April 6, 1954 J. D. NEWKIRK 2,674,052

CUTTING BLADE AND MOLDBOARD STRUCTURE

Filed July 18, 1950

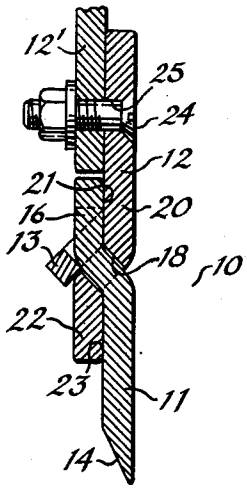


Fig. 2

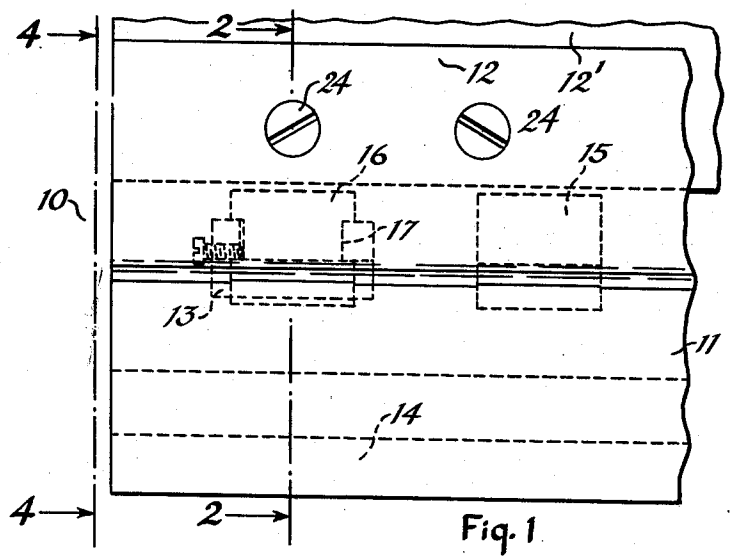


Fig. 1

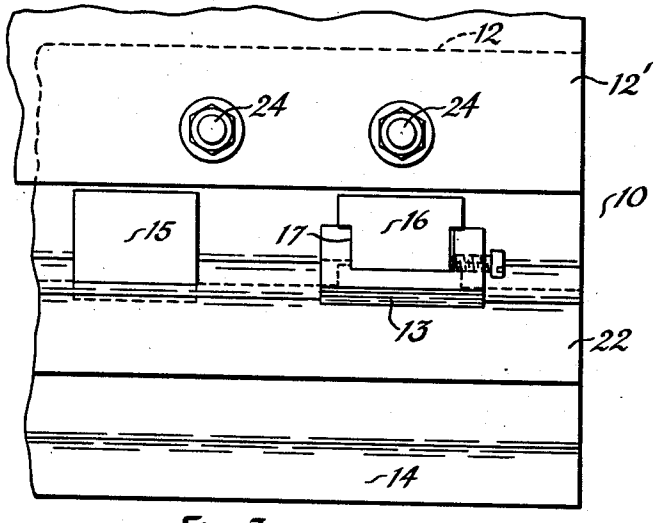


Fig. 3

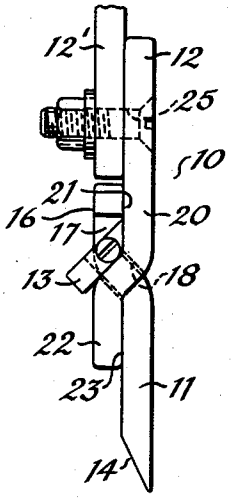


Fig. 4

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Patented Apr. 6, 1954

2,674,052

UNITED STATES PATENT OFFICE

2,674,052

CUTTING BLADE AND MOLDBOARD STRUCTURE

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Application July 18, 1950, Serial No. 174,403

2 Claims. (Cl. 37—143)

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My invention relates to improvements in cutting means and relates more particularly to improved blade or cutting means to be associated with moldbards for road graders, scrapers, bulldozers, terracers, snow plows or the like, and to improvements in mold boards therefor.

In prior art ground-working tool structures of the type aforesaid with which I am familiar, blades or cutting edges are attached to moldboards of such structures by the use of bolts and nuts and, due to the fact that manufacturers of different structures manufacture the same in various sizes and with different spacing of holes in the same, there are in existence several thousand different types of blades.

It is an object of my invention therefore to provide an improved detachable blade or cutting edge for road graders or the like and moldboards therefor wherein assembly or replacement of such means is easily and expeditiously effected;

It is a further object of my invention to provide an improved blade or cutting edge of the above type and moldboard therefor which will be inexpensive and simple in manufacture and highly efficient in use;

Another object of my invention is to provide an improved detachable blade and secondary moldboard which may be used with various type existing structures;

Other objects of my invention and the invention itself will become more readily apparent by reference to the description in which reference will be had to the accompanying drawings, in which:

Fig. 1 is a front plan view of the blade and moldboard means of my invention;

Fig. 2 is a view taken on the line 2—2 of Fig. 1 and showing the dirt or front side of the blade and moldboard;

Fig. 3 is a rear plan view on the opposite side of the blade and moldboard of Fig. 1;

Fig. 4 is a view taken on the line 4—4 of Fig. 1 and showing the rear face similar to that shown in Fig. 3.

Referring now to the drawings, in all of which like parts are designated by like reference characters, in the figures shown herein, I show a two part blade structure 10 consisting of the blade 11 illustrated in Figs. 1 to 4, inclusive, and the moldboard 12 illustrated in Figs. 1 to 4, inclusive. In said figures, I show a fastening clip 13 which may be affixed to end notches 17 provided in the blade 11.

The blade 11 of my invention is a longitudinally extending scraper blade bevelled at 14 in the

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conventional manner, the blade preferably being constructed of a high carbon abrasion resisting steel, or alloy steel. It is provided with a plurality of upwardly extending, rearwardly inclined, integrally formed tang portions 15 of substantially rectangular form. The tang portions 16 disposed at the opposite ends of the blade are preferably further provided on their side faces with substantially U-shaped notches 17 for purposes later to be described herein.

The moldboard 12 to which said blade is adapted to be attached, may be either the conventional moldboard employed with structures of the type referred to, or a secondary moldboard structure attached thereto, but in any event, shall be of generally rectangular form and provided with a plurality of slots longitudinally extending and indicated at 18 spaced above the lower edge of said moldboard, said slots 18 being disposed in relative longitudinal alignment.

The tangs of the blade 11 are adapted to be inserted within an aligned slot in the moldboard structure, as indicated in Figs. 2 and 4 and, when so inserted, a portion of the moldboard, indicated at 20, overlaps a substantial portion of the front or dirt surfaces 21 of the blade, and a portion of the moldboard, indicated at 22, is disposed in lapped relationship to the back surfaces 23 of the blade 11. The fastening clip shown in Fig. 3 is of generally U-shaped construction and is a conventional type fastening, and other suitable clips, etc. could be employed herein in lieu thereof, adapted to secure the end portions of the blade to the moldboard to securely maintain the tongue and slot engagement of the blade to the moldboard and to resist torsional, dragging or lifting effect thereon which might cause said blade and moldboard to tend to separate.

It will be obvious that all tang portions 15 might be provided with fastening means, if desired, similarly to the tang portions 16 and that various type fastening means could be employed in this connection.

Also, that the moldboard 12 could be the conventional type moldboard in which slots similar to those indicated at 18 are added, or a secondary moldboard having the slots 18 preliminarily formed therein and said secondary moldboard could be attached to a moldboard on any existing structure by means of the use of existing bolt connections 24, etc. by providing said secondary moldboard with apertures as shown at 25, adapted to align therewith.

In Figs. 1 to 4, inclusive, it will be noted that

I have indicated at 12' a flat metal portion of either a moldboard to which the secondary moldboard 12 may be attached, or said portion could be an L-beam or other integral means of a scraper, bulldozer, etc.

It will be obvious that the combined moldboard and blade of my invention may be simply and easily secured together or the blade detached therefrom in field operation.

Also, it will be obvious that, although I have described my invention in connection with a preferred embodiment thereof, that numerous and extensive departures such as changes in size, material, and fastening means could be made, without, however, departing from the spirit of my invention or the scope of the appended claims.

What I claim is:

1. Means for supporting a work blade, comprising a supporting plate and a blade, the blade being provided with a plurality of upwardly extending tang extensions, the plate being provided with a plurality of longitudinally extending slots, each said tang extension adapted to be inserted through a said slot in the plate and the lower portion of each said tang extension being inclined at an angle to the remainder of the blade whereby the tang portion of the blade is adapted to be disposed in lapped relation rearwardly of said plate, and a portion of said plate is adapted to be disposed in lapped relation rearwardly of said blade, said lapped portions of the said plate and blade being parallel to each other, generally U-shaped clip attachment means adapted to be associated with at least an end one of said tang extensions to securely retain the plate and blade in assembled relation.

2. Means for supporting a work blade, comprising a supporting plate element and a blade element, one of said elements being provided with a plurality of upwardly extending tang extensions, the other of said elements being provided with a plurality of longitudinally extending slots, each said tang extension adapted to be inserted through a said slot in the said other element and the lower portion of each said tang extensions being inclined at an angle to the remainder of the said first named element whereby the tang portion of the said first named element is adapted to be disposed in lapped relation rearwardly of said other element, and a portion of said other element is adapted to be disposed in lapped relation rearwardly of said first named portion, said lapped portions of said other element and said first named element being parallel to each other, generally U-shaped attachment means adapted to be associated with at least an end one of said tang extensions to securely retain the said other element and the said first named element in assembled relation.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,937,243	Pearch	Nov. 28, 1933
2,138,150	Flynn	Nov. 29, 1938
2,285,039	Low	June 2, 1942
2,472,892	George	June 14, 1949

FOREIGN PATENTS

Number	Country	Date
35,655	Denmark	June 21, 1927
375,048	France	Feb. 27, 1906