(No Model.)

J. McDERMOTT.

SICKLE BAR FOR HARVESTERS.

No. 345,439. Patented July 13, 1886.

Fig. 1.

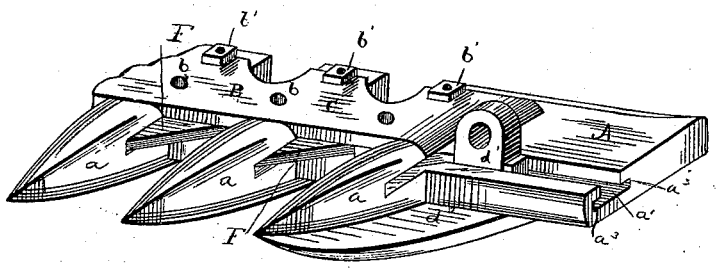


Fig. 2.

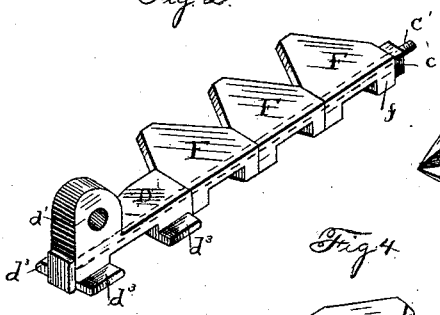


Fig. 3.

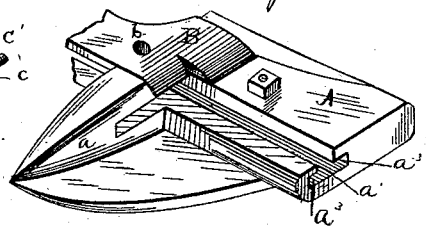


Fig. 4.

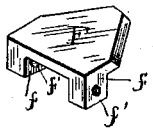
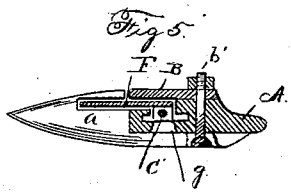


Fig. 5.



WITNESSES
F. L. Ourand
Edward Stanton

James McDermott,
INVENTOR
By Louis Bagger & Co
Attorneys.

UNITED STATES PATENT OFFICE.

JAMES McDERMOTT, OF WEST, NEW YORK.

SICKLE-BAR FOR HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 345,439, dated July 13, 1886.

Application filed September 12, 1885. Serial No. 176,981. (No model.)

To all whom it may concern:

Be it known that I, JAMES McDERMOTT, a citizen of the United States, and a resident of West, (Station,) in the county of Cattaraugus and State of New York, have invented certain new and useful Improvements in Sickle-Bars for Harvesters; and I 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.

My invention relates to that class of sickle-bars in which the knives or sections are individually separate, and also separable from the cutter-bar; and it consists, first, in constructing the cutter-bar and the several knives in such a manner that the said knives are firmly secured in their operative position upon the cutter-bar without the use of rivets or other permanent fastenings, so that the knives may be rapidly and readily removed from or secured upon the cutter-bar when it is desired to replace a broken or worn knife with a new one, or when it is desired to sharpen the knives separately; and, secondly, my invention consists in certain new and useful improvements in the construction of the finger-bar, the nature of which will be hereinafter fully described and shown.

Referring to the annexed drawings, Figure 1 is a perspective view of my improved sickle-bar for harvesters. Fig. 2 is a perspective view of the cutter-bar removed from the finger-bar. Fig. 3 is a perspective detail view of the stubble end of the finger-bar with the cutter-bar removed. Fig. 4 is a perspective detail view of one of the knives removed from the cutter-bar, and Fig. 5 is a sectional view through the sickle-bar.

The same letters indicate corresponding parts in all the figures.

Referring to the several parts by letter, A represents the finger-bar, which is provided with the usual guard-fingers, *a*, and has the longitudinal groove or recess *a'*, for the reception and guidance of the cutter-bar C. Upon the upper side of the finger-bar is secured the guard-plate B, held in position by means of the vertical bolts *b'*, which also hold the guard-fingers in position, and which pass through the finger-bar at the rear of the groove or recess *a'*, the portions of the finger-bar to the rear of the groove *a'*, between the bolts *b'*, being cut away in order to lighten the bar, this arrangement serving to materially lessen its weight. That part of the guard-plate B which extends over the knives is provided with the vertical apertures *b*, for convenience in oiling the knives. The heads of the bolts *b'* are made square to fit within suitable square openings in the rear ends of the guard-fingers, thereby preventing the said fingers from turning to either side.

The cutter-bar proper consists of a metallic rod, C', preferably round in cross-section, and provided at one end with a square head, and having its other end screw-threaded for the reception of a suitable binding-nut, *c*. Upon the inner or headed end of this rod is placed a connecting-piece, D, having a longitudinal aperture, through which the rod C' passes, and cast with the upwardly-inclined projection *d'*, to which the outer end of the connecting pitman is secured in the usual manner.

F F indicate the separate and removable knives, (shown in detail in Fig. 4,) each of which is provided at its base, on the lower side thereof, with the square projections *f*, having the transverse apertures *f'*, of a suitable size for the admission of the rod C', these downward projections *f* being of such a size as to adapt them to fit and move within the longitudinal groove or recess *a'*, which is also square in cross-section, as shown.

The connecting-piece D is first slipped upon the rod C' until it bears against the square head of the same, when the knives are placed upon the rod in the same manner, and the binding-nut *c* is then placed on the threaded end of the nut and tightened, so as to bind the sections firmly in their operative position. The cutter-bar may then be slid into its operative position in the finger-bar and connected to the pitman of the harvester, the connecting-piece D being provided with the upper flange, d^2, which extends above the upper side of the finger-bar, and the lower flanges, d^3, projecting on either side, and fitting and sliding within longitudinal grooves a^3, opening into the larger recess *a*, these upper and lower flanges

serving to guide and steady the connecting-piece and through it the entire finger-bar.

When a knife becomes worn or broken, and it is desired to replace it with a new one, the cutter-bar is removed from the finger-bar and the nut *c* unloosened, when the knives may be easily slid off of the rod C', and the old knives removed and new ones substituted in a few moments by any person without the necessity of separating rivets or employing any special tools, a simple wrench being sufficient. In the same manner the knives may be removed to sharpen any one of them; or by merely loosening the nut on the end of the rod the particular knife may be turned up out of the way of the remainder and sharpened without removing it from the rod.

g g indicate countersunk openings, the smaller ends of which open up into the groove *a'* of the finger-bar for the purpose of keeping the said groove clear of dirt. These openings will not become choked up as their lower end is larger than the upper end.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of my improved sickle-bar will be readily understood without requiring further explanation.

It will be seen that my invention is simple in construction, as the knives are cast with the square projections on the lower side of their base, and can be placed upon or removed from the rod C' in a moment, as no rivets are employed, thereby effecting a great saving both in time and money. The upper faces of the knives are perfectly smooth, thereby effectually avoiding the clogging which occurs with riveted knives, and which is caused by the grease or oil adhering to the upper side of the knives around the rivet-heads, thereby causing the cutter-bar to work hard.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is--

The combination, with the cutter bar, of the finger bar having the longitudinal groove and the countersunk vertical apertures opening at their upper smaller ends into the said groove.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JAMES McDERMOTT.

Witnesses:
THOMAS KELLY,
JAMES HUGHEY.