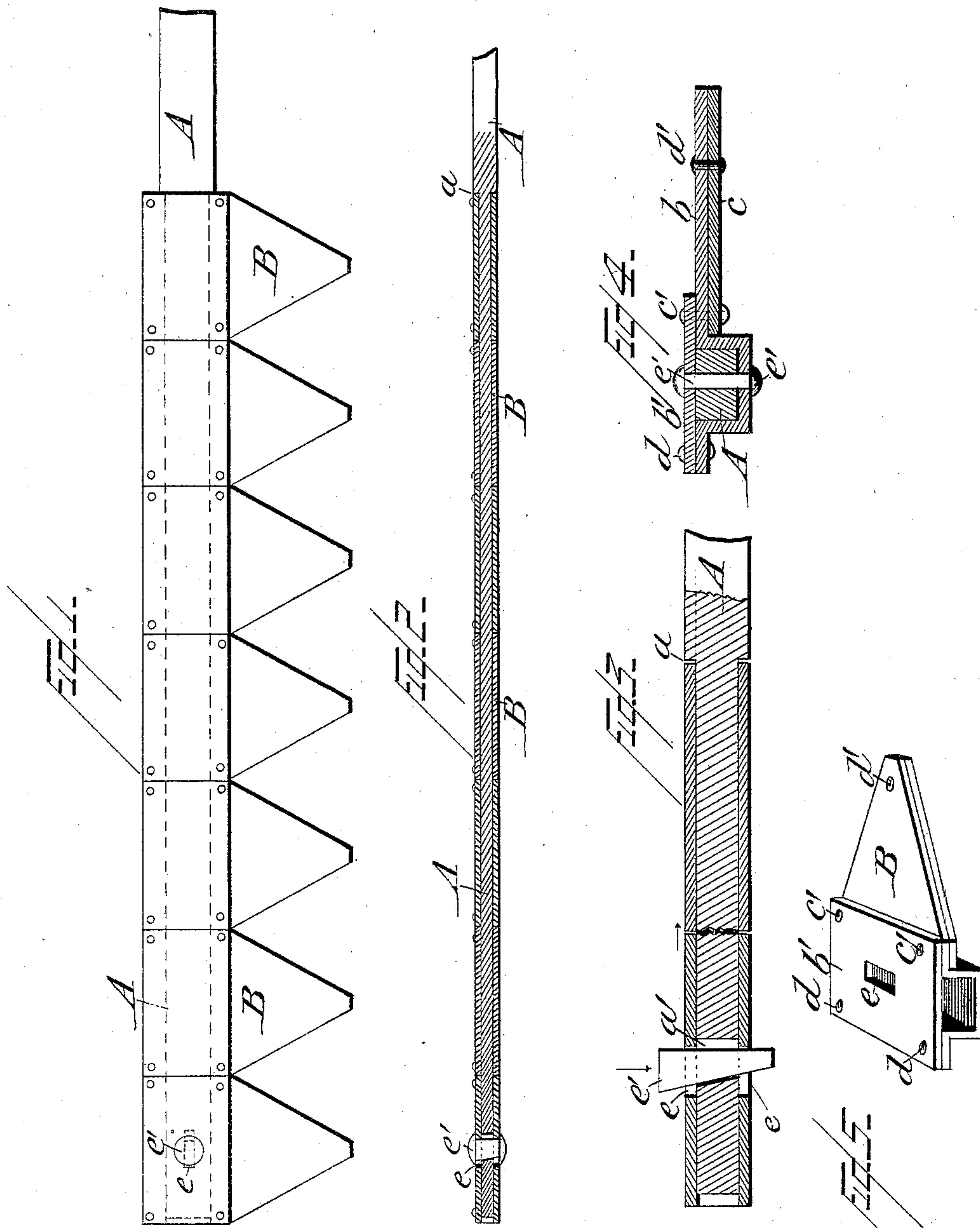
(No Model.)

C. E. MORTON & S. F. BROWN.

CUTTER AND CUTTER BAR.

No. 390,505.

Patented Oct. 2, 1888.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES EVERETT MORTON AND SIDNEY FRANKLIN BROWN, OF MADISONVILLE, KENTUCKY.

CUTTER AND CUTTER-BAR.

SPECIFICATION forming part of Letters Patent No. 390,505, dated October 2, 1888.

Application filed March 7, 1888. Serial No. 266,494. (No model.)

To all whom it may concern:

Be it known that we, CHARLES EVERETT MORTON and SIDNEY FRANKLIN BROWN, citizens of the United States, residing at Madisonville, in the county of Hopkins and State of Kentucky, have invented certain new and useful Improvements in Cutters and Cutter-Bars; 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.

This invention relates to improvements in cutters and cutter-bars for mowers and reapers, the object being to produce a cutter that shall have sufficient strength, may be readily removed from or applied to the bar without the use of screws to retain it in position thereon, and is easily kept sharp and in an efficient condition for use. In order to accomplish this object we make the cutters of three distinct plates of metal, the cutter-blade being composed of two of these. One of these plates—namely, the one that comes in contact with the bar—is formed of soft steel or a good quality of iron, and is bent at its rear to form a part of the loop through which the cutter-bar passes, the loop being completed by a plate of similar metal riveted to the bent plate. The cutting part of the implement is formed of a thin plate of the best steel riveted to each of the bent or recessed plates. The cutters are attached to the bar by passing said bar through their loops until it is filled, when they are secured in place by a wedge-rivet, which is driven through a slot formed in the last cutter and a mortise through the bar, thus forcing back the cutters upon the bar until they are in solid contact with each other, when the projecting ends of the wedge-rivet are cut off near the surfaces of the loop and riveted down to form heads upon both sides.

This invention therefore consists, essentially, in the employment of compound plates for the cutter-blades and the means by which the cutters are secured upon the bar.

In the drawings which accompany this speci-

fication, Figure 1 is a plan view showing a cutter-bar and cutters complete. Fig. 2 is a longitudinal section of the bar and cutters, showing their relative arrangement as well as the rivet by which the cutters are held in place. Fig. 3 is an enlarged section illustrating the manner in which the wedge-rivet is inserted. Fig. 4 is a transverse section through the cutter, bar, and rivet. Fig. 5 is a perspective view of a cutter complete in its preferred form.

In the several figures, A represents the cutter-bar, preferably of steel and of rectangular cross-section. A shoulder, *a*, near the inner end of the bar serves as an abutment, against which the cutters B are forced in placing them upon the bar. Near the opposite end of this bar A is formed a mortise, *a'*, through which the rivet or wedge that holds the cutters upon the bar passes.

The cutters B are composed, as shown in Figs. 4 and 5, of a plate, *b*, formed of soft steel or iron, and which may be formed by means of suitable stamping-dies that not only cut the plate from the sheet, but bend it into the form shown to make a recess for the reception of the bar at one stroke of the die; or, if desired, this part of the cutter may be formed by the process known as that of making malleable-iron castings. To the straight or body part of this plate *b* is secured by rivets or other suitable means the thin steel plate *c*. This plate, by reason of the thinness to which it is rolled, becomes condensed and of finer grain than a thicker plate. It therefore retains its edge longer and is more easily sharpened than the cutter-blades made from a single thick plate of steel. In sharpening our cutter-blades it is the overlying plate of comparatively soft metal which is ground away, the hard-steel plate forming the cutting-edge requiring very little grinding.

To complete the loop in the cutter through which the bar passes, a soft-metal plate, *b'*, covers the recess, and is held to the plate *b* by means of rivets *c' c'* and *d d*, the first two named rivets, *c' c'*, also serving to assist in securing the steel plate *c* to the plate *b*, and an additional rivet, *d'*, also connects the plates *b* and *c* near their points. These rivets are found sufficient to retain the several parts of the cut-

ter in place; but it is evident, if found necessary, a greater or less number might be used.

To apply and secure these cutters upon the cutter-bar, they are slipped onto the same, one after another, until the whole length of the bar from the shoulder *a* to its outer extremity is completely covered, the last cutter, which extends over the end of the bar, being provided with an elongated slot, *e*, through both its upper and lower sides. Through this slot and the mortise *a'* in the bar is entered the small end of the wedge rivet *e'*, which is then driven in until the several cutters are forced solidly against the shoulder *a* and each other, so they can have no movement or work loose on the bar. The projecting ends of the wedge-rivet are then cut off near the upper and under surfaces of the loop-plates, a sufficient length being left to be upset and form a head upon each end, as shown in Fig. 4. By this construction and method of fastening no portion of the bar will extend out beyond the cutters, and the form of the loop and plate *b* may be adapted to suit any of the various styles of reapers and mowers in use.

To remove the cutters from the bar, the head of the rivet *e'* upon the lower side is cut off, when said rivet may be readily driven out and the cutters slipped off, thus rendering it easy to replace a broken or damaged cutter.

Having thus described our invention, we claim as new, and desire to secure by Letters Patent of the United States, the following:

1. As an improvement in cutters for reapers or mowing-machines, the hard-steel plate which furnishes the cutting-edge, and the plate of softer material, the forward portion of each covering the entire forward portion of the other, and the two forming a compound cutting-blade, said soft plate extending rearward from the blade, in combination with the plate *b'*, forming, with the rear extension of the soft plate, the means of attachment to the cutter-bar, substantially as set forth.

2. As an improvement in cutters for mowing and reaping machines, the hard-steel plate which furnishes the cutting-edge, and the plate of softer material, the forward portion of each covering the entire forward portion of the other, and the two forming a compound cutting-blade, the said soft plate extending rearward from the blade, in combination with the plate *b'*, forming, with the rear extension of the soft plate, the loop for the reception of the cutter-bar, said cutter having a slot to coincide with a corresponding mortise in the cutter-bar for the reception of a wedge-rivet and the cutter-bar, all arranged substantially as and for the purpose specified.

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

CHARLES EVERETT MORTON.

SIDNEY FRANKLIN BROWN.

Witnesses:

JOHN G. MORTON,

JOHN E. RUBY.