

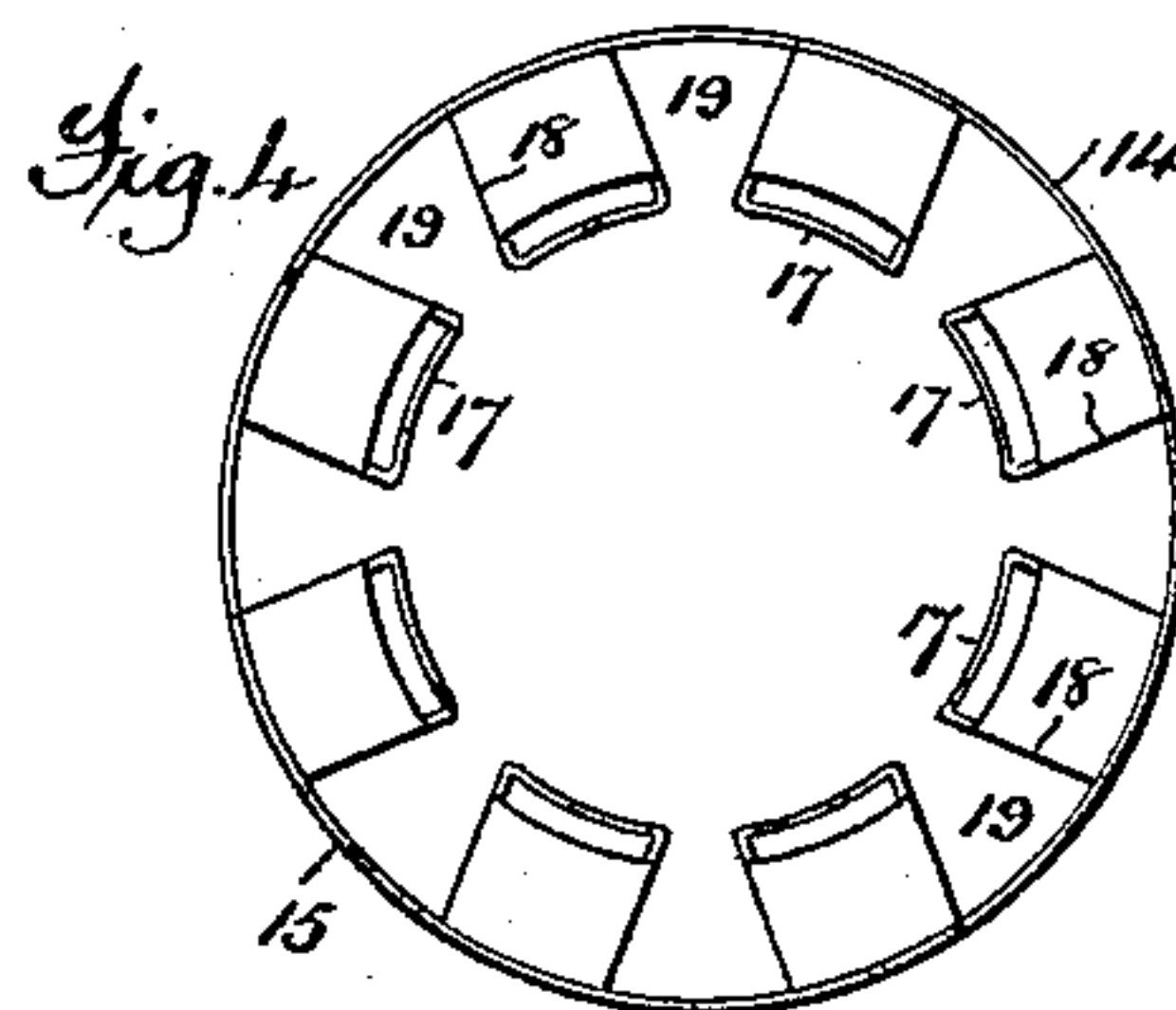
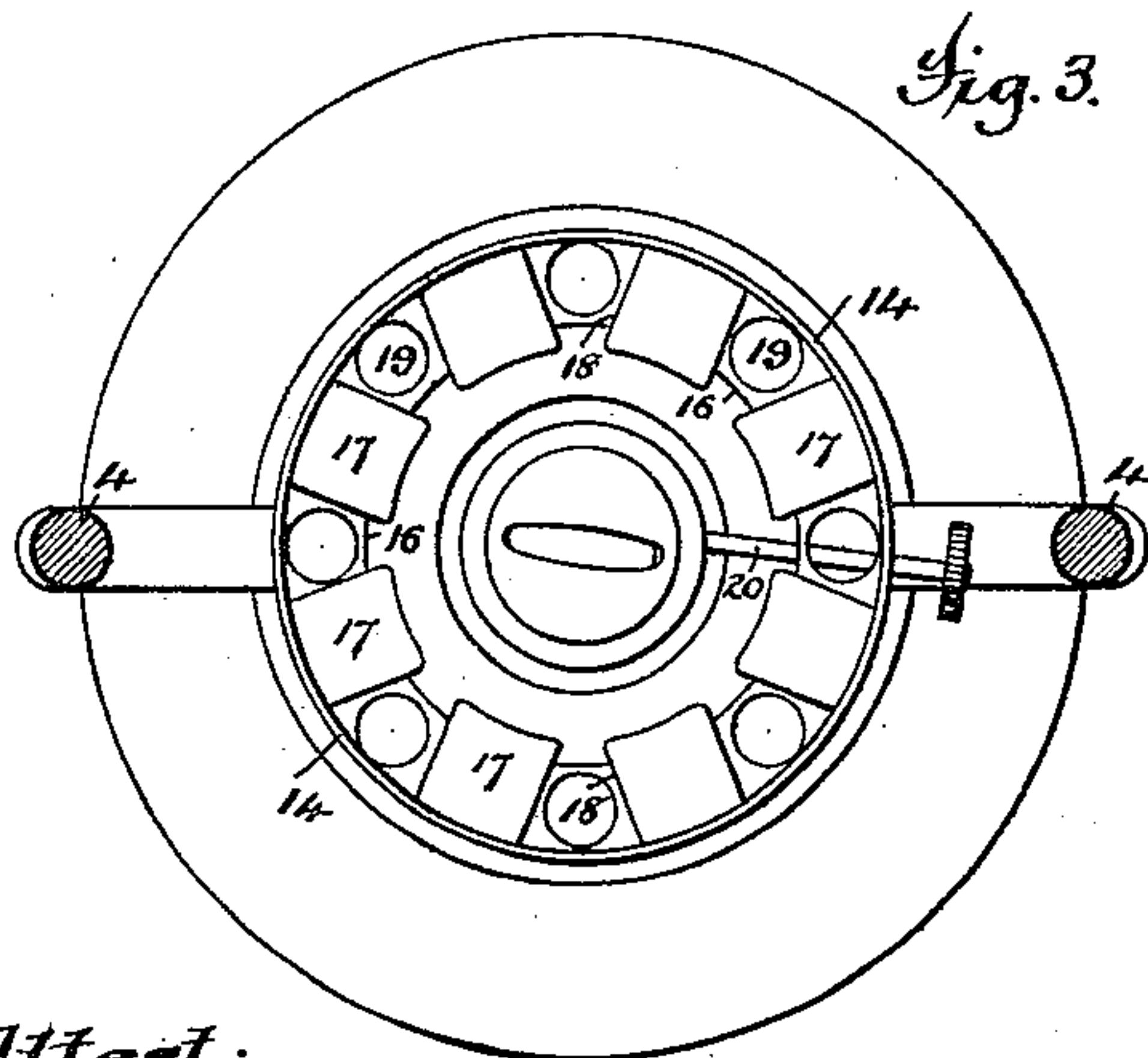
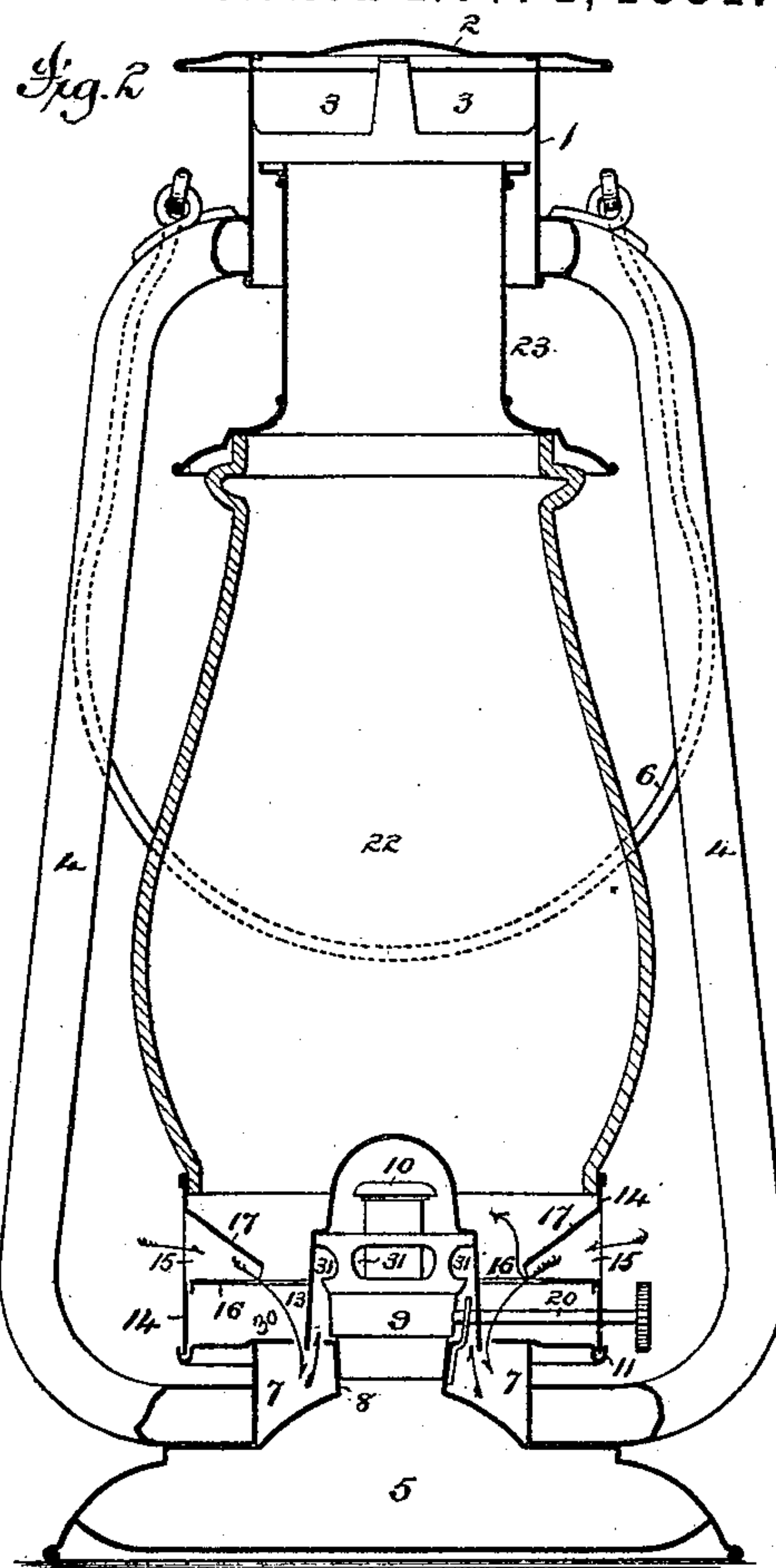
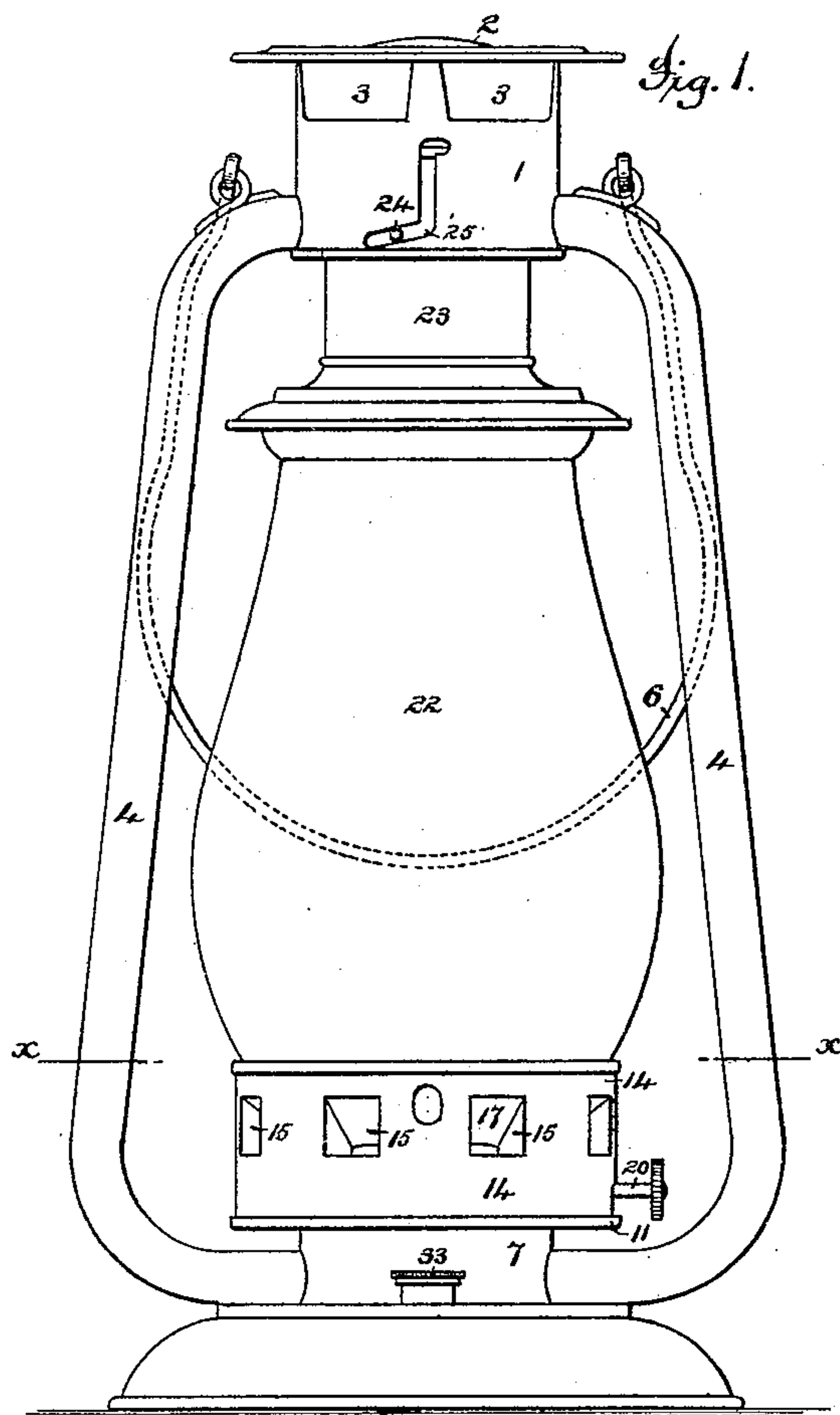
(No Model.)

2 Sheets—Sheet 1

T. B. OSBORNE.
LANTERN.

No. 248,878.

Patented Nov. 1, 1881.



Attest;
Geo. H. Graham
Anthony St. Jasbera

Inventor,
T. B. Osborne,
by *Munson & Philipp*
Attys.

(No Model.)

T. B. OSBORNE.

2 Sheets—Sheet 2.

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Fig. 5.

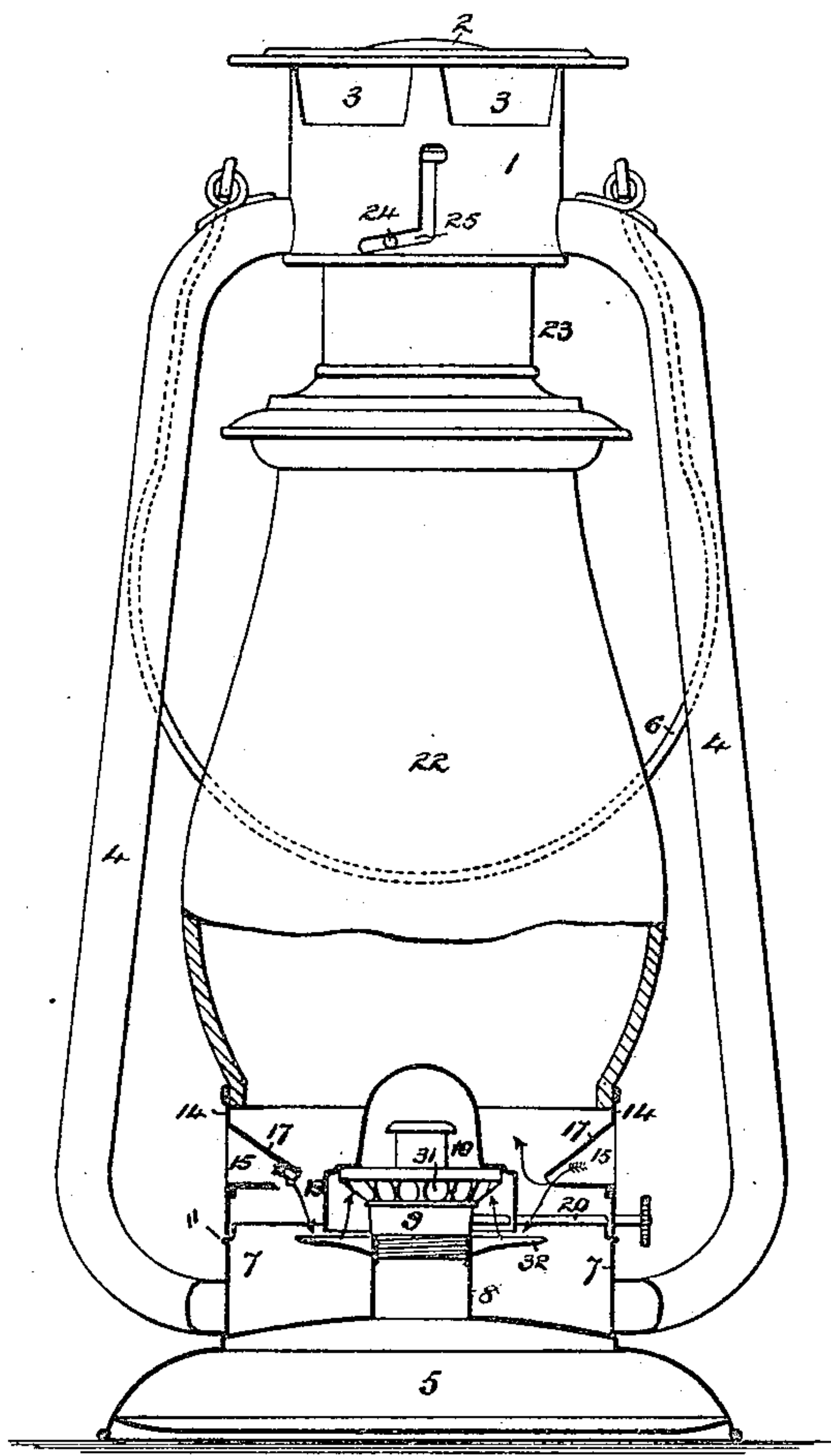
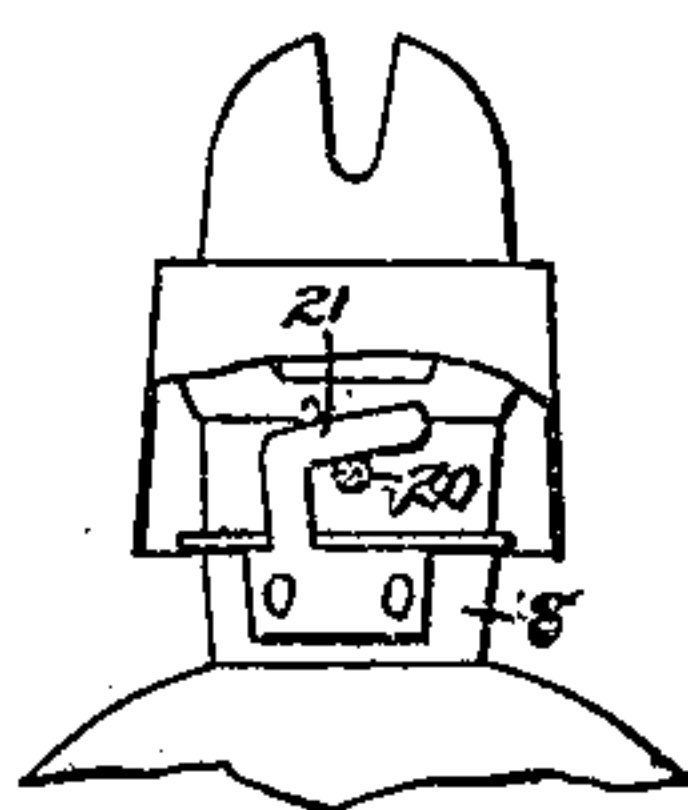


Fig. 6.



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UNITED STATES PATENT OFFICE.

THEODORE B. OSBORNE, OF PLAINFIELD, NEW JERSEY.

LANTERN.

SPECIFICATION forming part of Letters Patent No. 248,878, dated November 1, 1881.

Application filed May 21, 1881. (No model.)

To all whom it may concern:

Be it known that I, THEODORE B. OSBORNE, a citizen of the United States, residing in the city of Plainfield, county of Union, and State of New Jersey, have invented certain new and useful Improvements in Lanterns, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

In said drawings, Figure 1 is a side elevation of a lantern containing my invention. Fig. 2 is a vertical longitudinal section of the same, with the exception of parts of the frame which are not shown in section. Fig. 3 is a horizontal section of the same on the line *xx* of Fig. 1, showing a band with air-directors and openings between them. Fig. 4 is a plan view, looking from beneath the said band and directors, slightly modified. Fig. 5 is a side elevation, partly in section, of a lantern containing my invention, modified in structure from that shown in Figs. 1, 2, and 3. Fig. 6 is a side elevation, showing one means of holding the burner in place.

The object of my invention is to produce a lantern in which the air to support combustion is supplied to the burner beneath the globe or protector, whereby a bright flame is produced which cannot be readily extinguished by wind or ordinary air-currents when in use; and my invention consists in means whereby such a lantern is made to produce the object specified, as will be hereinafter fully described and claimed.

In the drawings, 1 is a top hoop, provided with a cap, 2, having perforations 3, that permit the products of combustion to escape through said hoop. Attached to this hoop are two metal tubes, 4, which constitute the frame of the lantern, and to which the bail 6 is swung.

5 is the oil-reservoir, to which is secured a collar, 7, to which the lower ends of the tubes 4, constituting the frame, are attached. The oil-reservoir 5 is provided at its top with a flange, 8. This flange 8 supports the burner. This burner is composed, as usual, of a dome-supporter, 9, provided with openings 31, and with a wick-tube, 10, having an ordinary ratchet, the shaft of which, 20, projects outward, and is provided with the ordinary milled head, and on this dome-supporter rests a dome slotted at the top, as usual, and provided with a jacket, 13, the bottom of which extends to a point

at or slightly below the edge of an opening in a plate, 30, as shown in Fig. 2, or just above a flaring plate, 32, as shown in Fig. 5. The jacket 13, in both Figs. 2 and 5, is made preferably imperforate, except where the shaft 20 of the ratchet passes through it to the wick-tube.

The plate 30, Fig. 2, is secured to the collar 7, and is provided at its outer edge with a groove, 11, formed by a bend in said plate, while, as shown in Fig. 5, the cup-shaped plate 32 is secured to the flange 8, although it might be supported by the collar 7 or the top of the oil-reservoir 5.

As shown in Fig. 5, the collar 7 is larger in diameter than in Fig. 2, and is provided with a bead or groove, 11, at its top. Fitting removably in the bead or groove 11, as shown in both Figs. 2 and 5, is a metal band, 14, provided with air-directors 15, extending inwardly toward the burner, and made larger at their outer than at their inner ends. The bottoms of these air-directors are preferably formed by an annulus, 16, secured to the band 14, and their tops are formed by inclined plates 17, plates 18 forming their sides, the inclination of the plates 17 being for the purpose of causing the inner ends of these directors to be smaller than the outer and to direct currents of air downward toward the bottom of the jacket 13 of the dome of the burner. The bottom of these directors should be above the bottom of the jacket 13, with a defined space between them and the bottom of the jacket. Between these air-directors 15 are apertures 19 in the annulus 16, as shown in Fig. 3, for a purpose to be explained.

The band 14 is provided with a slot, so that it can be readily placed over the shaft 20 of the ratchet. Resting on the top of the band 14 is the glass globe or protector 22, the top of which is held by a chimney, 23, with a flaring bottom, and is provided with a pin, 24, that fits in a slot, 25, in the top of the hoop 1. The bottom of this slot 25 is slightly inclined, so that the chimney may, by being turned in one direction, clamp the globe or protector 22, and by being turned in the other direction be raised, the pin 24 passing through the vertical continuation of the slot until it rests in a notch at the top, so that the chimney can be held up when it is desired to remove the globe or protector.

As shown in Fig. 5, the plate 32 extends beyond the bottom of the jacket 13 of the dome 10, its outer edge being turned up slightly, so as to properly direct the air-currents beneath said jacket.

As shown in Figs. 2 and 6, the burner is held in position by means of a hook, 21, secured to the flange 8, under which the shaft 20 of the ratchet is turned in attaching and detaching said burner. In Fig. 5 the burner is secured to the flange 8 by an ordinary screw-joint.

The flange 7 of Fig. 2 may be enlarged in diameter, though I prefer to have it as shown, so that the filler 33 may be located above the oil-reservoir 5.

Instead of the tubes 4, solid metal rods might be employed to form the frame; but I prefer to use such tubes on account of their strength and lightness.

Instead of forming the bottoms of the air-directors 15, by means of the annulus 16, with apertures 19 between said directors in said annulus, they may be formed by separate plates, leaving a space, 19, between said directors, as shown in Fig. 4.

The distance between the lower portion of the jacket 13 and the plate 32, or between the lower portion of the jacket and the plate 30, may vary, depending upon the height of the globe or protector and chimney and the amount of draft. The higher the latter are the greater such distance may be, while the lower they are the less the distance must be, such distance being always sufficient to enable a sufficient amount of air to be introduced beneath the dome to support combustion and produce a bright flame.

In the use of a lantern constructed as just described, all the air (except the small portion that leaks through the joints of the various parts) that supplies the flame passes through the air-directors 15, part passing down between the jacket 13 and the plate 30, as shown in Fig. 2, and between said jacket and the plate 32, as shown in Fig. 5, and up through the apertures 31 in the dome-supporter 9 to the flame, as indicated by the arrows, and a part ascends outside of the jacket 13 and dome 12 to the outside of the flame, the apertures 19 between the air-directors equalizing the air-currents and causing the flame to spread.

By the use of the air-directors 15 and the apertures 19 between them, the wind or sudden air-currents caused by swinging the lantern or moving it up and down are so balanced that the flame is not readily extinguished, except by designed and very rapid currents of air.

The number of air-directors and the apertures between them may vary from that illustrated in the drawings, as many as four or five, however, being found desirable, and more than this number producing the best results.

I am aware that a lantern having a continuous air-director the bottom of which is below the bottom of the jacket of the cone is old, and I therefore make no claim to the same; but

What I claim as new, and desire to secure by Letters Patent, is—

1. In a lantern provided with a globe or protector, the combination of air-directors and a burner, the bottoms of said air-directors being above the bottom of the jacket of the dome of said burner, substantially as described.

2. In a lantern provided with a globe or protector, the combination of air-directors with the jacket of the dome of a burner, and a plate between which and the bottom of the jacket of said dome the air passes within the latter, substantially as described.

3. In a lantern provided with a globe or protector, the combination of air-directors having apertures between them, and a burner, the bottoms of said air-directors being above the bottom of the jacket of the dome of said burner, substantially as described.

4. In a lantern provided with a globe or protector, the combination of air-directors having apertures between them with the jacket of the dome of a burner, and a plate between which and the bottom of the jacket of said dome the air passes within the latter, substantially as described.

5. In a lantern provided with a globe or protector, the combination of air-directors and a burner with a space between the bottom of the jacket of said burner and the bottom of said air-directors, substantially as described.

6. The combination of the air-directors 15 with the jacket of the dome and a plate, a space being left between said plate and the bottom of said jacket, and between the latter and the bottom of the air-directors, substantially as described.

In testimony whereof I have hereto set my hand in the presence of two subscribing witnesses.

THEODORE B. OSBORNE.

Witnesses:

T. H. PALMER,
GEO. H. GRAHAM.