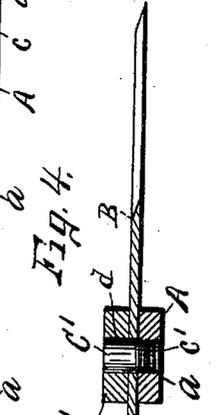
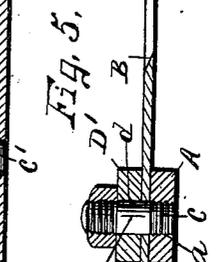
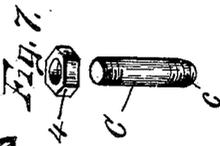
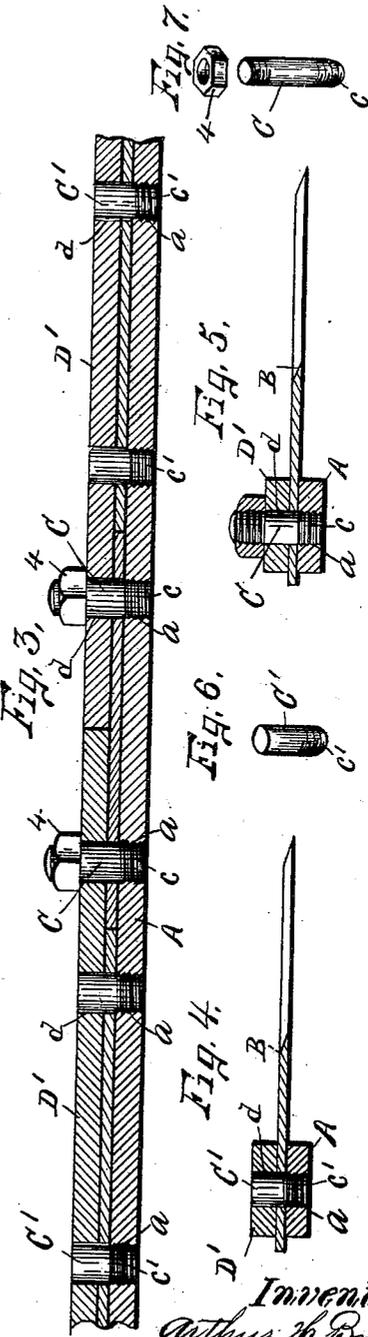
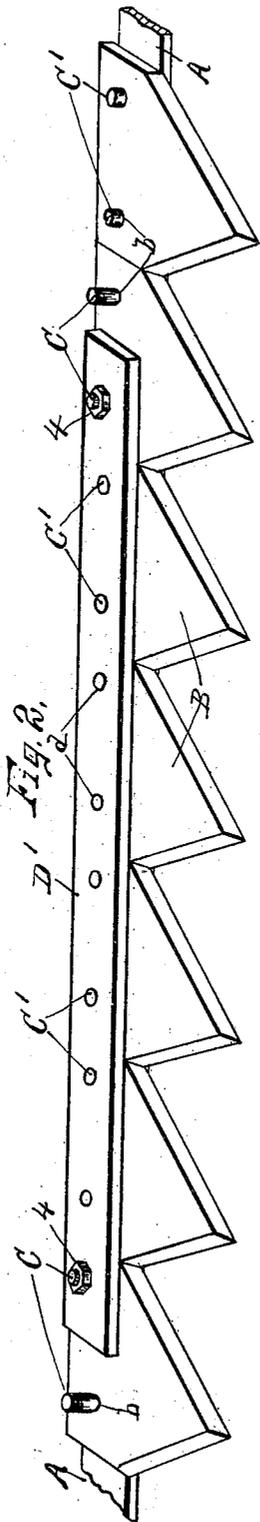
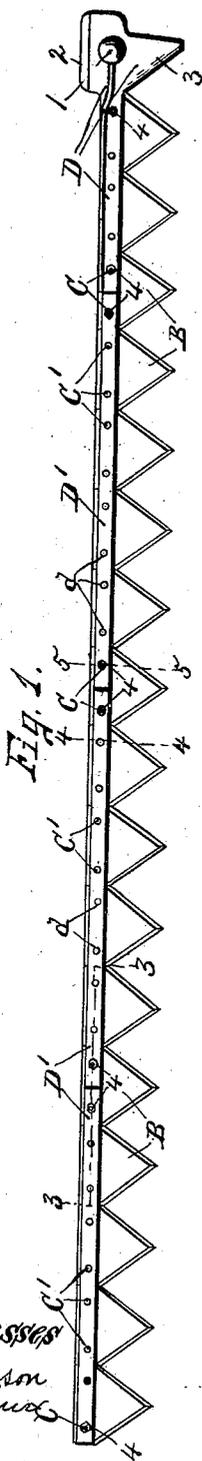


A. H. BROWN.  
KNIFE BAR FOR MOWING MACHINES.

(Application filed Sept. 20, 1900.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

ARTHUR H. BROWN, OF SYRACUSE, NEW YORK.

## KNIFE-BAR FOR MOWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 668,486, dated February 19, 1901.

Application filed September 20, 1900. Serial No. 30,591. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR H. BROWN, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Knife-Bars for Mowing-Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in knife-bars for mowing-machines, and has for its object the production of a simple and efficient means for supporting a series of standard knife-sections and permitting either of said knife-sections to be removed when desired without displacing any of the other knife-sections.

To this end the invention consists in the construction and arrangement of the parts of a knife-supporting bar, as hereinafter fully described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a top plan view of my improved knife-supporting bar, showing a series of knife-sections mounted thereon. Fig. 2 is a perspective view of a portion of the bar seen in Fig. 1, showing particularly one of the removable bar-sections and the means for holding the knife-sections in position. Figs. 3, 4, and 5 are sectional views taken, respectively, on lines 3-3, 4-4, and 5-5, Fig. 1. Figs. 6 and 7 are isometric views of the detached studs for securing the knife-sections and removable bar-sections to the continuous bar-section.

Similar reference characters indicate corresponding parts in all the views.

A represents a continuous supporting-bar for receiving and supporting any desired number of cutter-sections B, which are usually arranged edge to edge along the cutter-bar A and are provided with the usual apertures *b*. The bar A is also provided with a series of threaded apertures *a*, which are adapted to receive suitable studs C and C', having threaded ends *c* and *c'*, detachably engaged with the threaded apertures of the bar A.

D and D' are a series of bar-sections arranged end to end along the bar A and substantially parallel therewith and are each provided with a series of apertures *d*, registering with the apertures of the bar A and knife-sections B. The studs C and C' project beyond one of the faces of the bar A, and the

knife-sections B are inserted between the continuous bar A and the sectional bars D and D', said studs being of sufficient length to project through the apertures of the knife-sections and the apertures of the sectional bars D and D'. The sectional bar D is usually provided at its outer end with a pitman connection 1 and a guide-rib 2, the outer end of said connection D being provided with a cutter-knife 3, which is generally formed integral with said section. The studs C are preferably formed of greater length than the studs C' and are passed through the apertures adjacent to the ends of the bar-sections D and D', their outer ends being threaded for receiving suitable clamping-nuts 4, which serve to firmly clamp the sectional bars and cutter-knives to the continuous bar A. The studs C' are passed through the intermediate apertures of the section-bars D and D' and are usually formed of substantially the same length as the combined thickness of the lengthwise bars and cutter-sections, and their outer ends are unprovided with threads for permitting the bar-sections D and D' and knives B to be readily removed by simply removing the clamping-nuts 4.

Although I preferably employ the clamping-nuts only at the opposite ends of the sectional bars, it will be understood that either of the intermediate studs C' may be longer and threaded at their outer ends for receiving a suitable clamping-nut for additionally clamping the intermediate portion of said sectional bars to the continuous bar A.

The mechanism herein shown and described is particularly adapted for utilizing the ordinary standard knife-sections and permitting the same to be readily inserted into or withdrawn from operative position for the purpose of grinding or sharpening each knife-section individually or for the purpose of replacing a broken section with a new one.

By detachably securing the studs to one of the separable lengthwise bars I am enabled to readily remove a broken or bent stud and replace the same with a perfect one with but very little loss of time and without the employment of anything more than ordinary pliers or nippers.

In assembling the parts of my invention the studs C and C' are screwed in their re-

spective positions into the bar A by suitable pliers or nippers. The knife-sections are then placed in position, with their apertures registering with the studs, and the upper bar-sections are then placed in position upon the upper faces of the knife-sections, with their apertures registering with the studs. The clamping-nuts are then engaged with the projecting threaded ends of the studs C for drawing said bars toward each other, and thereby firmly clamping the separable upper and lower bars in position.

The operation of my invention will now be readily understood upon reference to the foregoing description and the accompanying drawings, and while I have employed the ordinary standard knife-sections and adapted the studs and supporting-bars to the construction of said sections it will be apparent that the knife-sections may be provided with studs adapted to enter the apertures in the upper and lower bars of the knife-support and that other changes may be made without departing from the spirit of this invention. Therefore I do not limit myself to the precise construction and arrangement herein shown and described.

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

1. A cutter for mowing-machines comprising separable bars, one being continuous and formed with a series of threaded apertures

and the other bar being composed of sections arranged end to end and each removable independently of the other, said sectional bar having apertures alined with the apertures of the continuous bar, threaded studs engaged with the threaded apertures and projecting into the apertures of the sectional bar, and knife-sections interposed between the bars and formed with perforations for receiving the studs.

2. A cutter for mowing-machines comprising separable bars, one being continuous and formed with a series of threaded apertures and the other bar being composed of sections arranged end to end and each removable independently of the other, said sectional bar having apertures alined with the apertures of the continuous bar, threaded studs engaged with the threaded apertures and projecting into the apertures of the sectional bar, and knife-sections interposed between the bars and formed with perforations for receiving the studs, one or more of the studs being of greater length than the remaining studs and formed with a threaded extension, and a clamping-nut engaging the threaded extension and forcing the bars toward each other.

In witness whereof I have hereunto set my hand this 10th day of September, 1900.

ARTHUR H. BROWN.

Witnesses:

MILDRED M. NOTT,  
H. E. CHASE.