

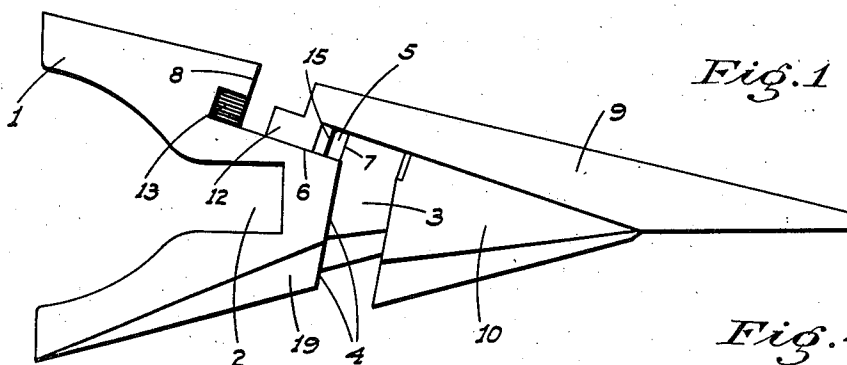
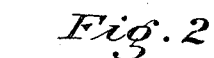
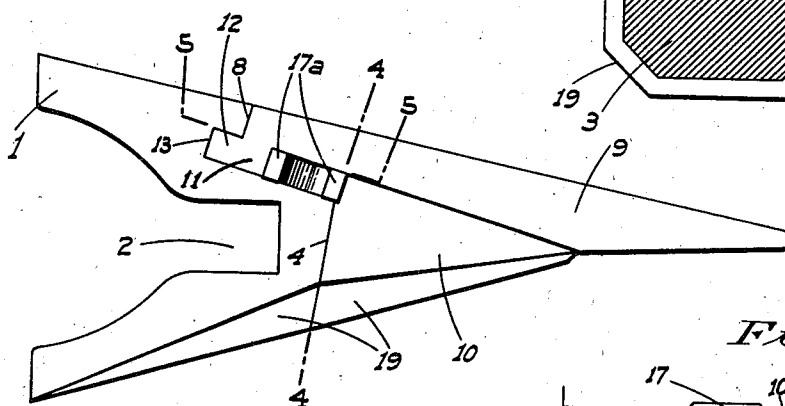
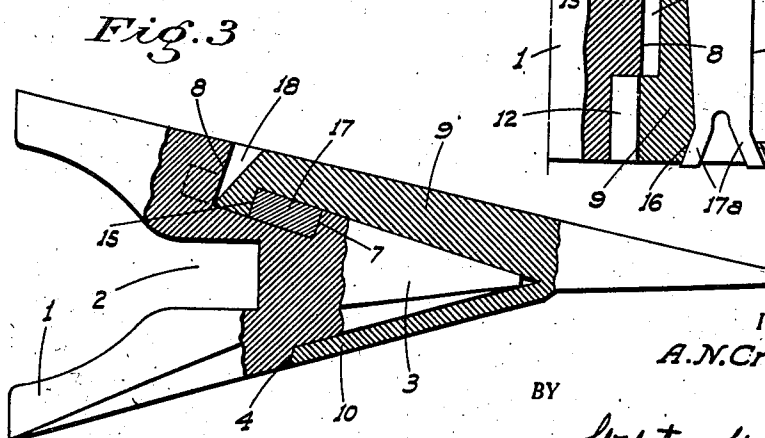
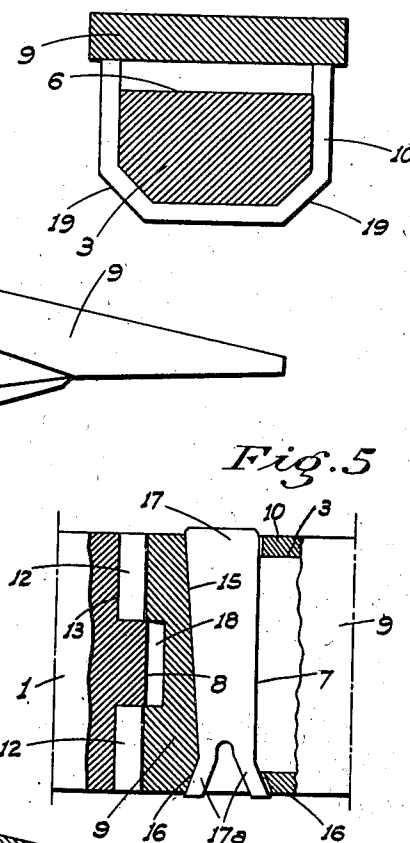
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A. N. CRAWFORD

2,307,359

TOOTH UNIT FOR DREDGE BUCKETS

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INVENTOR,
A. N. Crawford

BY

Webster & Webster
ATTORNEYS

UNITED STATES PATENT OFFICE

2,307,359

TOOTH UNIT FOR DREDGE BUCKETS

Arthur N. Crawford, Plymouth, Calif.

Application May 16, 1941, Serial No. 393,724

1 Claim. (Cl. 37—142)

This invention is directed generally to improvements in that type of dredge bucket tooth unit which includes a removable digging point assembly, and in particular the instant invention comprises modifications over the bucket tooth unit shown in my copending application, Serial No. 337,222, filed May 25, 1940, now Patent No. 2,259,456.

One of the objects of this invention is to provide in a bucket tooth unit having a bucket supported body and a removable digging point assembly, a unique securing arrangement for such digging point assembly; such securing arrangement including means to assure a strong but readily releasable connection between the parts.

Another object of the invention is to provide a securing arrangement, as above, wherein is included a novel form of locking key or drift.

A further object of the invention is to form a certain bevel on the lower and outer edges of corresponding portions of the body and digging point assembly socket whereby to reduce wear and drag of the bucket tooth unit when in use.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

In the drawing similar characters of reference indicate corresponding parts in the several views:

Figure 1 is a side elevation of the bucket tooth unit with the parts thereof partially engaged.

Figure 2 is a side elevation of the bucket tooth unit with the parts fully engaged, and with the drift in place.

Figure 3 is a longitudinal sectional elevation with the parts in the same relative positions as in Fig. 2.

Figure 4 is a cross section on line 4—4 of Fig. 2.

Figure 5 is a fragmentary sectional plan on line 5—5 of Fig. 2.

Referring now more particularly to the characters of reference on the drawing, the bucket tooth unit comprises a body 1 which tapers from its rear end forwardly, and is formed with a socket 2 which opens to its rear end; such socket being of a size and configuration to receive the conventional supporting boss (not shown) which is mounted on and projects forwardly from the forward edge or lip of the dredge bucket. The body 1 is secured in connection with the supporting boss by any suitable means.

The forward portion of tapering body 1 is reduced in height and width relative to the rearward portion of the body so as to form a forwardly projecting tang 3 which tapers forwardly both in a vertical and horizontal plane. As the tang 3 is reduced in size relative to body 1, there are abutments 4 extending laterally and downwardly from the sides and bottom respectively, of said tang.

Immediately rearwardly of tang 3, the body 1 is formed with an upwardly opening, transversely extending groove 5 which is open to both sides of the body and which is of substantial depth and width; the groove 5 having a bottom 6 which is disposed below but parallel to the top surface of the tang, and forward and rear walls 7 and 8 respectively cut at right angles to the bottom 6. Of course, the forward wall 7 is of substantially lesser height than wall 8, due to the reduction in size of tang 3.

The removable digging point assembly comprises a digging blade or plate 9 adapted to rest flush on the top of tang 3 and at its rear end to abut wall 8 when the digging point assembly is secured in working position on body 1. Depending from the digging blade 9 intermediate its ends is a forwardly tapering, rearwardly opening socket 10 into which the tang 3 projects with a snug and symmetrical fit; the side and bottom edges of the socket 10 at the rear engaging the corresponding side and bottom abutments 4 when the tang is fully engaged in socket 10. As will be seen, the digging point assembly is formed substantially symmetrical to the taper of body 1, so that when the tooth unit is assembled, the exterior surfaces of the separable parts form unbroken working surfaces; the blade 9 projecting a short distance ahead of socket 10, as the working or digging point.

The digging blade 9 at its rear end is formed with a downwardly extending transverse flange 11 which rides on bottom 6 of the transverse groove 5 and is of the same length. Transversely spaced tongues 12 are formed on the flange 11 and project rearwardly therefrom; the lower surface of such tongues being flush with the lower end of flange 11 and likewise riding bottom 6; such tongues being of a height substantially one-half the height of such flange. When the parts of the tooth unit are assembled and in working position, the tongues 12 seat in matching grooves 13 cut rearwardly in wall 8 of the groove 5.

With the parts in fully engaged position, there is an open ended passageway 14 formed between

the forward face 15 of flange 11 and the forward wall 7 of transverse groove 5; such walls, from one end of the passage, converging somewhat toward each other and to a point adjacent but short of the other end of the passage where the walls then diverge rather abruptly as at 16. A tapered locking key or drift 17 is driven into said passageway from said one end, the end of the drift adjacent the other end of the passageway being forked as at 17a and the forked portion manually spread to engage the diverging walls 16 after the drift has been driven into place. By reason of this arrangement, the drift is positively held against backing out of the passage, and yet can be manually driven out when it is desired to remove the digging point assembly.

In order to facilitate initial separation of the digging point assembly from the body 1 after use and when it is desired to replace or repair such assembly, I cut the rear end of digging blade 9 between tongues 12 at a forward and upward slope from its lower edge whereby when said rear end of blade 9 abuts wall 8, there is formed an upwardly opening and tapered driving slot 18 into which a tool may be driven to start or effect initial separation of the digging point assembly relative to body 1.

In order to reduce wear and drag, the lower edges of the body 1 and socket 10 are beveled as at 19; the bevel being of greatest width at the point of abutment of socket 10 and body 1, and thence feathering out in opposite directions as to opposite ends of said body and socket. It should be noted that the tang 3 is beveled to correspond with the bevel of the socket which is carried into the inner surface of said socket.

From the foregoing description it will be read-

ily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claim.

Having thus described my invention, what I claim as new and useful and desire to secure by Letters Patent is:

In a bucket tooth unit which includes a body having a forwardly projecting tang, a digging point assembly having a rearwardly opening socket into which said tang seats, and means to releasably secure said body and assembly against relative longitudinal separating movement; said means comprising a flat, rearward projection on the assembly overhanging the body, the latter having an upwardly opening, transverse groove which said projection overhangs, a rigid flange extending into the groove from said projection, the groove being of greater width than said flange, and a drift frictionally engaged between the forward walls of the flange and groove whereby to forcefully abut the flange against the rear wall of the groove, said flange having transversely spaced rearwardly projecting tongues seating in matching sockets in the rear wall of the groove, the rear end of said projection engaging the body and said end of the projection between said tongues being beveled upwardly and forwardly from its lower edge whereby to form with the body an upwardly opening and tapered driving slot.

ARTHUR N. CRAWFORD.