(No Model.)

W. H. DE VAULT.

CUTTER BAR CONNECTION FOR MOWERS.

No. 350,531. Patented Oct. 12, 1886.

Fig. 1.

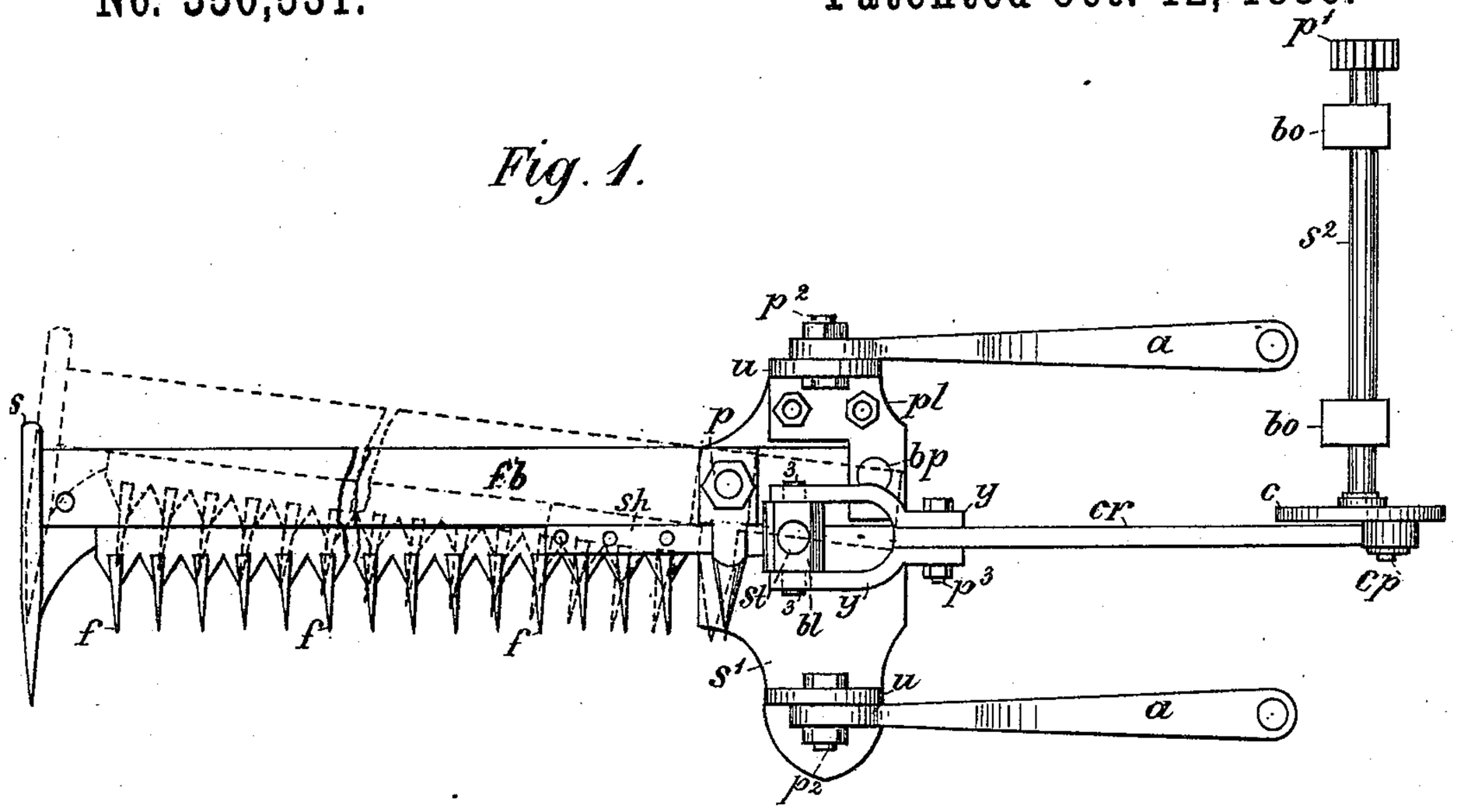


Fig. 2.

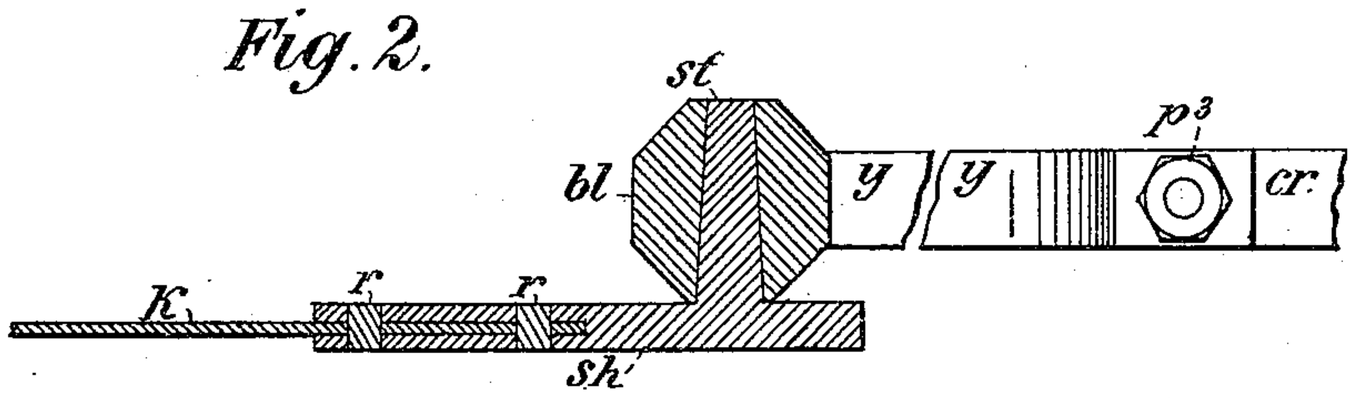
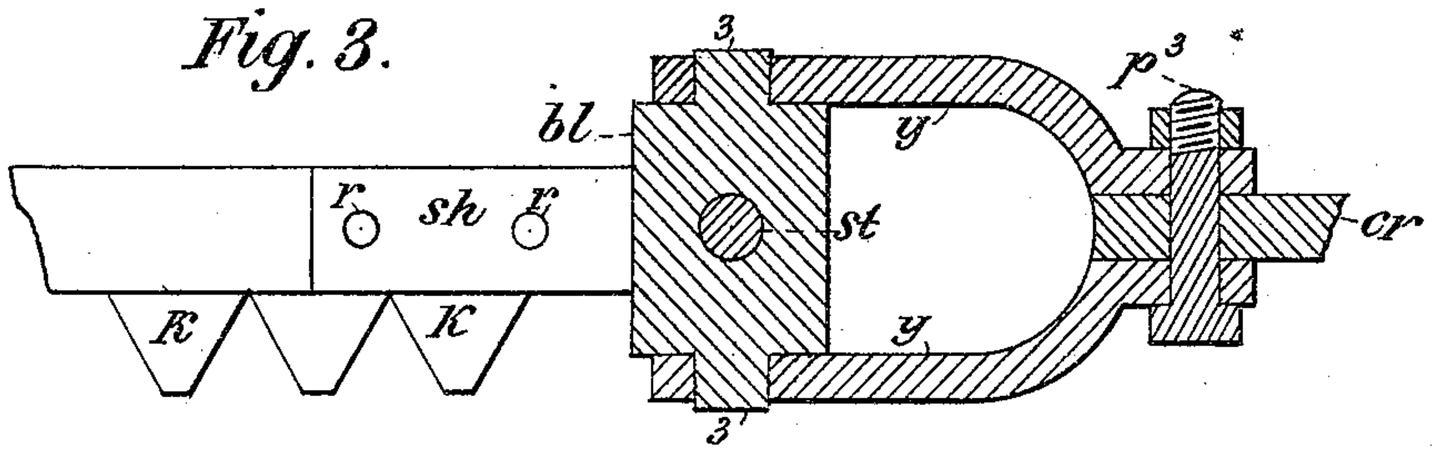


Fig. 3.



WITNESSES.

Gustav Bohn.

M. Ehrmann

INVENTOR.

Wm. H. De Vault.

By C. F. Jacobs
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM H. DE VAULT, OF MARTINSVILLE, INDIANA, ASSIGNOR OF ONE-HALF TO WILLIAM H. SMALL, OF SAME PLACE.

CUTTER-BAR CONNECTION FOR MOWERS.

SPECIFICATION forming part of Letters Patent No. 350,531, dated October 12, 1886.

Application filed February 24, 1885. Serial No. 156,683. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. DE VAULT, a resident of Martinsville, Morgan county, Indiana, have made certain new and useful Improvements in Cutter-Bar Connections for Mowers, a description of which is set forth in the following specification, reference being made to the accompanying drawings, in the several figures of which like letters indicate like parts.

My invention relates to certain new and useful improvements in connecting the finger-bar and cutter-bar of a mower to the inner shoe and crank-rod, respectively, in the manner hereinafter described and claimed, so that said bars are normally held in a fixed operative position for the performance of work, but upon meeting with an obstruction interposed in their path of movement are adapted to swing backward, giving opportunity to stop the machine before damage results to the bars or other working parts.

My invention includes, moreover, certain details of construction, particularly pointed out in the claims, and whose function is set forth in the following description.

In the drawings, Figure 1 is a plan view of my device, showing also the arms and crank-rod connections, the dotted lines indicating the position of the cutter-bar and finger-bar when thrown backward by an obstruction which breaks the wooden pin *bp*. Fig. 2 is an edgewise view of the shank and cutter-bar, the crank-rod and yoke, and joint, the latter, with the shank and cutter-bar, being in section. Fig. 3 is a top view of the same parts, the yoke and joint being in horizontal section. Figs. 2 and 3 are drawn upon a larger scale than the corresponding parts in Fig. 1.

In detail, *s* is the outer, and *s'* the inner, shoe, the former bolted to the outer end, and the latter pivoted at *p* to the finger-bar *fb*, near its inner end, and on this pivot the finger-bar swings backward when the break-pin *bp* is either broken or removed, and when swung back the position of the finger-bar is indicated by the dotted lines in Fig. 1.

k are the knives, bolted to a shank, *sh*, from which rises the tapering stud *st*, as shown in Fig. 2. A block, *bl*, is centrally bored to fit this stud, and has journals 3 on each end, which rest in bearings on the yoke-arms *y*, as shown in Fig. 3. Upon these bearings the cutter-bar may be thrown up to a vertical position, and over upon the frame of the machine, when desired, and at the same time the cutter-bar may be thrown backward, the stud *st* rotating in the bore of the block *bl* as the finger-bar *fb* moves on the pivot *p*. The crank-rod *cr* and yoke *y* are thus kept in line, and a compressed movement on the stud *st* and journals 3 of the block *bl* is possible.

f are fingers, of the ordinary kind, having open slots, for guiding and regulating the movement of the knives.

pl is a plate bolted to one end of the shoe *s'*, having an opening to admit the wooden pin *bp*, which passes through the plate into the shoe below, and the end of the finger-bar *fb* passes under this plate *pl*, which is made with a rise or shoulder to allow it, and also has a hole to admit the break-pin, so that when the parts are in place the pin *bp* passes through the plate *pl* and the end of the finger-bar *fb* into the shoe below, holding the parts together, and the removal or breaking of this pin *bp* allows the end of the finger-bar *fb* to be swung on pivot *p*.

a are arms, pivoted to ears *u* of the shoe *s'*, and bolted to the frame of the machine for holding the shoe *s'* and its connected parts firmly in place.

cr is the crank-rod, bolted at one end to the arms of the yoke *y*, the other end attached to a crank-pin, *cp*, on the crank-wheel *c*, which is mounted on one end of the driving-shaft s^2, having bearings in boxings *bo*, and *p'* is a pinion adapted to be actuated by the driving mechanism.

The finger-bar *fb* and shoe *s'* may be turned up from the ground on the pivots p^2 in the usual manner, and at the same time the journals 3 of the block *bl* rotate in their bearings in the yoke-arms.

If the machine in operation meet a stone or other serious obstruction, the wooden pin *bp*, being the weakest point, will break, and the finger-bar and cutter-bar will be forced backward, turning on pivot *p*, and time be given to stop the team before further damage is done. At the same moment the cutter-bar *k* turns on the tapering stud *st* and the crank-rod *cr* is

made to conform to the altered position of the finger-bar without any derangement of parts. Practically the block and its taper stud *st*, the journals 3 in bearings of the yoke *y*, make a universal joint, admitting free and diverse movements of the connected parts, and without disarrangement or injury. The cutter-bar at the inner end is held in place upon the finger-bar by the large finger (shown in Fig. 1) in the usual manner.

What I claim, and desire to secure by Letters Patent, is the following:

1. A mower provided with an inner shoe, said shoe being pivoted to the mower by horizontal pivots, a finger-bar pivoted to the shoe by a vertical pivot, a cutter-bar provided near its inner end with a tapering stud, a block fitting over said stud and provided with journals, and a yoke having bearings for said journals and connected with the crank-rod, substantially as and for the purpose set forth.

2. In a mower, a finger-bar pivoted to the inner shoe at a point near its inner end, and secured to the shoe itself by means of a wooden pin of such strength as to yield before other parts under greater resistance than ordinary use incurs, the finger-bar connected to the crank by means of a joint formed by the tapering stud *st*, block *bl*, having journals 3, movable in bearings on the yoke-arms *y*, the latter connected with the crank-rod, and this to the driving mechanism, all combined, substantially as described.

3. The finger-bar *fb*, the knives *k*, sliding in the fingers *f*, the shank *sh*, bolted to the cutter-bar, the stud *st* on such shank, the block *bl*, having journals 3, yoke-arms *y*, providing bearings for said journals 3, crank-rod *cr*, connected at its outer end with such yoke and at its inner end to the driving mechanism, the shoe *s'*, pivoted to arms *a*, these arms in turn secured to the frame-work of the machine, the finger-bar *fb*, pivoted at *p*, and secured by pin *bp* to said shoe *s'*, all combined, substantially as described.

4. A mower provided with an inner shoe pivoted to the mower by horizontal pivots and carrying a finger-bar pivoted to swing horizontally, and a frangible locking-pin, and a cutter-bar connected to the crank-rod by a universal joint, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand this 16th day of February, 1885.

WILLIAM H. DE VAULT.

Witnesses:

WILLIAM H. SMALL,

JAMES M. BLACK.