

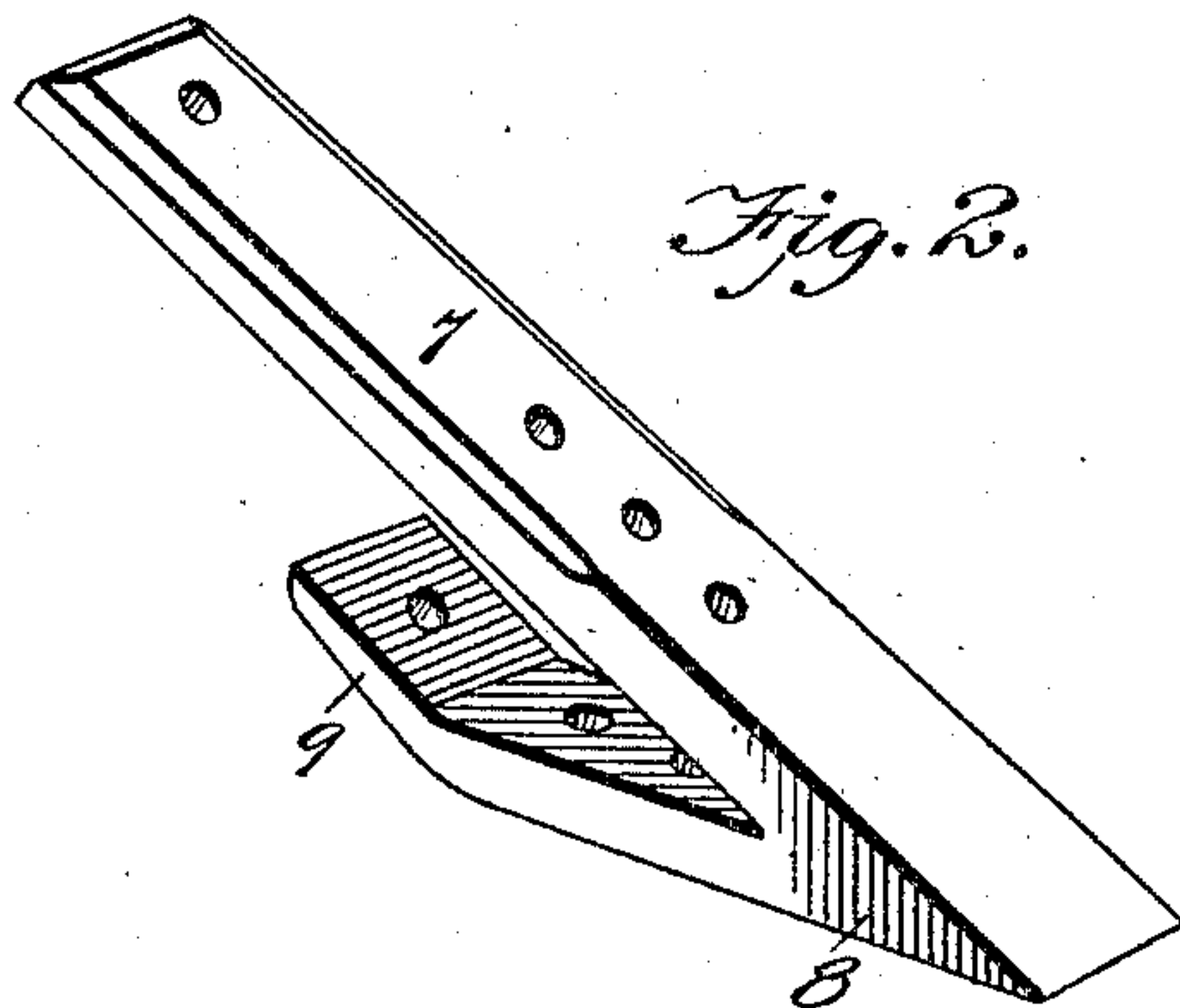
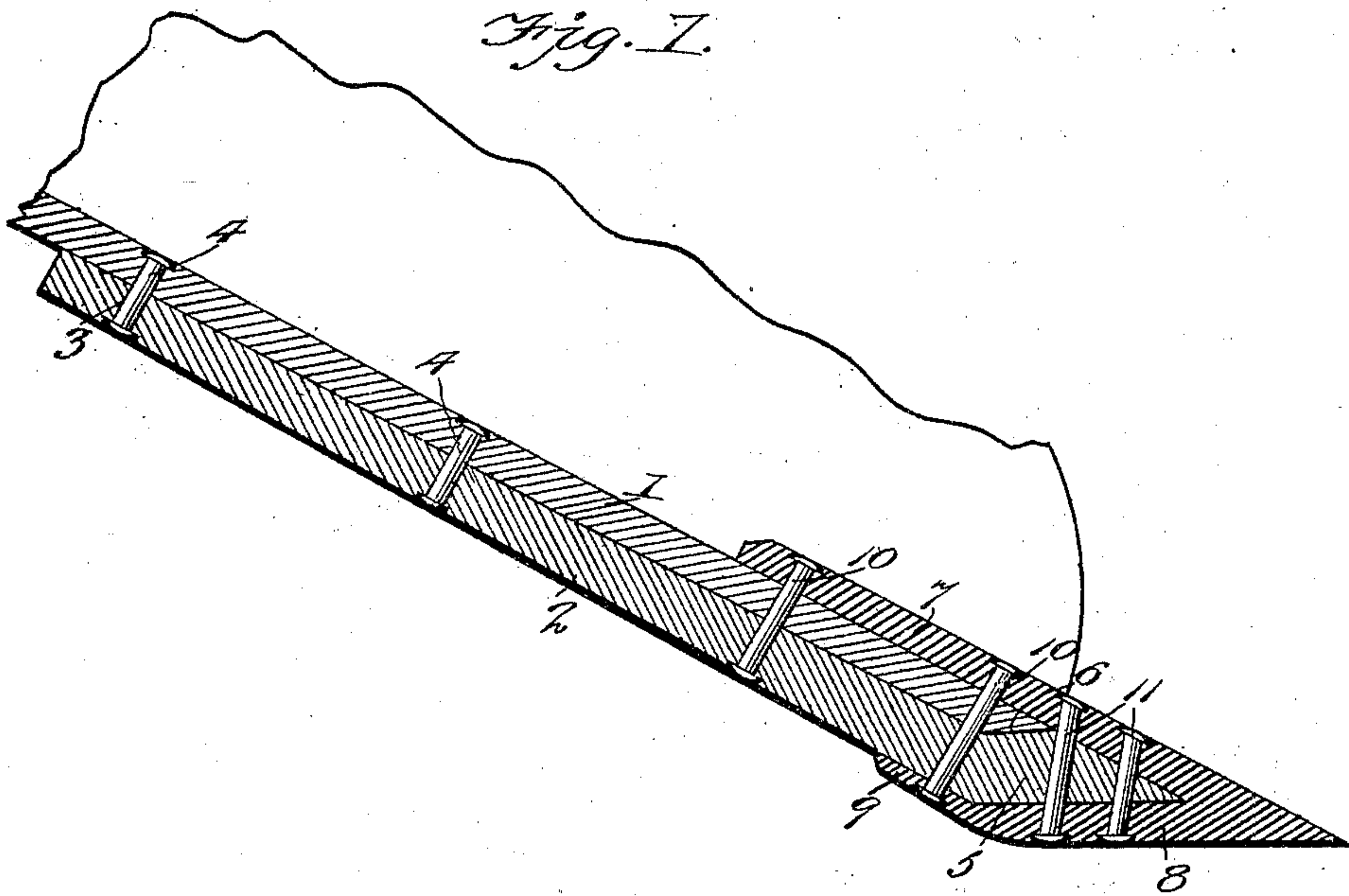
No. 684,477.

Patented Oct. 15, 1901.

F. J. THOMAS.  
EXCAVATING TOOTH FOR POWER SHOVELS.

(Application filed May 31, 1901.)

(No Model.)



Witnesses  
*Edwin Huckle*  
*Geo. Ackman*

Inventor  
*Frank J. Thomas*

By *Victor J. Evans*  
Attorney



# UNITED STATES PATENT OFFICE.

FRANK J. THOMAS, OF MOUNT UNION, PENNSYLVANIA.

## EXCAVATING-TOOTH FOR POWER-SHOVELS.

SPECIFICATION forming part of Letters Patent No. 684,477, dated October 15, 1901.

Application filed May 31, 1901. Serial No. 62,645. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK J. THOMAS, a citizen of the United States, residing at Mount Union, in the county of Huntingdon and State of Pennsylvania, have invented new and useful Improvements in Excavating-Teeth for Power-Shovels, of which the following is a specification.

This invention relates to improvements in excavating-teeth for power-shovels.

The object of the present invention is the provision of a tooth of the character mentioned, which tooth is so constructed as to be manufactured at small cost and readily applied to the body of the shovel and one embodying in its construction means whereby the points may be renewed from time to time without the necessity of renewing the entire tooth.

A further object of the present invention is to embody in the construction of a power-shovel tooth simple and efficient means for effectually bracing the point of connection of the detachable point, and thereby reducing liability of fracture to a minimum of the point of connection between the body of the tooth and said point.

With these general objects in view and others, which will appear as the nature of the improvements is better understood, the invention consists, substantially, in the novel construction, combination, and arrangement of parts, as will be hereinafter fully described, illustrated in the drawings, and pointed out in the appended claims.

In the drawings, Figure 1 is a longitudinal sectional view of a tooth constructed in accordance with the present invention and illustrated in applied position. Fig. 2 is a perspective view of the detachable point.

Referring to the drawings, the numeral 1 designates the bottom of the dipper of a power-shovel, and to said bottom the herein-described tooth is applied in the usual manner.

The tooth comprises a body 2, which body is in the nature of an elongated shank pierced at intervals with a series of apertures 3 for the reception of fastening rivets or bolts 4, and through the medium of said rivets or bolts the tooth is secured to the bottom 1 of the shovel. The forward end of the body 1 is provided with a foot 5, said foot extending

at an obtuse angle to the body 2, and it will be observed that the forward end of said foot is beveled and lies in a plane parallel with the under side of the body 2, said beveled end being flush with the upper face of the bottom 1 of the shovel when the tooth is applied thereto. A detachable point 6 is applied to the forward end of the shank 2, said point comprising an elongated shank 7, which fits upon the beveled face of the foot 5 and the upper face of the body 1 of the shovel and connected to the lower end of the shank 7, and formed integral therewith is a shoe 8, which shoe is provided at its lower end with a reinforced flange 9. The flange 9 extends at an obtuse angle to the shoe 8 and lies in a plane parallel with the shank 7, and by means of this construction it will be seen that the shank 7 and the shoe 8 are adapted to embrace the shank 2 and the bottom 1 of the shovel.

The main fastening means for securing the detachable point 6 to the shoe 2 and bottom 1 comprises a series of rivets or bolts 10, one of said rivets or bolts passing through the flange 9, and thereby securely fastening the latter to the shank 2, but in order that said fastening means may be supplemented, and thus insure a firm connection between the shoe and the foot 5, a series of auxiliary rivets or bolts 11 is arranged at the forward end of the point 6, said auxiliary rivets or bolts passing directly through the shoe 5, and thereby effecting a close and firm union between the point and the shoe. The rivets 11 are angularly disposed in relation to the main rivets 10 for the purpose of resisting the great strain exerted upon the point 6 at the portion whereon the shoe 5 fits. It will thus be seen that a thoroughly-effective excavating-tooth is provided for a power-shovel and one in which the point may be renewed from time to time without necessitating the expense of renewing the entire tooth, and by reason of the flange 9 it will also be seen that the body 2 is effectually reinforced at the points of connection between the same and the detachable point 6.

While the form of the invention herein shown and described is what is believed to be a preferable embodiment thereof, it will be understood that various changes in the form,



proportion, and minor details of construction may be resorted to, and the right is therefore reserved to modify or vary the construction of the invention as falls within the spirit and scope thereof.

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

1. A tooth for power-shovels comprising an elongated body provided with a foot, the upper and lower faces of said foot extended from the elongated body at an obtuse angle thereto, and a detachable point connected to said body and embracing said foot.

2. A tooth for power-shovels comprising an elongated body provided with a foot extending at an obtuse angle thereto, the upper and lower surfaces of said foot lying in parallel planes, and a detachable point connected to said body and embracing said foot.

3. A point for power-shovels having a series of openings therein for securing it in position, the openings in the forward end thereof being angularly disposed in relation to those in the rear thereof.

4. A tooth for power-shovels, comprising an elongated body provided at one of its ends with a foot; said foot extending at an obtuse

angle to said body, the forward end of said foot being beveled and lying in a plane parallel with the under side of said body; and a detachable point embracing said body and said foot, said point comprising an elongated shank and a shoe formed integral therewith; said point being provided with a reinforcing-flange extending at an obtuse angle thereto; whereby said flange occupies a plane substantially parallel with the shank of the point.

5. A tooth for power-shovels comprising an elongated body provided at one of its ends with a foot extending at an obtuse angle thereto, the said body and foot provided with a series of openings angularly disposed in relation to each other, the upper and lower faces of said foot lying in parallel planes and the forward end beveled and lying in a plane parallel with the under side of said body, and a detachable point having openings therein to register with the openings in said tooth.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK J. THOMAS.

Witnesses:

F. BOWER,

FRANK. H. HARRISON.