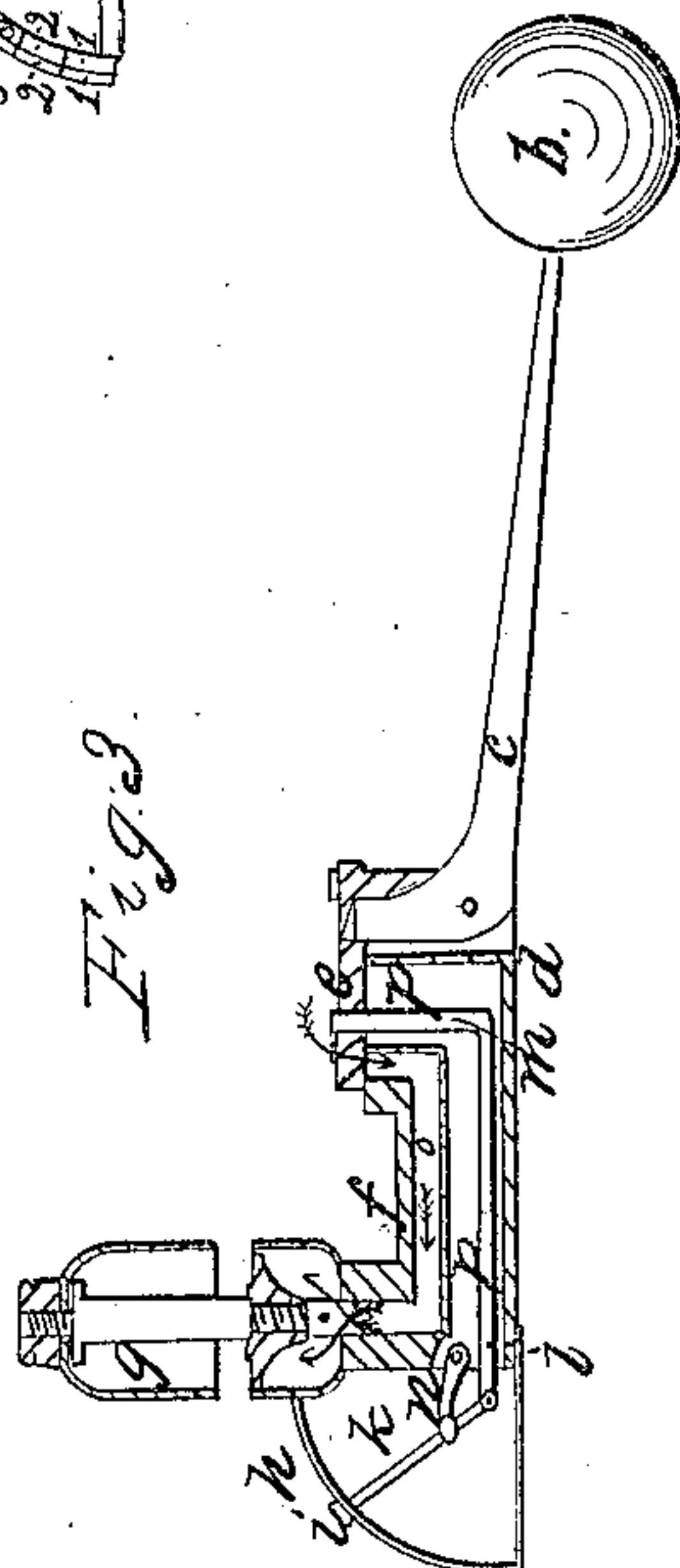
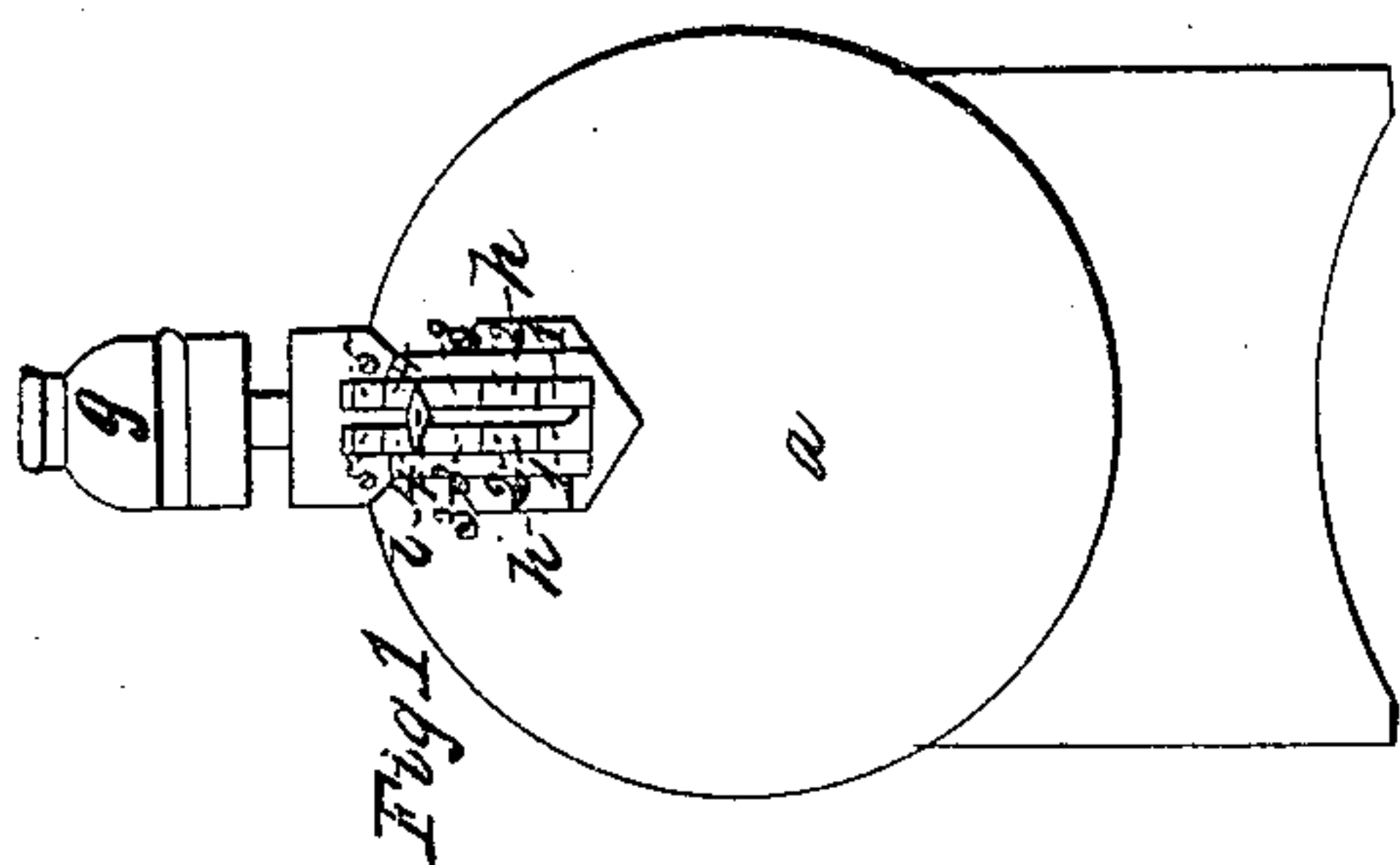
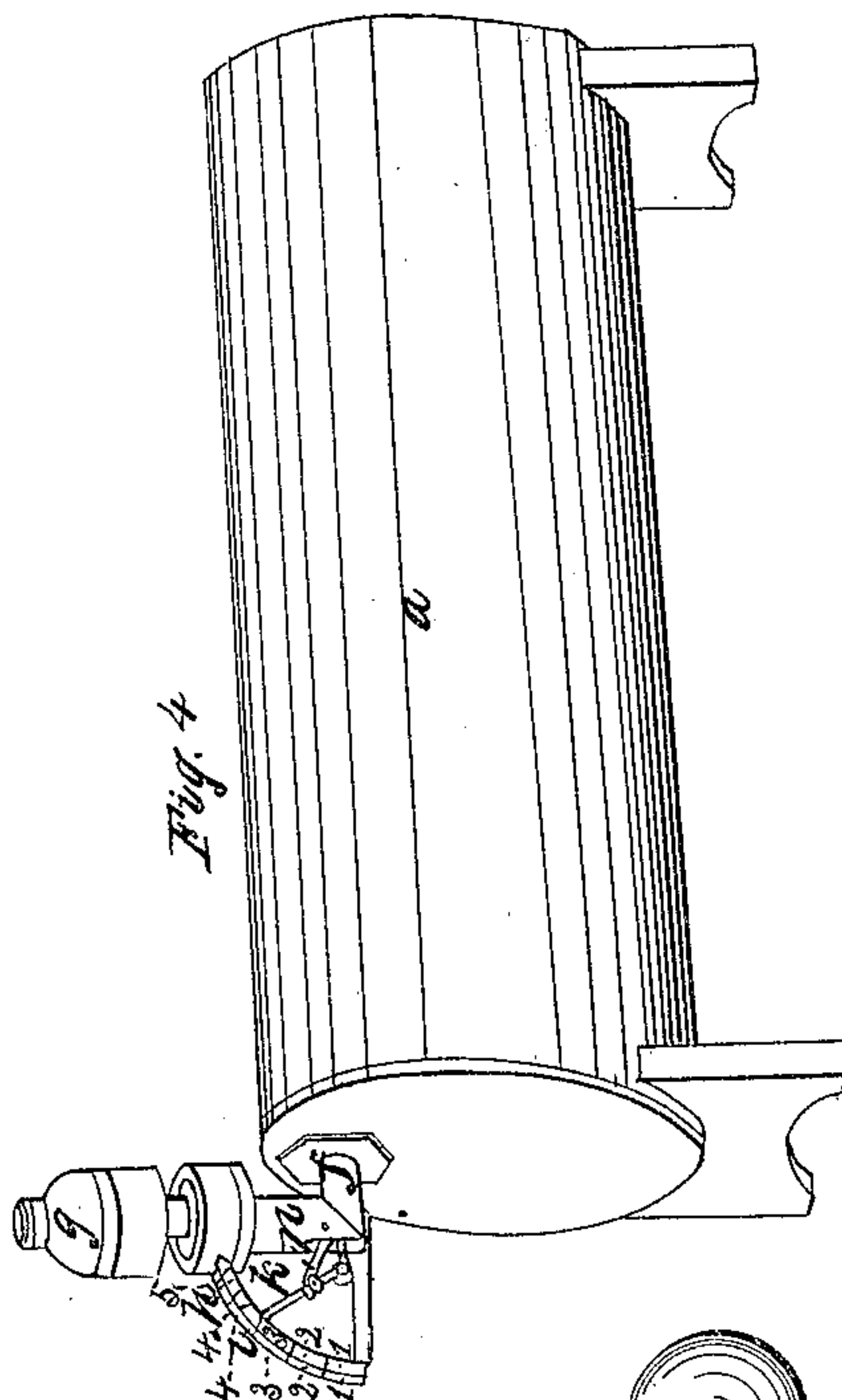
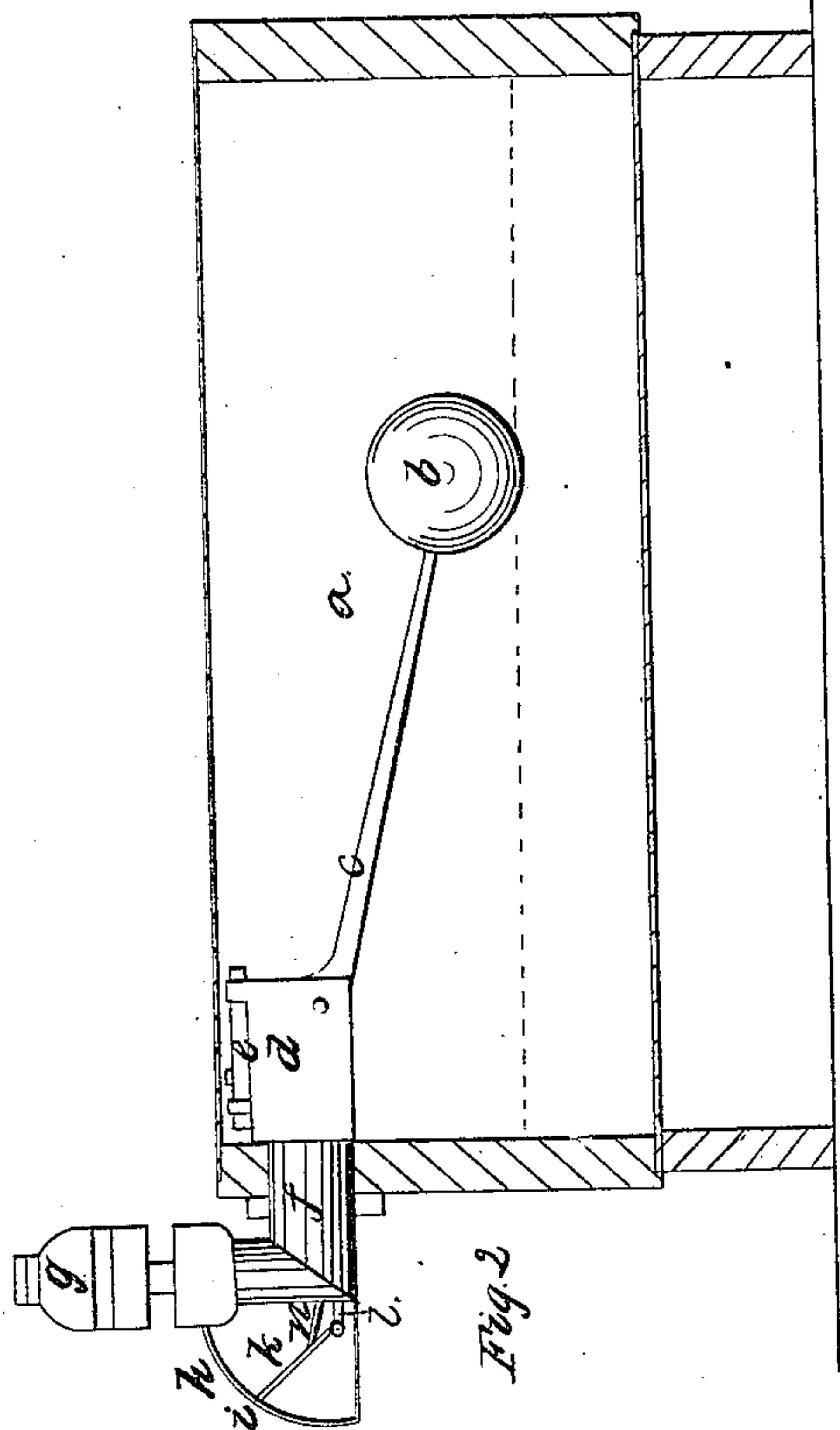


J. Dilks,
Steam-Boiler Indicator.
No 7,808. Patented Dec. 3, 1850.



UNITED STATES PATENT OFFICE.

JOSEPH DILKS, OF PHILADELPHIA, PENNSYLVANIA.

ALARM AND INDICATOR FOR STEAM-BOILERS.

Specification of Letters Patent No. 7,808, dated December 3, 1850.

To all whom it may concern:

Be it known that I, JOSEPH DILKS, of the city of Philadelphia and State of Pennsylvania, have invented a new and Improved Alarm and Water-Gage, the same being so constructed as to show at a glance the exact depth of water in the boiler; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a front elevation; Fig. 2, a longitudinal section of the boiler, showing the arrangement of the valve and float; Fig. 3, a longitudinal section of the valve, &c., showing the connection with and manner of working the indicator; Fig. 4, a perspective view.

As the same letters mark the same parts in the different figures a particular reference to each figure is deemed unnecessary.

Letter *a* is the boiler; *b*, float; *c*, lever; *d*, valve seat; *e*, valve; *f*, pipe connecting the steam whistle and valve; *g*, steam-whistle; *h*, metal strip or plate, divided lengthwise in order that the rod *k* may move freely in it; the plate is bent to form a quadrant, and has its face divided into feet and inches; *i*, the pointer; *k*, rod which moves the pointer; *l*, a rod moving horizontally backward and forward, and connecting by a vertical rod, *m*, to the valve *e*; *n*, vertical rod connecting the rod *l*, with the valve; *n*, a small bar which serves to confine the rod *k* to a circular movement; *o*, steam passage; *p*, *p*, space in which the rods *l* and *m* work, being sufficiently large to allow their free motion.

My invention consists in attaching to a steam boiler of any of the known forms, a sliding valve and seat, worked by a float or ball; the said float rising or falling with the rise or fall of the water in the boiler, simultaneously acting upon the whistle and indicator. The float is connected to the valve *e* by means of the lever which works in a

slot in the valve, as shown in Fig. 3. The valve is connected to the indicator by the rod *m* which passes through the valve, and is securely held in its place by means of a nut; one end of the rod *l* is firmly screwed into the lower end of the rod *m*, while the other end is connected or jointed to the rod *k*. In front of the boiler is a bent index, made of metal forming a quadrant, on the face of which moves a pointer. The chambers or grooves in which the rods, *l* and *m* move being made steamtight, a movement is thus obtained through the head of the boiler, dispensing with the stuffing box and packing, the index plate and indicator to be incased so as to be out of the control of the engineer, by glass, so that the state of the water in the boiler may at any time be seen.

The operation of the machine is as follows: On the water in the boiler becoming reduced, the float or ball falls with it, the valve is opened, the steam rushes through the passage *o*, the whistle sounds the alarm, at the same time the rod *l* is drawn backward by the motion of the valve, causing the pointer to descend thus showing on the index the depth of water in the boiler. The indicator being placed at the top of the boiler where it will be free from the collection of sediment renders it far superior to any other now in use.

I do not claim to be the inventor of the float, valve, or steam whistle, the same being in common use; but

What I do claim as my invention and wish to secure by Letters Patent, is—

The peculiar method of moving the indicator by its attachment to the slide valve of the whistle, by which the connection is continued through the head of the boiler as herein described, dispensing with the stuffing-box and packing.

JOSEPH ^{his} X DILKS.
mark

Witnesses:

J. MITCHELL,

A. H. BOOKHAMMER,