

No. 876,111.

PATENTED JAN. 7, 1908.

J. W. TURNER.
ATTACHMENT FOR STEAM SHOVEL SCOOPS.
APPLICATION FILED MAY 16, 1907.

Fig. 1.

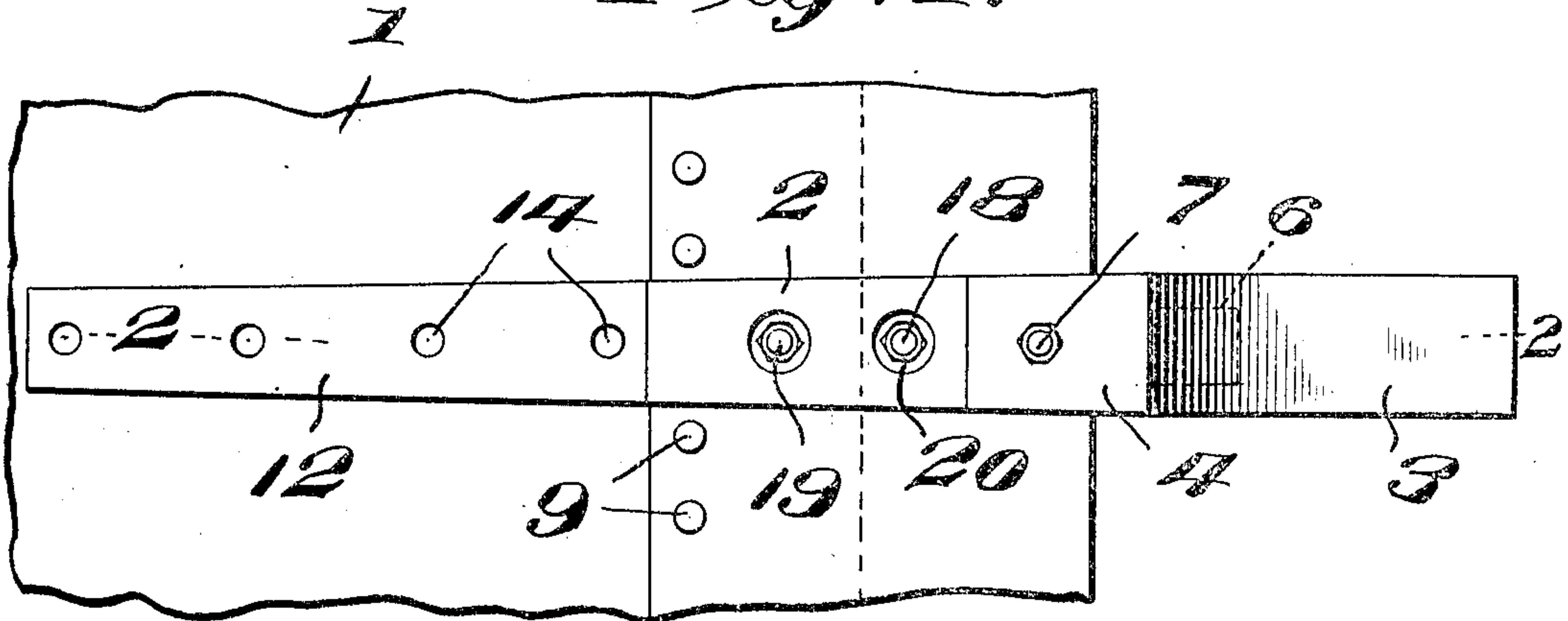


Fig. 2.

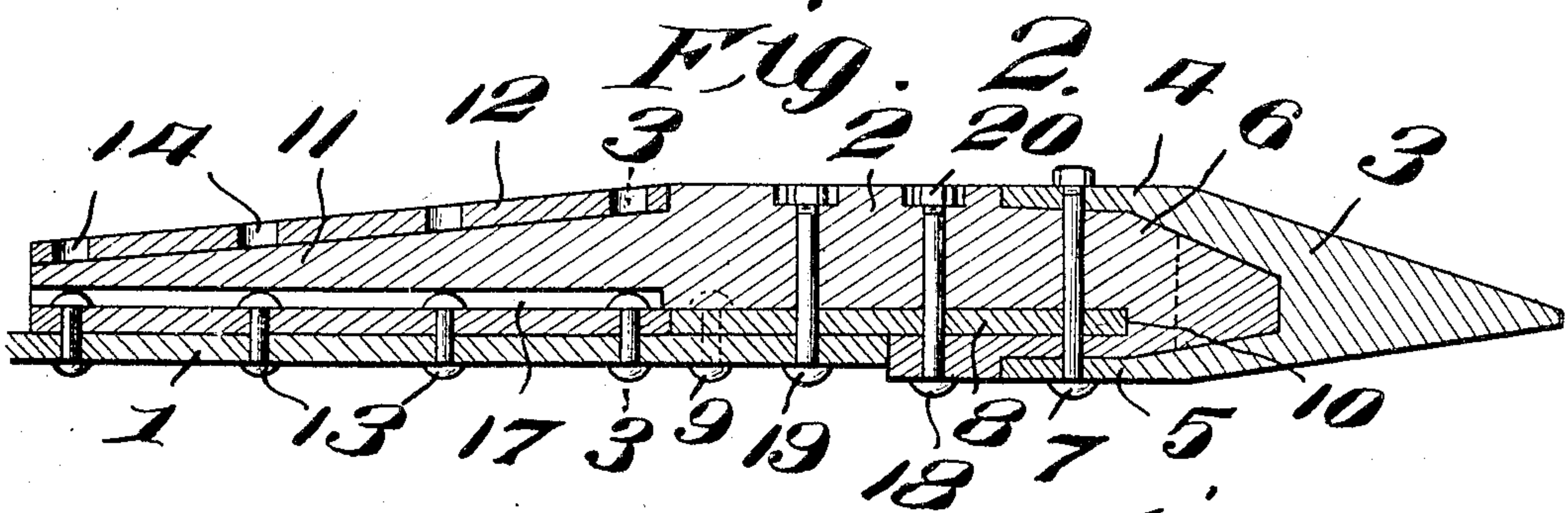


Fig. 3.

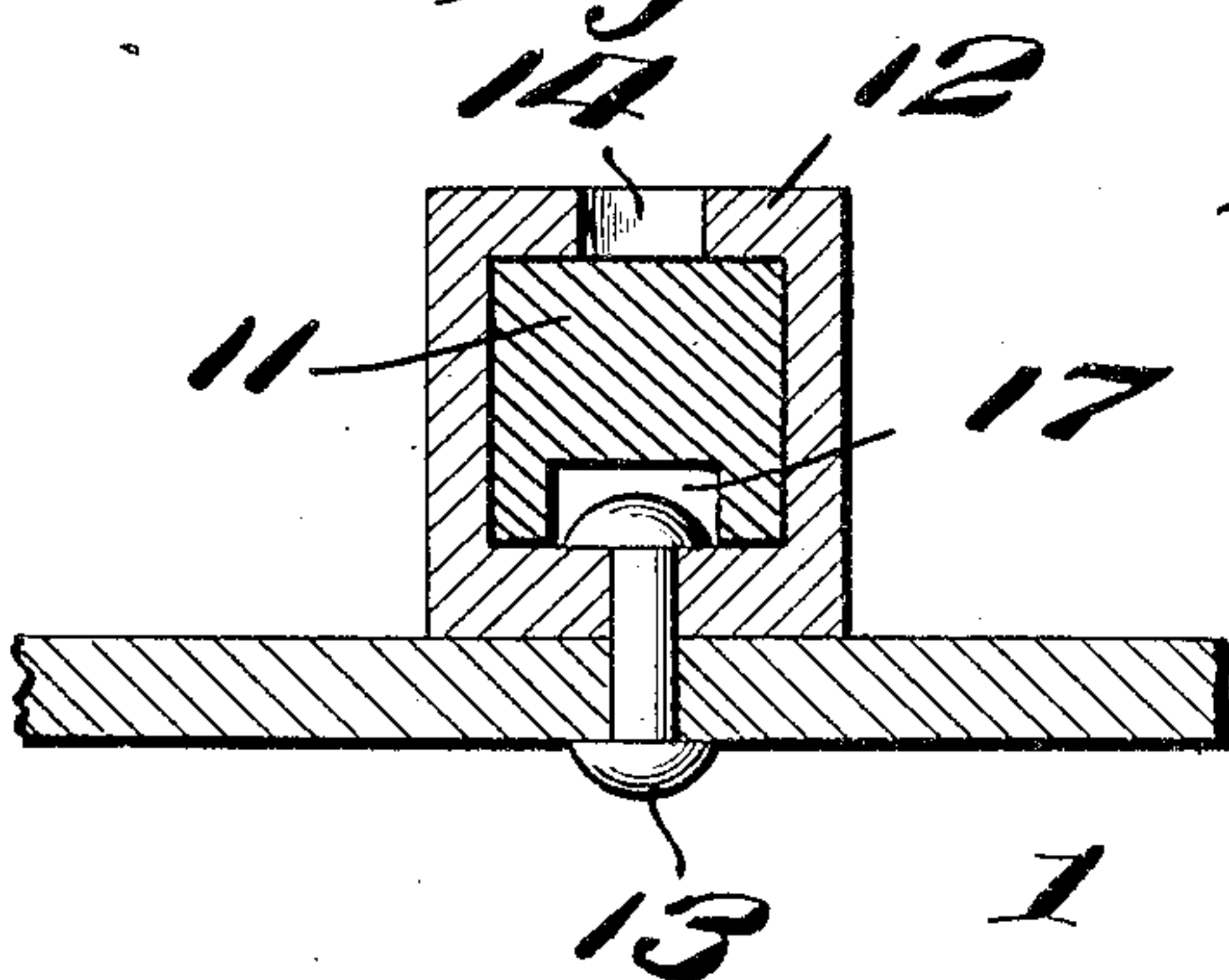
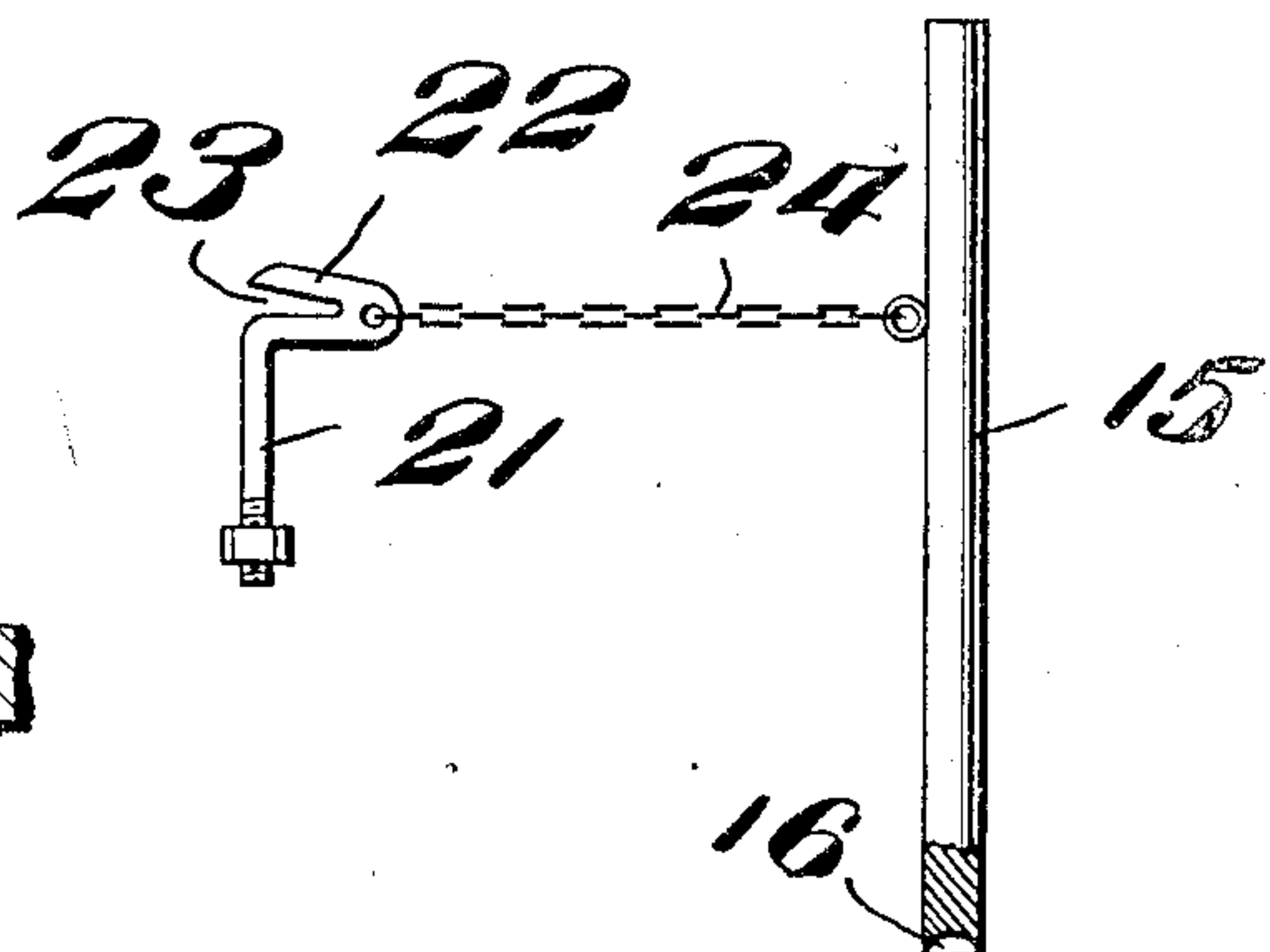


Fig. 4.



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UNITED STATES PATENT OFFICE.

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ATTACHMENT FOR STEAM-SHOVEL SCOOPS.

No. 876,111.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed May 16, 1907. Serial No. 373,894.

To all whom it may concern:

Be it known that I, JAMES W. TURNER, a citizen of the United States, residing at Reelsville, in the county of Putnam and State of Indiana, have invented certain new and useful Improvements in Attachments for Steam-Shovel Scoops; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to attachments for shovels, and more particularly to that class known as steam shovels, and my object is to provide means for re-inforcing the digging tooth employed in connection with this form of shovel.

A further object is to provide means for renewing portions of the tooth, so that when the same becomes worn, a new tooth may be attached to the shovel, and a still further object is to provide means for securing the tooth to the shovel.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings, which are made a part of this application, Figure 1 is a top plan view of a portion of a shovel, showing my improved finger attached thereto. Fig. 2 is a sectional view as seen on line 2—2 Fig. 1. Fig. 3 is a sectional view thereof, as seen on line 3—3 Fig. 2, and, Fig. 4 is an elevation of my device employed in securing the housing for the finger to the shovel.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates a scoop or shovel such as is commonly used in connection with steam excavators, and in use, the scoop is forced into engagement with the earth until the scoop is filled, and in order to readily loosen the earth, a plurality of fingers are employed, which extend beyond the engaging end of the scoop, and it has been found that the fingers as now commonly employed cannot be properly braced, and to this end I provide my improved form of finger, which consists of a body portion 2, to the outer end of which is removably secured a head 3, said head being tapered at its free end, while the opposite end thereof is provided with ears 4 and 5, which extend over the reduced end 6 of the

body 2, and is removably secured thereto by directing a bolt 7 vertically through the ears and through the end 6.

The forward end of the scoop 1 is provided with a lip 8, which extends substantially half its width beyond the edge of the scoop, and is secured thereto by means of rivets 9, or the like, said lip being secured to the upper surface of the scoop, and the projecting portion thereof extends into a slot 10, formed in the forward end of the body portion 2, and it will be seen that when the lip is thus secured in the slots, the lip will be held perfectly rigid and prevented from bending or breaking.

The rear end of the body 2 is extended a distance over the surface of the scoop, and is reduced in size to form a shank 11, said shank being adapted to enter a socket 12, which is in turn secured to the floor of the scoop in any preferred manner, as by directing rivets 13 through the scoop and floor of the socket, and in order to enable me to secure the rivets in position through the socket and scoop, I provide a plurality of bores 14, in the upper wall of the socket 12, through which the rivets are passed and seated in the openings in the scoop and lower wall of the socket, and after the rivets are thus seated, the lower ends thereof are upset in the usual manner to form heads on the lower ends of the rivets, and to readily and positively hold the rivets in position while being upset, I provide a bar 15, which is adapted to be inserted through the bores 14 and into engagement with the headed ends of the rivets, the engaging end of the bar 15 having a concave depression 16 therein to receive the heads of the rivets, and prevent the bar from slipping, and by providing the bar of sufficient weight, blows may be delivered to the outer end of the rivets without displacing the bar from the inner ends thereof.

In order to allow the shank 11 to freely enter the socket 12 and pass over the heads of the rivets 13, I provide the lower face of the shank with a channel 17, so that the shank will readily enter the socket without encountering the heads of the rivets, said heads resting in said channel.

Heretofore, it has been the practice to employ "fillers" for lending rigidity to the scoop, but unless said fillers are made unusually strong and heavy, the strain upon

the fingers will cause the metal forming the scoop, to bend, and to this end, therefore, I provide the socket 12, whereby I am enabled to dispense with the fillers, and it will be seen that the fingers can be quickly placed in position on the scoop, when the finger becomes broken or otherwise destroyed, while in the old form of finger, it is necessary to rivet the same in position, thereby necessitating a great loss of time and expense.

In securing the fingers in position, the sockets are first secured to the scoop, after which the shank 11 is inserted in the socket and a bolt 18 extended through the body portion 2 and outer edge on the lip 8, while a bolt 19 extends through the body portion, lip and front edge of the scoop, said bolts being provided with locking nuts 20, said nuts being at the upper ends of the bolts, and to prevent the nuts from obstructing the passage of the earth, the upper surface of the body portion, surrounding the openings to receive the bolts, is counter-sunk, so that the upper ends of the bolts and the upper faces of the nuts thereon, will be flush with the face of the body portion. In order to retain the bar 15 in readiness to be used and also to prevent the same from becoming lost, I secure to any convenient part of the shovel, a keeper 21, one end of which is adapted to be secured to the shovel, while the opposite end thereof is provided with a depending end 22, said end having a notch 23 therein, which is adapted to receive the links of a chain 24, one end of the chain being secured to the depending end 22, while the opposite end of the chain is secured to the bar 15, and after the bar has been used, that portion of the chain adjacent to the bar is placed in the notch 23, so that the bar will be suspended adjacent to the keeper.

It will thus be seen that I have provided a very strong and durable form of finger, and one that can be readily and quickly applied to use in connection with the scoop. It will also be seen that by providing the head 3 in a separate piece from the body of the finger, the head can be quickly replaced by a new one, when the same becomes broken or worn.

What I claim is:—

1. The combination with a scoop of the class described; of a finger, said finger being tapered at one end and having a channel in its lower face, a head removably secured to one end of said finger and a tapered socket fixed to said scoop and adapted to receive the tapered end of the finger. 50 55

2. The combination with a scoop of the class described; of a finger, said finger having a slot therein, a head removably secured to one end of said finger, a tapered shank at the opposite end of said finger, having a channel in its lower face, means to secure said finger to the scoop and a tapered socket fixed to said scoop adapted to receive said shank. 60 65

3. The herein described finger for scoops, said finger having a reduced end, a head adapted to fit over and entirely surround the reduced end of said finger, means to removably secure the head to the reduced end, a tapered shank at the opposite end of said finger and means to removably secure the finger to an excavating scoop. 70

4. The combination with a scoop, having a lip at the forward edge thereof; of a finger, said finger having a slot therein to receive said lip, said finger also having a reduced end, a head adapted to fit over and entirely surround said reduced end, means to removably secure the head to the reduced end, a shank at the opposite end of said finger portion, a socket fixed to the scoop and adapted to receive said shank and means to removably secure the finger to the scoop. 75 80

5. The combination of a scoop, a socket attached to the scoop, a tooth or finger shank having one end in the socket and having a slot embracing the free edge of the scoop, a head detachably connected with the free end of the shank and bolts or rivets to secure the members together as described. 85 90

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES W. TURNER.

Witnesses:

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