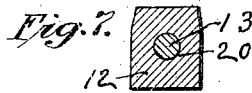
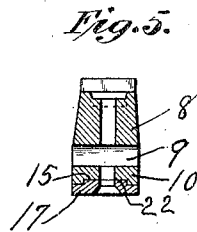
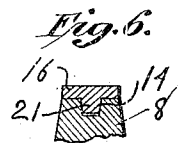
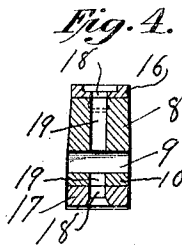
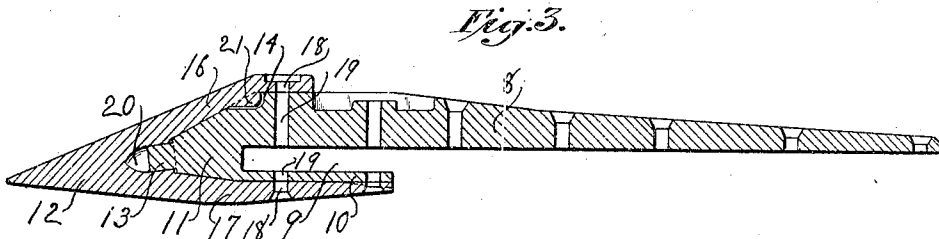
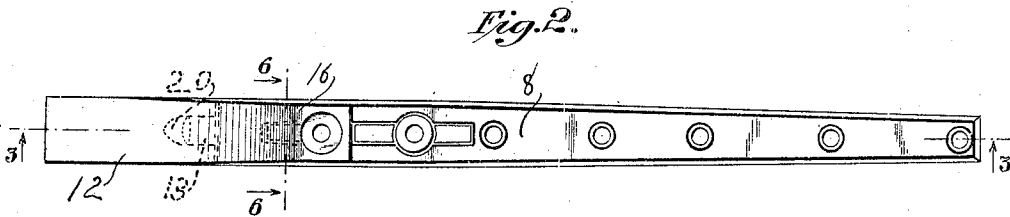
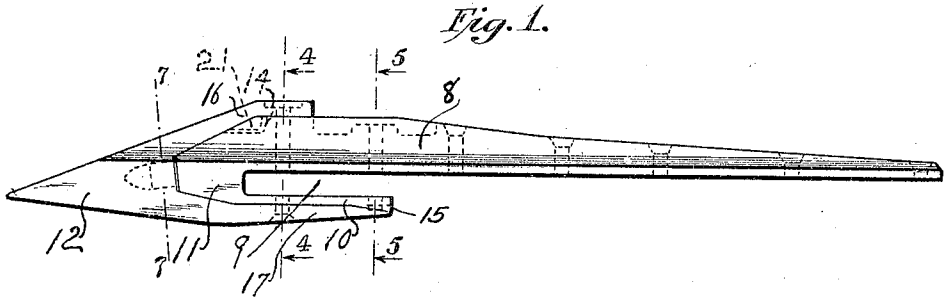


1,107,253.

Patented Aug. 18, 1914.



Attest:  
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 Atty

# UNITED STATES PATENT OFFICE.

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## DIPPER-TOOTH.

1,107,253.

Specification of Letters Patent.

Patented Aug. 18, 1914.

Application filed November 12, 1913. Serial No. 800,453.

*To all whom it may concern:*

Be it known that I, EDWARD S. BLACK, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have made and invented certain new and useful Improvements in Dipper-Teeth, of which the following is a specification.

My invention relates to teeth for dippers for excavating, dredging, digging, and similar machines, and particularly to that type of dipper teeth in which a shank or base portion designed to be permanently secured to the body of the dipper is employed and to the free outer end of which shank a separate detachable point is secured, so that when the point has been worn away in use to such an extent as to be no longer serviceable, it may be removed from the shank or base and replaced by another, the shank being used indefinitely or at least being capable of use while several points are worn out in succession.

My invention comprehends the detachable point considered by itself and apart from the supporting shank, the shank or base likewise considered, and the combination of the base and point which together form a dipper tooth; and the object thereof is to provide a shank or base, and a point, which will be simpler in form and easier to cast than has heretofore been the case, the point being commonly made from cast manganese steel and the base from that material or from cast carbon steel.

A further object of my invention is to provide a dipper tooth in which the point will be held against lateral motion more securely than has heretofore been the case, and by means of a lug and recess arrangement which may be more easily provided as the base and point are cast than the means which have heretofore been employed for a like purpose.

With the above and other objects of invention in view, my invention consists in the improved dipper tooth, point and supporting shank or base therefor illustrated in the accompanying drawing and hereinafter described and claimed, and in such variations and modifications thereof as will be obvious to those skilled in the art to which my invention relates.

In the drawing wherein the preferred

form of my invention is illustrated: Figure 1 illustrates my improved dipper tooth in side elevation; Fig. 2 is a view showing the same as seen from a position above Fig. 1; Fig. 3 is a view showing a section taken upon a longitudinally extending plane indicated by the line 3—3, Fig. 2; Fig. 4 is a view showing a section taken upon a transverse plane indicated by the line 4, 4 Fig. 1; Fig. 5 is a view showing a section taken upon a transverse plane indicated by the line 5, 5, Fig. 1; Fig. 6 is a fragmentary view showing a section taken upon a transverse plane indicated by the line 6, 6, Fig. 2; and Fig. 7 is a view showing a section taken upon a transverse plane indicated by the line 7, 7, Fig. 1.

Referring to the drawing, the reference numeral 8 designates the supporting base or shank of my improved dipper tooth, the same being designed to be secured to the front portion of a dipper body not shown and having a recess 9 adjacent its outer or free end, which recess fits over the edge of the lip of the dipper, as will be understood. The shank or base is commonly secured to the inner surface of the dipper body with the jaw 10 thereof extending a short distance along the outside of the body and toward the bottom thereof, although these features of construction and arrangement are in no way involved in the invention disclosed in this application.

The free outer end of the shank or base 8 is tapered as shown at 11 in order to provide a tooth seat for receiving the detachable point 12 of the tooth, and said tapered portion is provided with a projecting lug 13 at its extremity, which lug is narrower than the projecting portion, as shown in dotted lines, Fig. 2, and is preferably circular in cross-section as shown in Fig. 7. Recesses 14, 15 are also preferably provided in the base, into which recesses lugs upon the detachable point extend, when the point is in place, as will hereinafter appear.

The detachable point 12 of my improved dipper tooth is bifurcated to provide two arms 16, 17, which rest upon and contact with opposite surfaces of the tapered end 11 of the base, as shown in Figs. 1 and 3, when the detachable point is in place upon the base, the point being secured to the base in any suitable way as by means of a bolt

extending through registering holes 18 and 19 provided adjacent the free ends of the arms aforesaid and in the shank or base. The said point is also provided with a recess 5 20 located adjacent the inner ends of the arms 16, 17, and into which recess the projecting lug 13 of the point enters when the parts are assembled. The outer or free ends 10 22 which enter the recesses 14, 15 of the base to thereby prevent lateral movement of the free ends of the arms and prevent shearing of the securing bolt extending through the holes 18, 19 when the tooth is in use, as will 15 be understood.

In view of the premises it will be appreciated that lateral or sidewise motion of the free end of the detachable point 12 when the tooth is in use will be prevented by the lug 20 13 and side walls of the recess 20. This lug and recess arrangement may be more easily formed as the base and shank are cast, than the web and bifurcated shank commonly provided for preventing lateral movement 25 of the point, whereby a simpler tooth is procured and one which may be more easily manufactured, while at the same time provision is made for preventing sidewise movement of the point.

30 Having thus described and explained my

invention, I claim and desire to secure by Letters Patent:

A dipper tooth comprising a supporting shank having a free outer end provided with oppositely disposed faces and an outwardly 35 extending lug with a circular cross-section, said shank being further provided with a centrally disposed recess in one of its faces and with a pair of lugs extending laterally from the other of its faces and spaced apart, 40 and a point detachably engaging said supporting shank and provided with a pair of oppositely disposed arms for engaging said faces of said shank, said point being also 45 provided with a recess of circular cross section for receiving said outwardly-extending lug of said shank, one of said arms carried by said point having a lug for fitting into said centrally disposed recess in said shank, the other arm of said point having a pair of 50 oppositely disposed recesses for receiving said pair of lugs carried by said shank.

Signed at Chicago, in the county of Cook and State of Illinois, this 27th day of October, A. D. 1913.

EDWARD S. BLACK.

Witnesses:

EUGENE C. BAUER,

EARL A. LERNER.