A. H. EXTON & J. M. SHERRERD.

TOOTH FOR EXCAVATING BUCKETS OR SHOVELS.

APPLICATION FILED DEC. 16, 1908.

943,775.

Patented Dec. 21, 1909.

Fig. 1.

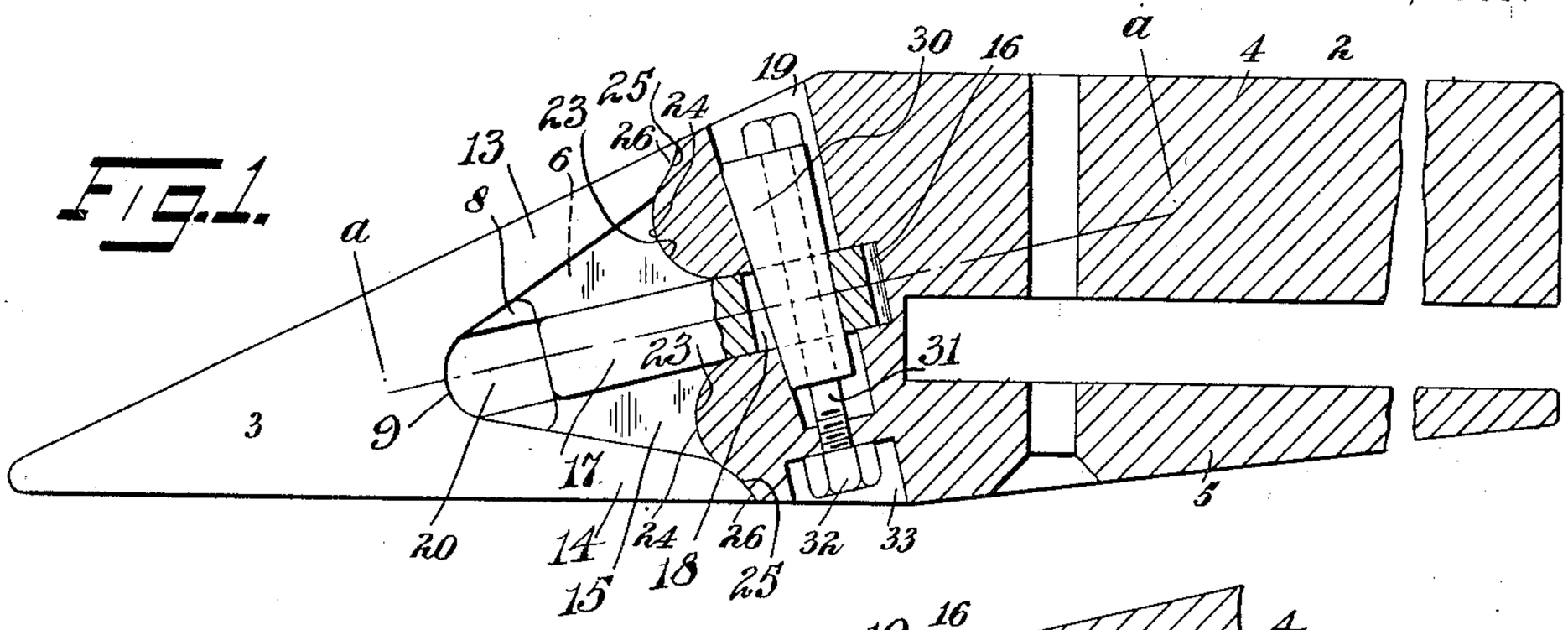


Fig. 2.

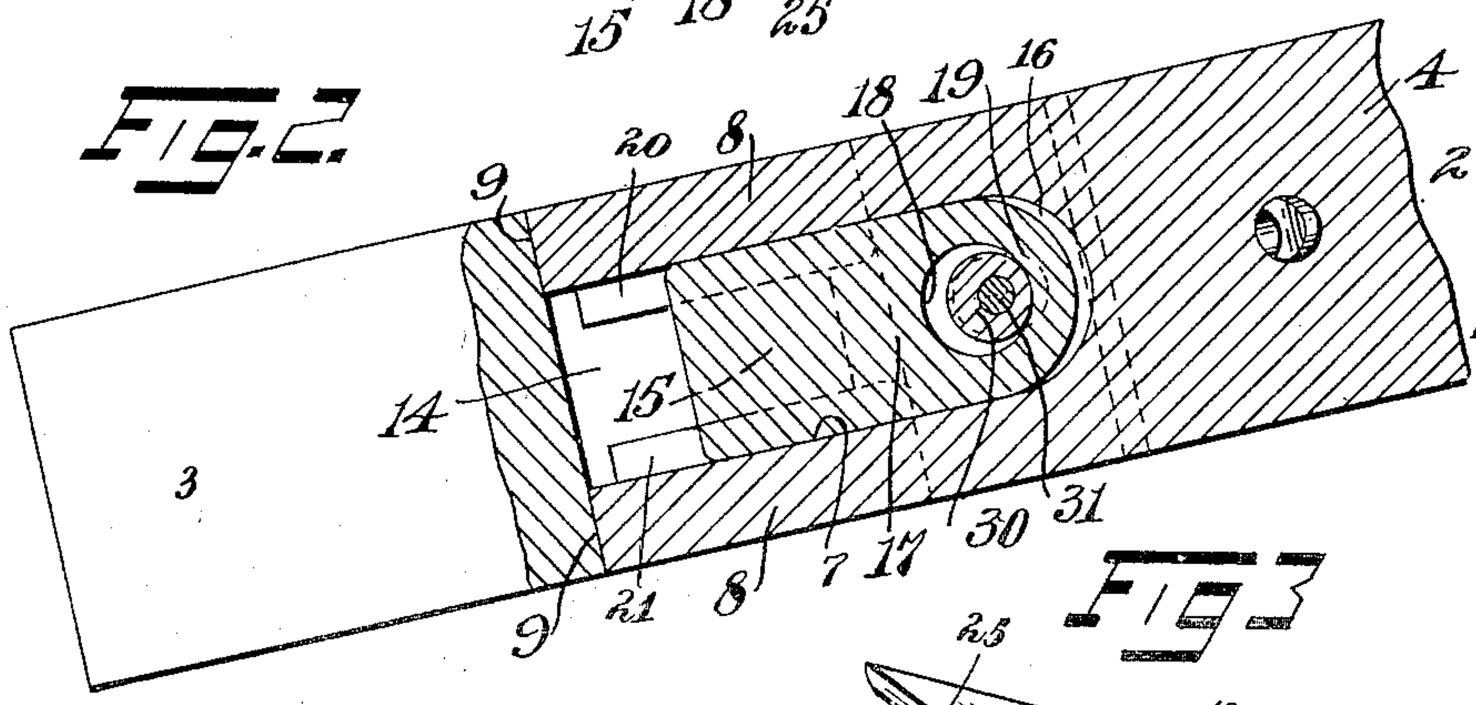


Fig. 6.

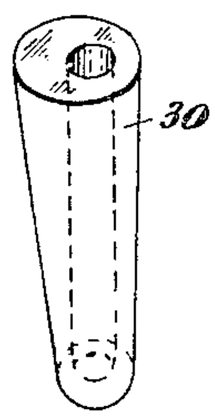


Fig 3

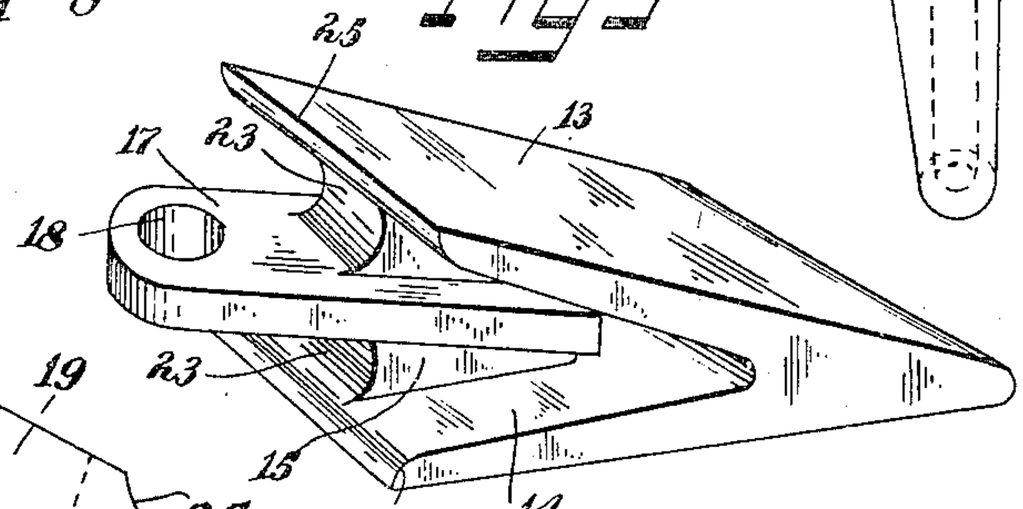


Fig. 4.

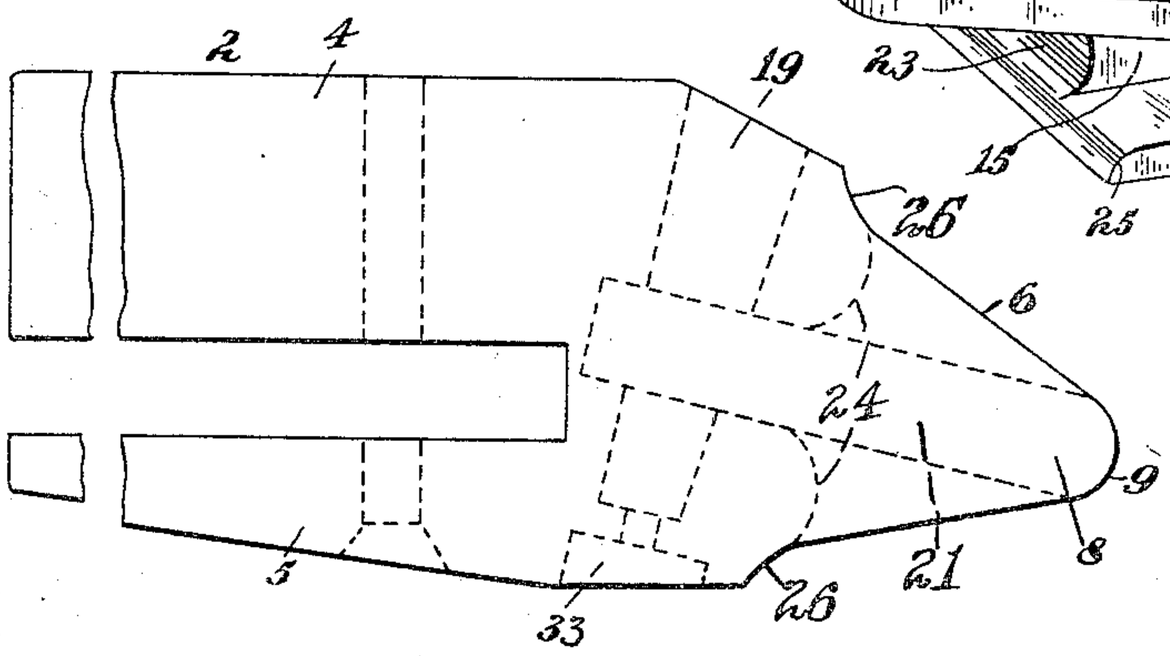


Fig. 5.

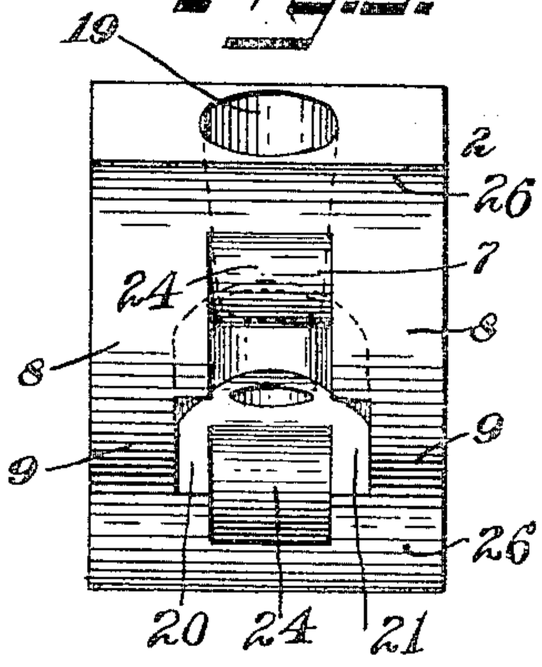
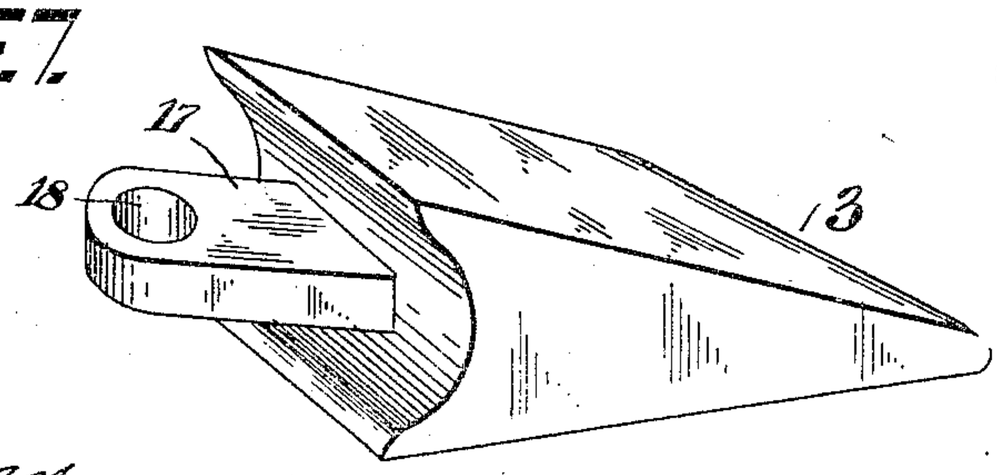


Fig. 7.



Witnesses:

S. Newman.

H. D. Penney

Inventors:

Alfred H. Exton,

John M. Sherrerd,

By their Attorney,

F. A. Richards.

UNITED STATES PATENT OFFICE.

ALFRED H. EXTON, OF HIGH BRIDGE, NEW JERSEY, AND JOHN M. SHERRERD, OF EASTON, PENNSYLVANIA.

TOOTH FOR EXCAVATING BUCKETS OR SHOVELS.

943,775. Specification of Letters Patent. Patented Dec. 21, 1909.

Application filed December 16, 1908. Serial No. 467,825.

To all whom it may concern:

Be it known that we, ALFRED H. EXTON, a citizen of the United States, residing at High Bridge, in the county of Hunterdon and State of New Jersey, and JOHN M. SHERRERD, a citizen of the United States, residing at Easton, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Teeth for Excavating Buckets or Shovels, of which the following is a specification.

This invention relates to teeth for excavating buckets or shovels, the object of the invention being to provide an improved two-part tooth in which the detachable point, which is preferably reversible, is connected with the tooth in an improved manner.

In the drawings accompanying and forming part of this specification, Figure 1 is a side view, partly in section, of this improved tooth; Fig. 2 is a top view of a portion of the point, showing the connection between the point and the body of the tooth in section taken on line *a*—*a* Fig. 1; Fig. 3 is a perspective view of the point; Fig. 4 is a side view of the tooth-body; Fig. 5 is an end view of the tooth body looking from right to left, Fig. 4; Fig. 6 is a detail view of a part of the fastening or securing means for connecting the point with the tooth body; and Fig. 7 is a perspective view of one form of point which may be used.

Similar characters of reference indicate corresponding parts throughout the different figures of the drawings.

This improved two-part tooth comprises a tooth or body portion or base 2 and a detachable point 3. The tooth portion is recessed to form a pair of jaws 4 and 5, one of which, as for instance the upper, is usually longer than the other, and which jaws enable the device to be bolted to the bucket.

The body of the tooth is provided with a forwardly projecting tapered nose 6, which is divided by a centrally located recess 7 into a pair of spaced lugs 8 provided with rounded ends 9. The detachable wedge-shaped point 3 is bifurcated to form a pair of jaws 13 and 14 connected by a centrally located web or rib 15, which rigidly unites the two jaws together, thereby preventing any tendency of the jaws to spread, and which web or rib is located in the bifurcation or recess 7 of the nose and prevents lateral movement or play of the point relatively to the tooth portion or base.

Rearwardly of the bifurcated nose the tooth body is provided with a recess 16 for the reception of a shank 17 projecting rearwardly of the web of the point, which shank 17 is provided with an opening 18 registering with the recess 16 of the tooth body. The tooth body is provided with a passageway or bolt opening 19 intersecting the recess 16 and the shank opening 18 of the point for the reception of the fastening or securing means 30. When the shank 17 of the point is wider than the web 15, as it is shown in Figs. 1 to 5, the side walls of the bifurcated nose portion of the tooth are recessed, as at 20 and 21, for the insertion of such shank. Thus, while the web prevents lateral movement of the point relatively to its body, the shank fitting into the recess 16 of such body prevents movement of the point in a direction at right angles thereto.

In practice the ends 23 of the web 15 may be curved or concaved to conform to the walls 24 of the tooth body forming the inner ends of the bifurcation or centrally located recess of the nose, while the ends 25 of the jaws may be formed to fit snugly against the walls 26 of the tooth body above and below the nose thereof.

For securing the point to the tooth body a suitable bolt may be used passing through the opening 19 of the tooth body and the shank opening 18 of the point, and as it is desirable to wedge the point on to the nose this may be accomplished by using either a wedge-shaped bolt or a wedge shaped sleeve 30 through which a bolt 31 will pass to receive a nut 32 inserted into a recess 33 at one side, as the underside, of the body. This tapered or wedge-shaped sleeve preferably conforms to one wall, as the forward wall, of the opening 19 passing through the tooth body, whereby the point will be wedged on to the body in a manner which will be readily understood.

In practice the opening 19 through the tooth body may be formed straight, that is, of the same diameter throughout, and a tapered bolt used if preferred, or the bolt could be straight and the opening 19 tapered. The shank 17 of the point need not

be wider than the web if preferred, in which case the recesses 20 and 21 at the sides of the bifurcation would be omitted.

In some forms of point the web may be dispensed with and a solid point used, as shown for instance in Fig. 7, the shank projecting from the rear of such point and being secured to the tooth body in the manner already described. In this form of point the nose would not have to be bifurcated in the manner hereinbefore described, but merely provided with an opening or recess extending from the tapered end thereof rearwardly the length of the shank.

The point may be of various forms, but as in practice the work which these teeth have to do wears away the point, the major part of such wear being on the underside of the point, so that their efficiency is gradually lessened until they become unfit for use owing to the bluntness of the point, it is therefore desirable to form the point as a reversible point, whereby the life thereof is very materially prolonged. The point, however, in order to be reversible in a practical manner, should have its cutting or penetrating part when reversed in substantially the same plane as this part was in prior to its reversal, and to accomplish this it should have both of its jaws 13 and 14 terminating in about the same position in relation to the nose of the tooth. The point should also have each of its jaws engage the nose at about the same distance from the center line of such nose, and the point is formed in this manner in the present instance. Thus this improved point and its carrying member or tooth body are so constructed that the point can be assembled with either side up, so that the point is reversible not only when it has become worn into that condition, but is reversible prior to any wear thereon. This avoids the necessity of its always being attached to the nose of the body in one particular manner to enable it to properly do its work.

We claim as our invention:

1. A wedge-shaped, detachable and reversible point having intermediate its top and bottom walls a rearwardly extending shank for the reception of a fastening device in the rear of the rear ends of such walls.

2. A wedge-shaped point having centrally of its top and bottom walls a rearwardly extending horizontally located shank for the reception of a fastening device.

3. A detachable and reversible point having a rearwardly extending shank for the reception of a fastening device beyond the rear end of the point body.

4. A point having a pair of web-connected jaws and a shank extending rearwardly of such web for the reception of a fastening device in the rear of such web.

5. A point having a pair of web-connected jaws and a shank extending rearwardly of the web and of greater width than such web.

6. A detachable wedge-shaped point having a pair of web-connected jaws and a shank of greater width than said web and projecting at the sides of and rearwardly of such web.

7. A detachable and reversible point having a pair of web-connected jaws and a shank projecting rearwardly of said web, and having an opening therein for the reception of a fastening device in the rear of such web.

8. A detachable and reversible point having a pair of web-connected jaws and a shank of greater width than said web and projecting rearwardly thereof.

9. A tooth having a forwardly projecting nose and a recess at the rear thereof communicating with the end of the nose for the reception of a point shank.

10. A tooth having a forwardly projecting recessed nose and rearwardly thereof a recess for the reception of the shank of a point communicating with the end of said nose.

11. A tooth having a forwardly projecting nose divided by a recess into a pair of lugs and provided with recesses in its inner side walls terminating in a recess rearwardly of said nose.

12. A tooth having a forwardly projecting nose divided by a recess into a pair of lugs and provided with recesses in its inner side walls terminating in a recess rearwardly of said nose, and an opening extending through the nose and intersecting said recess.

13. A tooth having a forwardly projecting nose divided by a recess into a pair of lugs and provided with recesses in its inner side walls terminating in a recess rearwardly of said nose, and an opening extending through the nose and intersecting said recess, said opening having an inclined wall.

14. A tooth having a forwardly extending nose provided with a recess extending rearwardly thereof, and an opening extending through said tooth and intersecting said recess.

15. A tooth having a forwardly extending nose provided with a recess extending rearwardly thereof, and an opening extending through said tooth and intersecting said recess, said opening having an inclined wall.

16. A tooth body having a nose provided with a pair of recesses in angular relation to each other, one for the reception of the web of a point and the other for a shank thereof.

17. A tooth body having a nose provided with a pair of recesses in angular relation to each other, one for the reception of the

web of a point, and the other for a shank thereof, and an opening extending into the nose and intersecting the shank recess.

18. A tooth body having a nose provided with a pair of recesses in angular relation to each other, one for the reception of the web of a point and the other for a shank thereof, and an opening extending into the nose and intersecting the shank recess, said opening having an inclined wall.

19. A two-part tooth comprising a tooth body having a forwardly extending nose provided with a rearwardly extending recess and having an opening intersecting said recess, and a point having a shank extending rearwardly thereof into said recess, and fastening means projecting through said shank in the rear of the body of said point for securing the point to the tooth body.

20. A two-part tooth comprising a tooth body having a forwardly extending nose provided with a rearwardly extending recess and having an opening intersecting said recess, a point having a horizontally located shank extending rearwardly thereof into said recess, and wedge-shaped fastening means projecting through said shank for securing the point to the tooth body.

21. A two-part tooth comprising a tooth body having a forwardly extending nose provided with a rearwardly extending recess and having an opening intersecting said recess, a point having a web and a shank extending rearwardly of such web and into said recess, and fastening means projecting through said shank in the rear of the web for securing the point to the tooth body, said opening and fastening means having one a tapered formation.

22. A two-part tooth comprising a point having a pair of web-connected jaws and a bifurcated nose for the reception of the web of said point, said point having a shank extending rearwardly of the web and said nose having a recess for the reception of said shank, and means engaging the shank for securing the point on the nose.

23. A two-part tooth comprising a point having a pair of web-connected jaws and a bifurcated nose for the reception of the web of said point, said point having a shank extending rearwardly of the web and said nose having a recess for the reception of said shank, and wedge-shaped means engaging the shank for securing the point on the nose.

24. A two-part tooth comprising a detachable and reversible point having a pair of web-connected jaws and a bifurcated nose for the reception of the web of said point, said point having a rearwardly extending shank located crosswise of the web and said nose having a recess for the reception of said shank, and means engaging the shank for securing the point on the nose.

25. A two-part tooth comprising a detachable and reversible point having a pair of web-connected jaws and a bifurcated nose for the reception of the web of said point, said point having a rearwardly extending shank and said nose having a recess for the reception of said shank, and wedge-shaped means engaging the shank in the rear of the web for securing the point on the nose.

26. A two-part tooth comprising a detachable point having a pair of web-connected jaws and an apertured shank projecting laterally and rearwardly of said web, a tooth body having a forwardly projecting bifurcated nose for the reception of said web and a recess communicating with said bifurcated nose for the reception of said shank and also provided with an opening extending thereinto and intersecting said recess and the aperture of the shank, and means located in said opening for securing the shank to the tooth body.

27. A two-part tooth comprising a detachable point having a pair of web-connected jaws and an apertured shank projecting laterally and rearwardly of said web, a tooth body having a forwardly projecting bifurcated nose for the reception of said web and a recess communicating with said bifurcated nose for the reception of said shank and also provided with an opening extending thereinto and intersecting said recess and the aperture of the shank, and wedge-shaped means located in said opening for securing the shank to the tooth body.

28. A two-part tooth comprising a detachable and reversible point having a pair of web-connected jaws and an apertured shank projecting laterally and rearwardly of said web, a tooth body having a forwardly projecting bifurcated nose for the reception of said web and a recess communicating with said bifurcated nose for the reception of said shank and also provided with an opening extending thereinto and intersecting said recess and the aperture of the shank, and means located in said opening for securing the shank to the tooth body.

29. A two-part tooth comprising a point having a pair of web-connected jaws provided with a shank extending rearwardly of said web and a tooth body having a bifurcated nose for the reception of the web of the point and also having a recess for the reception of the shank of the point, said tooth body having an opening extending thereinto intersecting said shank recess, a tapered sleeve located in said opening and extending through said shank, and a bolt for wedging said sleeve in said opening thereby to wedge the point on to the tooth body.

30. A two-part tooth comprising a point having a pair of web-connected jaws provided with a rearwardly extending shank and a tooth body having a pair of recesses

located in transverse relation to each other, one for the reception of the web and the other for the shank, and means for securing the point on the tooth body.

31. A two-part tooth comprising a point having a pair of web-connected jaws provided with a rearwardly extending shank and a tooth body having a pair of recesses located in transverse relation to each other, one for the reception of the web and the other for the shank, and means engaging the shank for securing the point on the tooth body.

32. A two-part tooth comprising a point having a pair of web-connected jaws provided with a rearwardly extending shank and a tooth body having a pair of recesses located in transverse relation to each other, one for the reception of the web and the other for the shank, and wedge-shaped means engaging the shank for securing the point on the tooth body.

33. A two-part tooth comprising a detachable and reversible point having a pair of web-connected jaws provided with a rearwardly extending shank and a tooth body having a pair of recesses located in transverse relation to each other, one for the reception of the web and the other for the shank, and wedge-shaped means engaging the shank for securing the point on the tooth body.

34. A two-part tooth comprising a point having a pair of web-connected jaws and a tooth body having a bifurcated nose for the reception of the web of said point, and wedge-shaped means projecting through a part of said body and point in the plane of the web for securing the point to the tooth body.

35. A two-part tooth comprising a point having a rearwardly extending horizontally located shank and a tooth body having a recess for the reception of said shank, and wedge-shaped means extending through the shank and tooth body transversely of the plane of the shank for securing the point to the body.

36. A two-part tooth comprising a point and a tooth body, one of said parts having a shank horizontally located and the other a recess for the reception of said shank, and wedge-shaped means projecting through the shank for securing said members together.

37. A two-part tooth comprising a point having a pair of web-connected jaws and a tooth body, one of said parts having a shank and the other a recess for the reception of said shank, and fastening means projecting through the shank in the plane of the web for securing said parts together.

38. A two-part tooth comprising a point having a pair of web-connected jaws and a tooth body, one of said parts having a shank and the other a recess for the reception of said shank, and wedge-shaped fastening means projecting through the shank in the plane of the web for securing said parts together.

Signed at High Bridge, N. J., December 12, 1908.

ALFRED H. EXTON.
JOHN M. SHERRERD.

Witnesses:
H. L. STAPLES,
L. N. ALLER.