July 25, 1939. J. W. PAGE 2,167,425

TOOTH-POINT CONSTRUCTION

Filed Dec. 22, 1938

Fig. 1.

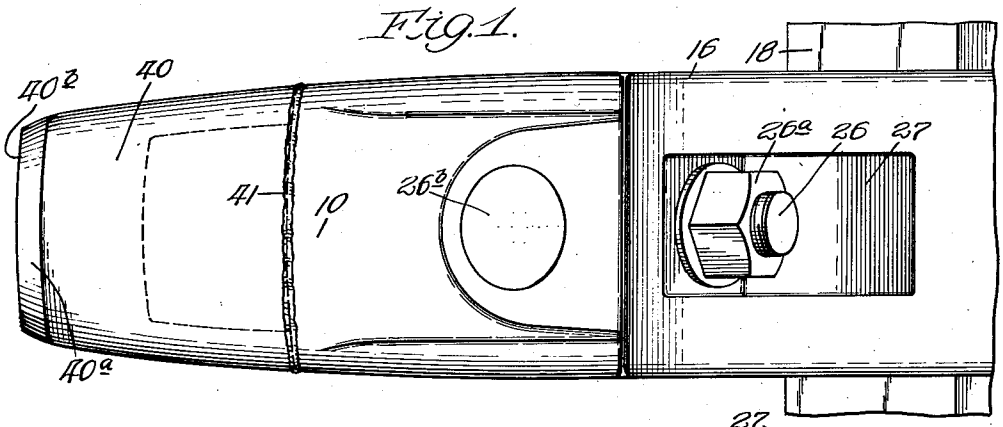


Fig. 2.

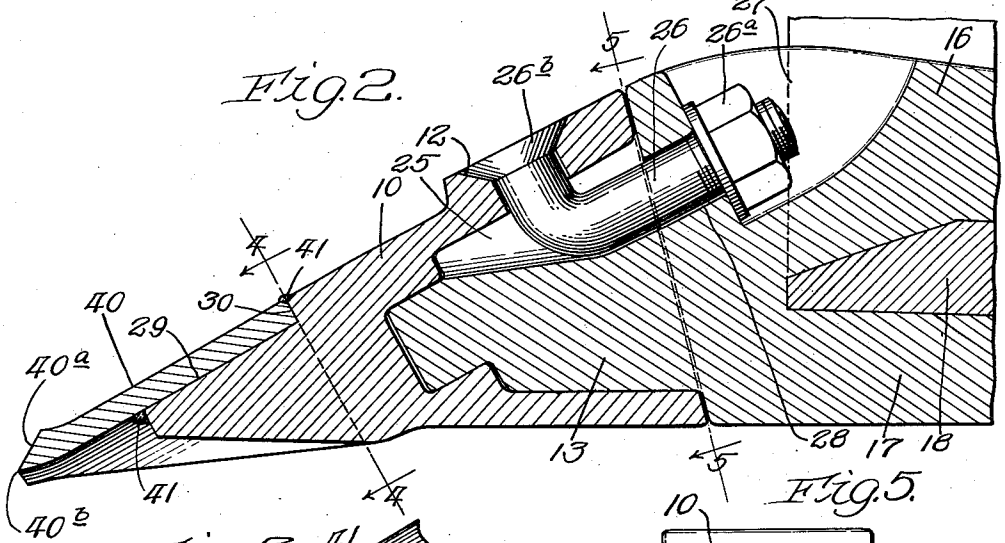


Fig. 5.

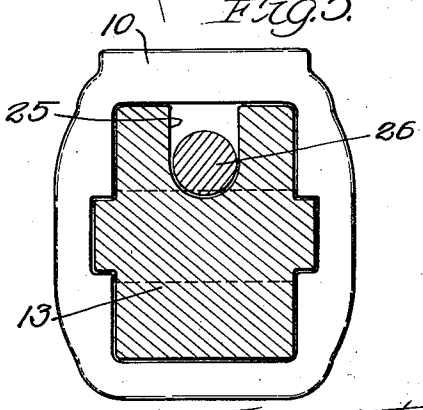


Fig. 3.

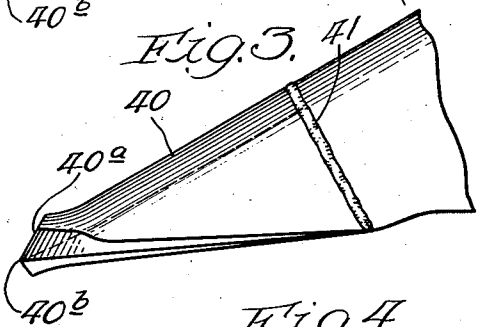
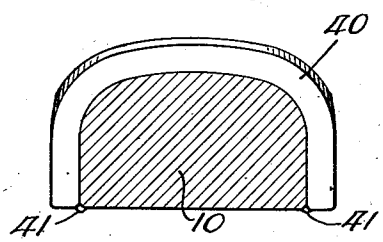


Fig. 4.



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TOOTH-POINT CONSTRUCTION

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6 Claims. (Cl. 37—142)

This invention relates to improvements in tooth point construction and more especially such construction adapted for excavating shovels. My invention is adapted, for example, for use in connection with excavating shovels, buckets, dredges and other excavating devices. The construction here shown is applicable for use in connection with teeth commonly used on the forward or cutting edge of excavating shovels and similar devices of the character referred to.

Among the features of my invention is a provision of tooth point construction having a detachable blade. By means of this construction, the blade may easily be removed for renewal, replacement, repair or other purposes. Another feature of my invention is the particular shape and construction of the blade and the means for removably securing it to the tooth point.

Other features and advantages of my invention will appear more fully as I proceed with my specification.

In that form of device embodying the features of my invention shown in the accompanying drawing— Fig. 1 is a top plan view; Fig. 2 is a vertical sectional view; Fig. 3 is a fragmentary view in side elevation; and Figs. 4 and 5 are views taken as indicated by the lines 4 and 5 respectively of Fig. 2.

As shown in the drawing, 18 may indicate the cutting edge of the bottom of a shovel, said edge carrying a plurality of tooth supporting stubs or lugs 13, one being shown in the drawing. These lugs may be mounted in any suitable manner. For example, as here shown, each lug may be attached to the cutting edge 18 of the shovel by means of the upper and lower parallel arms 16 and 17, respectively.

10 indicates a tooth point on the lug 13. As here shown the tooth point is made detachable and provided with a socket adapted to embrace and receive cooperatively the lug 13. Obviously, however, the tooth point 10 could be supported on the lug 13 or directly on the cutting edge 18 in any suitable manner. If desired, for example, the tooth point could be made integral with the cutting edge.

Any suitable means may be provided for attaching and securing the tooth point 10 to the lug 13. For example, as here shown, the upper surface of the lug 13 is provided with a groove 25 adapted to accommodate the bolt 26. A short distance above and back of the upper and inner end of the groove 25, the lug 13 is recessed at 27 to accommodate the nut 26a of the bolt 26. A circular hole 28 forms a continuation of the groove 25 into the recess 27. The bolt 26 is provided with a countersunk head 26b adapted to seat in the countersunk opening 12 in the tooth point 10.

When the parts are in the position shown in Fig. 2, it is obvious that tightening of the nut 26a will draw the tooth point 10 tightly up on the lug 13.

The forward end of the tooth point 10 is arched and its upper and side surfaces depressed or recessed as indicated by 29, the rear end of the depression terminating in the shoulder 30.

40 indicates an arched detachable blade made of any suitable metal depending upon the usage to which it is to be subjected. The metal also may be treated or tempered, as desired. That is, it may be hardened or otherwise treated to give it the desired characteristics adapting it particularly for the use to which it is to be put. The blade 40 is carried by the tooth point mounted on the forward arched portion of said tooth point. The blade 40 is arched or curved to conform to the curvature of the arch 29 at the forward end of the tooth point 10; and its rear edge lies against the shoulder 30. The forward edge of the blade 40 is here shown as bevelled, as indicated by 40a to provide the sharpened or cutting edge 40b.

The blade 40 is held in place by welding at the edges as indicated by 41. This welding is put on so that it can easily be undone or removed by a torch, grinder, or other means to permit quick and easy removal, substitution or replacement of the blade. By this construction a plurality of blades of different characteristics may be at hand so that they can readily be changed for different uses. Also, any blade may be quickly removed after wear, for replacement, repair, sharpening or other alteration.

I have found that the blade may be made of sheet metal. This is easily accomplished because of the particular shape of the blade shown.

While there are shown and described certain embodiments of the invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claims, in which it is intended to claim all novelty inherent in the invention as broadly as permissible, in view of the prior art.

What I claim as new, and desire to secure by Letters Patent, is:

1. In combination with the cutting edge of an excavating device, a tooth point on said cutting

edge and provided with an arched forward portion, the axis of the arch extending longitudinally of the point, and a detachable arched blade carried by the tooth point mounted on said arched portion.

2. Apparatus as claimed in claim 1, in which the forward edge of the blade extends beyond the forward edge of the tooth point.

3. In combination with the cutting edge of an excavating device, a tooth point on said cutting edge and provided with a depressed arched forward portion, the axis of the arch extending longitudinally of the point, and a detachable arched blade carried by the tooth point mounted on said arched portion.

4. Apparatus as claimed in claim 3, in which the forward edge of the blade extends beyond the forward edge of the tooth point.

5. In combination with the cutting edge of an excavating device, a tooth point on said cutting edge and provided with a depressed arched forward portion terminating in a shoulder at the back, the axis of the arch extending longitudinally of the point, and a detachable arched blade carried by the tooth point mounted on said arched portion with its rear edge against said shoulder.

6. In combination with the cutting edge of an excavating device, a tooth point on said cutting edge and provided with an arched forward portion, the axis of the arch extending longitudinally of the point, and a detachable arched blade carried by the tooth point mounted on said arched portion and held in position by welding, said welding adapted for ready undoing to permit removal of the blade.

JOHN W. PAGE.