April 2, 1929. C. HARRISON 1,707,552

RENEWABLE WORKING FACE FOR EXCAVATING TOOLS

Filed Oct. 25, 1926

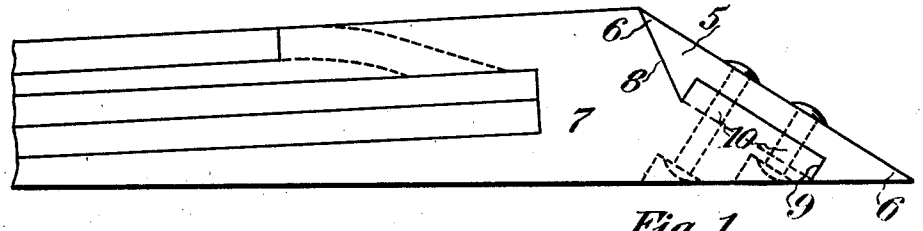


Fig. 1

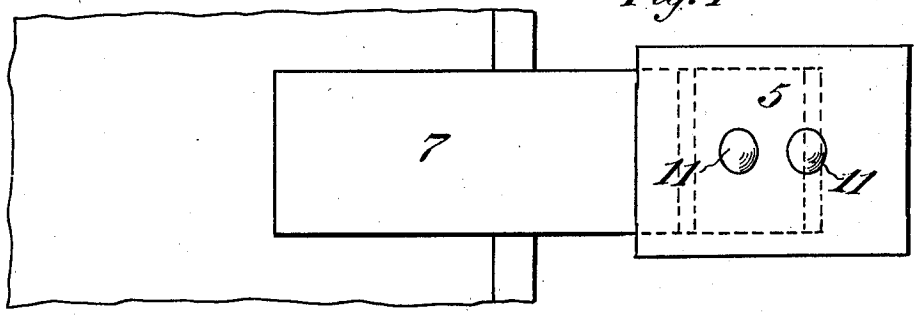


Fig. 2

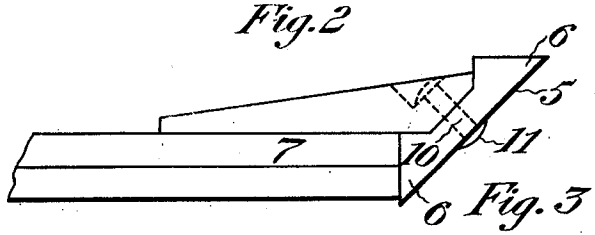


Fig. 3

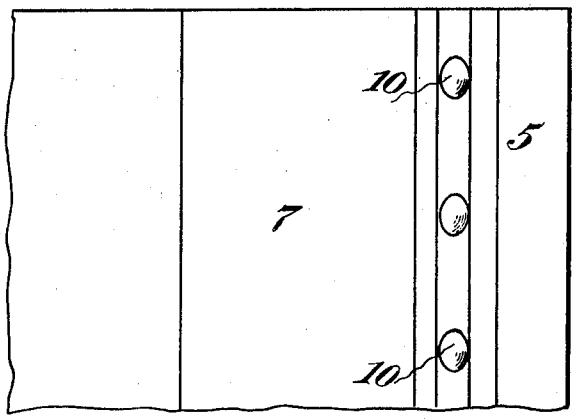


Fig. 4

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UNITED STATES PATENT OFFICE.

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RENEWABLE WORKING FACE FOR EXCAVATING TOOLS.

Application filed October 25, 1926. Serial No. 144,030.

This invention relates to renewable and reversible working faces for excavating tools; its object is to improve the efficiency of excavating buckets and other tools for the rapid handling of earth material, by avoiding the necessity for expensive delays and costly work on the field which have been unavoidable hitherto on account of the intense and rapid wear of the actual working faces of such tools.

I effect my improvements by separating the working face and edge of an excavating, dredging or shovelling tool from the body of the appliance itself, whereby the actual face of the tool may be tempered to an extreme or any required degree of hardness, whilst the more weighty portion which abuts and supports the working face is retained of suitable, tough and entirely non-brittle material.

The character of my invention is better explained by reference to the drawings herewith forming part of this application in which:

Fig. 1 is a side elevation of a dredging bucket tooth to which my reversible cutter and face is applied,

Fig. 2 is a plan view of the same.

Fig. 3 is a side elevation of my device as applied to a side cutter of an excavating tool.

Fig. 4 is a plan view of Fig. 3.

Taking the drawings in detail the working face of the excavating tooth is indicated by 5 and by the same numeral in the case of its application to a lateral or other working face as shown by Fig. 3 and Fig. 4.

In the case of a tooth on an excavating tool where the front edge and adjacent surface is subjected to the most intense stresses the face 5 together with the two symmetrical angular cutters 6 forming my reversible and replaceable cutter and face may be of special hard steel or other suitable alloy which may be tempered to an extreme degree of hardness without detriment in view of the fact that it is well supported by the body of tougher and non-brittle material behind it at 7.

The face is shaped to fit the tooth so that the abutment faces 8 and 9 take the major portion of the strain and the rivets 10 are correspondingly relieved.

With this method of construction it is obvious that the life of the bucket or other tool may be greatly prolonged until the body of the tool is worn through, because as the front points 6 become worn off or too much blunted for efficient work the rivet heads 11 are also worn level to the face 5 and thus are readily knocked out by a drift pin, so that the face may be immediately reversed and re-riveted on the spot with little loss of time and no costly work such as would be necessary were the entire tooth to be softened, re-shaped and re-tempered, as is ordinarily the case.

Having now particularly described my invention what I desire to be protected in by Letters Patent, is:—

1. A cutting member of an excavating dredging and shovelling tool comprising, a body member and an exterior working face member in secured relation thereto, said face member being so formed that the longitudinally vertical section through any part of the two said members gives to the said face member a cross section of such an outline that the projection of its two symmetrical sides produces the obtuse angle of a triangle having two equal acute angles, a symmetrical recess in the back of the said working face member, said recess being bounded by plane surfaces and having its base parallel to the principal external working face of the said cutting member, a projection on the said body member corresponding with and engaging the said recess.

2. A cutting member of an excavating dredging and shovelling tool comprising, a body member and an exterior working face member in secured relation thereto, said face member being so formed that the longitudinally vertical section through any part of the two said members gives to the said face member a cross section of such an outline that the projection of its two symmetrical sides produces the obtuse angle of a triangle having two equal acute angles, a symmetrical recess in the back of the said working face member, said recess being bounded by plane surfaces and having its base parallel to the principal external working face of the said cutting member, a projection on the said body member corresponding with and engaging the said recess, the two said members being secured together by rivets, the heads of said rivets projecting above the said working face and thereby adapted to meet the same wear as that to which the face is exposed so as to be more readily removable when replacement becomes desirable.

In testimony whereof I affix my signature.

CHARLES HARRISON.