J. Kline,

Harvester Cutter.

No. 102,835. Patented. May 10. 1870.

Fig. 1.

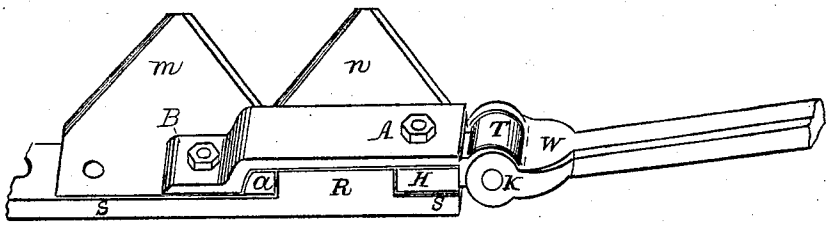


Fig. 2

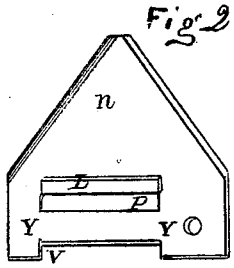


Fig. 3.

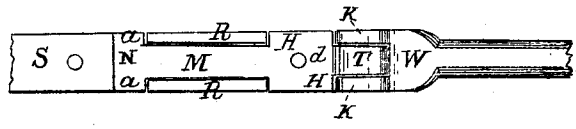


Fig. 4.

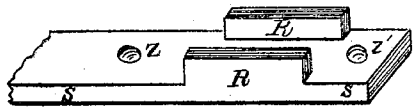
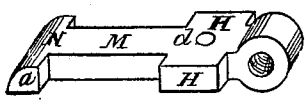


Fig. 5



Witnesses
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UNITED STATES PATENT OFFICE.

JACOB KLINE, OF MECHANICSBURG, ASSIGNOR TO HIMSELF AND GEORGE WINTERS, OF HARRISBURG, PENNSYLVANIA.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **102,835**, dated May 10, 1870.

I, JACOB KLINE, of Mechanicsburg, in the county of Cumberland and State of Pennsylvania, have invented an Improved Harvester Cutter-Bar and Pitman-Connection, of which the following is a specification:

The nature and objects of my invention consist, first, in the combination of a bar provided with shoulders and connected with the pitman, with two rectangular lugs formed on the cutter-bar, near its heel, with a cap-plate, and with a peculiarly-formed rear knife, all these parts being so constructed and applied as to form a rectangular mass of sufficient strength to afford a good attachment for the rear knife and for the pitman; second, in making the cap-plate curved at one end and extended to overlie the lugs on cutter-bar, the bar with shoulders, and the next to the rear knife, and perforated to receive bolts, which also pass through the adjacent knives; third, in so forming the base of the rear knife that it can be inserted between the interlocked parts in the plane of the top of the cutter-bar, so as to adapt it for a right or left hand harvester.

In the description of the accompanying drawings, Figure 1 is a perspective view embodying my invention. Fig. 2 is a perspective view of the rear knife. Fig. 3 is a top view, showing the interlocked parts. Fig. 4 is a perspective view of the heel of cutter-bar. Fig. 5 is a perspective view of hinge-bar of pitman.

Similar letters denote similar parts in the description.

A B is the cap-plate or keeper, curved to crown the interlocked parts at its one end, and at its other end bent to step down onto the plane of the knife in position on the cutter-bar. The bolt at A passes through the keeper, hinge-bar, cutter-bar, and rear knife, which are all so superimposed as to form a rectangular body. The bolt B passes through the same parts, except the rear knife and hinge-bar, the next to the rear knife being passed through instead, and hinge-bar ending at the knife-parting. The keeper therefore partly covers the second knife, for the purpose of using its rivet-hole as the bolt-hole for B. The heads of said bolts are flush with the under side of the cutter-bar, effected with an oval or angular countersink.

S S, Fig. 4, is the heel or rear end of the cutter-bar, perforated at Z Z′ for the keeper-bolts, and provided with side rectangular lugs R, placed a little distance in from the end of the bar. Said lugs or flanges are flush with the outside of the cutter-bar and directly opposite each other. They form between their inner walls a rectangular box for the reception of the part M of the hinge-bar, as shown in Figs. 5 and 3. Said body M has square cross-heads at its ends, which are parallel to each other, and are so spaced that the space between the cross-heads—that is, from shoulder to shoulder—will be compactly filled when the lugs R are inserted, as shown in Figs. 3 and 1. Said hinge-bar is also thick enough, when overlying the knife, to dress flush with the top of the lugs R, thus causing the keeper-plate to bind on lugs and hinge-bar.

It is evident that when the hinge-bar and cutter-bar are thus interlocked and clamped by the keeper there cannot be slack or lost motion in the joint, either vertically or horizontally, and that the bolts at A and B, Fig. 1, are not liable to undo themselves. It is observable, also, that this joint is readily detachable by a common wrench when the cutter-bar is to be removed. It is equally plain that this is a very compact, strong joint.

The bolts at A and B need be only the gage of the knife-rivets, the holes of which in the cutter-bar and the knives are here employed as bolt-holes, as they need hold only the parts interlocked vertically, because the lugs R hold the same parts interlocked horizontally, which is the direction of the resistance to be overcome by the pitman.

The rear knife (shown in Fig. 2) is perforated at V and P to admit the lugs R on cutter-bar tightly through them, while the part Y Y′ fits tightly between said lugs. The part of the knife-plate punched or cut out to form slot P is turned up at right angles to the knife-plate to form a ledge, L, which serves as a standard against the outside of the interlocked heel, to add strength to the knife when clamped in its position. This knife, as stated, is clamped between the hinge-bar and cutter-bar, the lugs R being inserted in its perforations.

It will be observed that this knife can be reversed, if inverted, so that it can be applied to act equally well on the right or left side of the

cutter-bar. This connection or joint is, therefore, right or left, at pleasure. It is also evident that this knife is strong in the line of resistance, and that if it does break it can be replaced readily by a duplicate without much expense or delay. This is an item of importance, as the rear knife on cutter-bars is the one most likely to break, partly owing to defective attachment and partly on account of overwork, when too broad a swath is taken by the driver. It can also be shown that this connection can be so modified as to apply to dovetail-knives by making the line of the interlocking parts in such form as to match and clamp the knife-base without distorting its form, and yet clamp it securely in substantially the same manner as hereinbefore recited for plane and straight jointed knives.

Having stated the advantages in the construction, I need only add that a firmer and keener cut is thus effected than where there is slack or lost motion; that this connection is noiseless and almost frictionless; that it can be applied almost universally, and will enhance the life of the cutter-bar, rear knife, and pitman, as a break in the heel of the cutter-bar often causes a break or fracture in other connected parts.

I claim—

1. The bar M, provided with shoulders N H, in combination with two lugs, R, formed on cutter-bar near its heel, the cap-plate A B, and the rear knife, *n*, these parts being constructed and applied as and for the purpose herein set forth.

2. The cap-plate A B, curved at one end, and extended to overlie lugs R, bar M, and the next to the rear knife, and perforated to receive the bolts, which also pass through the adjacent knives, all as set forth.

3. The reversible and detachable rear knife, *n*, perforated to receive lugs R, and having ledge L, the parts being constructed and arranged substantially as and for the purpose herein set forth.

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