

No. 640,268.

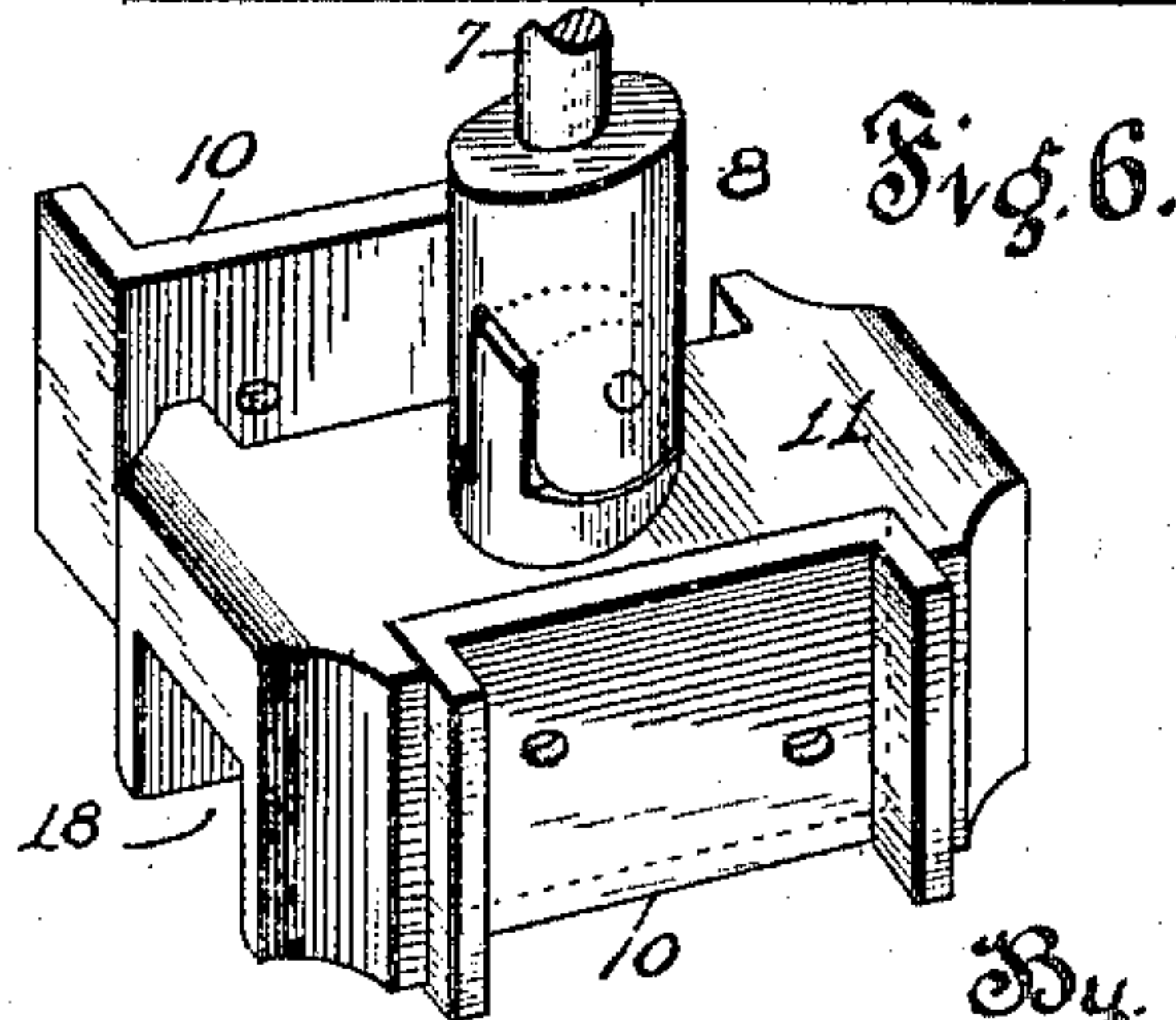
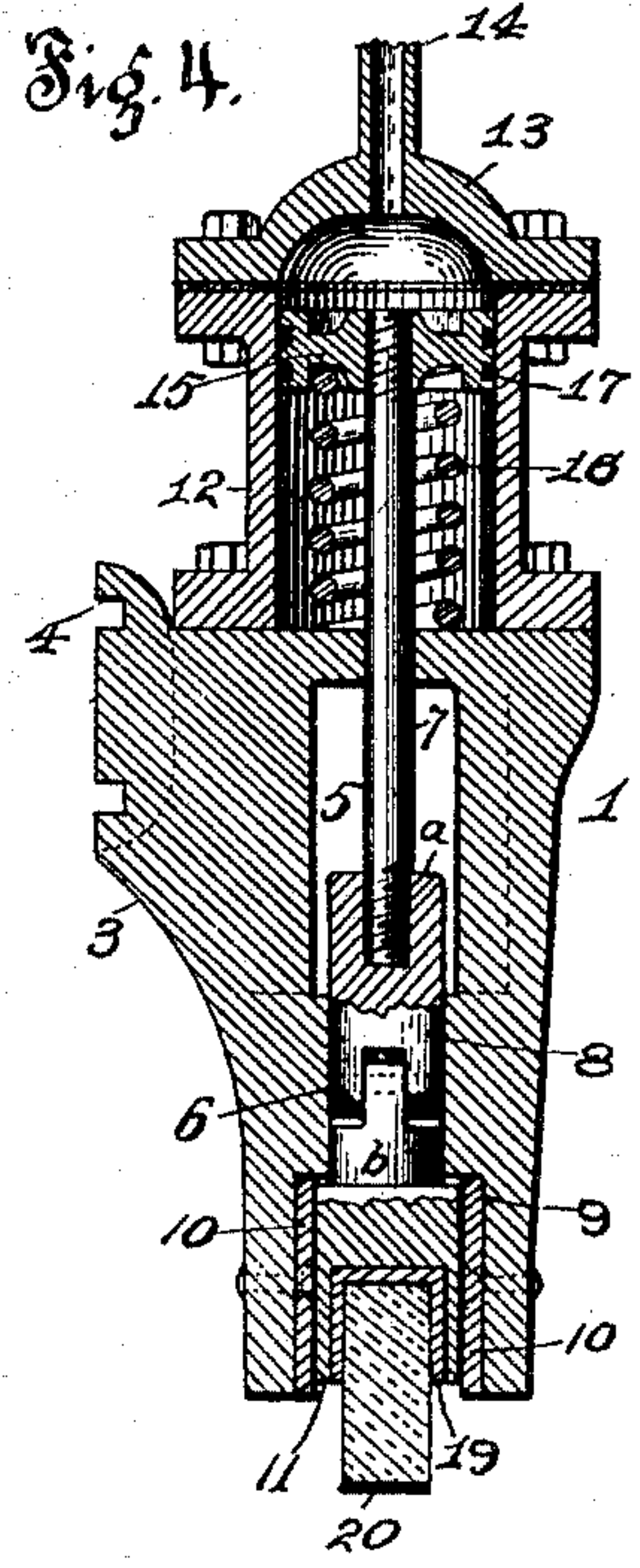
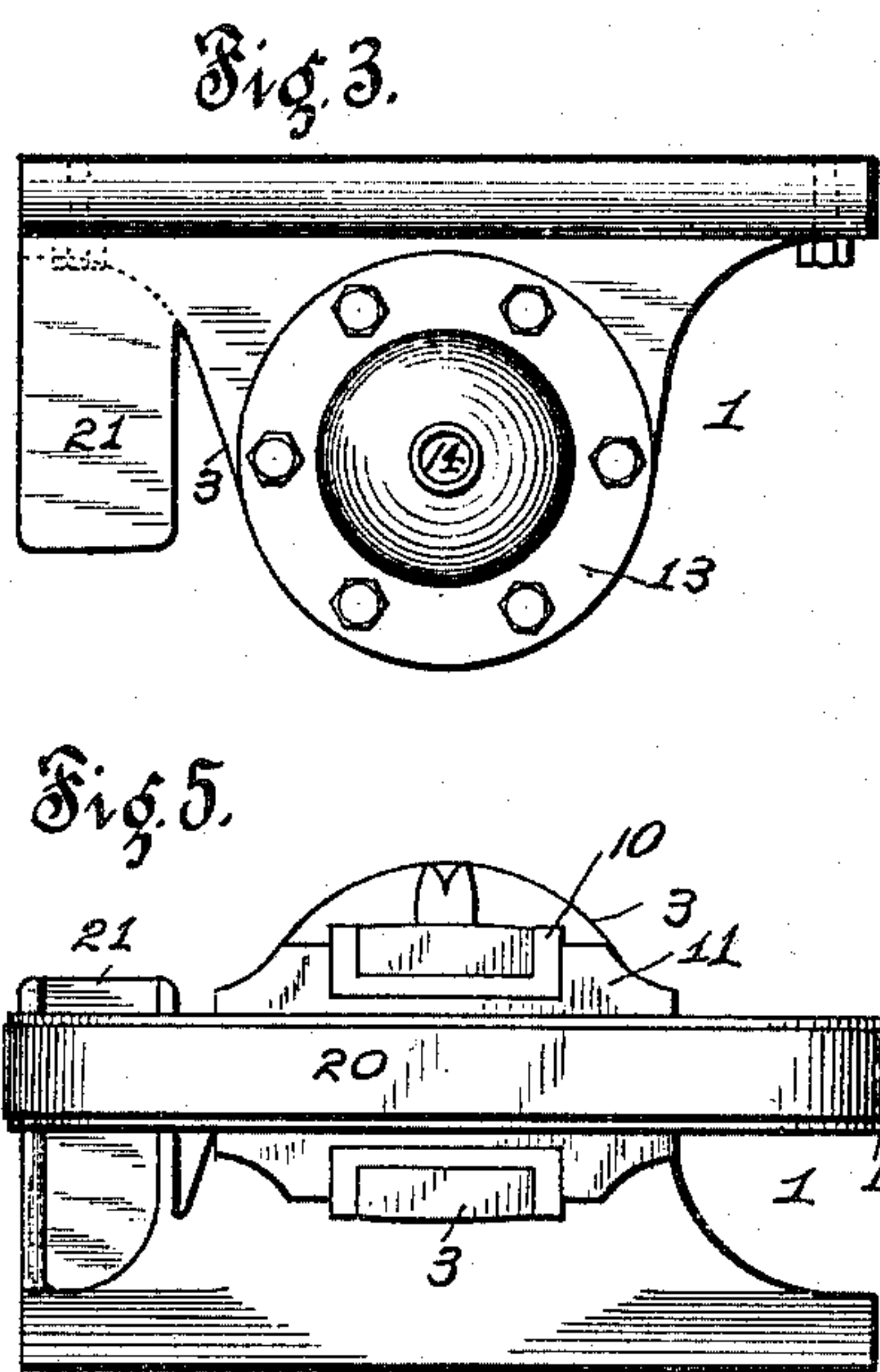
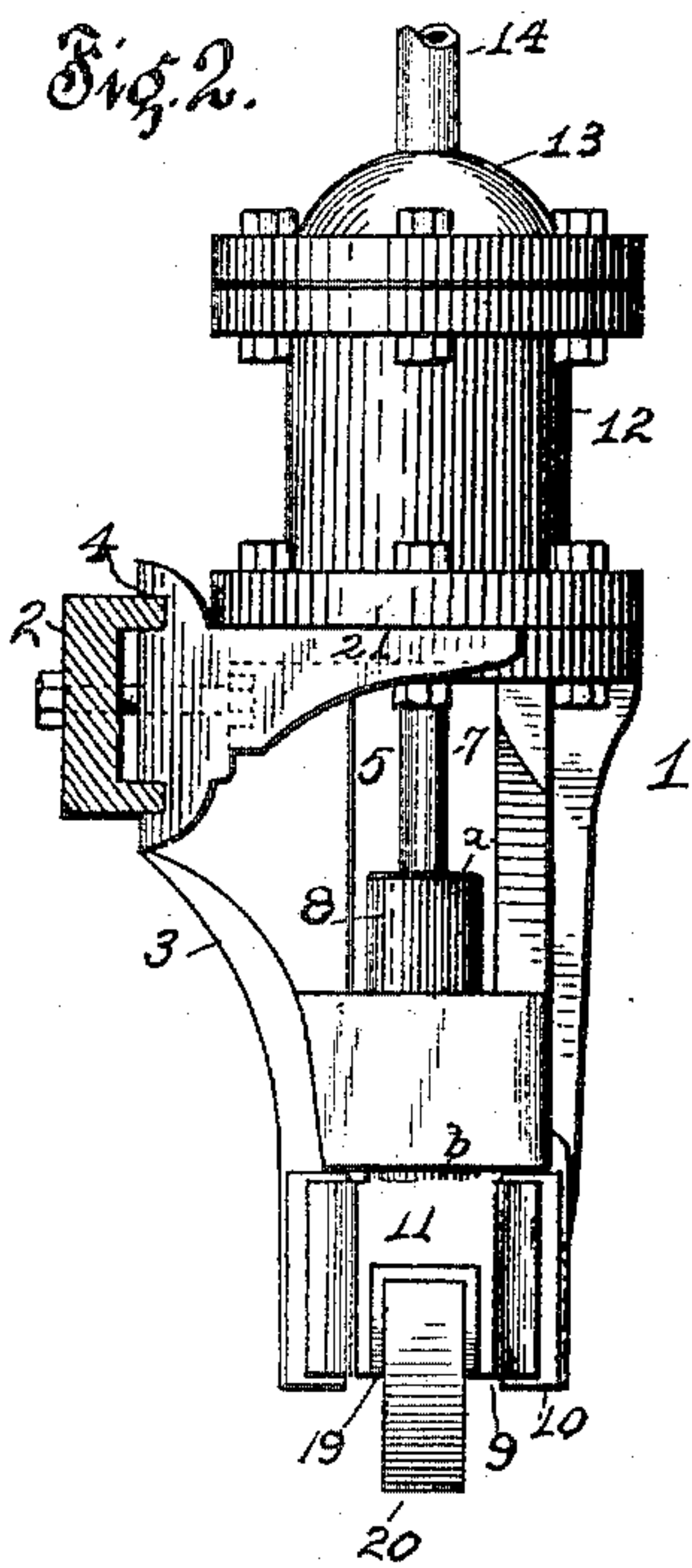
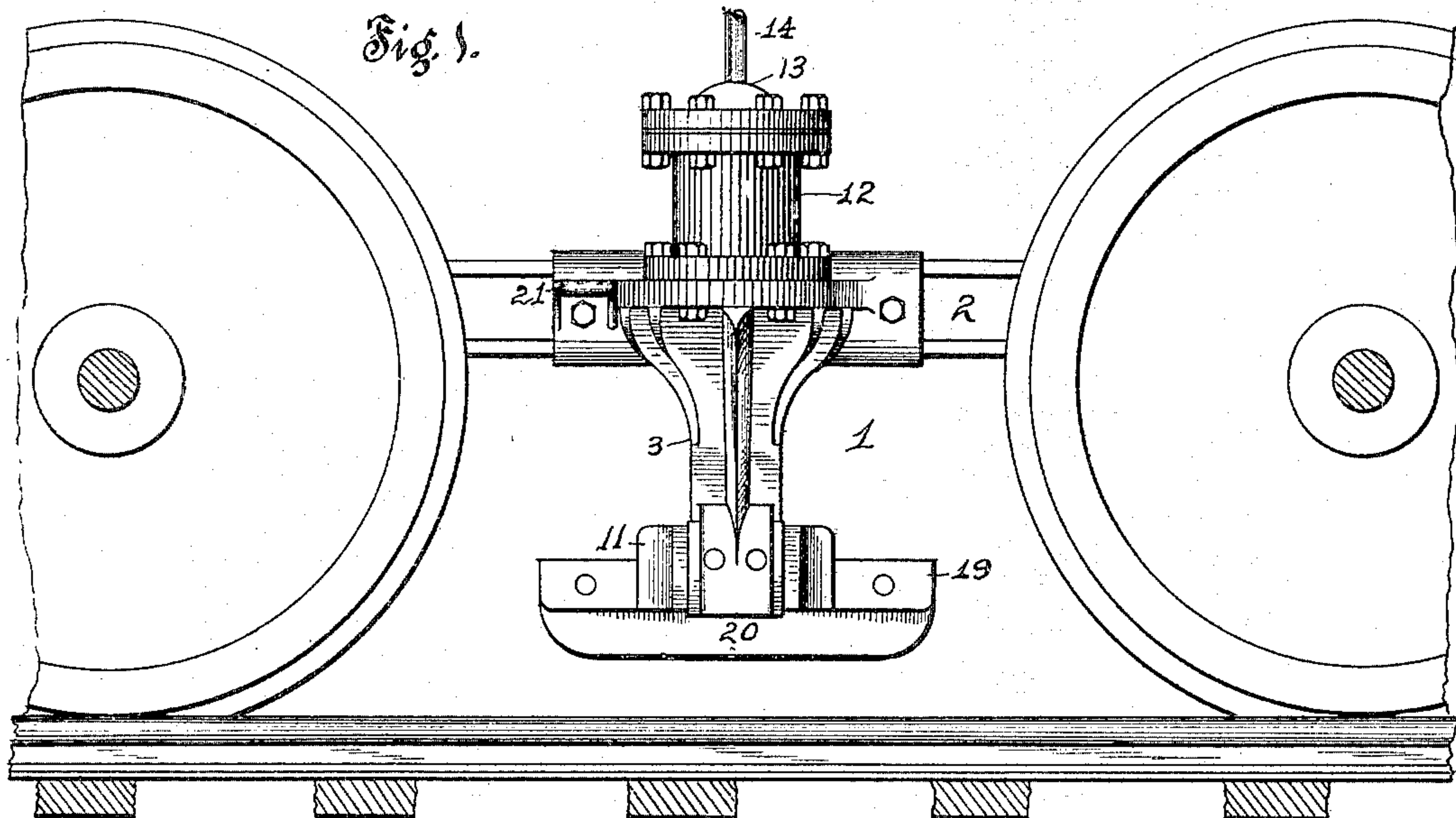
Patented Jan. 2, 1900.

E. F. CAMPBELL.

CAR BRAKE.

(Application filed July 17, 1899.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

ELIHU F. CAMPBELL, OF ST. LOUIS, MISSOURI.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 640,268, dated January 2, 1900.

Application filed July 17, 1899. Serial No. 724,074. (No model.)

To all whom it may concern:

Be it known that I, ELIHU F. CAMPBELL, of the city of St. Louis, in the State of Missouri, have invented certain new and useful
5 Improvements in Car-Brakes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

This invention relates to improvements in
10 car-brakes; and it consists in the novel arrangement, construction, and combination of parts, as will be more fully hereinafter described, and set forth in the claim.

One object of the invention is to construct
15 a brake in such manner as to be manipulated by either steam or compressed air to bring its shoe in communication with the rail of the track, braking the car in this manner without ever bringing the brake-shoes in contact with the wheels of the truck, as is usually
20 done.

Another object is, that by this construction, the wearing away or flattening of the wheels, by the continuous rubbing of the shoes and the
25 wheels sliding upon the rails when locked, is entirely overcome and dispensed with, which is the feature of the invention in connection with its construction.

Referring to the drawings, Figure 1 is a
30 side view of my complete invention placed in position upon a truck. Fig. 2 is a detail edge view of the device detached from the truck. Fig. 3 is a top plan view of the same. Fig. 4 is a vertical sectional view of the brake, showing
35 its operating mechanism. Fig. 5 is a bottom plan view of the brake, and Fig. 6 is a perspective view of the guide-plates and shoe-retaining pocket detached from the brake proper.

40 In the drawings, in the construction of the device, as shown, the brake 1 is secured to the truck-frame 2 by means of bolts or other means and placed in such position as to bring the shoe midway between the wheels of the
45 truck and in alinement over the rail of the track.

The brake 1 consists of a casting 3, forming the main body of the brake and having a flattened portion, in which are provided two
50 grooves 4, by which said casting is firmly secured to the frame 2, which is preferably made of channel-iron or like material. The cast-

ing 3 is also provided with an opening 5 and bore 6, in which operate the piston-rod 7 and pocket-rod 8, and at its bottom is formed a
55 channel 9, in which are held and guided guide-plates 10 and a shoe-retaining pocket 11. On the top of said casting 3 is mounted and securely held by means of bolts or studs an air or steam cylinder 12, having in its cover 13
60 an inlet 14, in which the air or steam is admitted to the cylinder and is also used for the return or exhaust when the piston-head 15 is pressed upwardly by means of the spring
65 16, located in said cylinder and communicating with the under side of the piston-head. The piston-head is provided with packing-rings 17 of any suitable material and placed therein in any suitable manner. The piston-head 15 is secured to the piston-rod 7,
70 which is secured to the pocket-rod 8, which in connection operate the brake, lowering it to communicate with the rail. The pocket-rod is formed of two sections *a* and *b*. In section *a* a groove is formed and its prongs
75 rounded to permit the insertion of the tongue formed on the section *b* and for the same to have free action to allow the shoe to regulate its position upon the rail in order to prevent the twisting of the rods, which would be
80 the case if the same were all of one solid piece and without a joint, as described.

In the pocket 11 is formed a channel 18, in which is adapted to be held in any desirable
85 manner a socket 19, in which is held the shoe or contact material 20, being of any desired material well adapted for the purpose.

The guide-plates 10 are used to retain the friction of the pocket caused by its raising and lowering. Said guide-plates can be removed when they become greatly worn and
90 new ones replaced. These plates are for the purpose of preventing the wear from falling upon the casting proper. If it did, the casting would become worn, and in this case it would
95 be necessary to replace an entire casting. The casting is also provided with a bracket 21, which is for the purpose to be placed under the motor-bar carrying the motor of the car, thus aiding to rigidly retain the casting
100 and keeping it from in any way swaying or moving out of its alinement with the rail.

This brake, as described, may be applied to any style of truck, and its operation is as fol-

lows: The air or steam is passed through the
 inlet 14, the pressure bearing upon the pis-
 ton-head 15, pressing downwardly upon the
 piston-rod, pocket-rod, and pocket, lowering
 5 the shoe in communication with the rail.
 Should the rail be irregular, the shoe can ad-
 just itself by means of the joint formed in the
 pocket-rod. When the pressure is released,
 the action of the spring in the cylinder presses
 10 upwardly on the bottom of the piston-head,
 raising the entire mechanism in its released
 position, and the air or steam that is in the
 cylinder escapes through the same pipe, which
 action is instantaneous upon the cutting off
 15 of the power.

By this style of brake the flattening and
 wearing of the wheels are overcome, as the
 wheels in this case never slide upon the rails,
 but at all times have free access to turn.

20 Having fully described my invention, what
 I claim, and desire to secure by Letters Pat-
 ent, is—

A car-brake of the class described, com-
 posed of a casting adapted to be secured to
 25 the frame of the car-truck, an air or steam

cylinder mounted on said casting, said cylin-
 der having an inlet for admitting the power-
 pressure, a piston operating in said cylin-
 der, a spring located in said cylinder under
 the piston-head for the purpose of raising the 30
 brake and releasing the same immediately
 upon the release of the pressure upon said pis-
 ton in said cylinder, said piston-rod connect-
 ed to said pocket-rod which is provided with a
 joint, said rod secured to the pocket-casting, 35
 said pocket-casting operating on guide-plates
 secured to said casting and for the purpose of
 retaining all the wear of the continual action
 of the pocket-casting, a channel-bar carrying
 a contact-shoe carried in said pocket-casting, 40
 and lowered in communication with the rail
 of the track by the power-pressure upon the
 piston-head in the cylinder, substantially as
 set forth.

In testimony whereof I affix my signature 45
 in the presence of two witnesses.

ELIHU F. CAMPBELL.

Witnesses:

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