April 7, 1931. J. H. WILY 1,799,204

BIT CONNECTION FOR BLADED TOOLS

Filed Feb. 14, 1929

Fig. 1.

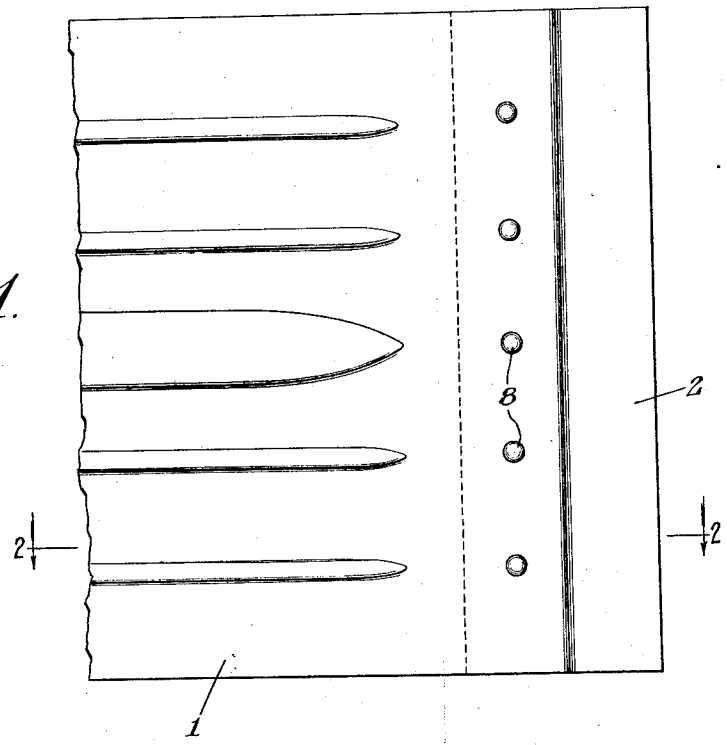
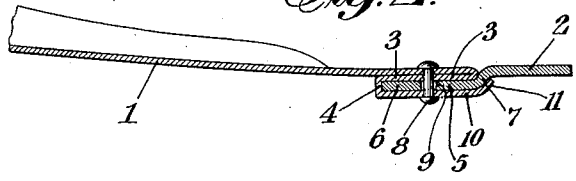


Fig. 2.



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BIT CONNECTION FOR BLADED TOOLS

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The invention relates to bladed tools such as shovels, ice cutters, turf cutters and the like, wherein a separate bit, usually of special hard metal, is employed to serve as the cutting or wearing member.

The primary object of the invention is to provide connection between the bit and blade of a tool of the above nature, which will be strong and durable, particularly in absorbing or withstanding sudden shocks encountered for example when the tool is used for chopping, and twisting strains. And where fastening devices such as rivets are employed to assist in holding together the blade and bit, the connection preferably is arranged to absorb shocks of the above nature without transmitting them through the rivets or otherwise subjecting the rivets thereto. Further objects of the invention will be in part obvious and in part specifically pointed out in the annexed specification which, taken in conjunction with the accompanying drawings, discloses a preferred embodiment of the invention; such embodiment however is to be considered as merely illustrative of its principles. In the drawings:

Fig. 1 is a plan view of a tool blade and bit connected in accordance with the invention.

Fig. 2 is a section on line 2—2 of Fig. 1.

The invention is illustrated as applied to a sheet metal shovel blade 1, and a bit 2 which serves as the cutting or wearing member, such bit being usually made of fairly hard and tough steel. In the illustrated form of the invention, the forward part of the blade (i. e. the part of the blade near the bit), is bent back as at 3, and then bent outwardly as at 4, to provide a transverse shoulder.

The rear portion 5 of the bit lies along the bent back part 3 of the blade, and has its rear edge 6 seated against the above mentioned shoulder 4. Preferably also the forward part 7 of the rear portion of the bit is bent to lie against the first bend (between parts 1 and 3) of the blade, whereby the body or forward portion of the bit 2 lies substantially in the plane of the body of blade 1 and abuts the latter. Thus when the tool is used for chopping, the sudden shocks are transmitted directly from the bit either to the shoulder 4 of the blade, or from the bent part 7 of the bit to the blade, if both of the above described features of construction are employed.

Usually fastening devices such as rivets 8 will be employed to assist in holding together the bit and blade, and it will be noted that the above described features of construction relieve the rivets of any lengthwise shocks which otherwise would tend to bend or shear them off, or crumple up the walls of the holes through which they pass. I prefer to make the holes 9 of the bit, through which the rivets 8 pass, larger in diameter than the rivets, to insure that the rivets will be relieved of lengthwise stresses as above described.

I prefer also to provide a further bent part 10 in the blade, which extends forwardly from shoulder 4 above described, whereby the parts 3, 4 and 10 of the blade form in effect a U shaped pocket within which the rear portion of the bit is received, and the forward edge 11 of the part 10, may be bent to lie against the above described bent part 7 of the bit. The shoulder 4, as well as the bent parts 7 and 11 when the latter are employed, tend strongly to prevent the bit from rocking or twisting with respect to the blade, while the connection as a whole reinforces the blade to a substantial extent. It will be understood that the bent parts 3, 4 and 10 might be separate from the body of the blade 1, but for most purposes I prefer to make them integral therewith.

While a specific embodiment of the invention has been disclosed, it should be understood that many changes may be made therein without departing from its main features, as set forth in the appended claims.

I claim:

1. In a tool of the class described, a blade having its forward edge bent back and then forwardly to provide a U shaped pocket, and a hard metal bit for said tool having its rear portion received within said U shaped pocket with its rear edge seated against the base of the U.

2. In a tool of the class described, a blade

having its forward edge bent back and then forwardly to provide a U shaped pocket, and a hard metal bit for said tool having its rear portion received within said U shaped pocket with its rear edge seated against the base of the U, the forward part of such rear portion of the bit being bent to lie against the first bend in the blade.

3. In a tool of the class described, a blade having its forward edge bent back and then forwardly to provide a U shaped pocket, and a hard metal bit for said tool having its rear portion received within said U shaped pocket with its rear edge seated against the base of the U, the forward part of such rear portion of the bit being bent to lie against the first bend in the blade and the end of the outer leg of the U being bent to lie against said bent part of the bit.

4. In a tool of the class described, a blade having its forward edge bent back and then outwardly to provide a transverse shoulder, a hard metal bit for said tool having its rear portion lying along the bent back part of the blade and its rear edge seated against said transverse shoulder, and fastening devices passing through alined holes in said blade and bit.

5. In a tool of the class described, a blade having its forward edge bent back and then outwardly to provide a transverse shoulder, a hard metal bit for said tool having its rear portion lying along the bent back part of the blade and its rear edge seated against said transverse shoulder, and fastening devices passing through alined holes in said blade and bit, the holes in the bit being larger than the fastening devices.

6. In a tool of the class described, a blade having its forward edge bent back and then forwardly to provide a U shaped pocket, and a hard metal bit for said tool having its rear portion received within said U shaped pocket with its rear edge seated against the base of the U and fastening devices passing through alined holes in the blade proper, the sides of the U, and the bit.

7. In a tool of the class described, a blade having its forward edge bent back and then forwardly to provide a U shaped pocket, and a hard metal bit for said tool having its rear portion received within said U shaped pocket, means being provided for fastening the rear portion of the bit within said pocket.

8. In a tool of the class described, a blade having its forward edge bent back and then forwardly to provide a U shaped pocket, and a hard metal bit for said tool having its rear portion received within said U shaped pocket, means being provided for fastening the rear portion of the bit within said pocket, said bit abutting an adjacent part of the blade to relieve the fastening means of lengthwise stresses.

9. A blade for a tool of the class described having its front edge bent to the rear and then forwardly to provide a U-shaped pocket, and a metal bit having its rear portion received within said U-shaped pocket, said bit being bent to abut the front bent edge of the blade so as to have the projecting edge of the bit in substantially the same plane as the blade.

10. A blade for a tool of the class described having a depending U-shaped pocket, and a metal bit having its rear portion positioned within said U-shaped pocket, said bit being bent intermediate its edges to abut the front edge of the blade so as to have the projecting edge of the bit in substantially the same plane as the blade.

11. A blade for a tool of the class described having a depending U-shaped pocket, and a metal bit having its rear edge abutting the base of the pocket, said metal bit being bent intermediate its edges to abut the front edge of the blade so as to have the projecting edge of the bit in substantially the same plane as the blade.

In testimony that I claim the foregoing, I have hereunto set my hand this 2nd day of February, 1929.

JAMES H. WILY.