

(No Model.)

2 Sheets—Sheet 1.

P. F. MAHONEY & J. B. LOUVET.
FORMING BLOCK FOR MAKING LAMP SHADES, &c.

No. 334,126.

Patented Jan. 12, 1886.

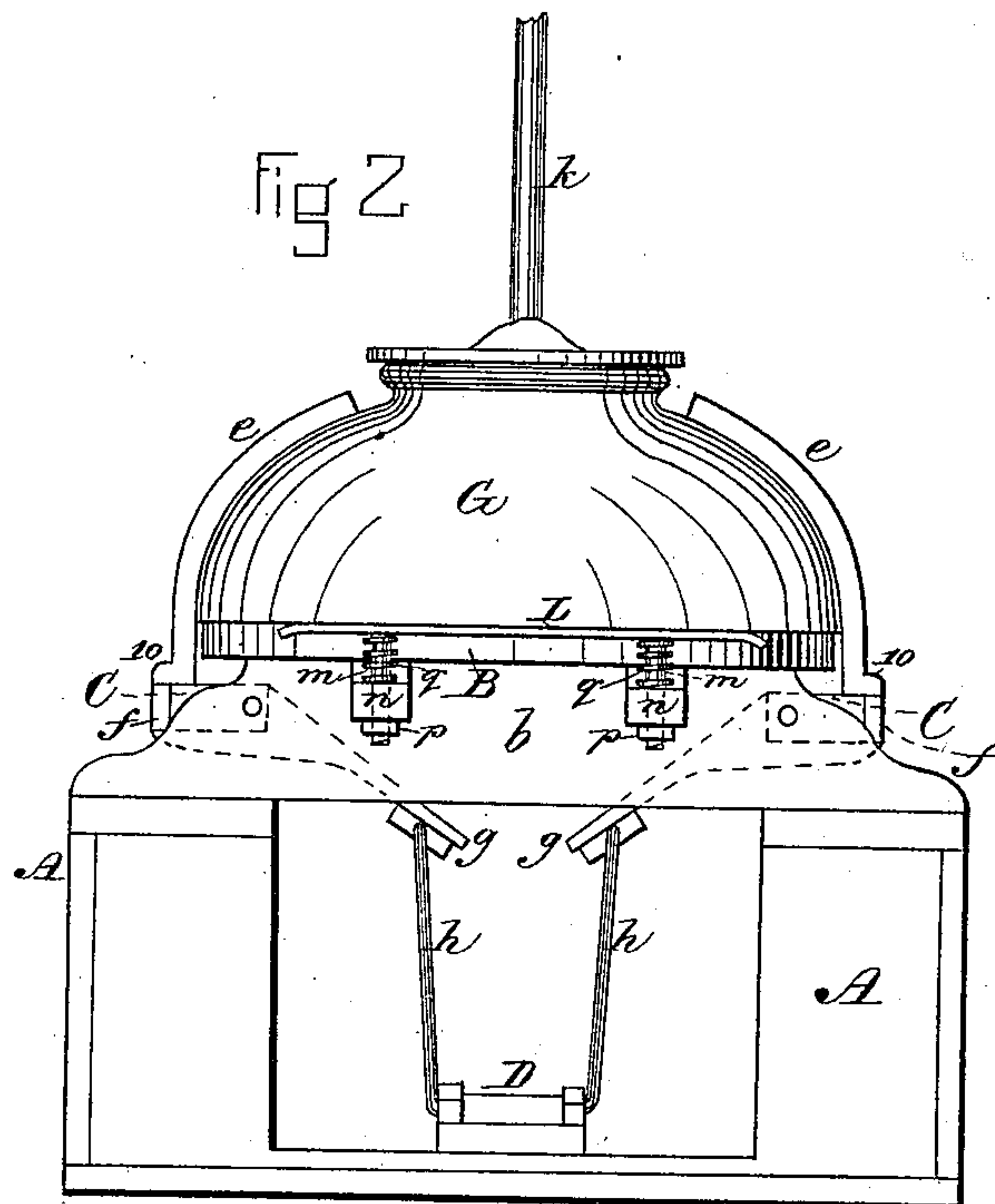
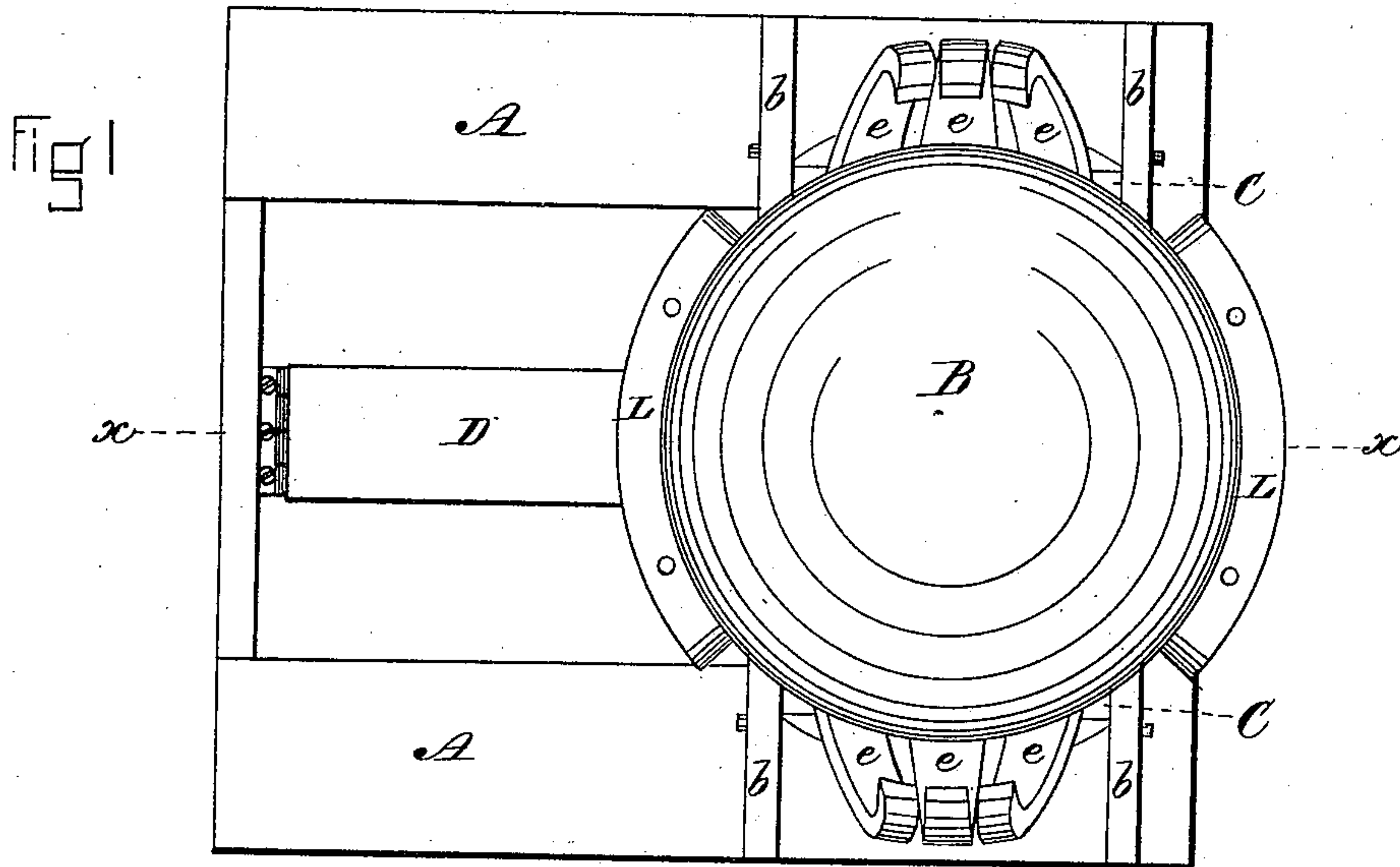
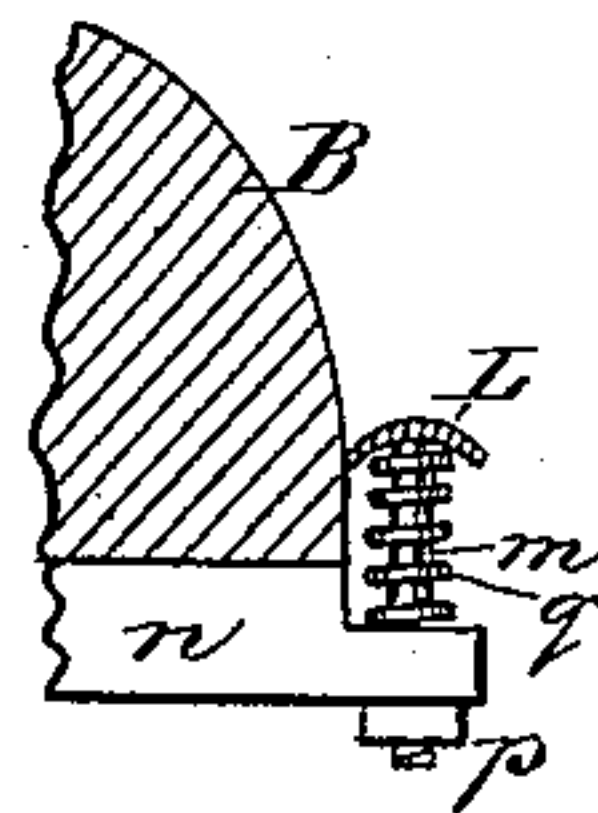


Fig 7



WITNESSES

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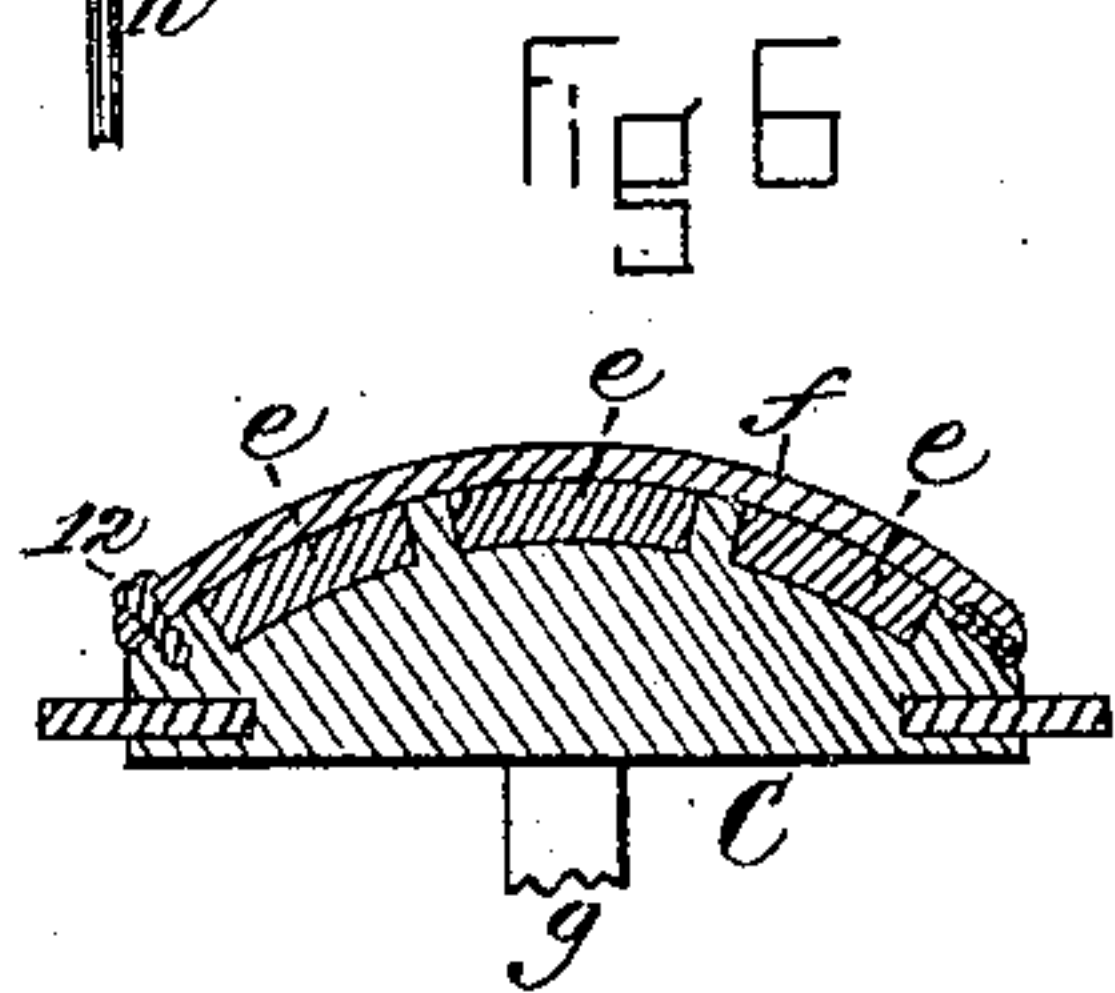
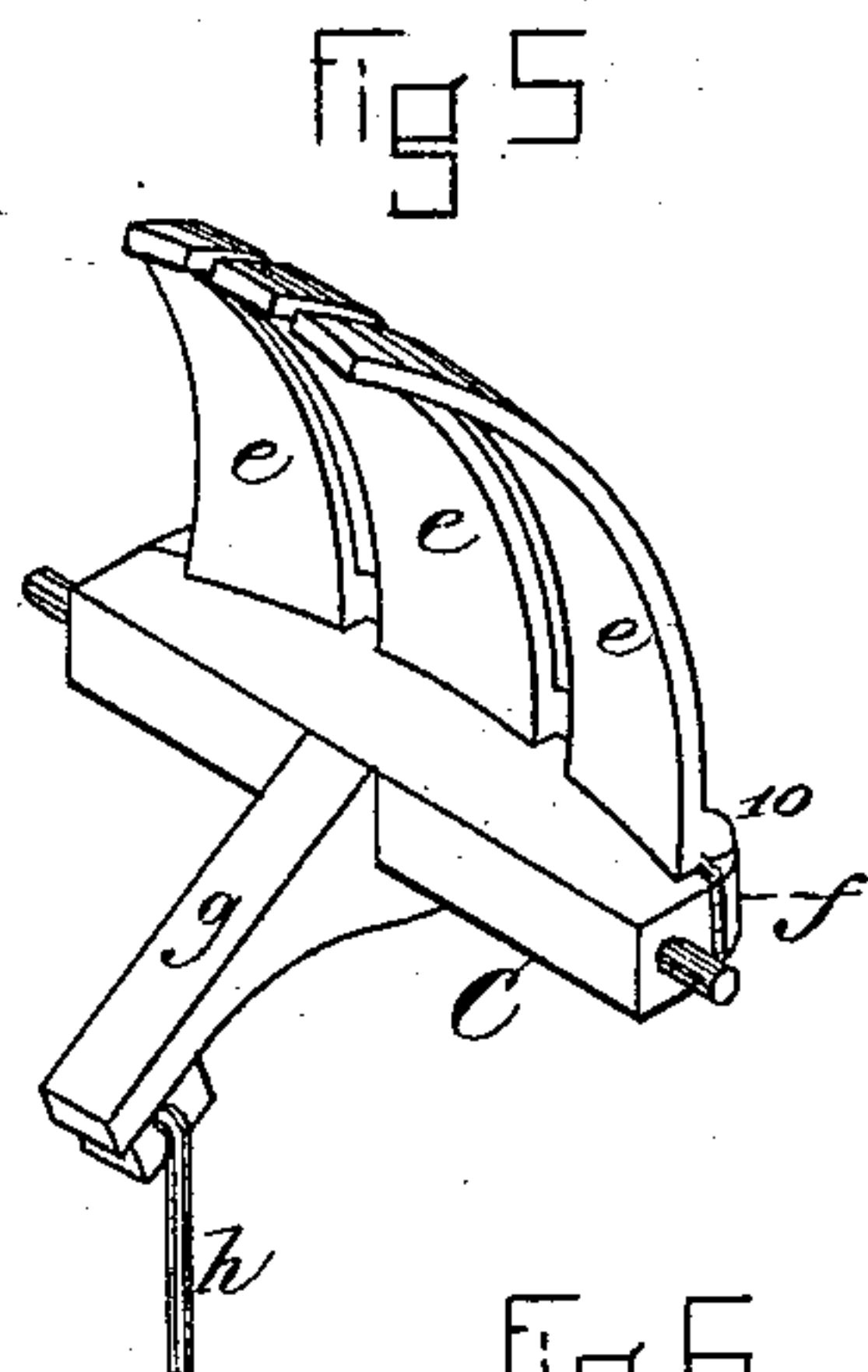
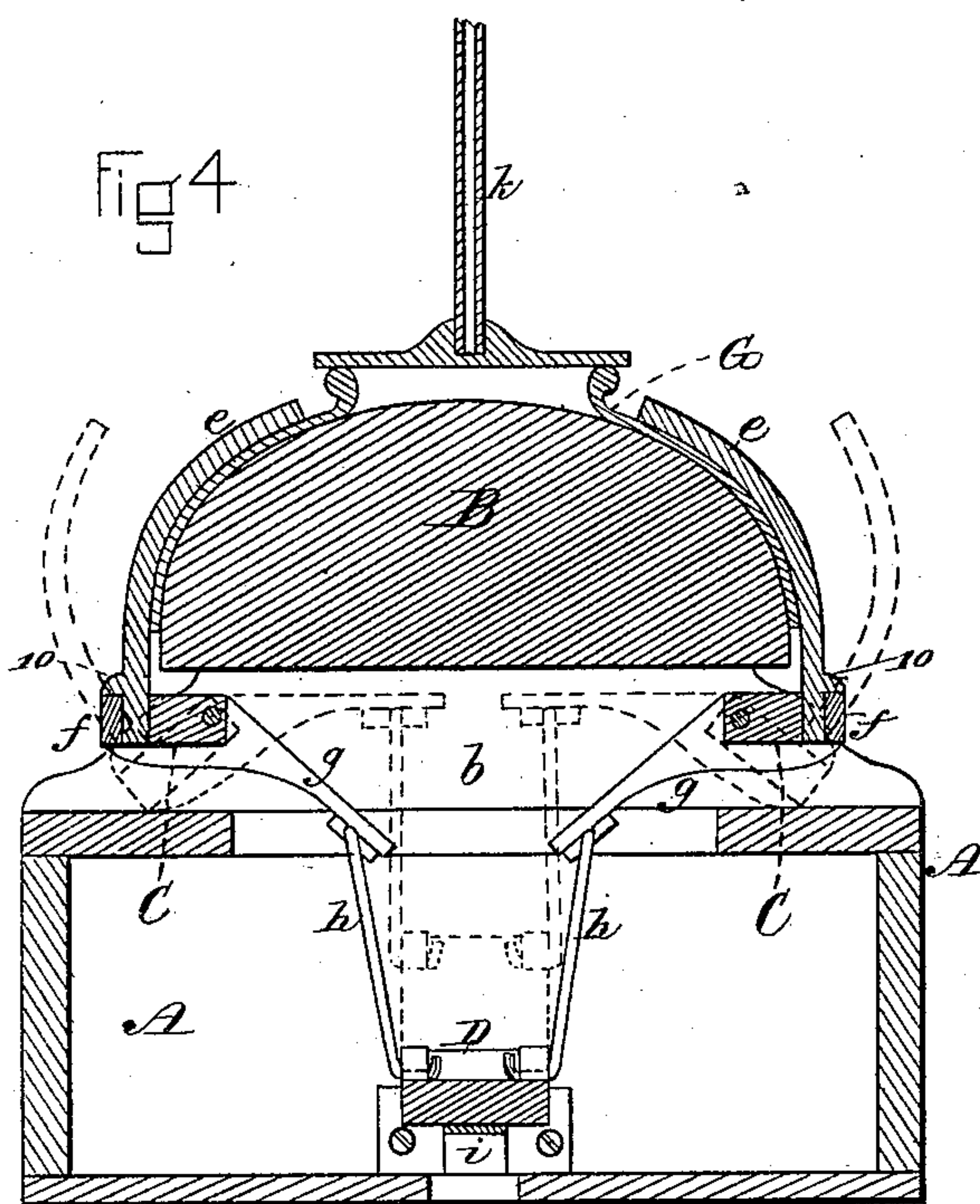
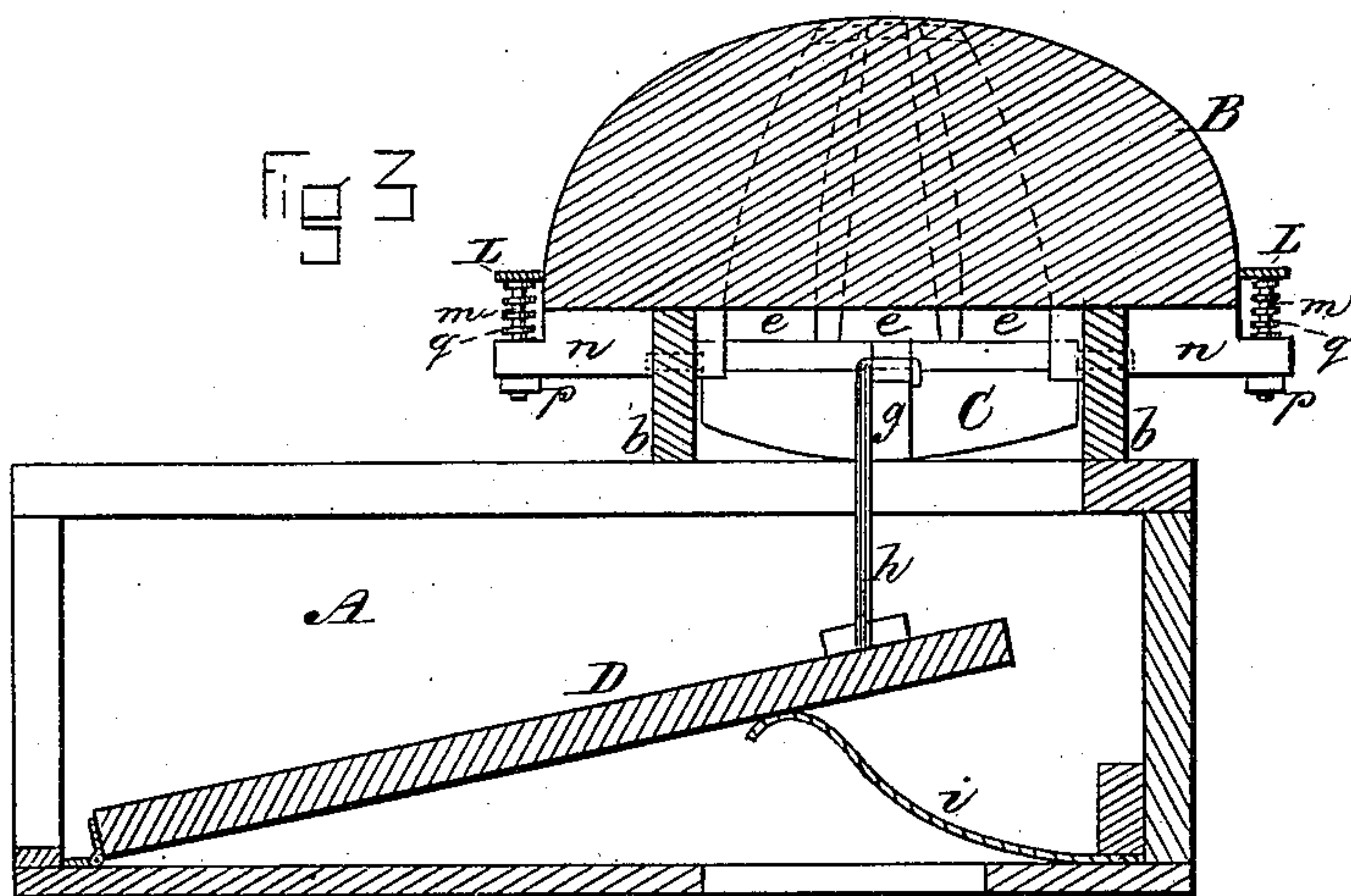
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UNITED STATES PATENT OFFICE.

PATRICK F. MAHONEY AND JOHN B. LOUVET, OF SANDWICH, MASS.

FORMING-BLOCK FOR MAKING LAMP-SHADES, &c.

SPECIFICATION forming part of Letters Patent No. 334,126, dated January 12, 1886.

Application filed July 25, 1885. Serial No. 172,676. (No model.)

To all whom it may concern:

Be it known that we, PATRICK F. MAHONEY and JOHN B. LOUVET, of Sandwich, in the county of Barnstable and State of Massachusetts, have invented certain Improvements in Forming-Blocks for Making Lamp-Shades and other Articles Composed of Blown Glass, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of our improved forming-block, the clamps or forming-arms being thrown back from the block. Fig. 2 is a front elevation of the same, showing a blown-glass lamp-shade in place thereon and the forming-arms pressed against the outer surface of the shade to keep it in close contact with the forming-block as it is revolved by means of the blowing-iron. Fig. 3 is a longitudinal vertical section on the line *x x* of Fig. 1. Fig. 4 is a transverse vertical section. Fig. 5 is a view of one of the rocker-shafts and the forming-arms or clamps secured thereto. Fig. 6 is a horizontal section of the rocker-shaft shown in Fig. 5. Fig. 7 is a sectional detail showing a modification of the rest illustrated in Figs. 1 and 2.

Our invention has for its object to simplify the manufacture of lamp-shades and other articles composed of blown glass, and to render them more perfect in shape and uniform in size than has been possible with the methods heretofore employed.

To this end our invention consists in the combination, with a forming-block having the shape of the shade or other article to be made, of one or more movable forming arms or clamps curved or shaped to correspond to the contour of the forming-block, and adapted to be brought by means of a treadle or other suitable mechanism into contact with the outside of the glass shade or other article upon the said forming-block, so as to exert more or less pressure thereon, whereby the glass is kept firmly pressed against the block while being rotated thereon by means of the blowing-iron connected with its upper portion, thus causing the article to be quickly and perfectly shaped, as desired, with much less labor than heretofore.

Our invention also consists in the combination, with the above-described forming-block and its forming-arms, of a yielding spring rest or rests, against which the lower edge of the glass bears, and by means of which the said edge is straightened or shaped as it is being rotated upon the forming-block.

In the said drawings, A represents the hollow base or stand of the apparatus, upon the top of which are secured two transverse bars or supports, *b b*, on which rests the forming-block B, composed of wood, metal, graphite, or other suitable material, and confined securely in place by screws or otherwise. The forming-block B here illustrated is in the form of a dome, to correspond to the shape of a lamp-shade to be made thereon; but this block may be made of any other suitable shape or contour to correspond to that of the article of glass to be made thereon. On each side of the block B, between the bars *b b*, is pivoted a rocker bar or shaft, C, the outside of which is curved, as seen in Fig. 6, and to these rocker-shafts are secured a series of upwardly-projecting forming arms or clamps, *e*, composed of wood, metal, graphite, or other suitable material, each of which is curved to correspond to the contour of the block B. The bases or lower ends of the arms *e*, which are each provided with a shoulder or stop, 10, fit into sockets or mortises in the rocker-shaft C, and are confined in place by means of a curved strip, *f*, secured to the said shaft and made adjustable thereon by one or more screws, 12, Fig. 6, the arms *e* being made to fit loosely in their sockets, if desired, to afford a slight amount of play, and thus allow them to yield to any slight inequalities in the thickness of the glass or protuberances thereon. The arms *e* are thus made removable and adjustable, and may be taken out and replaced by new ones whenever required.

To each of the rocker-shafts C is secured an inwardly-projecting arm or lever, *g*, and to these levers are pivoted rods *h h*, which are attached to a treadle, D, located within the base A and provided with a spring, *i*, Fig. 3, bearing against its underside, and thus, through the connections described, when the treadle is depressed by placing the foot thereon, the forming-arms *e* will be simultaneously brought

against the exterior surface of the glass lamp-shade or article G, which has been previously placed over the forming-block B, as seen in Figs. 2 and 4. This shade or article G, which
 5 has been blown to a shape approximating to that of the block, is then, while still hot and in a comparatively soft state, rotated upon the said block by means of the blowing-iron *k*, connected therewith, which is turned by the
 10 hands of the operator, who at the same time, by means of the treadle, causes the forming-arms *e* to bear with any desired degree of friction upon the glass, thus pressing all parts of the same firmly upon the block and keeping
 15 it closely in contact therewith, whereby it is caused to take the exact shape of the block and retain it until it becomes set or hardened. The pressure of the foot upon the treadle is then relieved, causing the spring *i* to raise the
 20 same, and thus throw back the arms *e* from the block B, as seen in Fig. 1 and dotted in Fig. 4, when the shade is removed, after which the blowing-iron is detached in the usual manner. When the arms *e* are thrown back by the ele-
 25 vation of the treadle, the outer edges of the rocker-shafts C, or strips *f* thereon, come into contact with the adjacent portions of the top of the base A, which thus form stops therefor; but any other suitable stop or stops may
 30 be used to limit the backward throw of the arms *e*.

If preferred, the forming-arms *e* may be brought up to the glass upon the block by means of a spring or springs and drawn back
 35 by a treadle. We do not, therefore, wish to confine ourselves to the mechanism shown for actuating the arms *e*, as it is evident that it may be varied without departing from the spirit of our invention.

40 Although we have shown a series of arms *e* on each side of the block B, we do not limit ourselves to the employment of any particular number of such arms, as a single one only, or any desired number suitably arranged around
 45 the forming-block, may be used, as may be found best adapted for the purpose.

On the front and rear side of the block B, near the base thereof, are arranged two yielding spring-rests, each composed of a curved
 50 strip, L, supported on short rods or bolts *m*, which pass through lugs or arms *n*, projecting out from the adjacent support *b*, that portion of each rod *m* between the lug *n* and the under side of the strip L being encircled
 55 by a spiral spring, *q*, which thus allows the rest to yield to any pressure from above. The lower ends of these bolts *m* are provided with screw-threads, on which are placed nuts *p*, which fit up against the under side of the
 60 lugs *n*, and by means of these nuts the rests L may be adjusted vertically for shades or other articles of different sizes. When the shade G is placed upon the block B, its lower edge bears upon the spring-rests L L, which
 65 yield slightly, and, by their contact with the edge as it is rotated, serve to straighten it and

keep it perfectly true and level, the ends of the rests being curved downward, as seen in Fig. 2, to prevent the catching thereon of any projection or notch on or in the glass as the
 70 latter is revolved. These rests may be flat, as shown, or they may be curved or otherwise shaped in the direction of their width, as seen in Fig. 7, in order to give a corresponding
 75 shape to a projecting flange at the lower edge of the glass, which may rest or be pressed thereon, and by thus employing spring-rests L of different widths and shapes the form of the lower edge of the shade or other article may be varied at the same time that it is kept
 80 perfectly true and straight.

Where the glass shade or article is provided with a flange at the lower edge adapted to lie upon and be shaped by contact with a spring-rest, L, the forming-arms *e* would preferably
 85 be of such shape and so located as to press upon the said glass flange and keep it in contact with the entire width of the rest L, thus shaping it as desired. A single rest, L, may be used, or a series of any desired number, ex-
 90 tending wholly or partially around the forming-block B, as may be preferred.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination, with the forming-block
 95 B, upon which the shade or other glass article is rotated, of the forming-arms or clamps *e*, secured to the rocker-shafts C and shaped to correspond to the contour of the block, and adapted to be brought into contact with and
 100 bear against the exterior surface of the glass article upon the said block, and a treadle mechanism and spring adapted to actuate the said rocker-shafts and forming-arms, all operating substantially in the manner and for the
 105 purpose described.

2. The combination, with the forming-block B, upon which the shade or other glass article is rotated, of the forming-arms or clamps *e*, secured to the rocker-shafts C C and shaped
 110 to correspond to the contour of the block, and adapted to be brought into contact with and bear against the exterior surface of the glass article upon the said block, the levers *g* *g*, connected with the rocker-shafts C C, rods *h* *h*,
 115 treadle D, and the spring *i*, all constructed to operate substantially as and for the purpose set forth.

3. The combination, with the forming-block B and a rocker-shaft, C, operated substantially
 120 as described, of the removable forming-arms or clamps *e*, made adjustable in sockets or apertures in said rocker-shaft, substantially as and for the purpose set forth.

4. The combination, with the forming-block
 125 B and one or more forming-arms or clamps, *e*, operated substantially as described, of a yielding spring-rest adapted to lie in contact with and straighten or shape the lower edge of the shade or other glass article as it is rotated upon
 130 the forming-block, substantially as described.

5. The combination, with the forming-block

Band one or more forming-arms or clamps, *e*,
operated substantially as described, of a yield-
ing edge straightening or shaping rest, *L*,
mounted on vertically-moving threaded rods
5 or bolts *m*, passing through lugs or supports
n, and provided with adjusting-nuts *p* and
springs *q*, all constructed to operate substan-
tially in the manner and for the purpose set
forth.

Witness our hands this 22d day of July, A. 10
D. 1885.

PATRICK F. MAHONEY.
JOHN B. LOUVET.

In presence of—
P. E. TESCHEMACHER,
W. J. CAMBRIDGE.