G. MESTA.

APPARATUS FOR PICKLING AND WASHING METAL PLATES.

APPLICATION FILED JULY 24, 1909.

935,619. **Patented Sept. 28, 1909.**

2 SHEETS—SHEET 1.

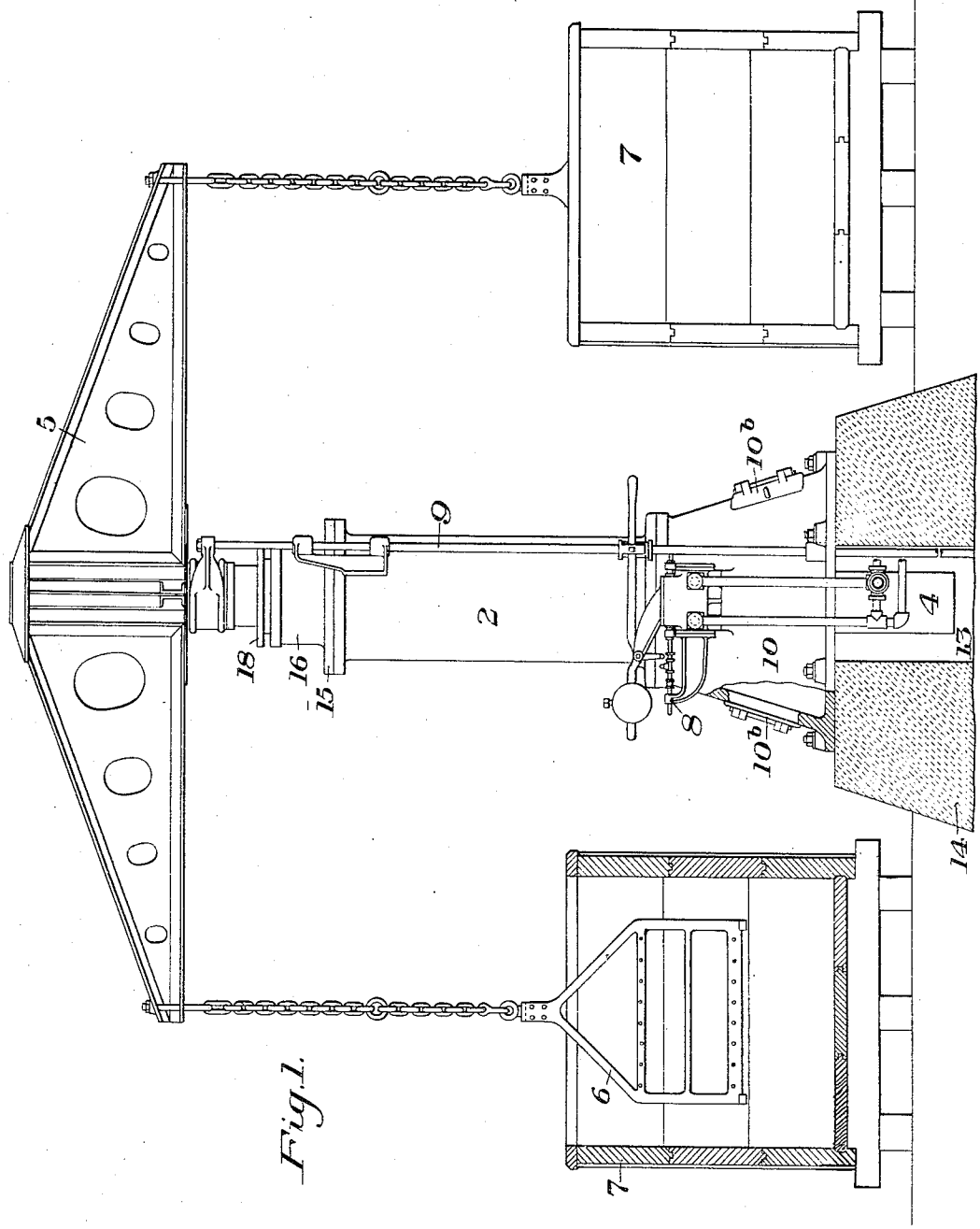

Fig. 1.

WITNESSES

R. A. Balderson.

Jesse B. Keller.

INVENTOR

George Mesta,

by Bakewell, Byrnes & Parmelee,

his Attys.

G. MESTA.

APPARATUS FOR PICKLING AND WASHING METAL PLATES.

APPLICATION FILED JULY 24, 1909.

935,619. **Patented Sept. 28, 1909.**

2 SHEETS—SHEET 2.

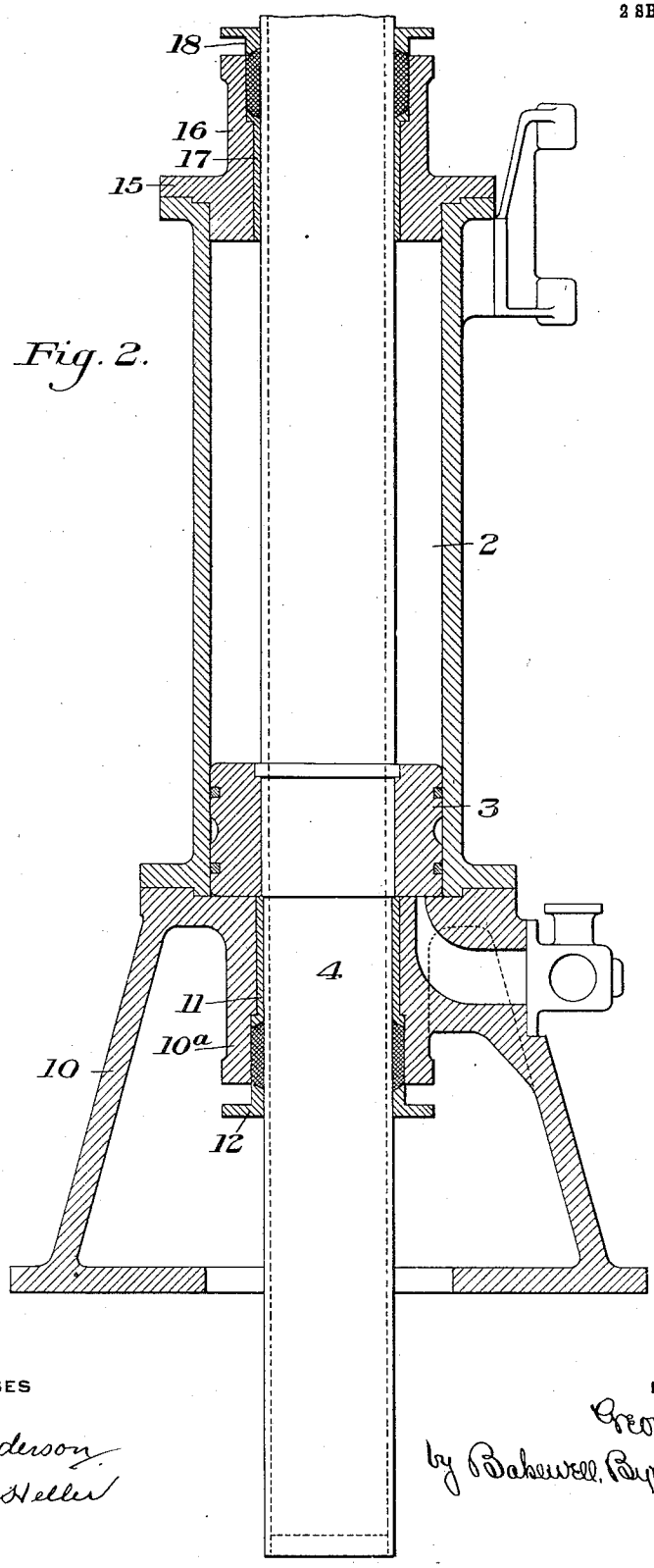

Fig. 2.

WITNESSES

R. A. Balderson.
Jesse B. Heller

INVENTOR

George Mesta,
by Bakewell, Paynes & Parmelee,
his Attys.

UNITED STATES PATENT OFFICE.

GEORGE MESTA, OF PITTSBURG, PENNSYLVANIA.

APPARATUS FOR PICKLING AND WASHING METAL PLATES.

935,619. Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed July 24, 1909. Serial No. 509,258.

To all whom it may concern:

Be it known that I, GEORGE MESTA, of Pittsburg, Allegheny county, Pennsylvania, have invented a new and useful Apparatus for Pickling and Washing Metal Plates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a view partly in side elevation and partly in vertical section of apparatus embodying my invention; and Fig. 2 is a vertical section showing the motor cylinder, the piston rod and piston, and the bearings for said rod.

My invention relates to apparatus for pickling and washing metal plates of the general character described and claimed in my Patents Nos. 484,664 of October 18th, 1892, and 602,686 of April 19th, 1898. In the use of the apparatus described in said patents, it has been found necessary, in view of the eccentric character of the loading to which the plunger is subjected, to provide the plunger rod with guide bearings above the apparatus, these guide bearings having been usually carried by the building structure in which the apparatus is employed. This arrangement has proven objectionable in some cases, for the reason that where it is desired to employ overhead cranes in connection with the apparatus, which must traverse the building in which the apparatus is arranged, free head room or space above the apparatus is necessary for the travel of the crane, and this is interfered with by the provision of the upper guides above referred to. It has also been found difficult to maintain the proper alinement between such upper guide bearing and the lower bearing provided in the apparatus, these two bearings being carried by separate structures. My present invention is designed to overcome these difficulties, and it provides an apparatus of this character which shall be self-contained, and in which the extended bearing is provided within the apparatus itself for the piston or plunger rod.

Referring to the drawings, the numeral 2 designates the vertical single-acting cylinder of the machine, having therein the piston 3 secured to the piston rod 4.

5 is the spider, which is secured to the upper end of the piston rod, and which is provided with two or more arms, as may be desired, from which are suspended the usual crates 6.

7 designates the pickling and washing vats, within which the crates are actuated.

8 and 9 designate valve actuating mechanism for the cylinder 2, which mechanism may be in all substantial respects similar to that described and claimed in my said Patent No. 602,686.

In accordance with my present invention, I provide the hollow supporting base 10 of the apparatus with the interior elongated downwardly extending sleeve portion 10^a through which the tail end of the piston rod 4 extends. This extension is preferably provided with the interior bushing 11 and with the ring or gland 12 forming a stuffing or packing box for said rod. The hollow base 10 has its outer wall provided with one or more doors 10^b, through which ready access to its interior may be provided. Said base is otherwise preferably closed to prevent splashing of acid into interior. The tail portion of the piston rod is extended downwardly through this base into a suitable pit 13 within the supporting foundation 14.

The upper end of the cylinder 2 is provided with a head 15 having an elongated sleeve or flange portion 16 provided with the bushing 17 and gland 18.

The advantages of my invention will be readily apparent. By providing the cylinder and upper and lower elongated bearings for the piston rod, I am enabled to do away with upper guides above the apparatus, thereby rendering the apparatus self-contained and giving free head room above it. Both the upper and lower guides being carried by the apparatus itself, the difficulty of maintaining their proper alinement is largely obviated. The strain on the piston rod, instead of being transmitted to the piston and cylinder walls, which has heretofore largely occurred, is transmitted directly to the elongated bearings, thus largely reducing the wear on the piston and cylinder rod.

It will be obvious that various changes can be made in the details of the construction and arrangement of the parts without departing from the spirit and scope of the invention as defined in the appended claims. Thus, the upper and lower bearings for the

piston rod may be of different specific character from that shown, and various other changes may be made.

What I claim is:—

1. In apparatus of the character described, the combination of a cylinder, a piston rod working therethrough, and a base forming a support for the cylinder, said base having an elongated bearing for the piston rod below the cylinder; substantially as described.

2. In apparatus of the character described, the combination of a cylinder containing a piston, and a piston rod extending through the cylinder, a supporting base for the cylinder, said base having an elongated bearing for the tail extension of the piston rod, and the cylinder also having at its upper end an elongated bearing for the piston rod; substantially as described.

3. In apparatus of the character described, the combination of a hollow supporting base, a vertical cylinder supported thereon, a piston rod extending through said cylinder and base, and a piston secured to the rod within the cylinder, said base having an elongated bearing for the piston rod, and the cylinder also having at its upper end an elongated bearing for said rod; substantially as described.

4. In apparatus of the character described, a cylinder, a hollow supporting base for said cylinder, said base being closed laterally and having a door giving access thereto, and a piston rod extending through the cylinder, and a base having therein an elongated guide bearing for said head; substantially as described.

In testimony whereof, I have hereunto set my hand.

GEORGE MESTA.

Witnesses:

J. O. HORNING,

G. E. TOWNSEND.