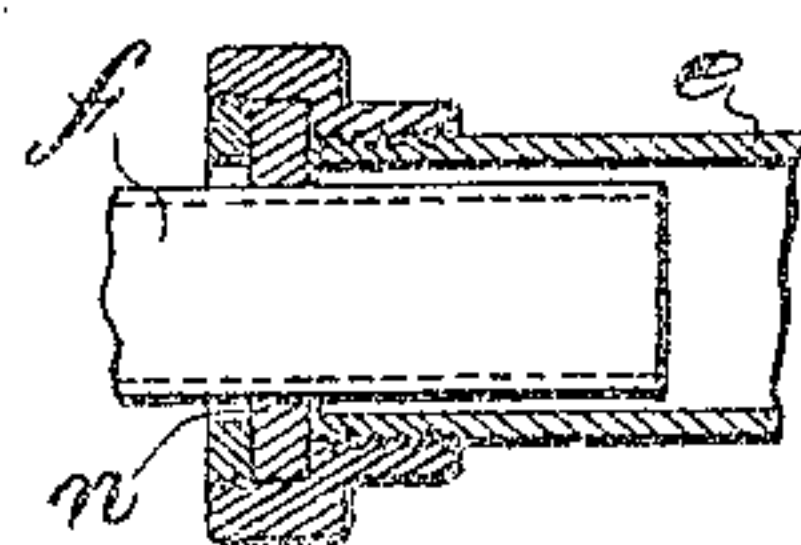
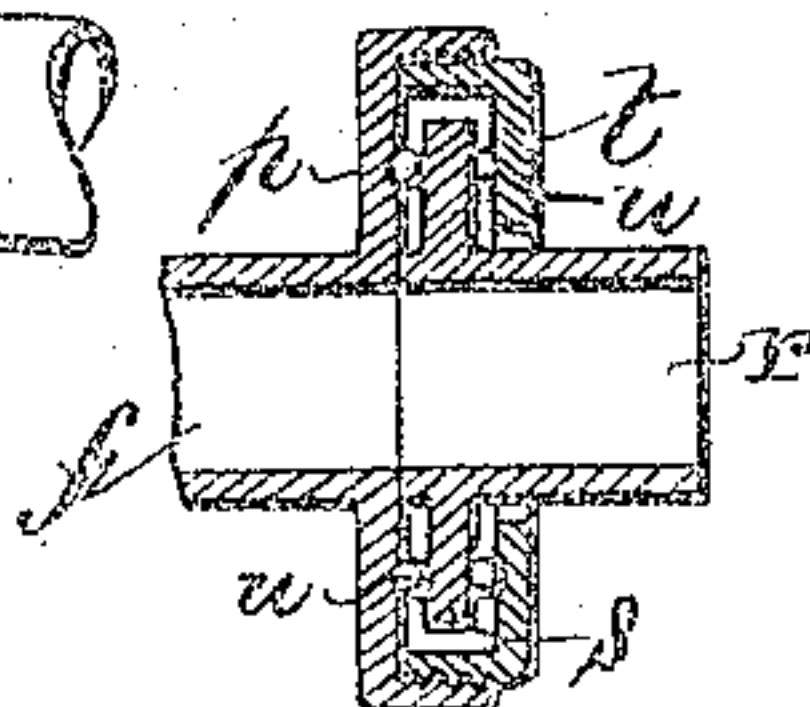
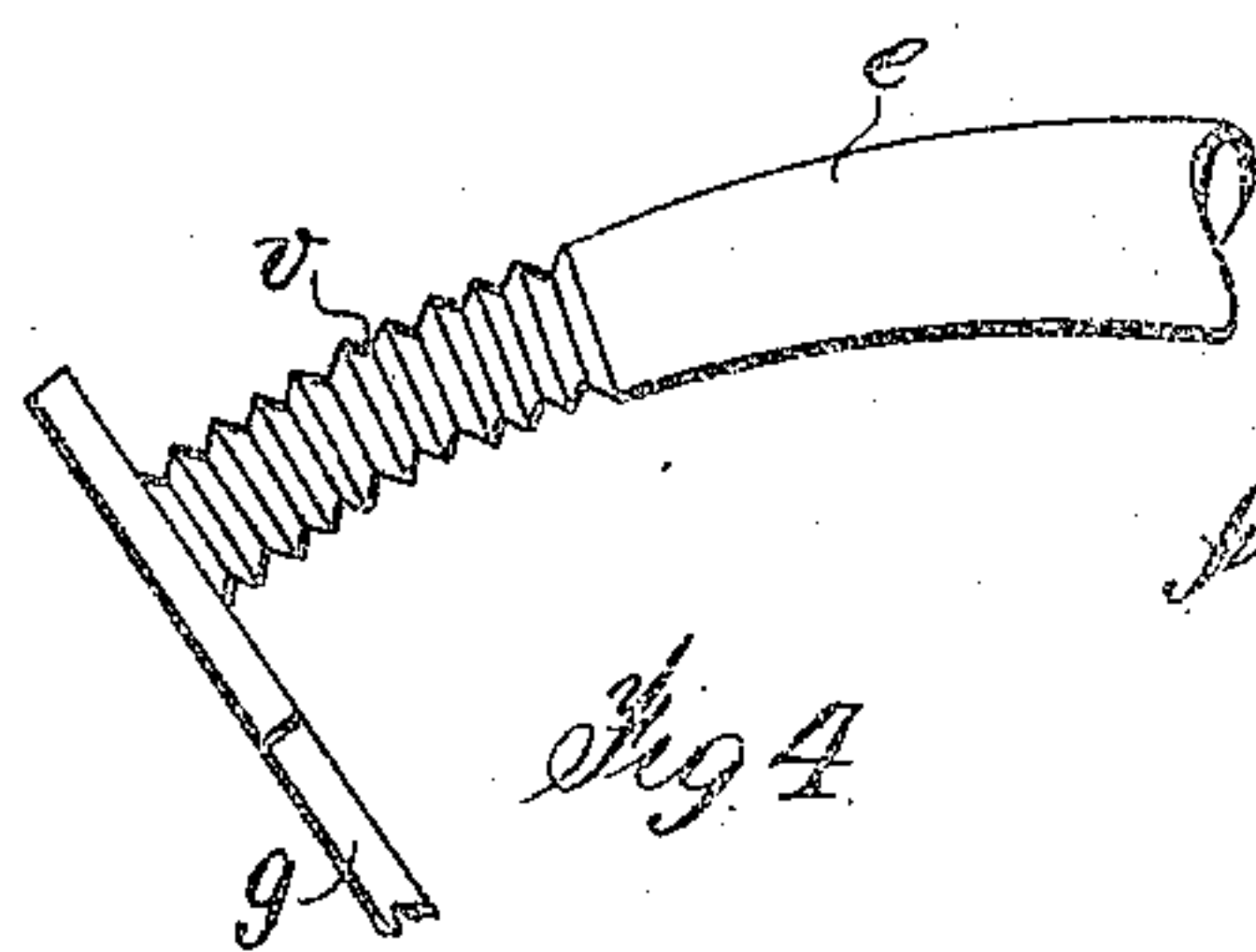
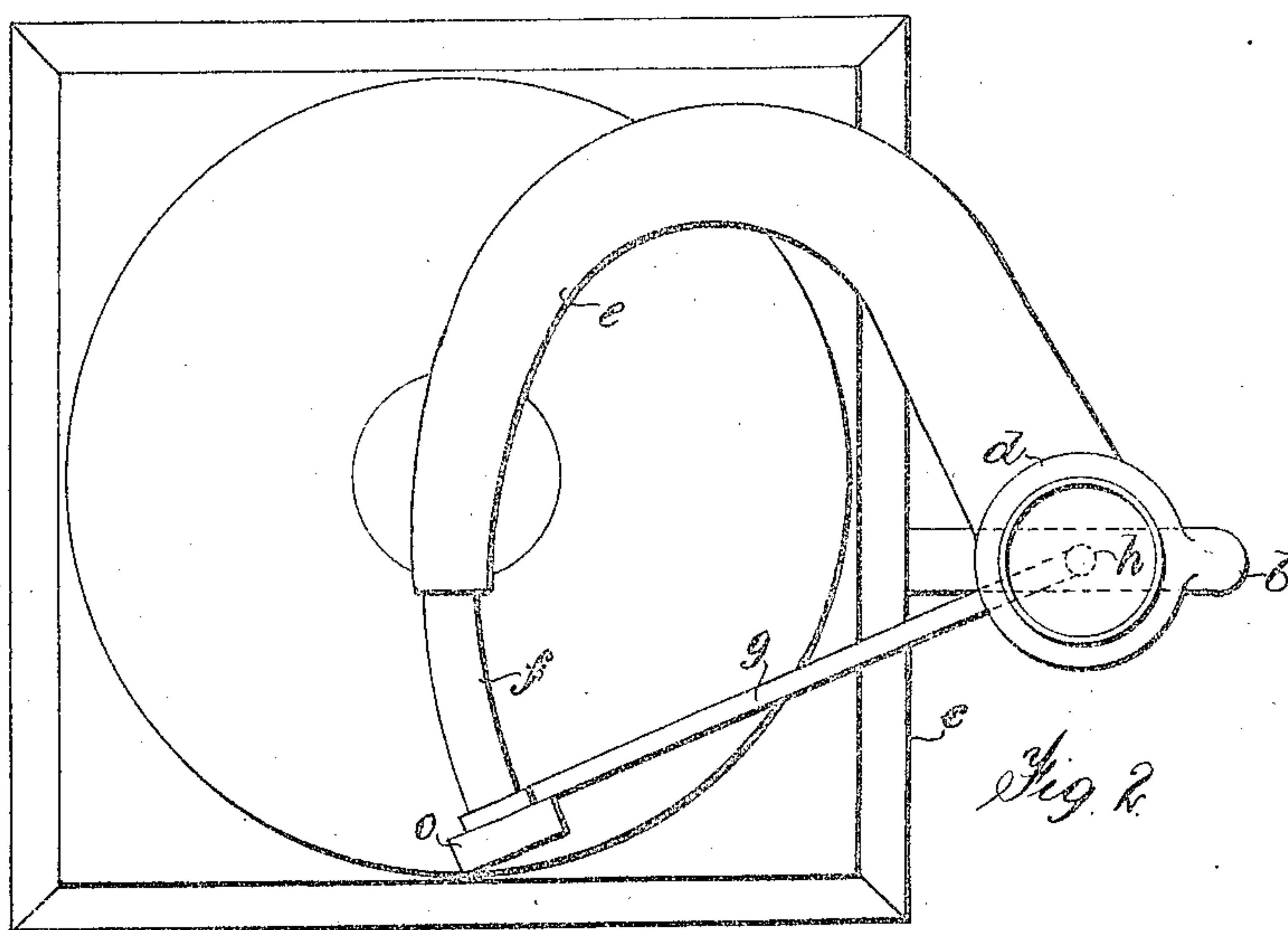
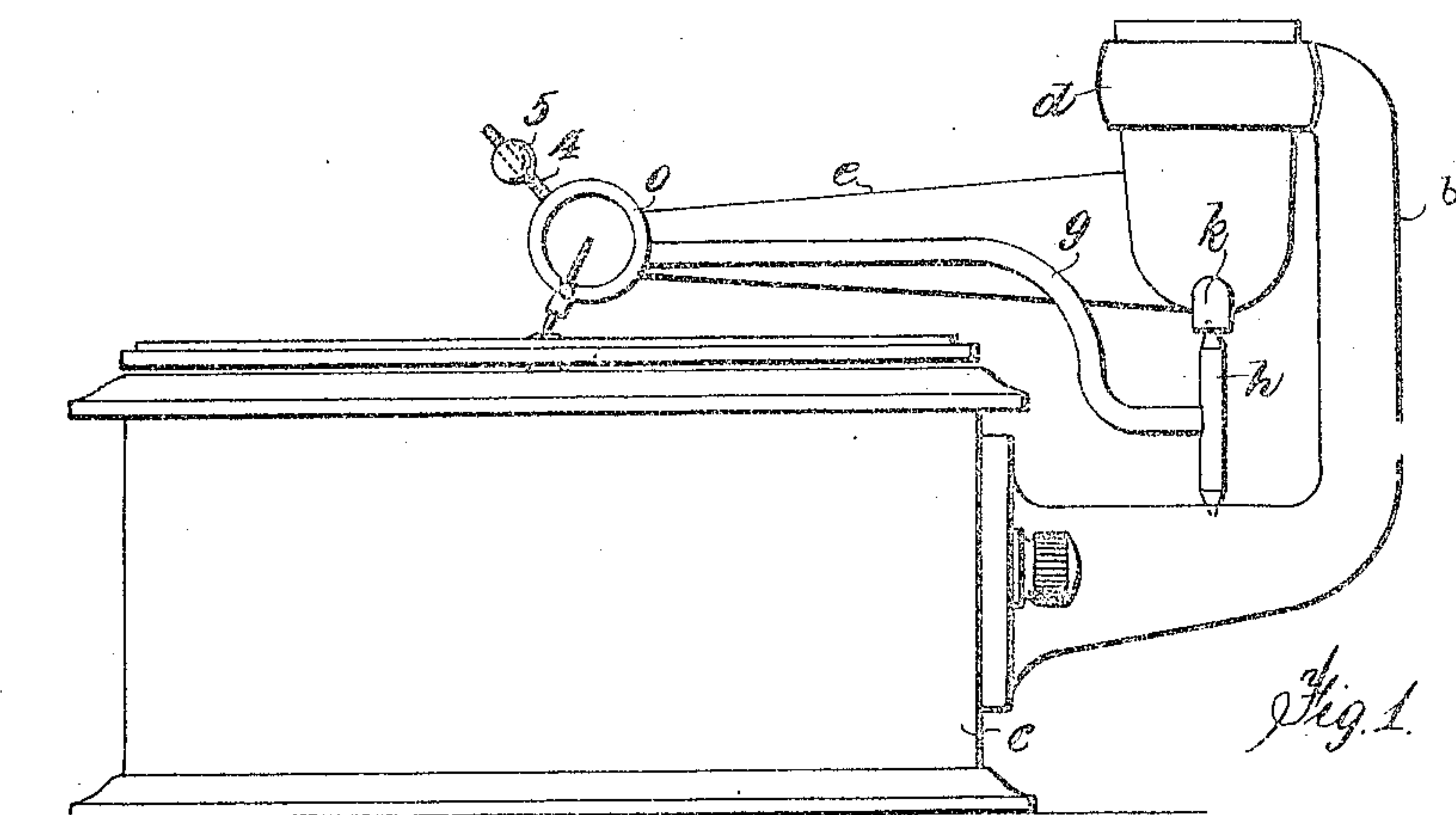


922,297.

2 SHEETS--SHEET 1.



Witnesses.

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J. M. LANDON.
TALKING MACHINE.
APPLICATION FILED OCT. 7, 1907.

922,297.

Patented May 18, 1909.
2 SHEETS—SHEET 2.

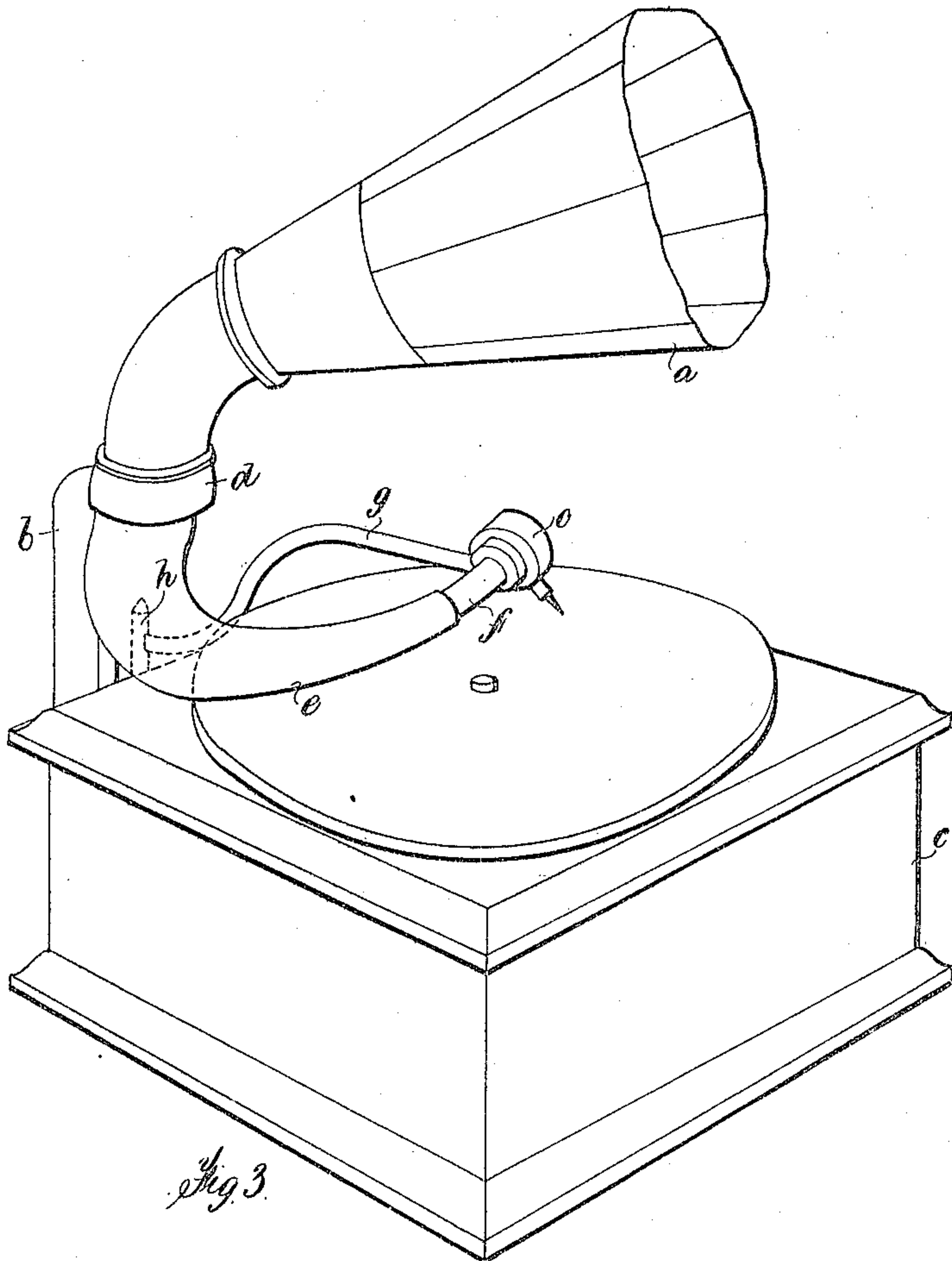


Fig. 3.

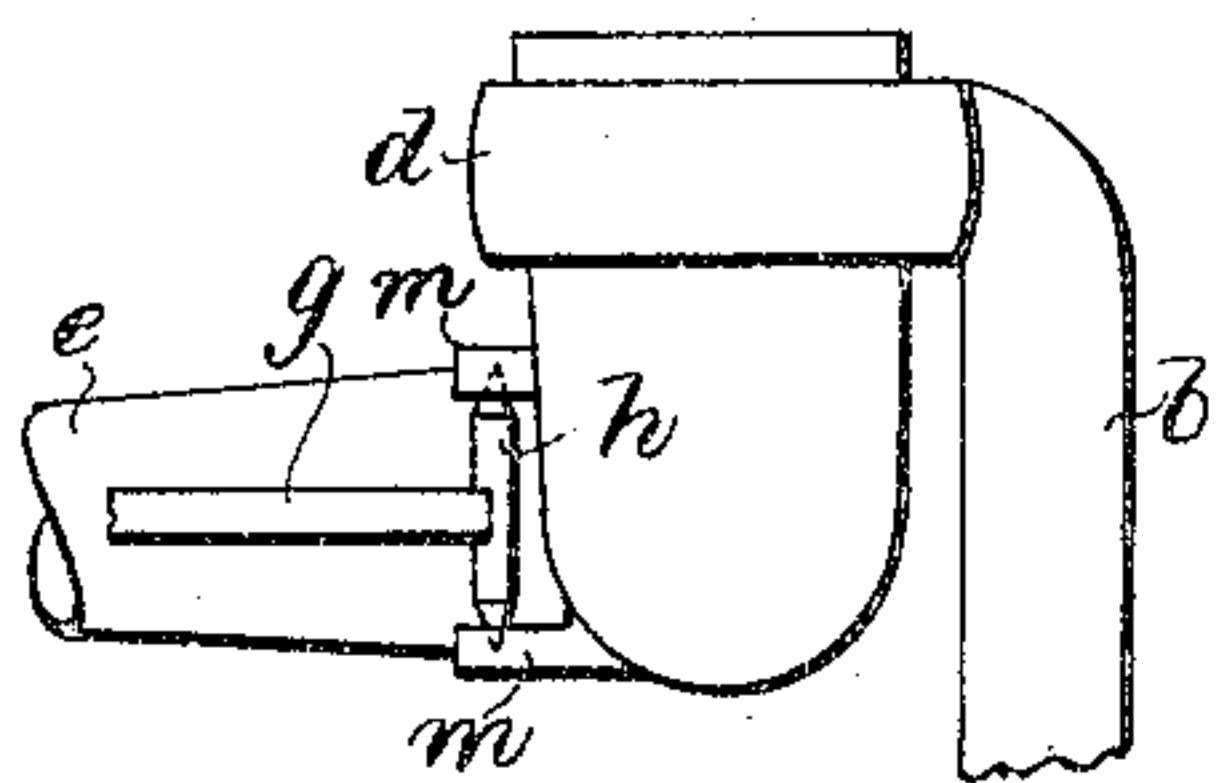


Fig. 4.

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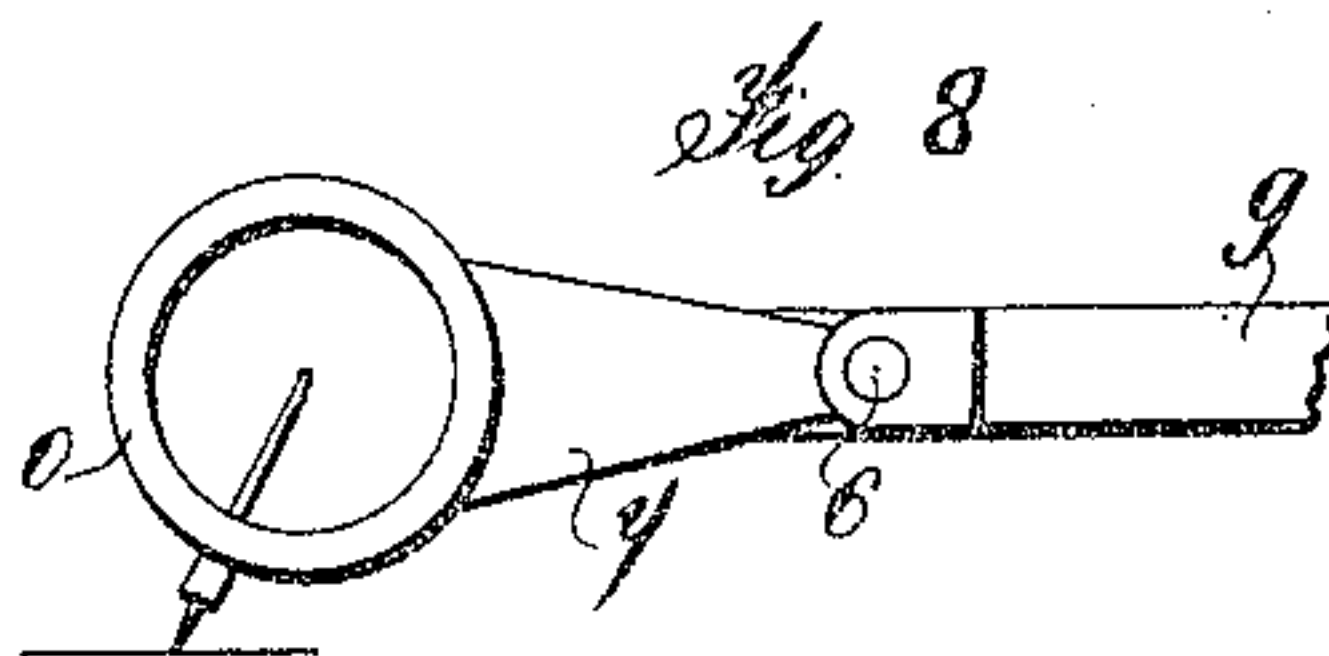


Fig. 8.

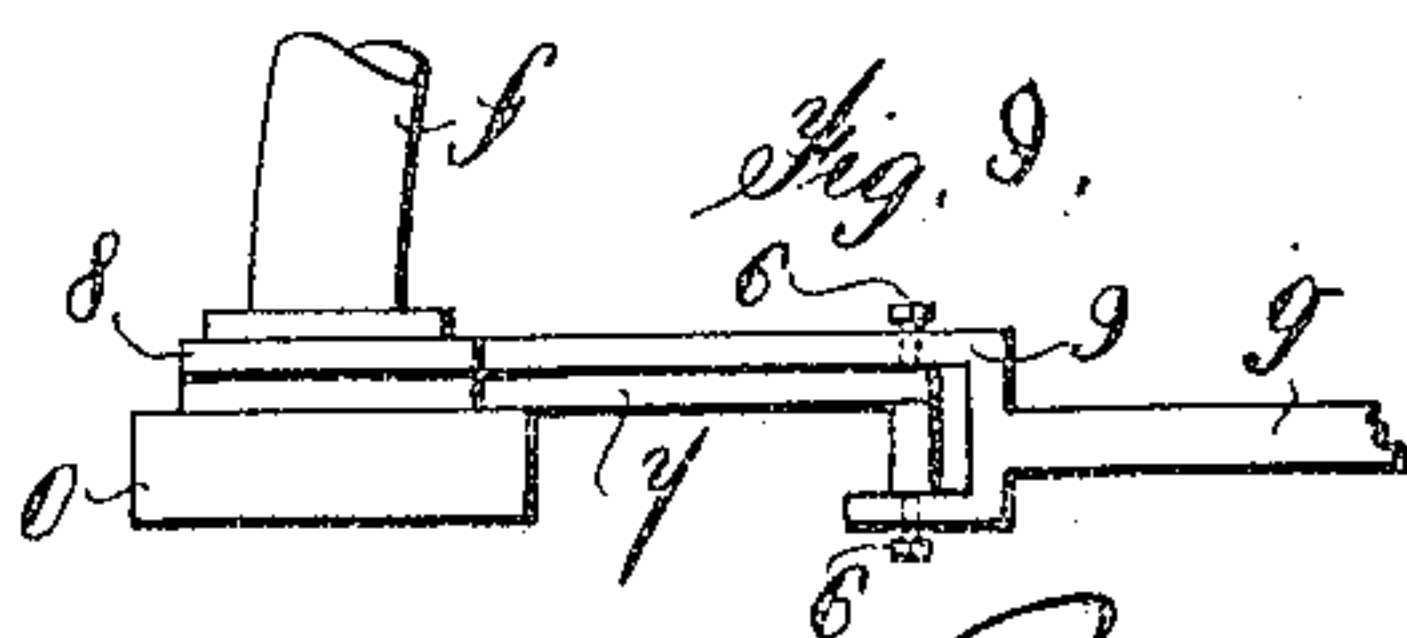


Fig. 9.

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UNITED STATES PATENT OFFICE.

JOSEPH MARGULIES LANDON, OF UPPER NORWOOD, ENGLAND.

TALKING-MACHINE.

No. 922,297.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed October 7, 1907. Serial No. 396,306.

To all whom it may concern:

Be it known that I, JOSEPH MARGULIES LANDON, a subject of the King of England, residing at 20 Central Hill, Upper Norwood, in the county of London, England, have invented certain new and useful Improvements in or Relating to Talking-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to talking machines and consists firstly in so constructing such machines as to produce, with a single trumpet, immovable during playing, a better result than has hitherto been attainable with talking machines as at present constructed.

According to the first feature of this invention, I provide a tubular piece to one end of which the reproducer is attachable. This tubular piece is carried by means of an arm suitably pivoted and is so formed and arranged as to telescope into the smaller end of the trumpet which is suitably formed for its reception, or it may be connected therewith by an accordion joint or other suitable means. The arm may, if desired, be actuated by suitable mechanism connected with the motor. This will be particularly desirable when the machine is used for recording. According to one way of carrying out this part of my invention, I bend the smaller end of the trumpet and shape it so as to form a portion of a circular tubular ring. I also provide a tubular piece of similar curvature carrying at one end the sound box, the other end telescoping into or over the curved end of the trumpet before referred to. This tubular piece is carried at the end of a rod which is so pivoted as to move in a plane parallel to the plane of the record, and the radius of curvature of the smaller end of the trumpet and of the piece connected to the sound box and carried by the arm is equal to the length of the arm.

The reproducer I may connect to the tubular piece so as to allow the vertical motion necessary during playing. This may be done by a ball and socket, or I may connect it to a separate pivoted arm as hereinafter described.

The bell portion of the trumpet may be made to turn so as to project the sound in any required direction. A suitable rest or

bracket may be provided to take the weight of the reproducer when not in use.

The first feature of my invention may be produced by a modified construction in which I swing a short piece of tube (similar to a pendulum) on to the end of the trumpet, the other end of such piece of tube carrying the sound box and provide suitable mechanism for keeping the stylus in the proper position throughout the track of the record.

Referring to the first part of my invention, Figure 1 shows side elevation of the machine; Fig. 2 shows plan of same; Fig. 3 shows perspective view of same; Figs. 4 to 9 show details hereinafter referred to.

a, Fig. 3, is the bell portion of the trumpet, *b* shows a bracket screwed to the casing *c* of the machine. The bracket *b* is provided at its upper end with a ring *d* in which the lower end *e* of the trumpet is held. The portion *e* of the trumpet is held in the ring *d* so that it is immovable during playing but independently adjustable as desired, and this part *e* is preferably tapered in form, and its upper portion projects into the upper or bell portion of the trumpet. It is also bent at its lower portion as hereinafter described, *f* is a tubular piece bent to the same curvature as the lower portion *e* of the trumpet, into which it telescopes. This tubular piece *f* is carried by an arm *g* carried by a pivot pin *h*. The tubular piece *f* is enabled to telescope easily into and out of the part *e* on account of the radius of curvature of the tube *f* and the part *e* being approximately the same, namely, a circle struck from the axis of the pivot *h* at the distance of the axis of the tube, as shown clearly at Fig. 2.

I prefer that the tube *f* may telescope into the part *e* somewhat loosely so that no actual frictional contact shall be present. The pivot pin *h* takes at one end in the bracket *b* and the other end in the socket *k* placed in the center of the upper portion of the part *e* of the trumpet, so that in whatever position the portion *e* may be turned the tube *f* may telescope easily therein. To effect the same object I may place the pivot pin *h* in lugs *m* attached to the turned-up portion of the part *e* as shown clearly at Fig. 7.

At Fig. 6 a modification is shown in which the part *e* has fitted at the end a washer *n*. *o* is the sound box attached to the sliding tube *f*. One method of attachment is shown in detail at Fig. 5. In this figure the tube *f* has

fixed to or formed therewith a flange *p*. The tube *r* to which the sound box is attached is furnished with a flange *s*. *t* is a screw cap screwing on to the flange *p*. On either side of the flange *s* and between the cap *t* and the flange *s*, balls *u* are interposed. By this construction the needle of the sound box is enabled to rise and fall easily as it passes over the record owing to the motion of the sound box around the axis of the tube, the sound box being also suitably weighted to facilitate this.

In consequence of the above construction the machine is adapted to play disk records of different sizes due to the fact that the arm *e* may be turned on its pivot at the bracket *b*, and its outer end brought nearer the periphery of the record; thus enabling the use of an arm *f* having a fixed length irrespective of the size of the record.

At Fig. 4 another form of the invention is shown in which the telescoping tube *f* is replaced by an accordion joint *v* between the sound exit tube from the sound box *c* and the lower part *e* of the trumpet. It will be easily understood that the principle of the invention is precisely the same in this case as the sound box tube is carried by the arm *g* as before mentioned.

In place of arranging the arm *g* horizontally I may, in some cases, suspend this vertically, somewhat in the form of a pendulum, and provide suitable slots and guides to keep the sound box in the correct position with respect to the record as it travels across same.

Although the invention has been described as applied to reproducing from a record it may also be applied to recording, in which case it would be necessary to move the arm *g* mechanically across the disk during the process of recording, by mechanism which may be actuated by the driving motor. It will be understood that this part of the invention may be modified in various ways while retaining its essential feature, namely that of having the lower end of the trumpet fixed and having the movable tube carrying the sound box supported by means of a pivoted rod or its equivalent in such a way that the sound box may travel across the disk toward the end of the trumpet or vice versa.

Another modification of one feature of this invention is shown in Figs. 8 and 9, wherein I pivot or hinge at 6 to the pivoted arm *g* a short arm 7, which arm may be partly formed with the back of the sound box, and the hole in the back of the sound box and this arm piece coincides with the hole in the tube *f*, to the end of which tube a disk 8 is connected which comes close to the back of the sound box or small arm 7. A washer of leather or other suitable soft material may be interposed between these two metal surfaces to prevent rattling when playing. On the drawings this arrangement is shown as ap-

plied to the pivoted arm *g* by means of the fork 9 but the arm 7 might be hinged or pivoted to the lower end of an ordinary trumpet or that portion known as the "tone arm," in which case the lower end of the tone arm or trumpet would be suitably bent round to adapt it to this arrangement.

What I claim is:—

1. A sound-reproducing machine comprising in combination a turntable adapted to receive a record, a sound box carrying a stylus, a hollow curved member adapted to remain in a fixed position during rotation of the turntable but capable of independent adjustment and guiding the sound box, at one end, and means whereby said sound box is adapted to move across the turntable in a prolongation of the arc formed by the curved member, and means for permitting the stylus to be moved up and down during said movement of the sound box.

2. A sound-reproducing machine comprising a turntable adapted to receive a record, a sound box, a hollow curved member having a fixed position during rotation of the turntable and extending over said turntable, a hollow curved member guiding the sound box at one end and telescoping at its other end in the fixed hollow curved member, said curved members being approximately arcs of a circle having a given radius and the same center whereby the member carrying the sound box can move into and out of the fixed curved member, and means for guiding the said box and carrying member during their movement.

3. A sound-reproducing machine comprising in combination, a turntable adapted to receive a record, a sound box, a fixed hollow curved bearing extending over the turntable, a hollow curved member guiding the sound box at one end and adapted to telescope at its other end in the curved bearing whereby the member carrying the sound box can move into and out of the curved bearing, and means for guiding the sound box and its carrying member during their movement.

4. A sound-reproducing machine comprising in combination, a turntable adapted to receive a record, a sound box carrying a stylus, a fixed hollow curved bearing extending over the turntable, a hollow curved member guiding the sound box at one end and adapted to telescope at its other end in the curved bearing whereby the member carrying the sound box can move into and out of the curved bearing and means for permitting an upward and downward movement of the stylus, and means for guiding the sound box and its carrying member in their horizontal movement.

5. A sound reproducing machine comprising in combination a turntable adapted to receive a record, a sound box, a fixed hollow curved bearing extending over the turn-

table, a hollow curved member guiding the sound box at one end and adapted to telescope at its other end into the curved bearing, whereby the member carrying the sound box can move in and out of the curved bearing, and an arm pivoted at the center from which the curvature of the fixed hollow bearing is struck for guiding the sound box and its carrying member during their movement, substantially as set forth. 10

In testimony whereof, I affix my signature, in presence of two witnesses.

JOSEPH MARGULIES LANDON.

Witnesses:

A. BROWNE,

H. D. JAMESON.