

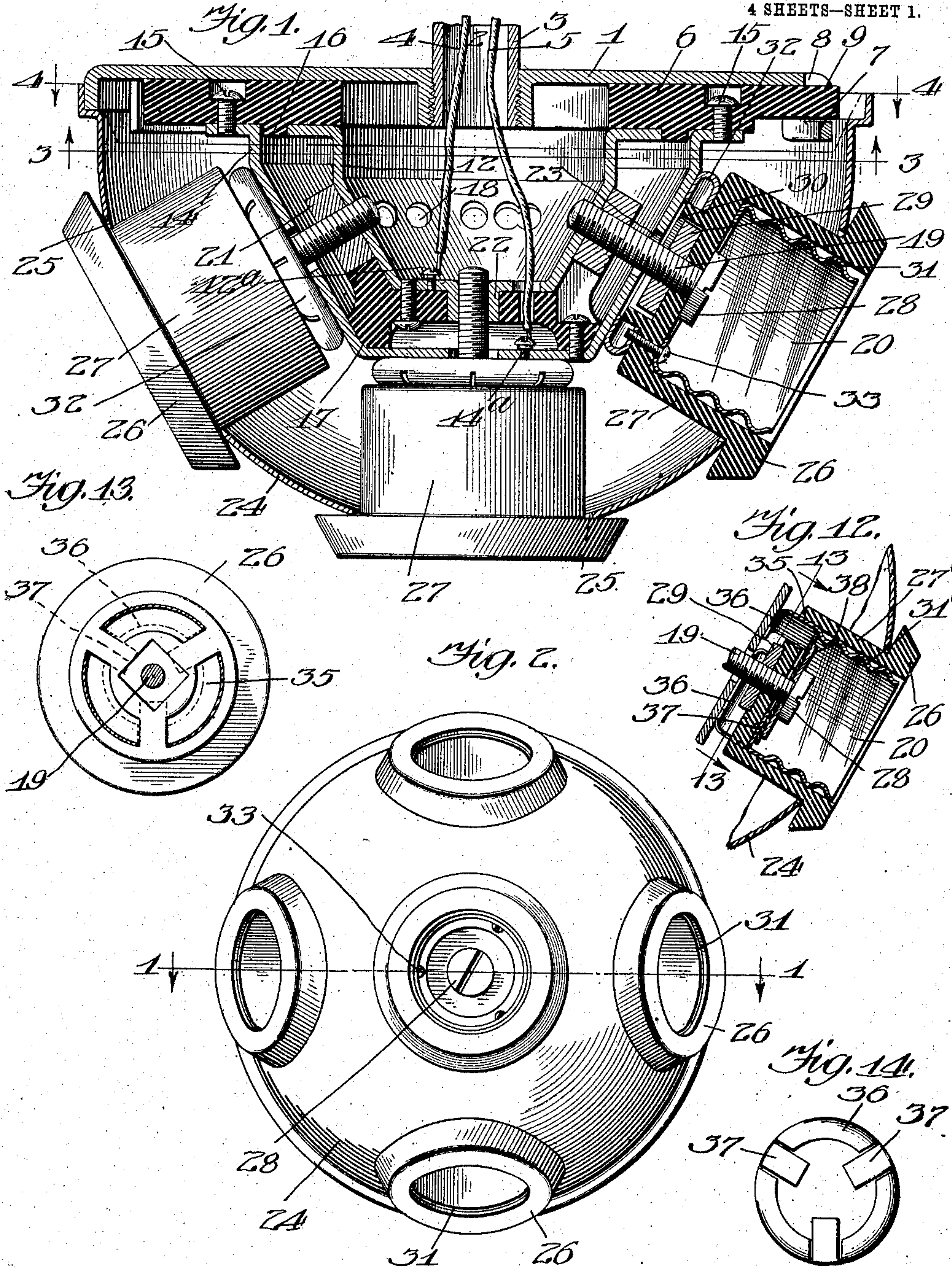
No. 844,276.

PATENTED FEB. 12, 1907.

S. R. FRALICK.
CLUSTER FIXTURE FOR ELECTRIC LAMPS.

APPLICATION FILED OCT. 26, 1906.

4 SHEETS—SHEET 1.



Witnesses:
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Ed. Perry

Inventor:
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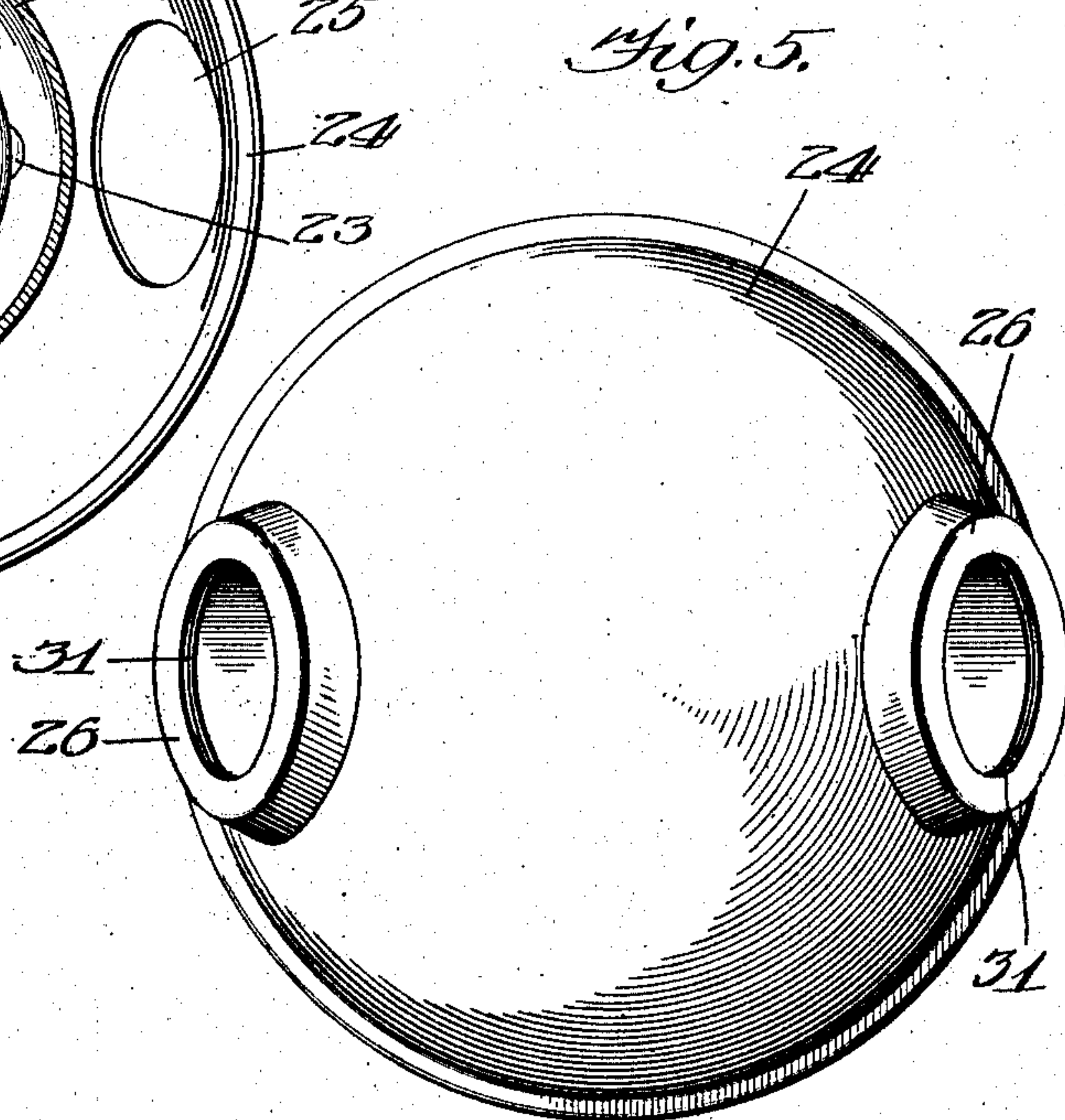
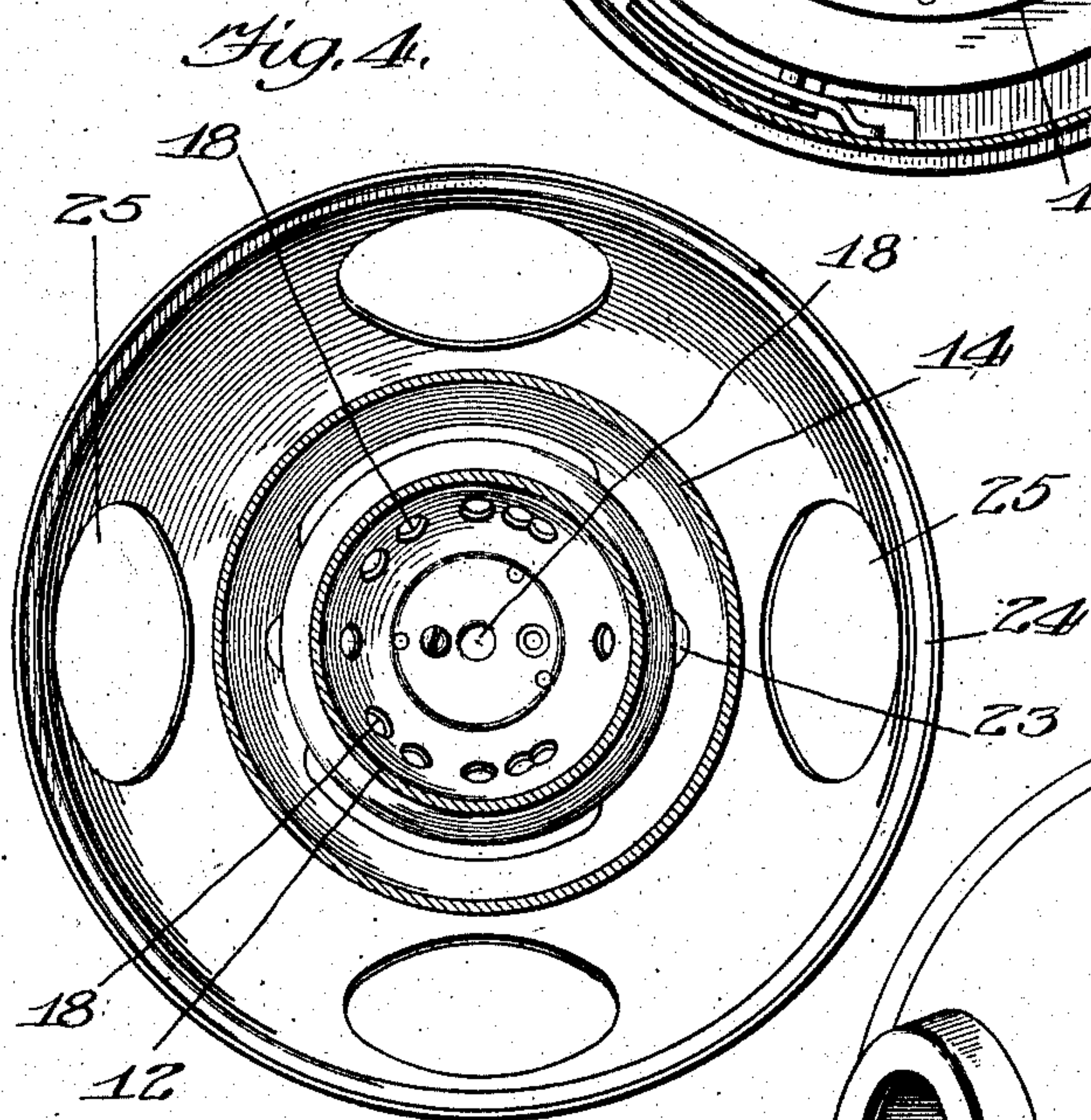
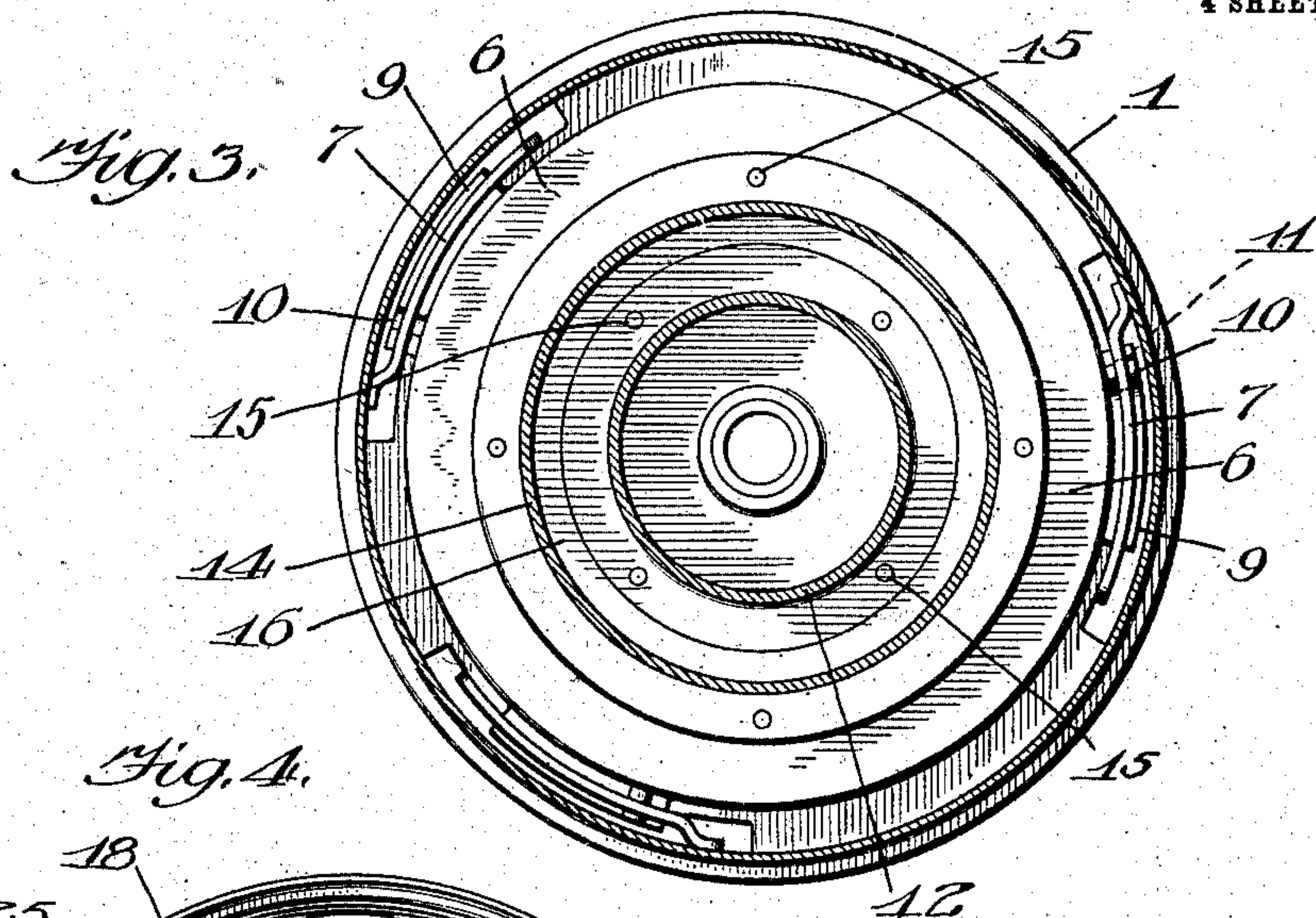
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4 SHEETS—SHEET 2.



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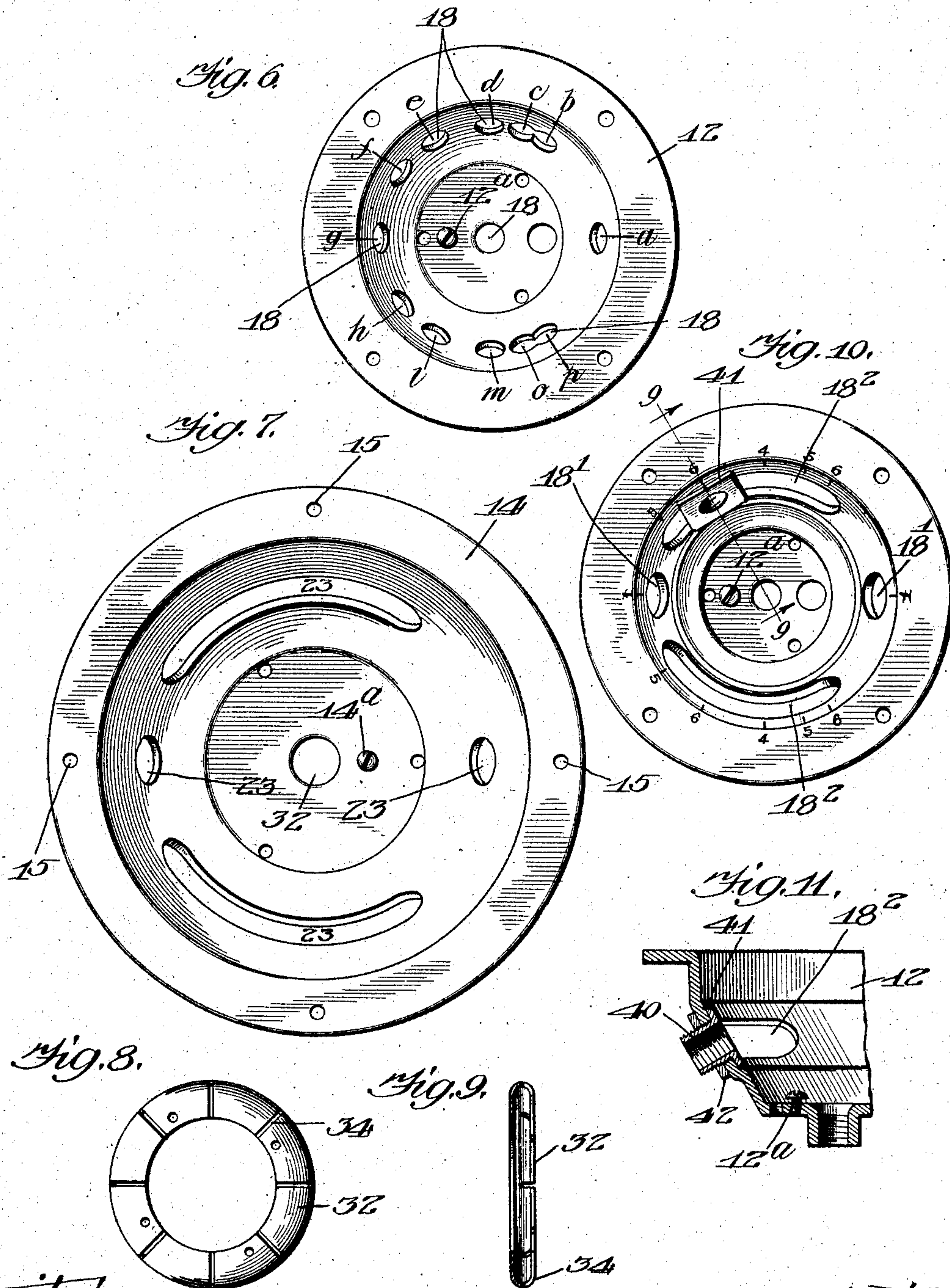
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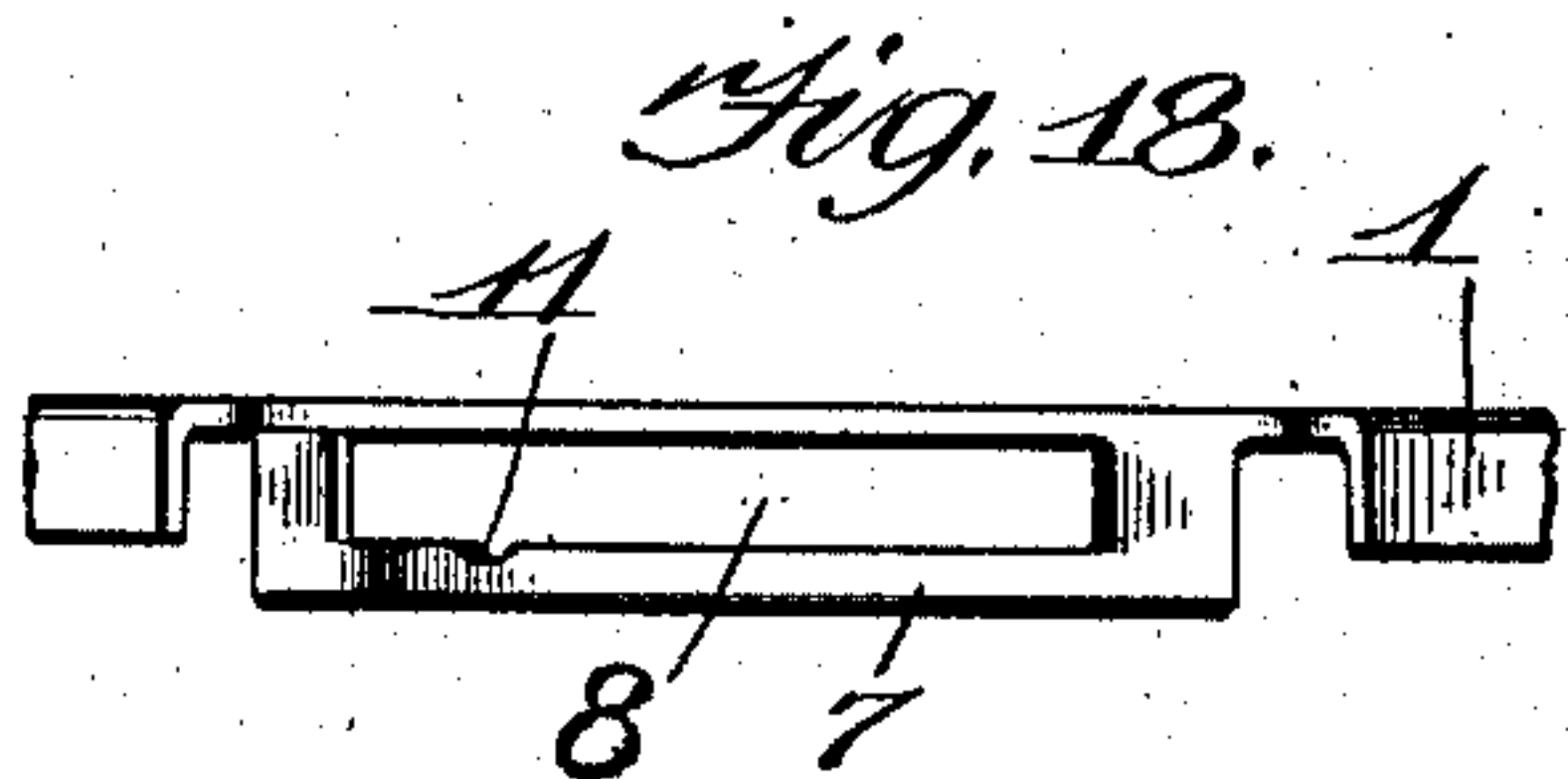
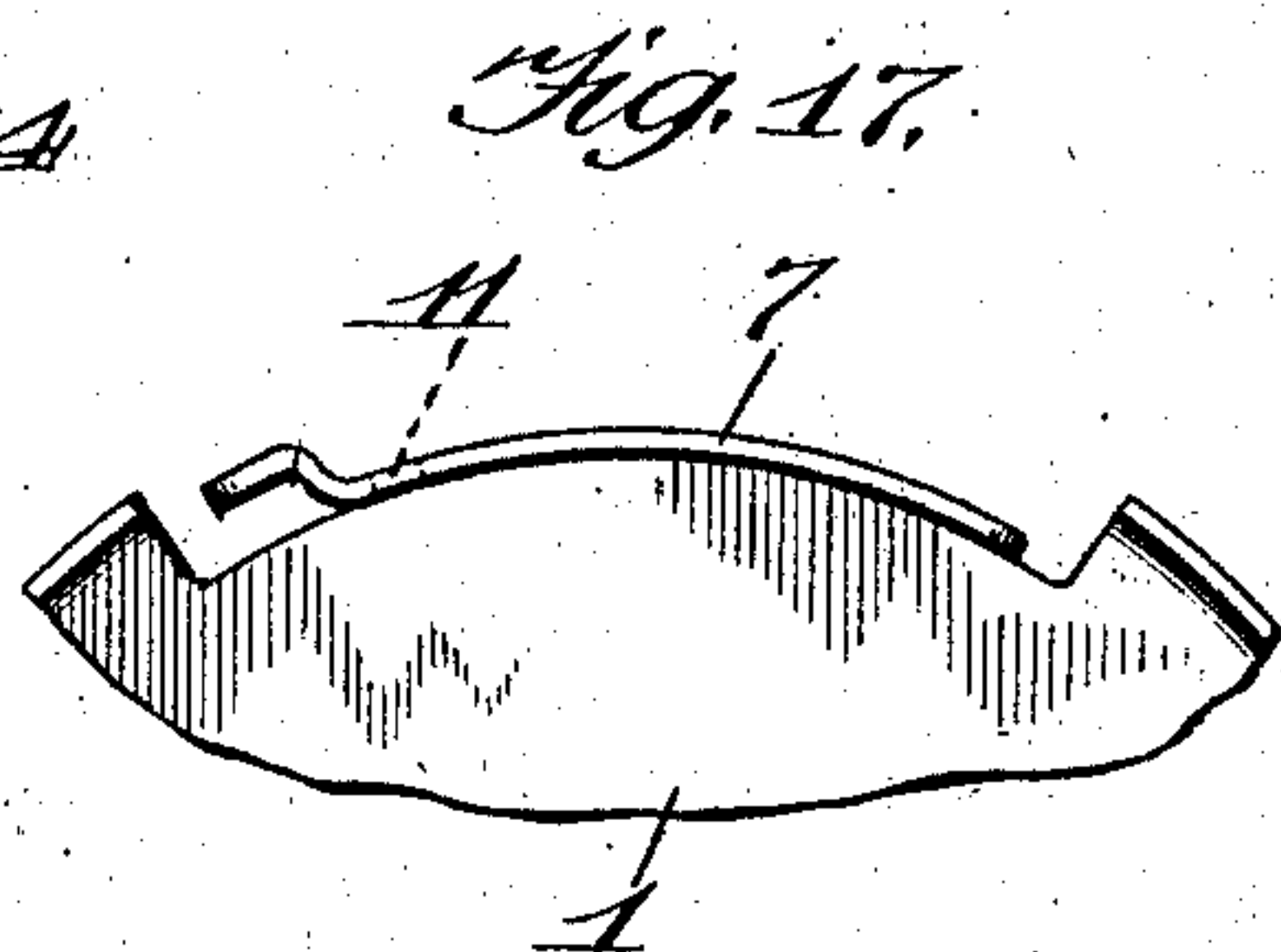
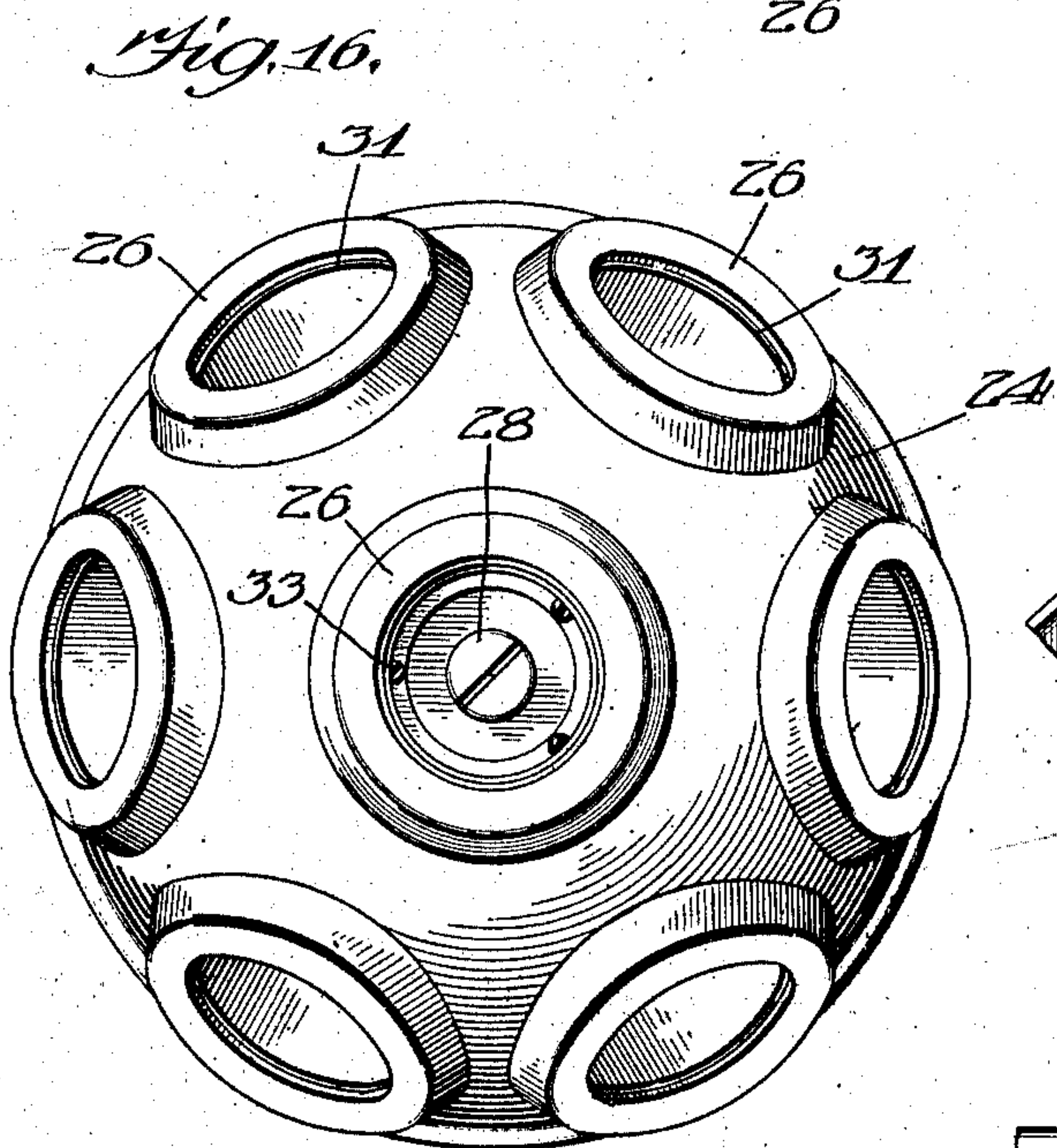
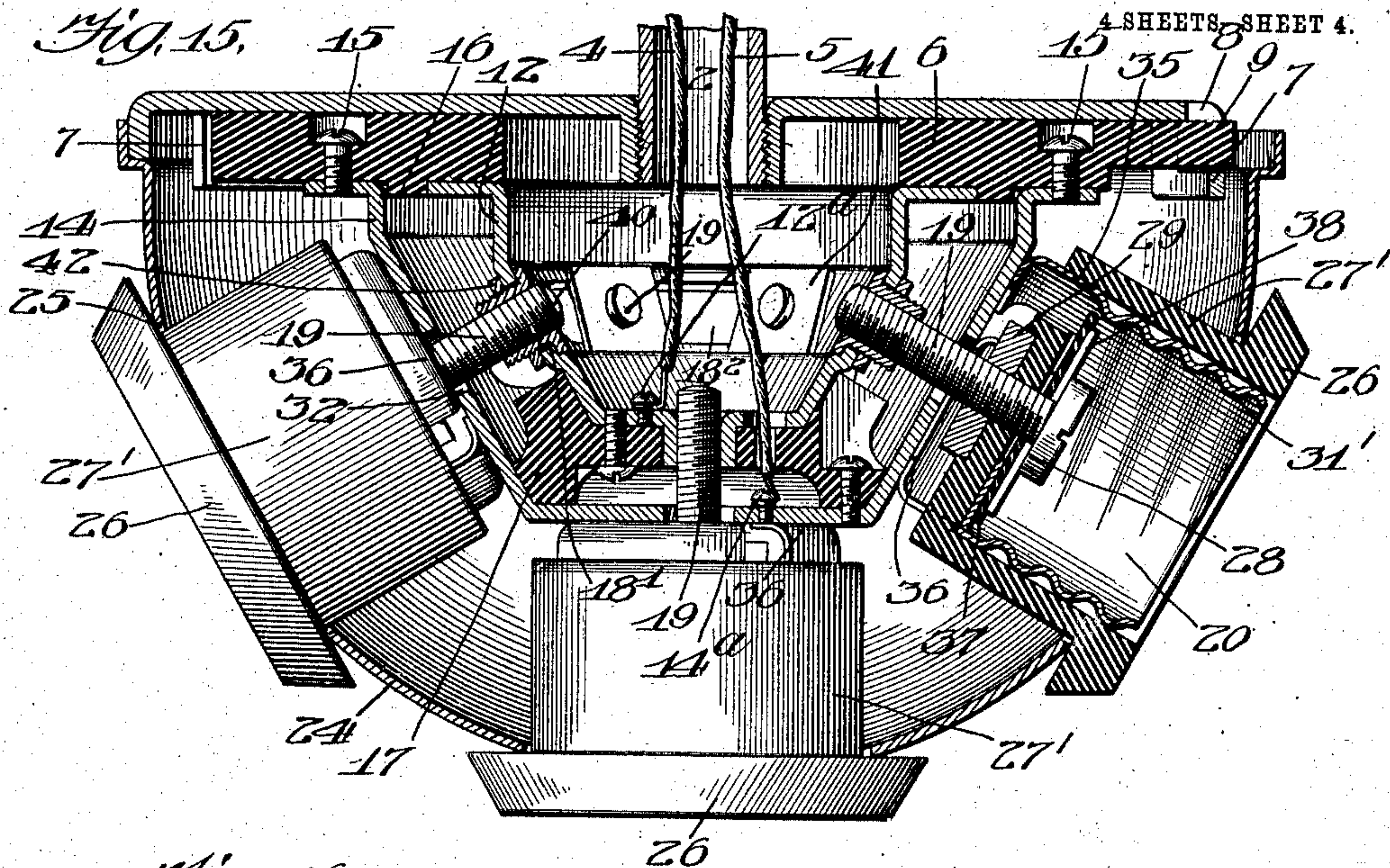
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UNITED STATES PATENT OFFICE.

SYLES R. FRALICK, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
WILLIAM P. CROCKETT, OF CHICAGO, ILLINOIS.

CLUSTER-FIXTURE FOR ELECTRIC LAMPS.

No. 844,276.

Specification of Letters Patent.

Patented Feb. 12, 1907.

Application filed October 26, 1905. Serial No. 284,469.

To all whom it may concern:

Be it known that I, SYLES R. FRALICK, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful improvements in a Cluster-Fixture for Electric Lamps, of which the following is a description.

My invention relates to that class of fixture employed for supporting a plurality of incandescent electric lamps and suitably connecting the same in a circuit.

The object of my invention is to provide a simple, convenient, and thoroughly efficient device of the kind described.

To this end my invention consists in the novel construction, arrangement, and combination of parts herein shown and described, and more particularly pointed out in the claims.

In the accompanying drawings, wherein like or similar reference characters indicate like or corresponding parts, Figure 1 is a section taken substantially on line 1 1 of Fig. 2. Fig. 2 is a bottom view of a cluster provided with five lamp-sockets. Fig. 3 is a section taken substantially on line 3 3 of Fig. 1. Fig. 4 is a section taken substantially on line 4 4 of Fig. 1. Fig. 5 is a bottom view of a cluster provided with two lamp-sockets. Fig. 6 is an enlarged detail of the inner contact member of my fixture. Fig. 7 is an enlarged detail of the outer contact member of my fixture. Figs. 8 and 9 are enlarged details of a spring-contact ring for my lamp-sockets. Figs. 10 and 11 are enlarged details of a modified form of inner contact member. Figs. 12 and 14 are details of a slightly-modified form of lamp-socket. Fig. 13 is a section taken substantially on line 13 13 of Fig. 12. Fig. 15 is a section similar to Fig. 1, showing a modified form of my device. Fig. 16 is a bottom view of a cluster provided with seven lamp-sockets. Figs. 17 and 18 are details.

In the preferred form of my device shown in the drawings, 1 is a plate or flange for conveniently securing my device in position upon the wall or ceiling of a room. The plate 1 may be formed of any suitable material and provided with any desired means for suitably fastening the same in position. A central opening 2 is provided through which the conductors 4 and 5 may be led to their respective fastenings within the device. The plate at the edges of the opening

2 is preferably flanged inward and provided with screw-threads or other preferred means for firmly securing the plate 1 to the extremity of the pipe 3.

Any suitable means may be employed for electrically separating the main contact members of my device from each other, from the plate 1, and other adjacent portions of the device. In the form shown the part 6 is employed for this purpose and is also employed as a base or foundation upon which the several members of my device may be conveniently assembled and later mounted in position as a unit by attaching this part in position in any desired manner. In the form shown the base 6 is preferably circular and formed of porcelain or other insulating material, and as a convenient means for mounting the same in position for use may be attached to the plate 1 in any convenient manner. As shown, a plurality of depending flanges 7 are formed at the margin of the plate 1, each flange being provided with a slot 8 (see Figs. 17 and 18) substantially parallel to the body of the plate. A wing or lug 9 is formed upon the edge of the base 6 for each flange 7, the lugs 9 being suitably formed to enter the slot 8 and lock the base 6 and plate 1 firmly together.

The flanges 7 are preferably so formed that when the base 6 and plate 1 are held in suitable position a partial rotation of the base will cause the wings to enter the slots and lock the two together. If desired, a co-operating ridge 10 and depression 11 may be formed upon the parts, so that when the parts are fully locked together, as above described, the ridge 10 will be positioned in the groove 11 to resiliently maintain the parts in position. The two contact members 12 and 14 of any suitable form are attached to the base 6 by means of suitable screws or bolts 15 and carefully insulated from each other to prevent a possibility of electrical contact between them. As shown, an annular projection 16 is provided upon the base 6 to separate the members 12 and 14 and prevent the possible displacement of either upon the base. A distance-piece 17 is also shown positioned between these members and attached to each, the whole forming a very substantial structure in which the members 12 and 14 are not liable to become disarranged or loose even in case one or more of

the connecting screws or members are loose or broken. The inner contact member is attached to the conductor 4 by the screw 12^a and is provided with a plurality of threaded openings 18 to engage the stems 19 of the lamp-sockets 20. Any suitable means may be employed to increase the thickness of the walls of the member at these openings. As shown, these openings may extend through a reinforcing-band 21, attached to the member, or, if preferred, the metal may be formed into a tubular projection at each opening, as at 22, to provide sufficient engagement for the threads upon the stem 19. The outer contact member 14, which is attached to the conductor 5 by means of the screws 14^a, is of substantially the same form but slightly larger than the member 12 and is provided with a plurality of openings 23, corresponding to the openings 18, but of considerably greater size, so that the stems 19 may extend through the openings 23 and engage the openings 18 without fear of contact with the wall of the outer contact member, the walls of the two members being practically parallel to each other.

A substantially semispherical casing 24 is provided which when employed with the plate 1 incloses the entire device and gives a suitable finish to the same. This shell is preferably arranged to suitably fit against the plate 1 or other surface to which the base may be attached and is provided with suitable openings 25, so arranged that when a socket 20 is positioned in an opening its stem 19 may pass through the opening 23 and engage the opening 18. Any desired means may be employed to retain the shell 24 in position. As shown, each socket 20 is provided with a flange 26, which when the several sockets are in position effectually serve this purpose. The sockets 20 may be of the usual or any well-known forms. As shown, a shell 27, formed of porcelain or other suitable insulating material, is provided, having a flange 26. The stem 19 is preferably a screw, provided with a head 28 and a nut 29, between which the bottom of the shell is firmly clamped, the nut 29 being preferably positioned in a pocket 30 upon the bottom of the shell. The sleeve 31 is positioned within the shell, provided with suitable threads for engaging an electric light and arranged to be electrically connected to the outer contact member 14 when the socket is in position upon the cluster.

In the form shown in Fig. 1 a spring-contact ring 32 is provided and attached to the sleeve 31 by suitable screws or bolts 33. In this form the ring 32 is formed of suitable spring material curved into substantially the form shown and provided with a plurality of slits or slots 34, as shown, to increase its flexibility. When in use, the slotted side is preferably placed toward the porcelain

shell, thus providing an uninterrupted contact-surface against the part 14.

In the form shown in Figs. 12, 13, 14, and 15 the shell 27' is provided with a plurality of slots 35, and the sleeve 31' is provided with members 36, extending through these slots and curved at their extremity to form suitable contact-surfaces. The parts 37 between these members is bent inward, and a suitably-insulated washer 38 is provided beneath the head 28 of the stem 19 to overlap the parts 37, and thus hold the parts firmly in position.

In any cluster of the type herein shown and described it is obvious that the maximum number of lamps that can be employed is limited by the size of the socket and the diameter of the cluster, but that a cluster with the same-sized parts may be employed for any less number of lights. In my device I propose to take advantage of this feature and provide a cluster in which the maximum or any less number of lights may be employed by merely providing the desired number of sockets and a casing with the desired number of openings. In the form shown seven sockets may be used—six in the circle and one at the bottom, as shown in Fig. 16—and to provide for this or any less number thirteen openings 18 are provided—twelve in the ring or row of openings in the band 21 and one in the bottom. The position of these openings may be determined, as shown in Fig. 6, by successively dividing the circle upon which the openings are located into six, five, and four equal spaces, preferably commencing at the same point for each. In this manner, with a casing having six evenly-spaced openings 25, the six socket-stems 19 will engage with the openings *a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p*; with one having five openings the socket-stems will engage *a, c, f, h, and o*; with one having four the openings *a, d, g, and m* are used; with three, *a, e, and l*, or *b, g, and p*, as desired; and with two any two opposite openings.

In Figs. 10, 11, and 15 in place of the twelve openings 18, just described, two openings 18' and two slots 18² are provided, the two openings being positioned similarly to *a* and *g* in Fig. 6 and the slots occupying the position of *b c d e f* and *h l m o p*, respectively. A thimble 40, preferably threaded both upon its interior and exterior and having a flange 41 and a nut 42 or other convenient means for suitably attaching the same in position in the slot 18², is provided and may be positioned in the slot to occupy a position corresponding to one of the openings 18, the flange 41 and the part 12 or other cooperating portions being preferably so formed that when the thimble 40 is in place in the slot it is not liable to be rotated when a stem 19 is engaged or disengaged therewith. Preferably in a cluster intended to carry a maxi-

num of seven lamps two thimbles 40 are mounted in each slot 18², and suitable marks are provided upon the part 12 and the thimble, as shown in Fig. 11, for indicating
 5 the proper position of the thimble to form a cluster carrying a certain number of lights. It is readily seen that by placing the thimbles positioned in the slots in the proper positions the results before described may be
 10 obtained.

In the specification and the drawings my device is described and shown arranged for connecting the lamps to a circuit in multiple; but I do not desire to be understood as limiting myself to this form, as the slight modifications necessary to connect the lamps in series are obvious to one skilled in the art and a detailed description and drawings of this form are believed to be unnecessary.

20 In the foregoing specification only the preferred form of my improvement has been shown and described; but it is obvious that various immaterial modifications may be made in my device without departing from the spirit of my invention. Hence I do not wish to be understood as limiting myself to the exact form and construction shown.

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

30 1. In a cluster-fixture, the combination of a base, outer and inner contact members carried by said base, a plurality of lamp-sockets each provided with means for securing the same in position, and cooperating means
 35 upon said contact members for attaching a variable number of said sockets thereto, whereby the number of sockets in said cluster may be changed as desired.

40 2. In a cluster-fixture, the combination of a base, an inner and an outer contact member mounted upon said base, means at a plurality of points upon said contact members for attaching a lamp-socket, a plurality of lamp-sockets each provided with means for
 45 cooperating with both of said contact members to rigidly support the socket in position, whereby the number of lamp-sockets upon the cluster may be varied as desired.

50 3. In a cluster-fixture, the combination of a base, inner and outer contact members mounted upon said base, means at a plurality of points unevenly spaced about said contact members for attaching a lamp-socket, a plurality of lamp-sockets each provided with
 55 means for cooperating with said contact members to support said sockets in position, whereby the number and position of the sockets in said cluster may be adjusted as desired.

60 4. In a cluster-fixture, a base, substantially conical inner and outer contact members mounted concentrically upon said base, and means upon said contact members for adjustably attaching lamp-sockets thereto.

65 5. In a cluster-fixture, the combination of

a base, substantially conical outer and inner contact members concentrically mounted upon said base, means at a plurality of points upon said contact members for attaching a lamp-socket, a plurality of lamp-sockets, 70 each provided with means for cooperating with said contact members for rigidly supporting said sockets in position, whereby the number of and position of the sockets in said cluster may be adjusted as desired. 75

6. In a cluster-fixture, the combination of sheet or plate inner and outer contact members, and a lamp-socket carried jointly by said members.

7. In a device of the kind described, a base, 80 contact members mounted upon said base and adapted to carry a variable number of lamp-sockets, in combination with a plurality of lamp-sockets and a casing supported by said sockets and provided with openings 85 for limiting the number of sockets employed in said cluster.

8. In a device of the kind described, a base, contact members mounted upon said base and adapted to carry a variable number of 90 movable lamp-sockets, in combination with a plurality of lamp-sockets, and a casing carried by said sockets and provided with openings for limiting the number of sockets in said cluster. 95

9. In a device of the kind described, a lamp-socket provided with a spring-contact ring upon its exterior for resiliently engaging a contact-plate.

10. In a device of the kind described, a 100 lamp-socket provided with a shell having openings in its bottom, a threaded sleeve provided with extensions projecting through said openings to form a contact member for electrically connecting said sleeve to a con- 105 ductor.

11. In a device of the kind described, a lamp-socket provided with a shell having openings through its bottom, a threaded sleeve provided with extensions projecting 110 through said openings, and means for securing said sleeve within said shell.

12. In a device of the kind described, a lamp-socket provided with a shell having openings through its bottom, a threaded 115 sleeve provided with longitudinal extensions projecting into said openings and lateral extensions adapted to rest upon the bottom of said shell, and means for securing said lateral projections to the shell-bottom. 120

13. In a cluster fixture, a lamp-socket provided with a central stud projecting from its bottom means upon said stud for securing said socket in position in the cluster, and electrically connecting the interior of said 125 socket to a suitable conductor.

14. In a device of the kind described, a lamp-socket provided with a central stud one end of which is exposed within the socket and the opposite end projects from the bottom of 130

the socket means upon said stud for securing the socket in position and electrically connecting the interior of said socket to a suitable conductor.

5 15. In a device of the kind described, the combination of a plate provided with a plurality of depending flanges with a slot formed in each flange, and an insulating-base provided with projections formed integrally therewith
10 adapted to engage said slots, whereby said plate and base may be locked together by a partial rotation of said base upon said plate.

16. In a cluster-fixture, the combination of a base, substantially conical inner and outer
15 contact members mounted upon said base concentrically to each other and a distance-piece positioned between the central portions of said members.

17. In a cluster-fixture, a contact member,
20 a plurality of movable thimbles mounted upon said member, and means for attaching a lamp-socket to each of said thimbles,

whereby a variable number of lamp-sockets may be attached to said contact member and the position of said sockets adjusted thereon 25 by changing the positions of said thimbles.

18. In a cluster-fixture, substantially conical inner and outer contact members mounted concentrically to each other with their bases in substantially the same plane and a 30 distance-piece positioned between the central portions of said members.

19. In a cluster-fixture substantially conical inner and outer contact members, mounted concentrically to each other, one within 35 the other with their sides substantially parallel.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

SYLES R. FRALICK.

Witnesses:

BURTON U. HILLS,
CHARLES I. COBB.