

C. D. AUSTIN.
LUBRICATOR.

No. 109,795.

Patented Dec. 6. 1870.

Fig. 1

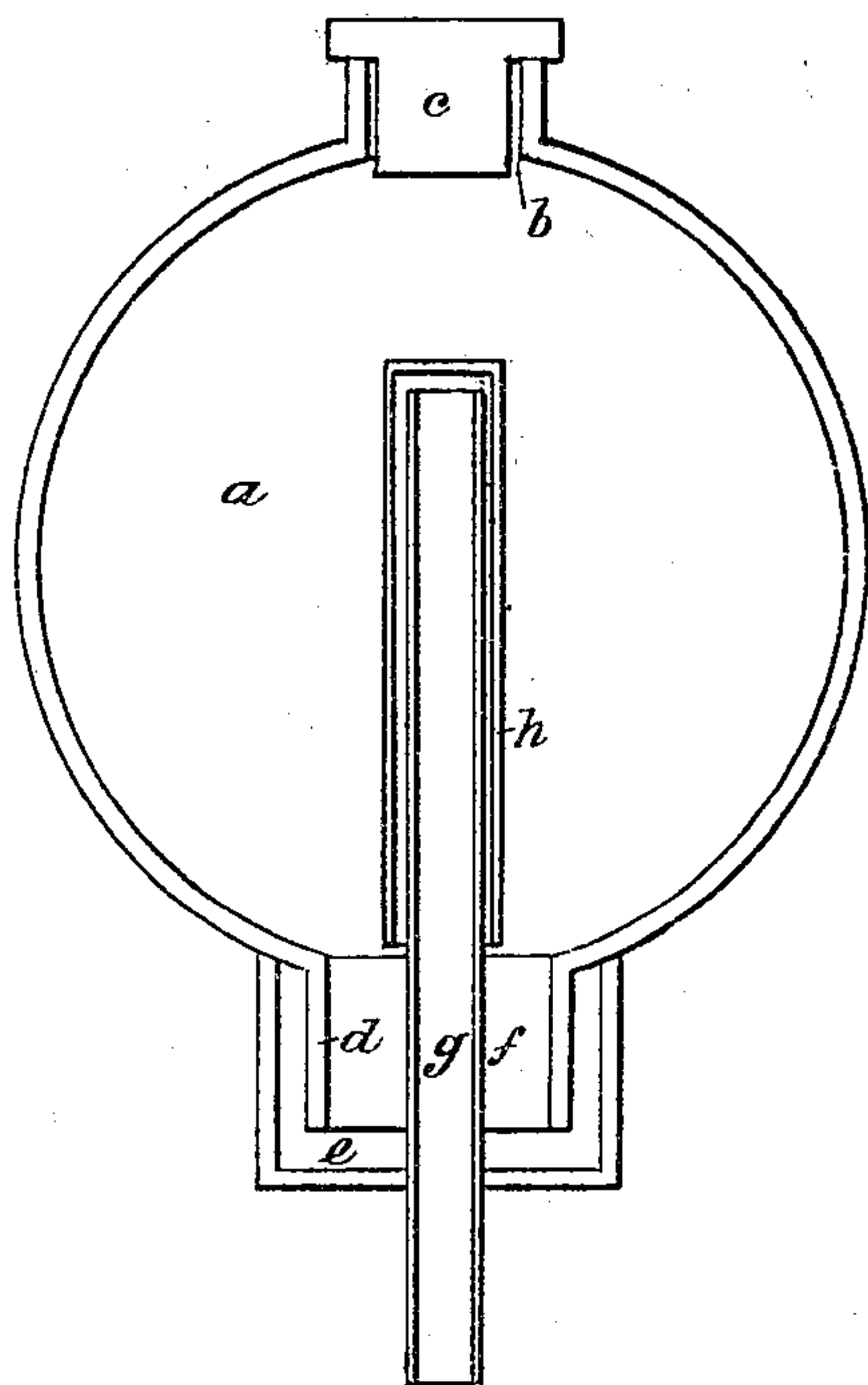


Fig. 2

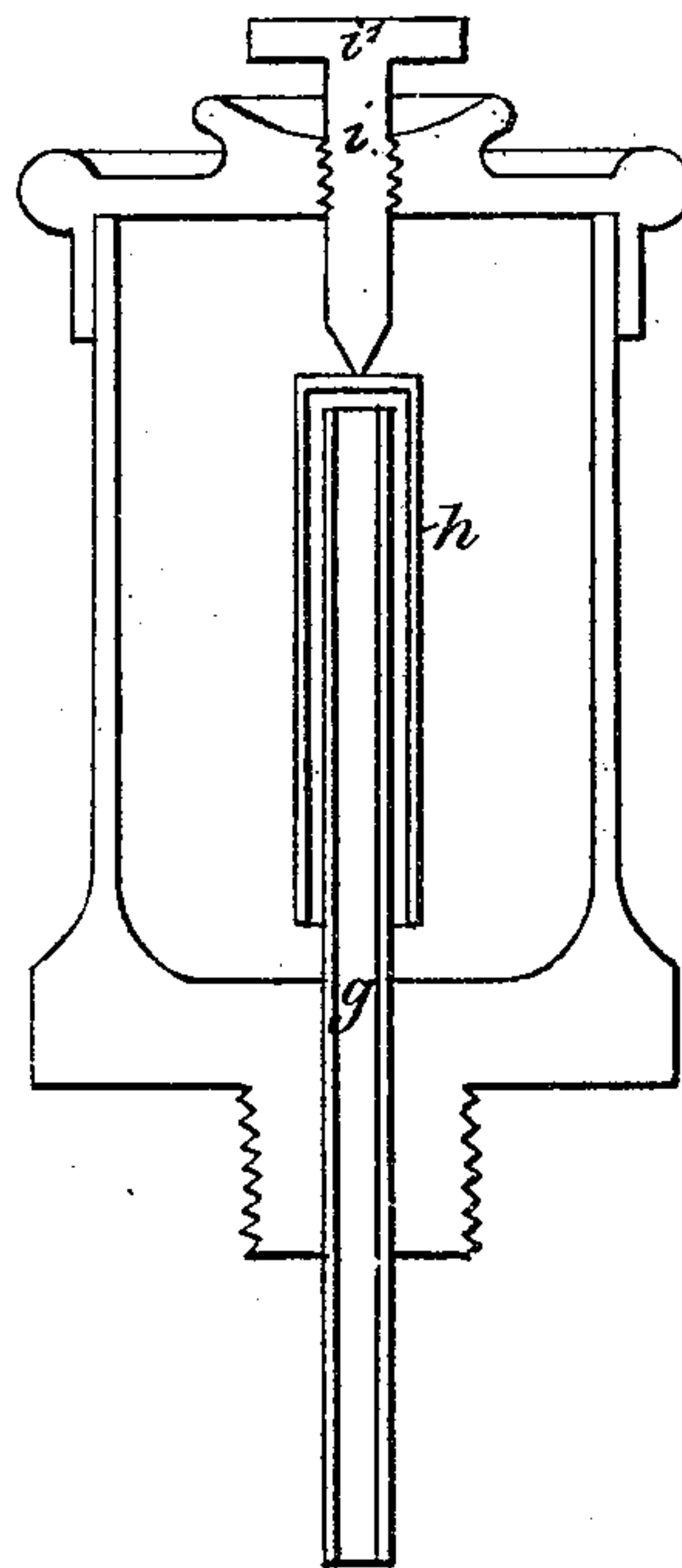


Fig. 3

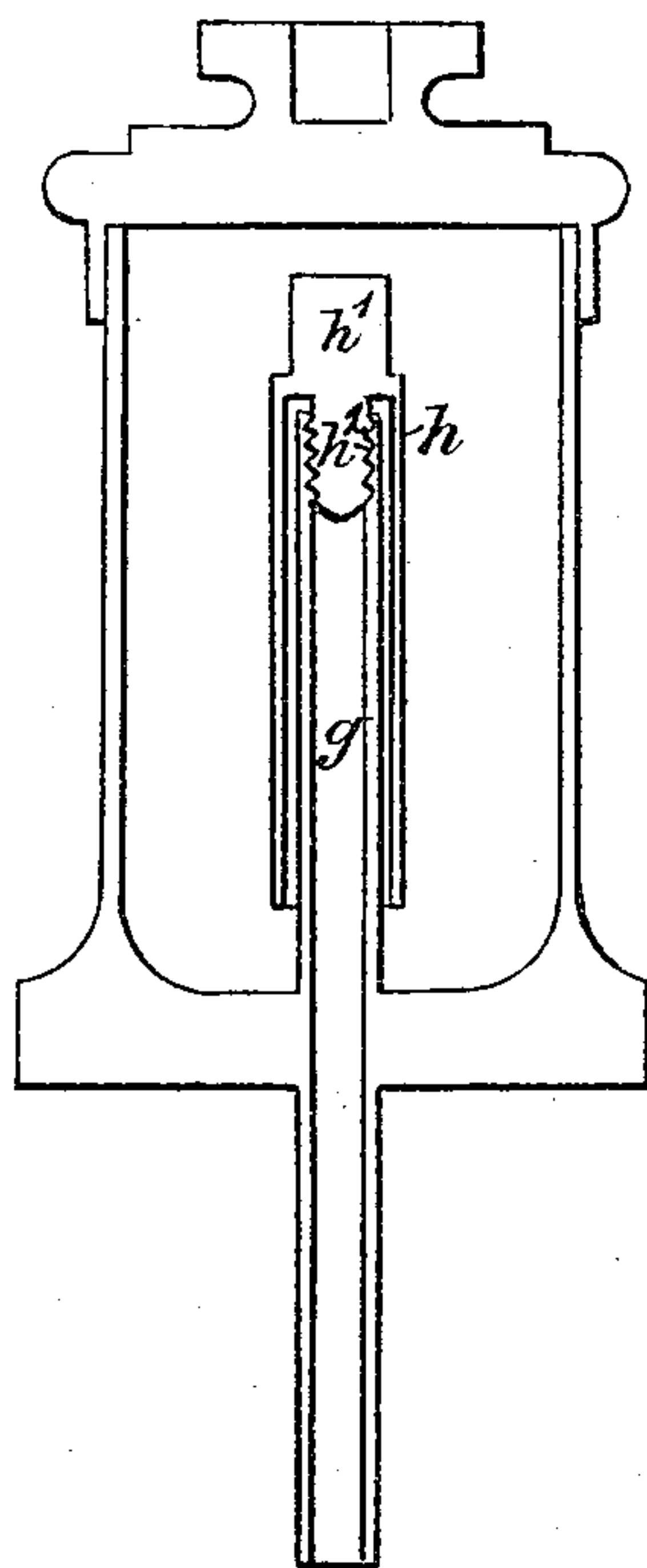
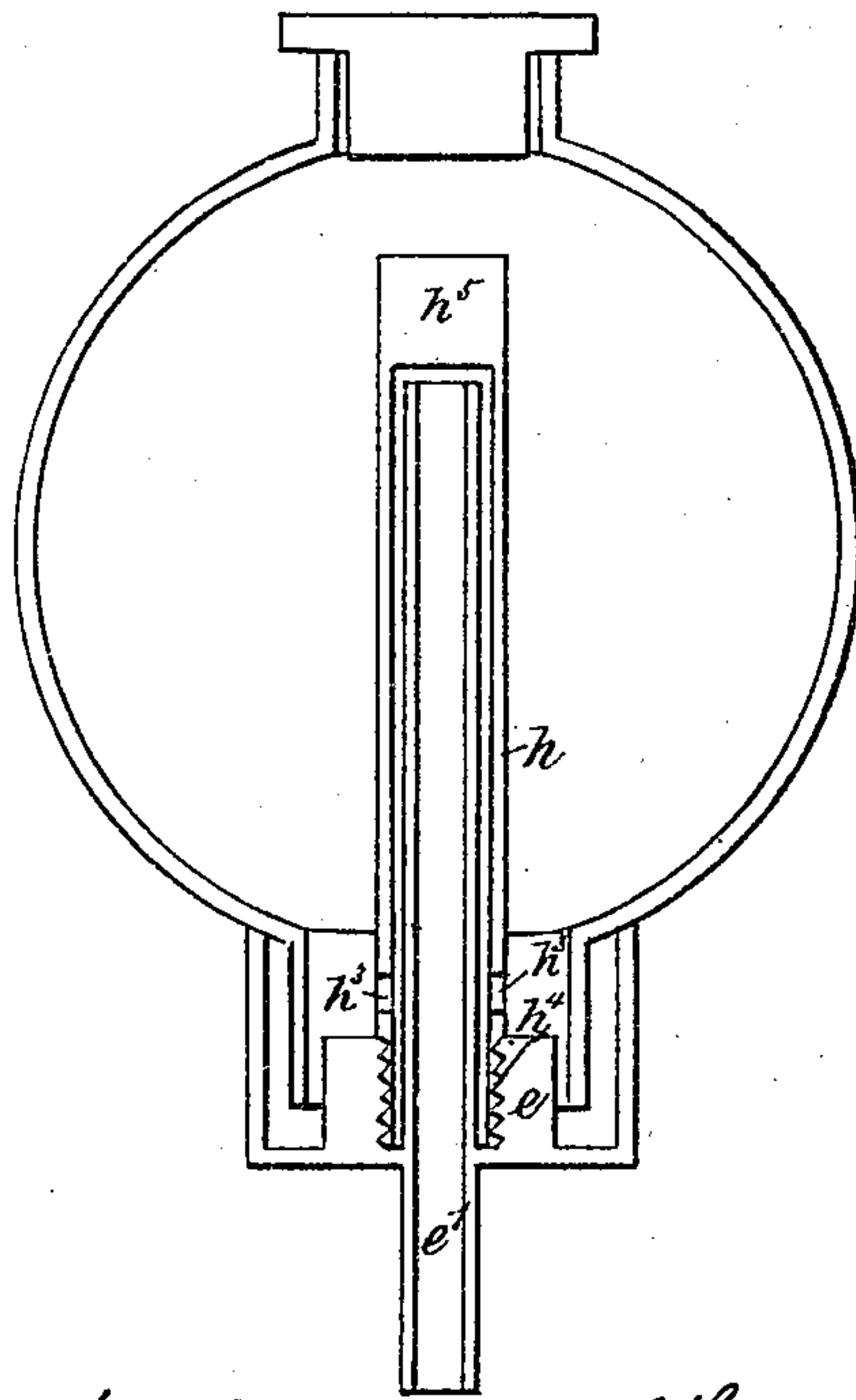


Fig. 4



Witnesses to the signature of the said
Charles Dudley Austin.
John J. Hoyle
Newcastle-upon-Tyne
Newton Cranbrook
Newcastle-upon-Tyne

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Fig. 13

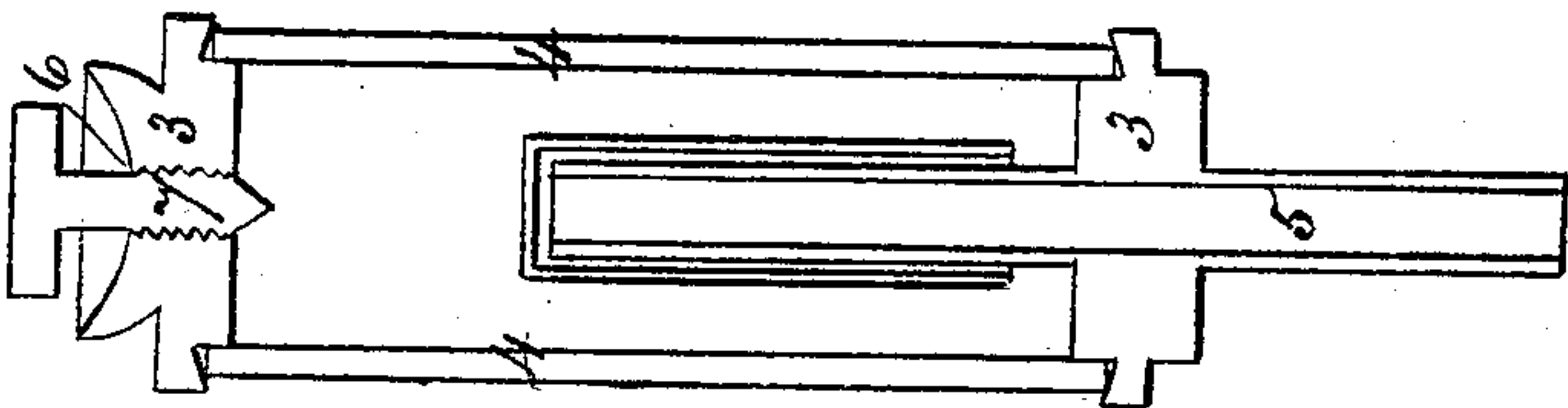


Fig. 12

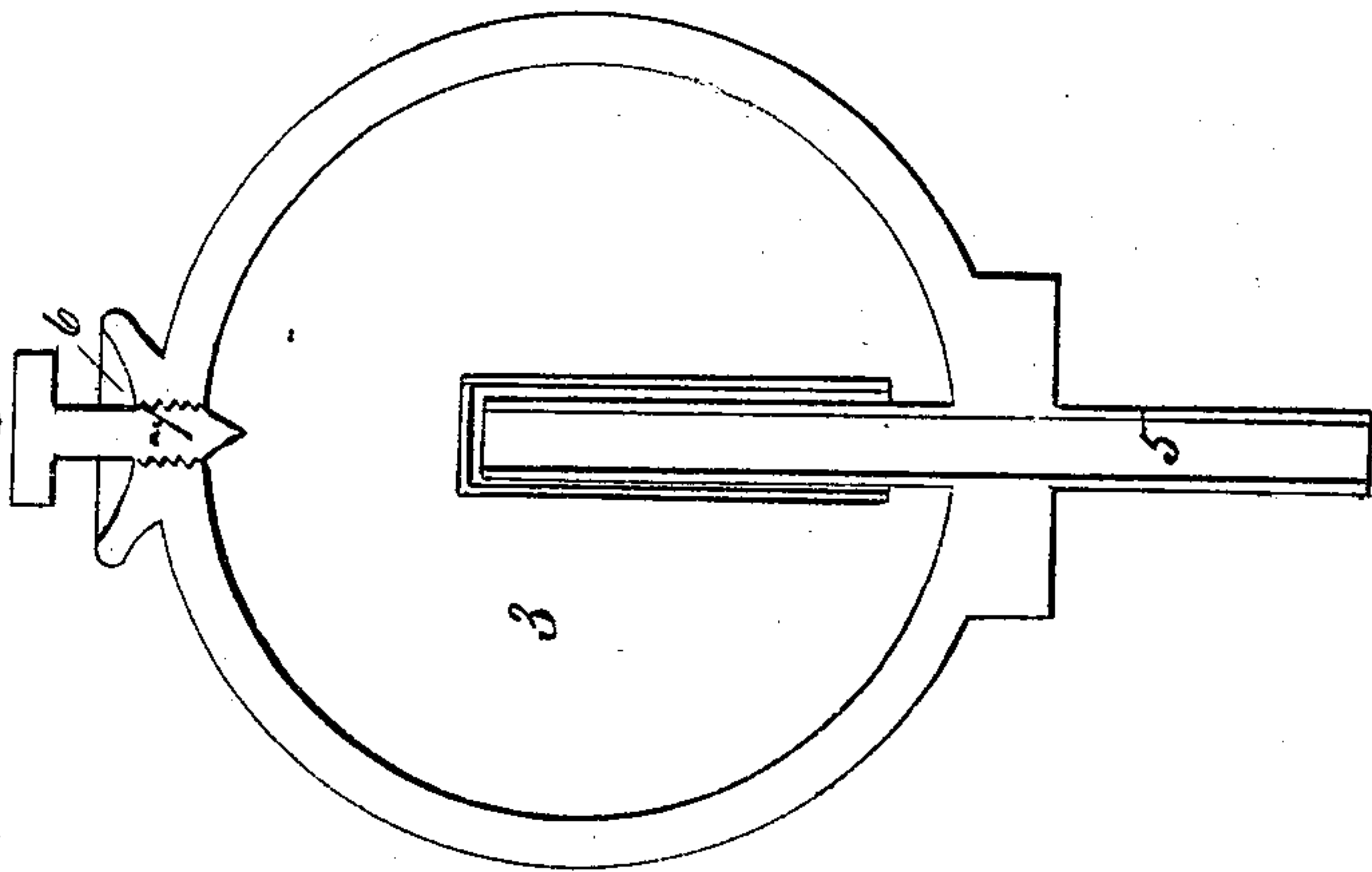
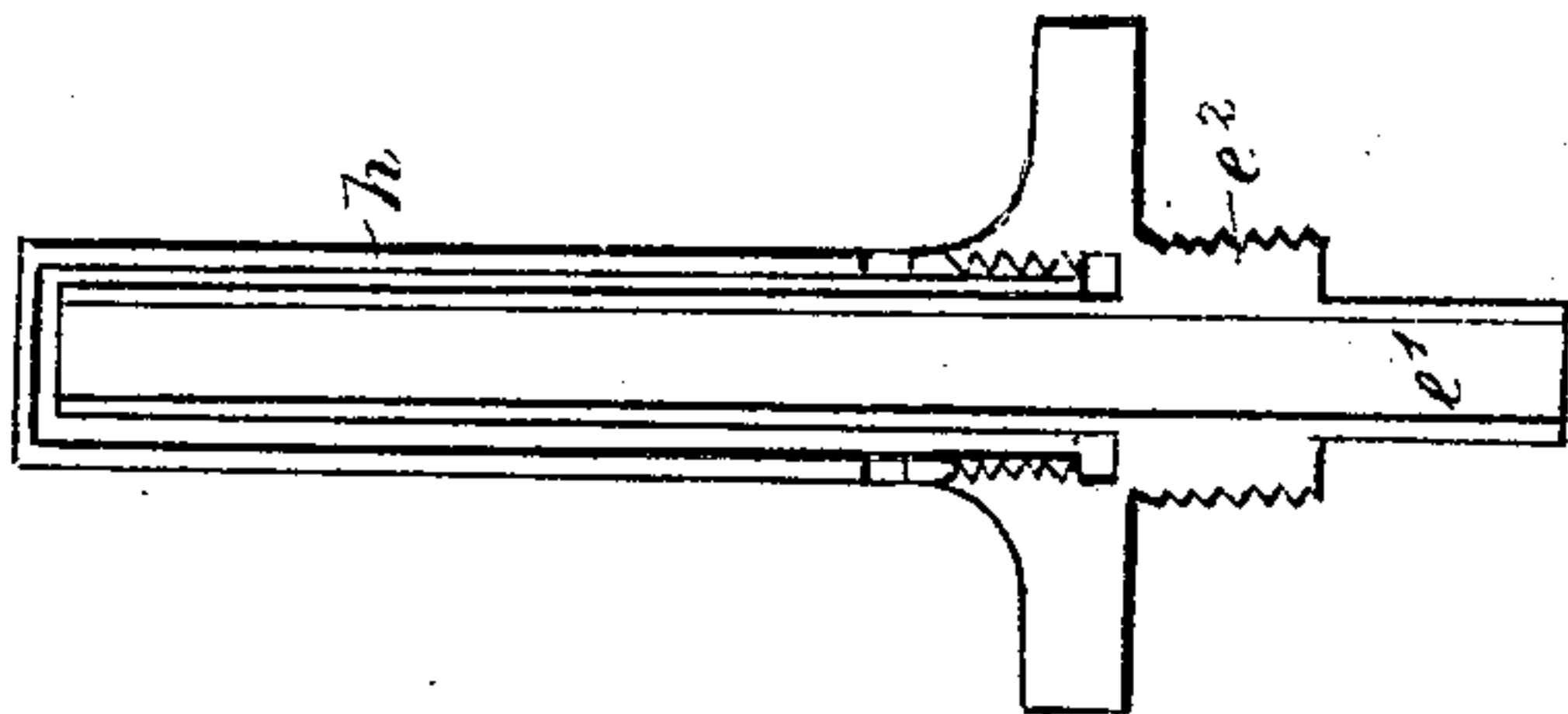


Fig. 14



Witnesses to the signature of the said Charles Dudley Austin.
John H. Hays
Newcastle upon Tyne

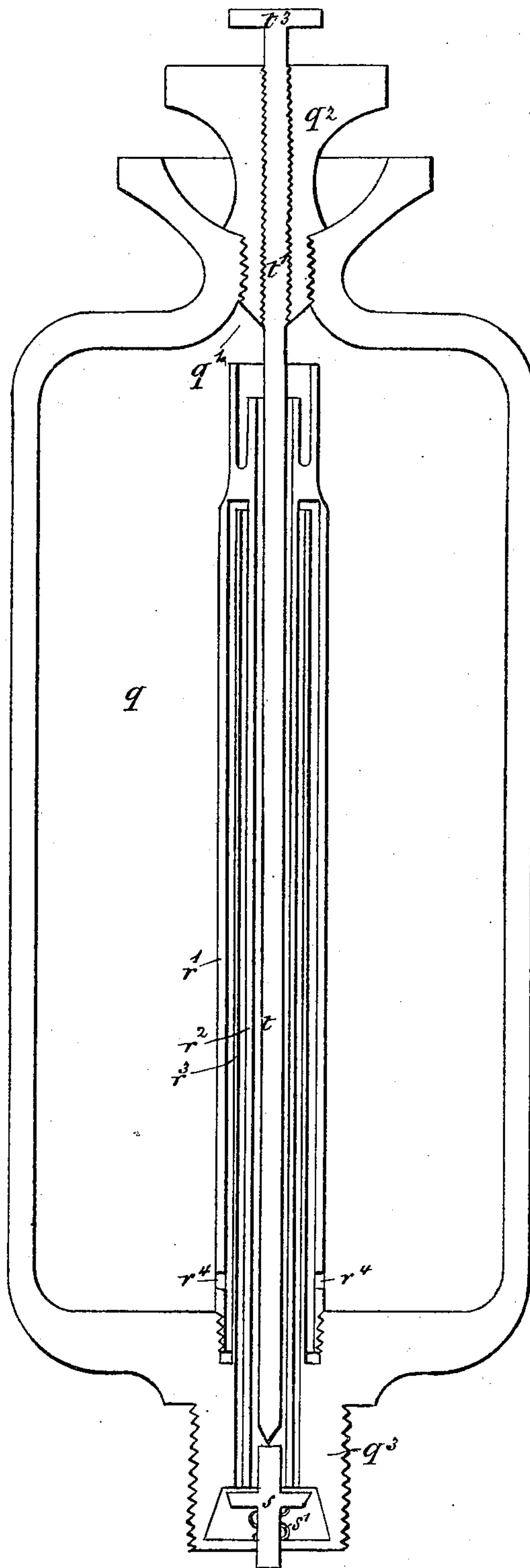
Witnesses to the signature of the said Charles Dudley Austin.
John H. Hays
Newcastle upon Tyne

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Fig. 15.



Witnesses to the signature of the said Charles Dudley Austin.
Henry W. Austin
Newcastle upon Tyne
Wm. Hoyle
Newcastle upon Tyne

United States Patent Office.

CHARLES DUDLEY AUSTIN, OF NEWCASTLE-ON-TYNE, ENGLAND.

Letters Patent No. 109,795, dated December 6, 1870.

IMPROVEMENT IN LUBRICATORS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, CHARLES DUDLEY AUSTIN, of No. 40 Mosley street, Newcastle-on-Tyne, machinery and commission agent, a subject of the Queen of Great Britain, have invented or discovered new and useful Improvements in Lubricators; and I, the said CHARLES DUDLEY AUSTIN, do hereby declare the nature of the said invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, that is to say—

My invention relates to lubricators used for supplying oil to the frictional surfaces of machinery, and consists in constructing such lubricators as hereinafter described and illustrated in the accompanying drawing, the several figures of which represent, in vertical section, various lubricators constructed according to my invention.

In figure 1—

a is the oil-reservoir;
b is the opening through which the said reservoir is filled; and
c is the stopper by which the said opening is closed;
d is the neck of the reservoir; and
e is the socket in which the said neck is fixed.
f is a stopper, through which passes a discharge-tube, *g*, on which is placed a tube, *h*, which is closed at its upper end, and is of such a size that it shall fit loosely on the discharge-tube *g* so as to leave a passage between the said tubes, up which the oil passes into the discharge-tube, through which it descends to the surface to be lubricated.

Figure 2 represents a modification of the above arrangement, in which modification the flow of oil is regulated by means of a set-screw, *i*, which works in a female-screw in the cover of the lubricator.

The said screw is furnished with a milled head, *j*, and the lower end of the said screw bears upon the closed end of the outer tube *h*, so that, by turning the said milled head, the said closed end can be depressed and moved nearer to the upper edge of the discharge-tube *g*, in order to regulate the flow of oil.

Figure 3 represents another modification for the same purpose.

In this modification the upper end of the tube *h* is closed by a plug, *k*, on the lower end of which is cut a screw, *h*², (part of which is cut away longitudinally to allow of the passage of the oil,) which screw engages in a female-screw formed in the upper part of the discharge-tube *g*.

The upper end of the said plug has a square head, by means of which it can be turned so as to move the closed end of the tube *h* nearer to or further from the upper edge of the discharge-tube, and thus regulate the flow of oil.

Figure 4 represents another modification for the same purpose.

In this modification a thread, *h*⁴, chased or screwed on the lower end of the tube *h*, engages in a female-screw formed in the socket *e*, in which the neck of the reservoir is fixed by cement.

The discharge-tube *e*¹ is or may be cast in one piece with the said socket *e*.

*h*³ *h*³ are holes, through which the oil enters the space between the tubes.

A square head, *h*⁵, is formed on or fixed to the tube *h*, by means of which head the said tube can be turned so as to effect the adjustment of the tubes *e*¹ and *h* relatively to each other, as hereinbefore described with reference to the preceding modification.

Figure 14 represents parts of the lubricator represented in fig. 4, so modified as to render them applicable to railway-axle boxes, valves, and other like machinery.

In this modification the reservoir is dispensed with and a screwed stem, *e*², is formed on the lower part of the discharge-tube *e*¹, which stem can be screwed into the oil-passage in the axle-box.

The flow of oil is regulated by turning the outer tube *h*, as described with reference to fig. 14.

Although in the arrangement shown in the drawing the reservoir is dispensed with, still I wish it to be understood that a reservoir may be used with this arrangement.

Figure 15 represents a lubricator constructed according to my invention for lubricating steam-cylinders.

q is a steam-tight vessel, the upper end of which has an opening, *q*¹, for the admission of oil, which opening is closed by a screwed plug, *q*².

*q*³ is a screwed stem, which is screwed into the cover of the cylinder or the steam-pipe leading to the said cylinder.

*r*¹ *r*² *r*³ are three tubes, which are arranged as follows: the tube *r*¹ is screwed into the lower part of the vessel *q*. The tube *r*² is screwed or otherwise fixed in the tube *r*¹, and passes through the tube *r*³.

*r*⁴ *r*⁴ are holes through which the oil enters the tube *r*¹.

s is a spindle-valve, which works in a recess formed in the stem *q*³, and is pressed upward by a coiled spring, *s*¹.

t is a spindle, on the upper part of which is formed a screw, *t*¹, which works in a female-screw formed in the plug *q*².

*t*² is a milled head, by turning which in one direction the spindle *t* is made to depress the valve *s*, and thereby open the lower ends of the pipes *r*² and *r*³.

By turning the said head in the reverse direction the valve is allowed to rise, and thereby cut off the

communication between the said pipes and the steam-cylinder.

When the valve *s* is depressed or open the steam passes between the spindle *t* and the tube *r*¹, to the top of the oil in the vessel *q*, a portion of which oil is at each stroke of the engine pressed up through the space between the tubes *r*¹ and *r*², and down between the tubes *r*² and *r*³, into the cylinder or the steam-pipes to which the lubricator is affixed.

The reservoirs may be constructed in any ordinary manner, or they may be made as shown in figs. 12 and 13.

In this arrangement the said reservoir consists of a ring or short metal cylinder, 3, or of a frame of a square or other shape, the ends of which are closed by glass disks or pieces, 4 4, fixed in rebates in the said ring or frame.

The discharge-tube 5 is or may be cast in one piece with the said ring or frame.

The said reservoir is filled through a hole at 6, which is closed by a screwed plug, 7.

Any of the arrangements for lubricating hereinbefore described may be fitted to the reservoirs above described.

Having now described the nature of my invention, and the manner in which the same is to be performed, I wish it to be understood that I do not limit myself to the precise details hereinbefore described and illustrated, as the same may be varied without departing from the nature of my said invention; but

I claim as my said invention—

1. The improved lubricator hereinbefore described, and illustrated in fig. 1 of the accompanying drawing, that is to say, a lubricator in which a tube closed at its upper end is mounted on the discharge-tube, the outer tube being of such size as to leave a small space between it and the said discharge-tube, so that the oil shall ascend between the said outer tube and the said discharge-tube, and descend through the latter to the surface to be lubricated.

2. The several modifications of the said lubricator hereinbefore described, and illustrated in figs. 2, 3, 4, and 14 of the accompanying drawing, by means of which modifications the outer tube of each lubricator is so adjusted relatively to the inner tube as to regulate the flow of oil.

3. The combination and arrangement of parts constituting the improved lubricator for steam-cylinders, hereinbefore described, and illustrated in fig. 15 of the accompanying drawing, that is to say, a lubricator in which the arrangement of tubes described acts in combination with a flat valve worked by means of a screwed spindle, as and for the purpose described.

CHAS. D. AUSTIN.

Witnesses:

JOHN J. HOYLE,

Solicitor, Newcastle-upon-Tyne.

NEWTON WARBURTON,

Attorney's Clerk, 33 Mosley street, Newcastle-upon-Tyne.