

No. 651,944.

Patented June 19, 1900.

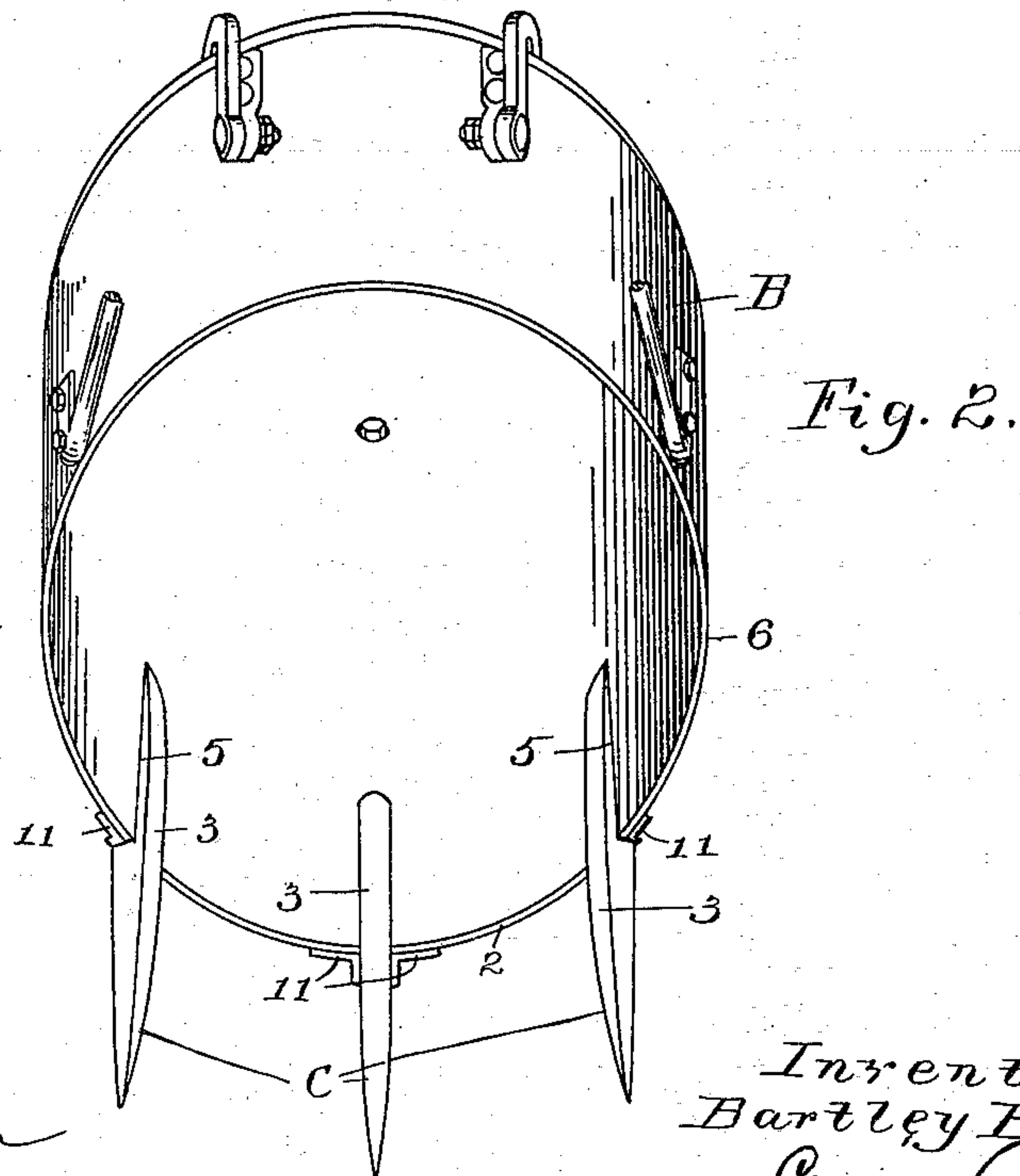
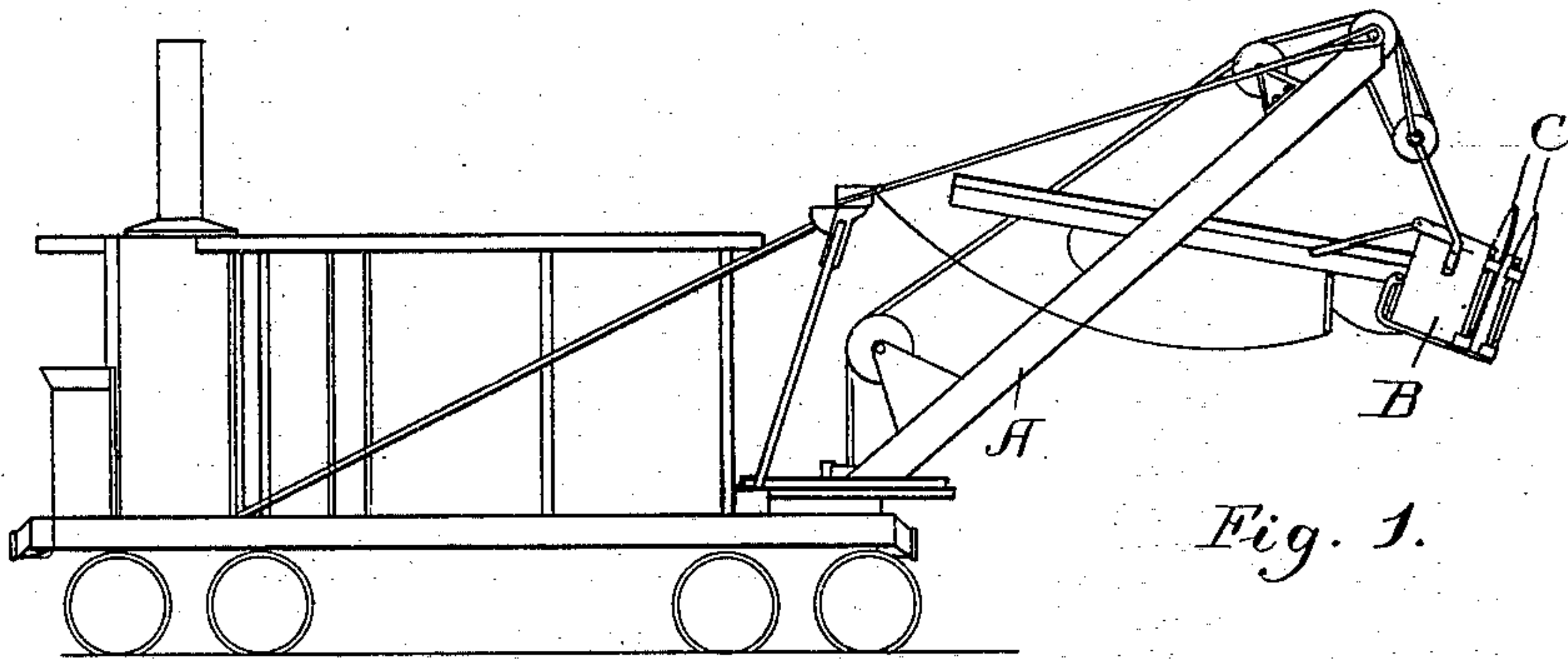
B. BROWN.

DETACHABLE TOOTH FOR STEAM SHOVEL BUCKETS.

(Application filed Apr. 13, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:

L. E. Wickman

W. H. Dunbar

Inventor:

Bartley Brown.

by: *Styker & Padbury*

Attorneys.

No. 651,944.

Patented June 19, 1900.

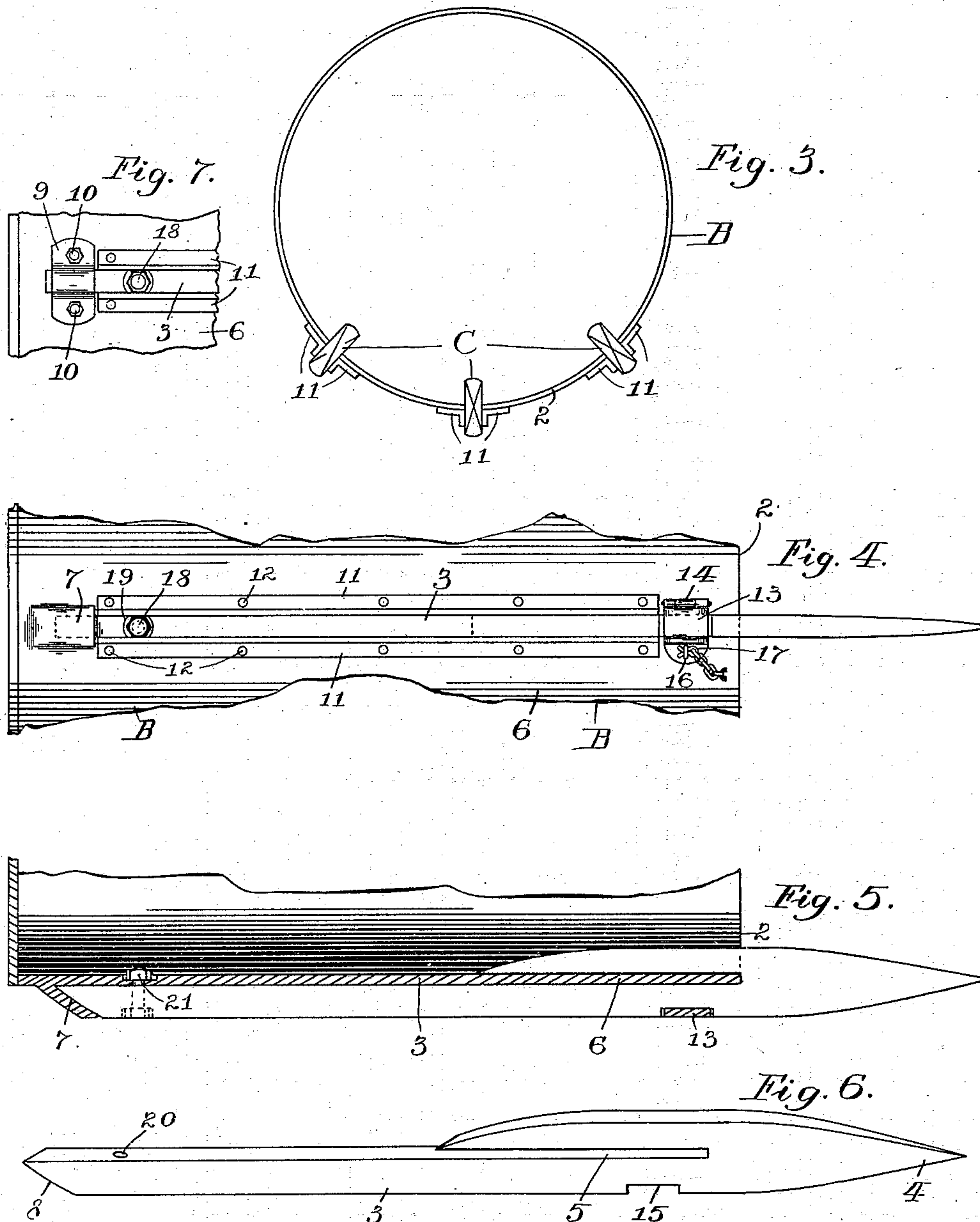
B. BROWN.

DETACHABLE TOOTH FOR STEAM SHOVEL BUCKETS.

(Application filed Apr. 13, 1900.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:

L. E. Wickman
W. H. Dunbar

Inventor:

Bartley Brown.
by: Styker & Padbury
Attorneys.

UNITED STATES PATENT OFFICE.

BARTLEY BROWN, OF ST. PAUL, MINNESOTA, ASSIGNOR OF ONE-THIRD TO
DANIEL J. KEEFE, OF SAME PLACE.

DETACHABLE TOOTH FOR STEAM-SHOVEL BUCKETS.

SPECIFICATION forming part of Letters Patent No. 651,944, dated June 19, 1900.

Application filed April 13, 1900. Serial No. 12,662. (No model.)

To all whom it may concern:

Be it known that I, BARTLEY BROWN, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Detachable Teeth for Steam-Shovel Buckets, of which the following is a specification.

My invention relates to improvements in detachable teeth for steam-shovel buckets. Its object is to provide means whereby the teeth may be easily and quickly attached to or detached from the bucket.

Heretofore in practice the teeth have been fixed upon the bucket, so that in case of injury to the teeth it has been necessary to stop work while the teeth are being repaired or replaced. This causes expense and loss of time. My improvement obviates this and also indirectly increases the life of the bucket.

To this end my invention consists of teeth which are adjusted in sockets formed on or attached to the bucket.

In the accompanying drawings, forming part of this specification, Figure 1 is a diagrammatic side elevation of a steam-shovel, showing the bucket carrying my improved teeth. Fig. 2 is a perspective view of the bucket looking into its mouth. Fig. 3 is an end view of the bucket looking toward its mouth. Fig. 4 is a detail plan view of the bucket, showing one of my improved teeth attached thereto. Fig. 5 is a side elevation of one of the teeth, showing a detail portion on the bucket in section. Fig. 6 is a perspective view of one of the teeth; and Fig. 7 is a detail view of the bucket, showing an alternate means for holding the end of the tooth.

In the drawings let A represent a steam-shovel of ordinary construction, B the shovel-bucket, and C the teeth. In practice it is usual for the bucket to carry three teeth, which project from the mouth, so as to prevent the cutting edge 2 from being injured by rocks, &c., when in use; but a smaller or greater number may be used without departing from the principles which I have applied. Each tooth consists of the shank 3, having the pointed end 4, which is adapted to project from the cutting edge of the bucket. The tooth is slotted at 5, so as to receive the bucket-

plate 6. A pocket 7 is formed integral with and adjoining the rear end of the bucket, and the shank is beveled at 8, so as to fit into the pocket and assist in holding the tooth in position. Other means may be provided for holding the end of the tooth, such as by clip 9, (shown in Fig. 7,) which is bolted to the plate 6 at 10 and into which the end of the shank is socketed.

The tooth is held laterally upon the bucket-plate by angle-bars 11, which are positioned upon either side of the shank and fastened to the bucket-plate by rivets 12. To further secure the tooth, a clip 13 is hinged at 14 to the bucket-plate, close to the cutting edge. This plate is recessed at 15 into the tooth-shank and passes over the eye 16, to which it is fastened by the split key 17.

The tooth is locked in position by the bolt 18, the head of which is recessed at 19 into the shank of the tooth. This bolt passes through the hole 20 and is fastened by nut 21 to the shovel-plate.

The construction of and the means for fastening the tooth to the shovel are such as to reduce to a minimum the resistance and wear upon the working parts when in use.

In operation to attach the tooth to the bucket the shank is slipped over the bucket-plate, so that the plate projects into the slot and the beveled end of the tooth into the pocket 7. The lock-bolt 18 is then fastened through the shank and bucket-plate by nut 21 and the hinged clip 13 closed over the shank and fastened by split key 17. To remove the tooth, the operation is reversed.

Where the word "steam" is used throughout the specification and claims it is intended to cover all forms of power-shovels.

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

1. In combination with the steam-shovel bucket, a tooth, carried by the bucket and projecting from its cutting edge, sockets for receiving the shank of the tooth and means for locking the tooth in the sockets.

2. A tooth for steam-shovel buckets, consisting of a shank extending lengthwise upon the side of the bucket and having a pointed end projecting from the cutting edge thereof,

a socket upon the side of the bucket and a clip and bolt whereby the shank of the tooth is held in the socket.

3. A tooth for steam-shovel buckets, consisting in combination with the bucket of a tooth, having a slot in its shank adapted to receive the edge, and a clip and bolt for locking the tooth upon the bucket.

4. A tooth for steam-shovel buckets, consisting in combination with the bucket; of a shank 3; pointed at 4, and slotted at 5, so as to receive the bucket-plate; a pocket 7 to receive the rear end of the shank; the angle-bars 11, on either side of the shank upon the bucket; a lock-bolt 18, securing the shank to the plate so as to prevent forward movement of the tooth, and a clip, hinged upon and fastened to the bucket-plate and passing over the shank.

5. A tooth for steam-shovel buckets, consisting of a shank extending lengthwise upon the side of the bucket, having a pointed end projecting from the cutting edge thereof, and

a slot adapted to receive the edge of the bucket, a pocket on the side of the bucket to receive the rear end of the tooth, an angle-bar on either side of the shank, carried by the bucket, and a lock-bolt passing through the shank and bucket-plate.

6. A tooth for steam-shovel buckets, consisting in combination with the bucket, of a shank extending along its side having a slot adapted to receive the edge of the bucket, a socket carried by the bucket for the rear end of the tooth, an angle-iron positioned on either side of the shank and carried by the bucket and a clip hinged to the bucket and recessed in the shank.

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

BARTLEY BROWN.

Witnesses:

M. FENNESSY,
F. G. BRADBURY.