

No. 668,189.

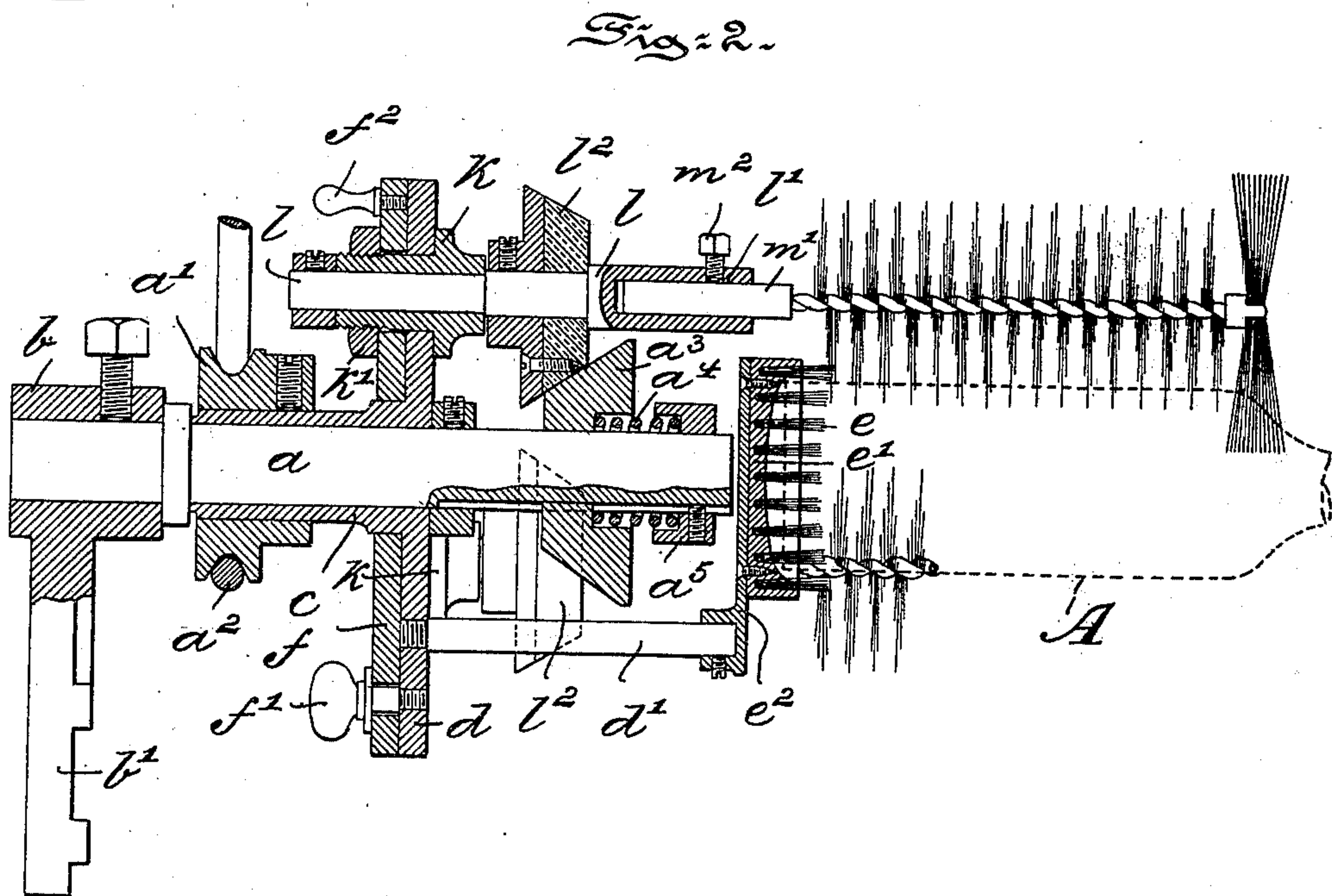
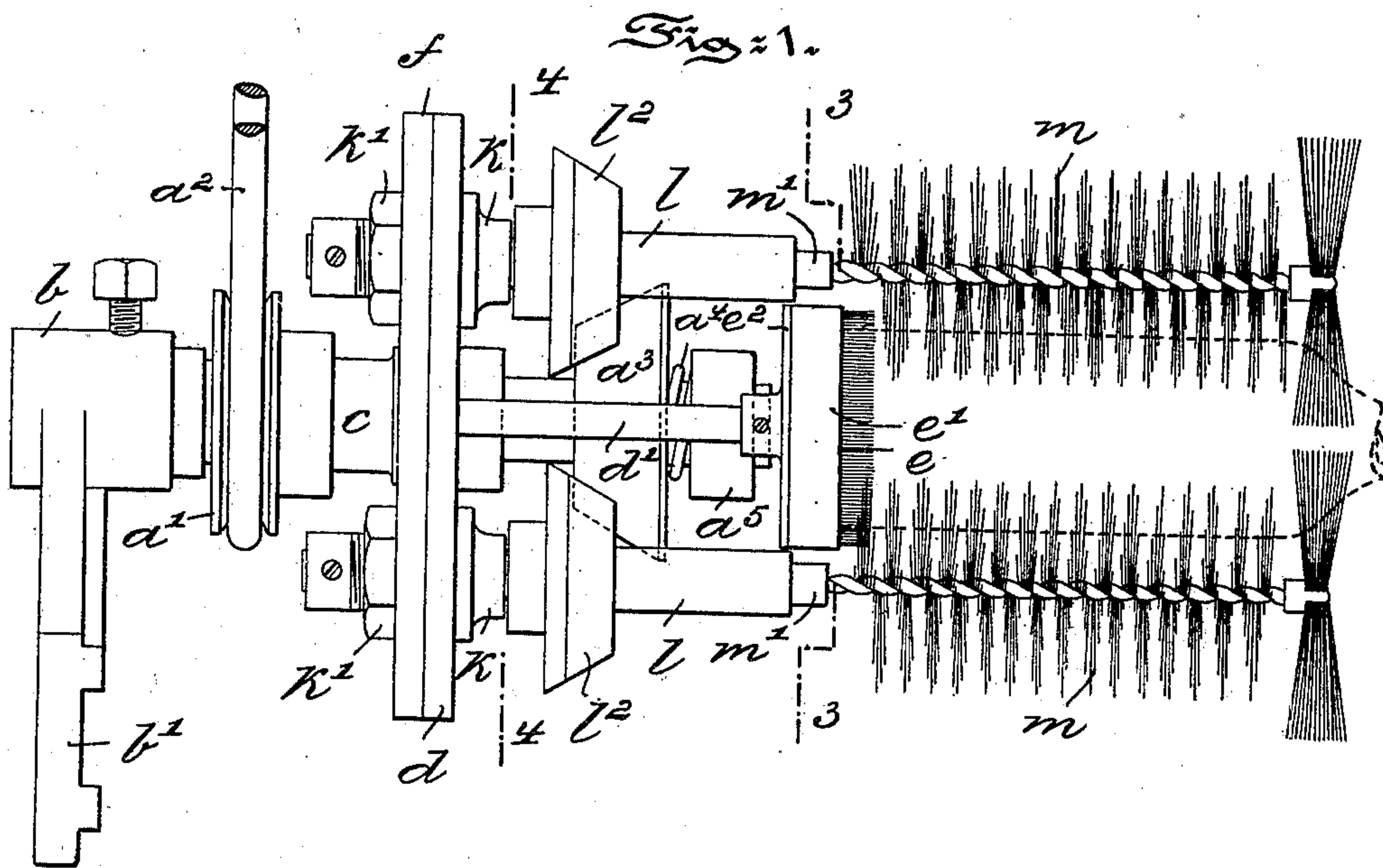
Patented Feb. 19, 1901.

J. KAYSER.
BOTTLE WASHING MACHINE.

(Application filed Aug. 7, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

Fig. 3.

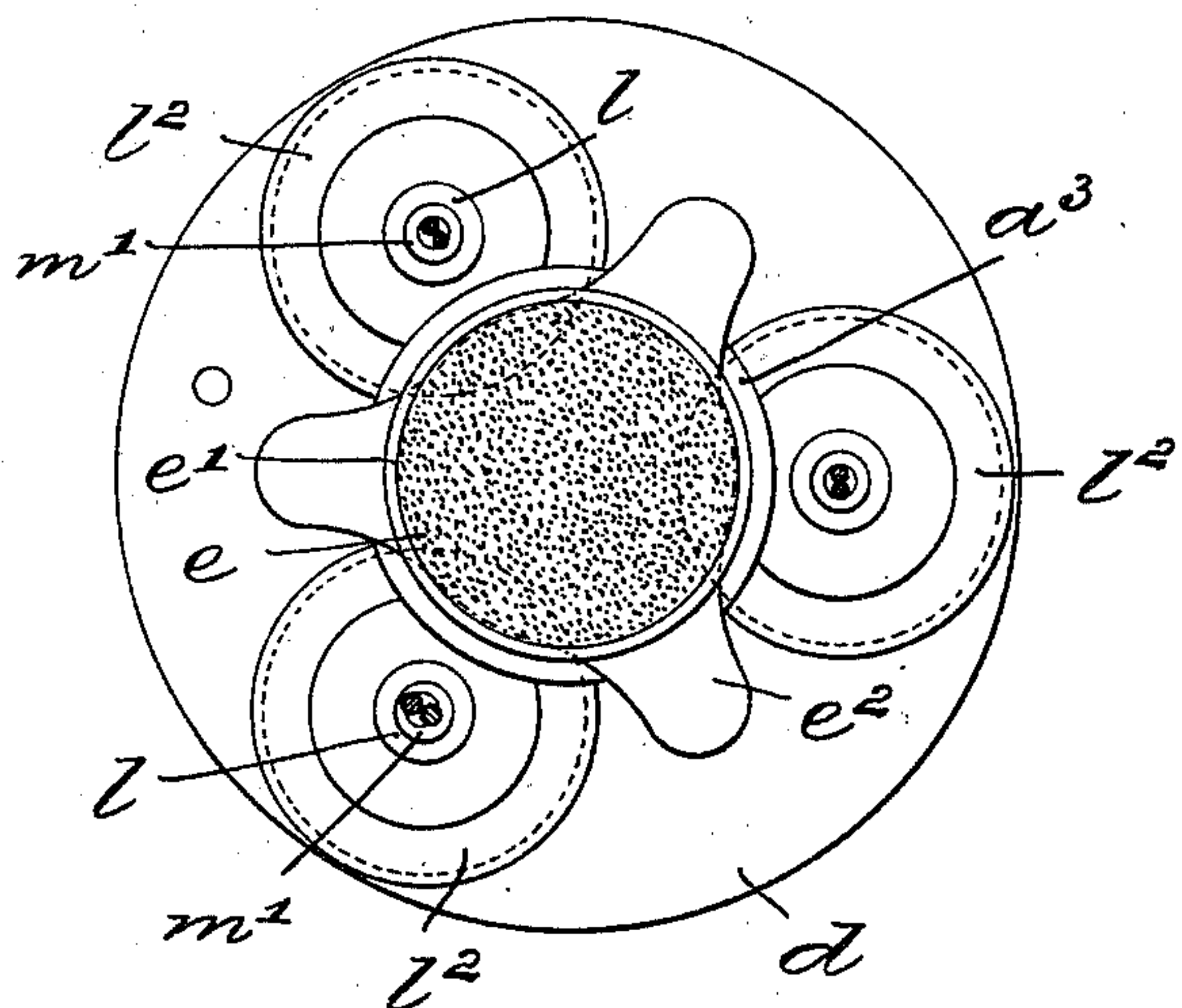


Fig. 4.

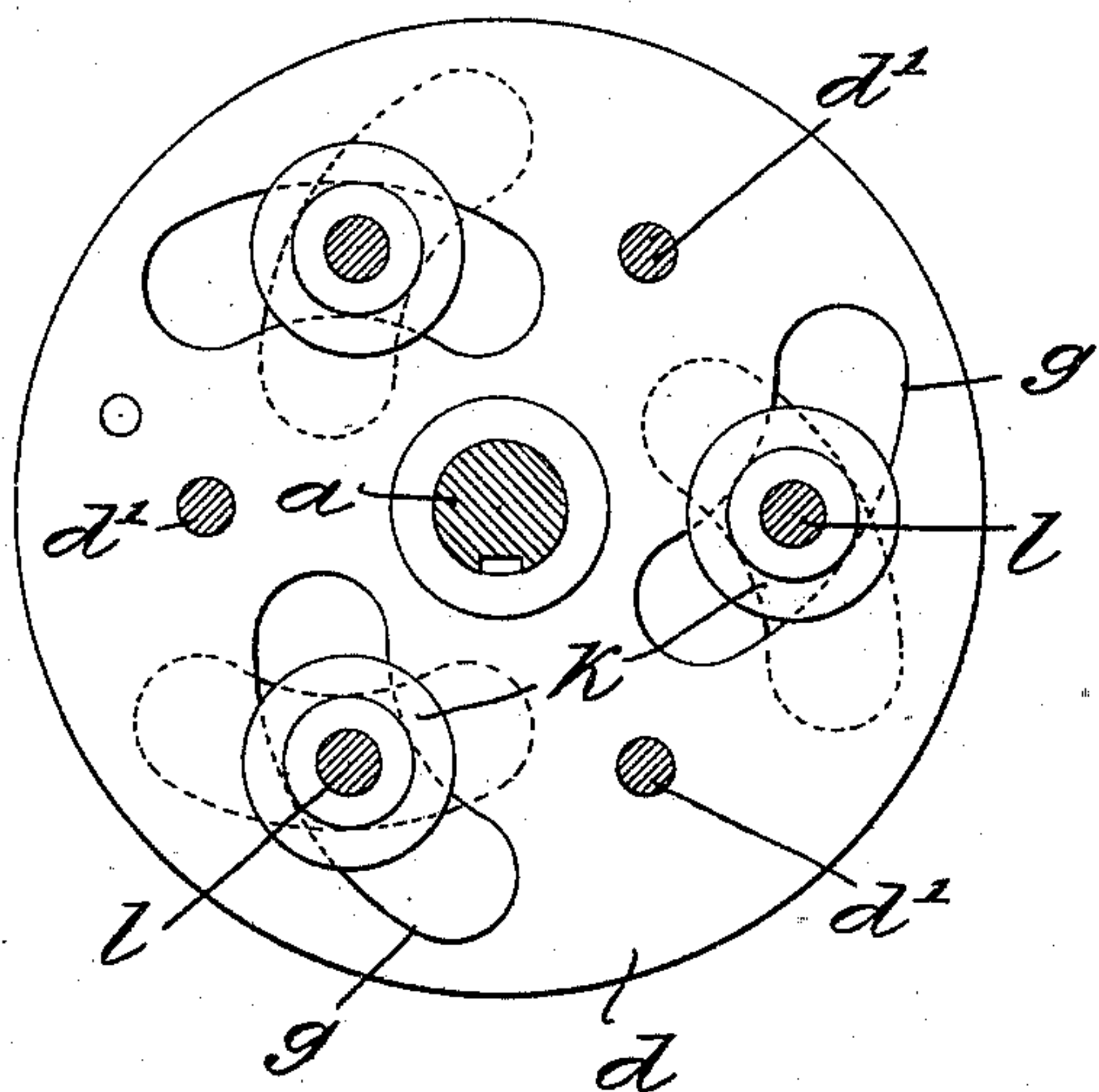
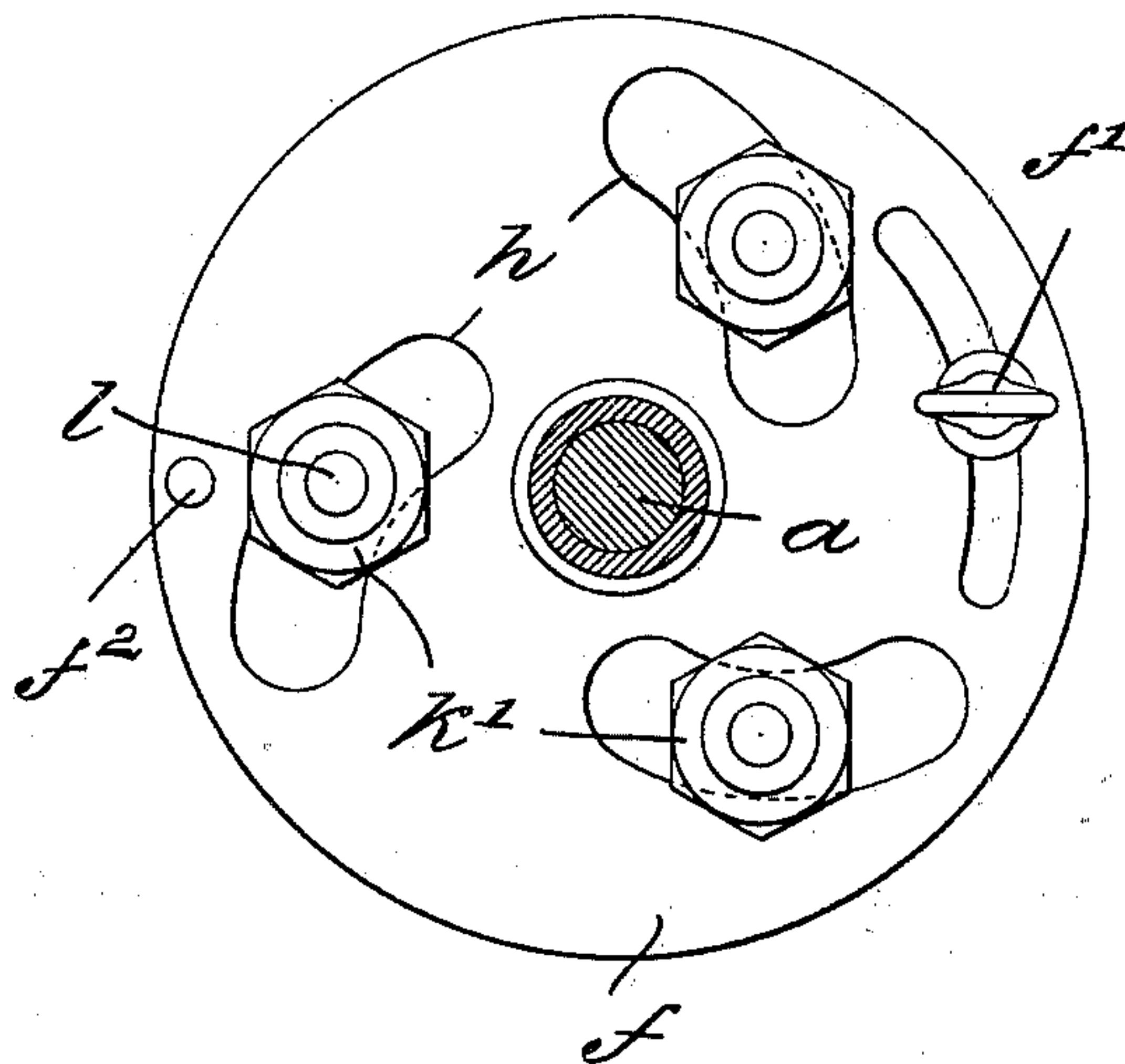


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOSEPH KAYSER, OF PHILADELPHIA, PENNSYLVANIA.

BOTTLE-WASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 668,189, dated February 19, 1901.

Application filed August 7, 1900. Serial No. 26,120. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH KAYSER, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Bottle-Washing Machines, of which the following is a specification.

My invention has relation to a machine for washing the exterior of bottles and similar receptacles, and in such connection it relates to the construction and arrangement of such a machine.

The principal objects of my invention are, first, to provide in a machine for washing the exterior of bottles and the like a central axis or support upon which the bottle is mounted, a series of brushes adapted to revolve around the central bottle or receptacle and each brush adapted to rotate upon its own axis, and a means for adjusting the rotary brushes, so as to bring their axes toward or away from the bottle or receptacle, to thereby accommodate the machine for use in washing bottles and receptacles of varying diameters, and, second, to provide in such a machine a central support having at its upper end a concave disk or cup of pilous material adapted to revolve upon and to draw or suck the base of the bottle or receptacle down upon said support and to firmly hold the bottle or receptacle to said support.

My invention, stated in general terms, consists of a machine for washing the exterior surface and bottom of bottles or other similar receptacles when constructed and arranged in substantially the manner hereinafter described and claimed.

The nature and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a side elevational view of a machine embodying main features of my invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a horizontal sectional view on the line 3 3 of Fig. 1. Fig. 4 is a similar view on the line 4 4 of Fig. 1, and Fig. 5 is an underneath plan view of the revolving platform or disk carrying the rotary brushes and their axes or supports.

Referring to the drawings, *a* represents a shaft of the machine upon which a sleeve *c*, integral with a platform *d*, is mounted and to which sleeve the pulley *a'* is keyed. This pulley *a'* is connected by a belt or cord *a²* with the source of power. The shaft *a* is supported in a suitable bearing *b*, formed at one end of a bracket *b'*, which bracket when secured to a table or bed-piece constitutes the support for the machine. From the platform or disk *d* projects a series of pillars or standards *d'*, on which is supported, preferably on a base *e²*, a cup-shaped or concave disk *e* of pilous material. The base *e²*, disk *e*, and pillars *d'* revolve with the platform *d* when the sleeve *c* is rotated, and against the disk *e* the bottom or base of the bottle or receptacle *A* is pressed by the operator during the cleaning operation. The concave or cup-shaped form of the disk *e* serves to suck or draw downward the bottle to required upright position and to maintain it in this position during the washing of the bottle. Below the platform *d* is arranged a second platform *f*, adapted to turn upon the sleeve *c* unless locked by a set-screw *f'* to the upper platform *d*. A pin or handle *f²*, secured to the under face of the platform *f*, assists in the turning of said platform. In the platform *d* is arranged a series of curved slots *g*, and in the lower platform *f* is arranged a series of similarly-curved slots *h*, crossing the slots *g* at an angle, as clearly illustrated in Fig. 4. Passing through each opening formed at the crossing-points of the slots *g* and *h* is a sleeve *k*, constituting a bearing for a shaft or spindle *l*, which is made hollow at its upper end, as at *l'*, to receive the stem *m'* of a vertically-arranged brush *m*. The sleeves *k* are each adapted to be firmly clamped in the slots *g* and *h* and to the two platforms *d* and *f* by the nut *k'*. The stems *m'* may be adjusted up and down in the hollow portion *l'* of the spindles *l* and locked in required position by a set-screw *m²*. Upon each spindle *l* is preferably fixed a cone-shaped friction-wheel *l²*, adapted to frictionally contact with an oppositely-disposed main cone-shaped friction-wheel *a³*, arranged centrally of all the cone-gears *l²* and splined to the shaft *a*. A spring *a⁴*, interposed between a collar *a⁵* on the shaft *a* and the upper face of the gear *a³*, serves to force said gear *a³* downward into frictional

engagement with the beveled periphery of each friction-wheel l^2 .

In the operation of the machine the bottle A is grasped by the hand of the operator at its neck portion and introduced centrally of the brushes m until its base enters the cup-shaped brush e . The brushes m and brush e in revolving by the contacting of the friction-wheels m' with the stationary friction-wheel a^3 on the shaft a completely cleanse the exterior of the body and bottom of the bottle, the cleansing of the body being accelerated by the rotation of each brush upon its spindle l . Should for any reason the central space between the brushes m be too small or too large, the thumb-screw f' is loosened and the under platform f shifted or turned, so that the crossing-point of the slots g and h may extend farther from or closer to the center of the machine. When the precise adjustment is secured, the set-screw f is tightened. Of course it will be understood that prior to the shifting of the platform f the nuts k' , which lock the sleeves to the two platforms, are also loosened, and after the required adjustment is secured are again tightened. The central cup-shaped brush e consists, preferably, of bristles united to a wooden backing e' , and this backing e' is removably united by screws to a base e^2 , of iron or other metal. By means of this construction the brushes e , of various sizes, may be removably secured to the base e^2 to compensate for varying diameters of the bottoms of the receptacles to be cleaned.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine of the character described, a series of brushes arranged around a central

opening for the reception of the article to be cleaned, means for revolving said brushes around the opening, means for rotating each brush upon its axis during the revolution of the brushes, and means for adjusting the brushes to cause them to approach toward or recede from the central opening, substantially as and for the purposes described.

2. In a machine of the character described, two superposed platforms each provided with curved slots crossing each other to form an aperture extending through both platforms, a sleeve traversing the aperture thus formed, a brush having a bearing in each sleeve, and means for shifting the two platforms to cause the aperture formed by the crossing slots to approach or recede from the center of the platforms, substantially as and for the purposes described.

3. In a machine of the character described, a central brush having a cup-shaped or hollowed-out base from which the pilous material projects, in combination with a series of brushes arranged around the central brush and having their axes disposed at right angles to the plane of said central brush, means for revolving the central brush, means for rotating each brush in series upon its axis, and means for revolving the series of brushes around the central brush, substantially as and for the purposes described.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

JOSEPH KAYSER.

Witnesses:

J. WALTER DOUGLASS,
THOMAS M. SMITH.