

GRAMOPHONE RECORDING & REPRODUCING.

Draftsman

No. 847,033.

PATENTED MAR. 12, 1907.

E. WAWRINA.
GRAMOPHONE MECHANISM.
APPLICATION FILED NOV. 7, 1905.

3 SHEETS—SHEET 1.

Fig. 1

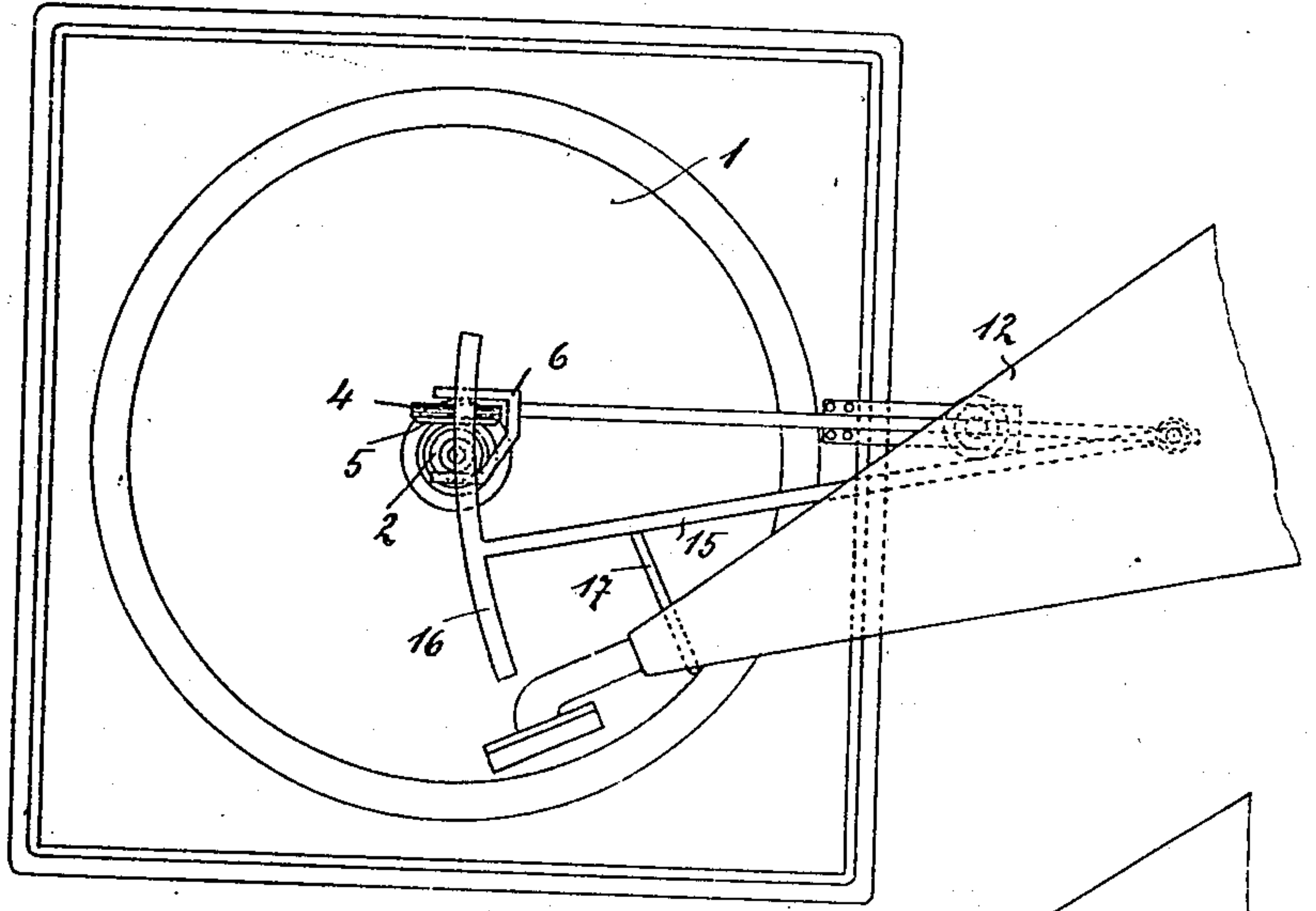


Fig. 2

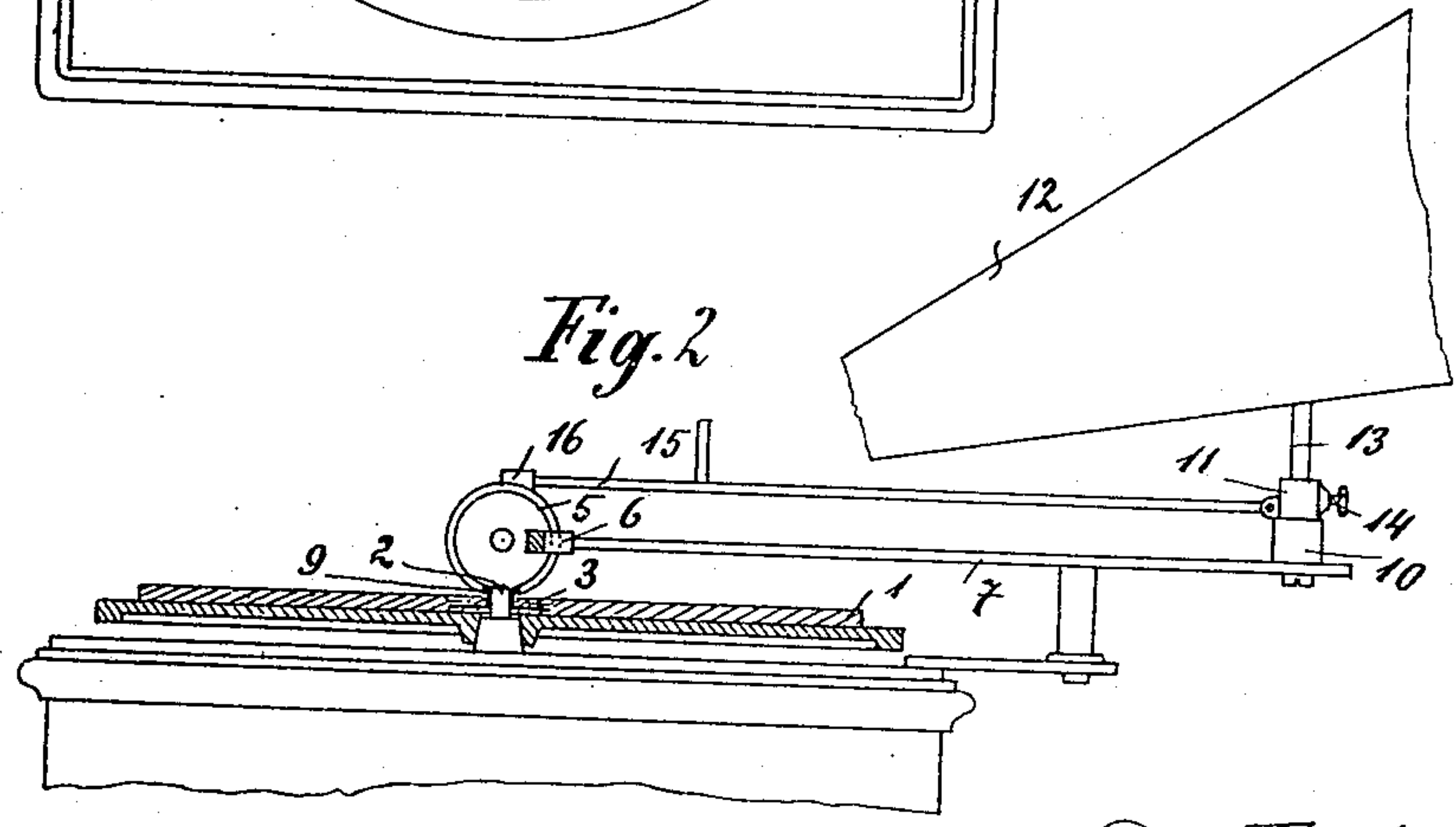


Fig. 3

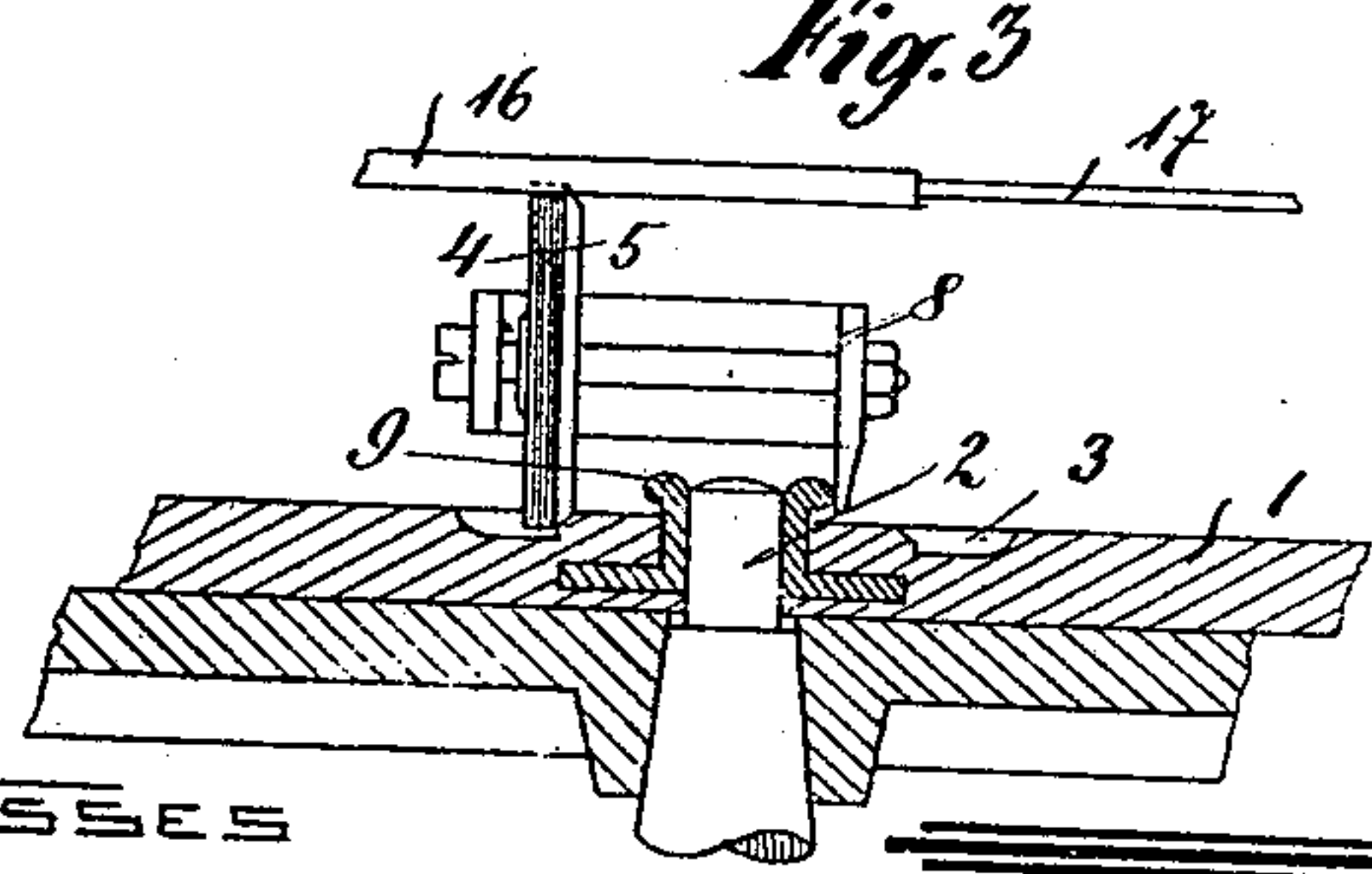
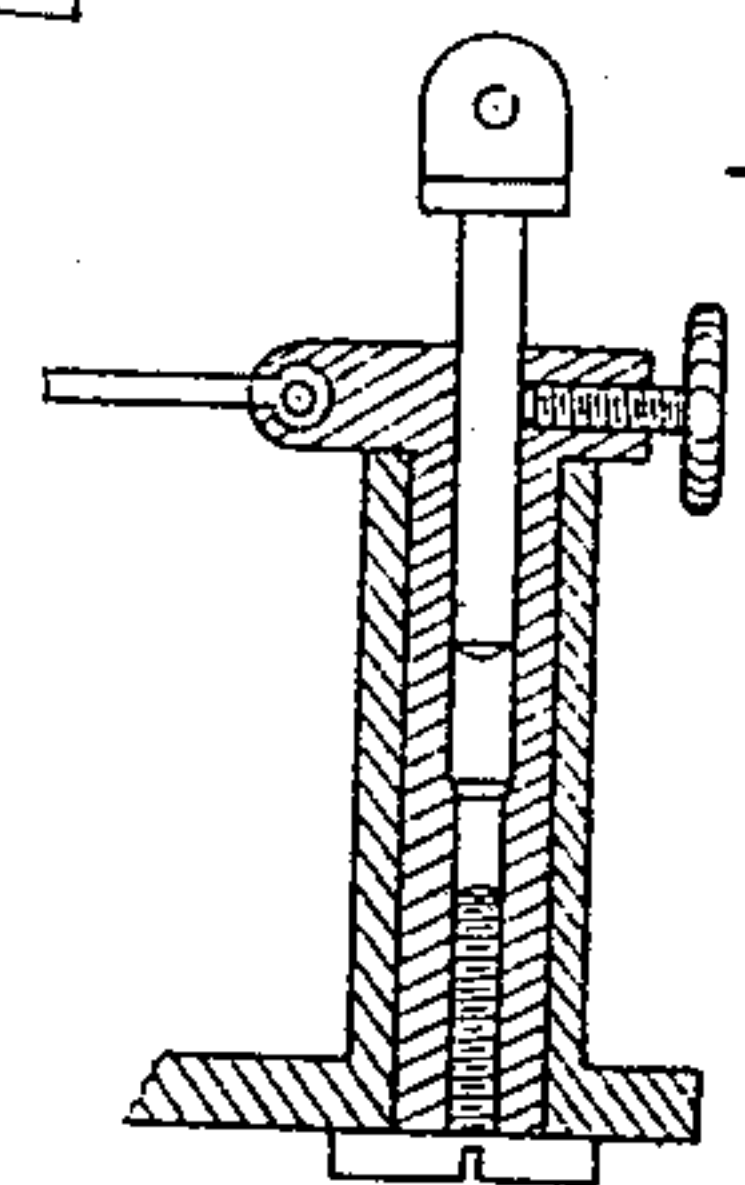


Fig. 4



WITNESSES
Wm. D. Bell.
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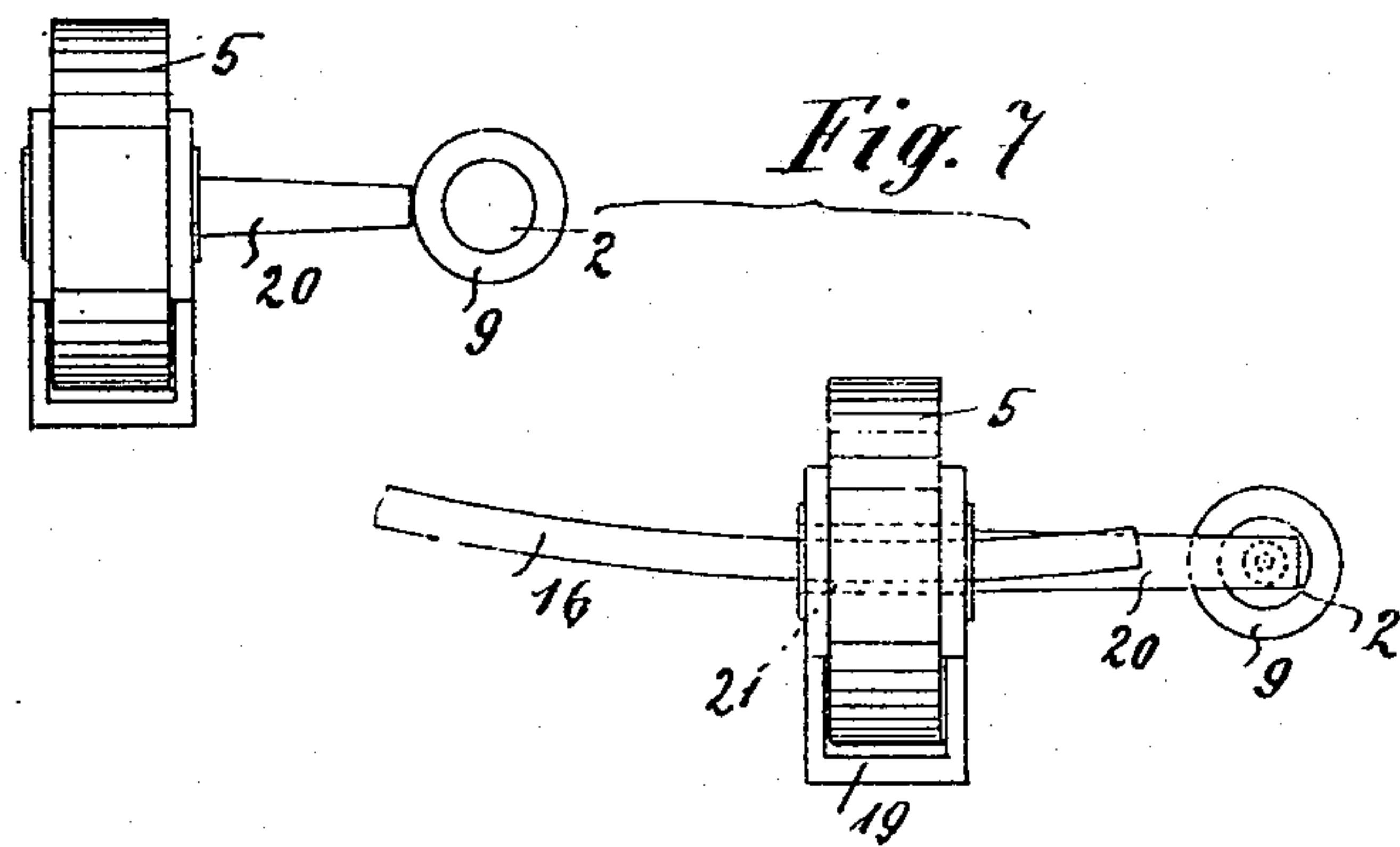
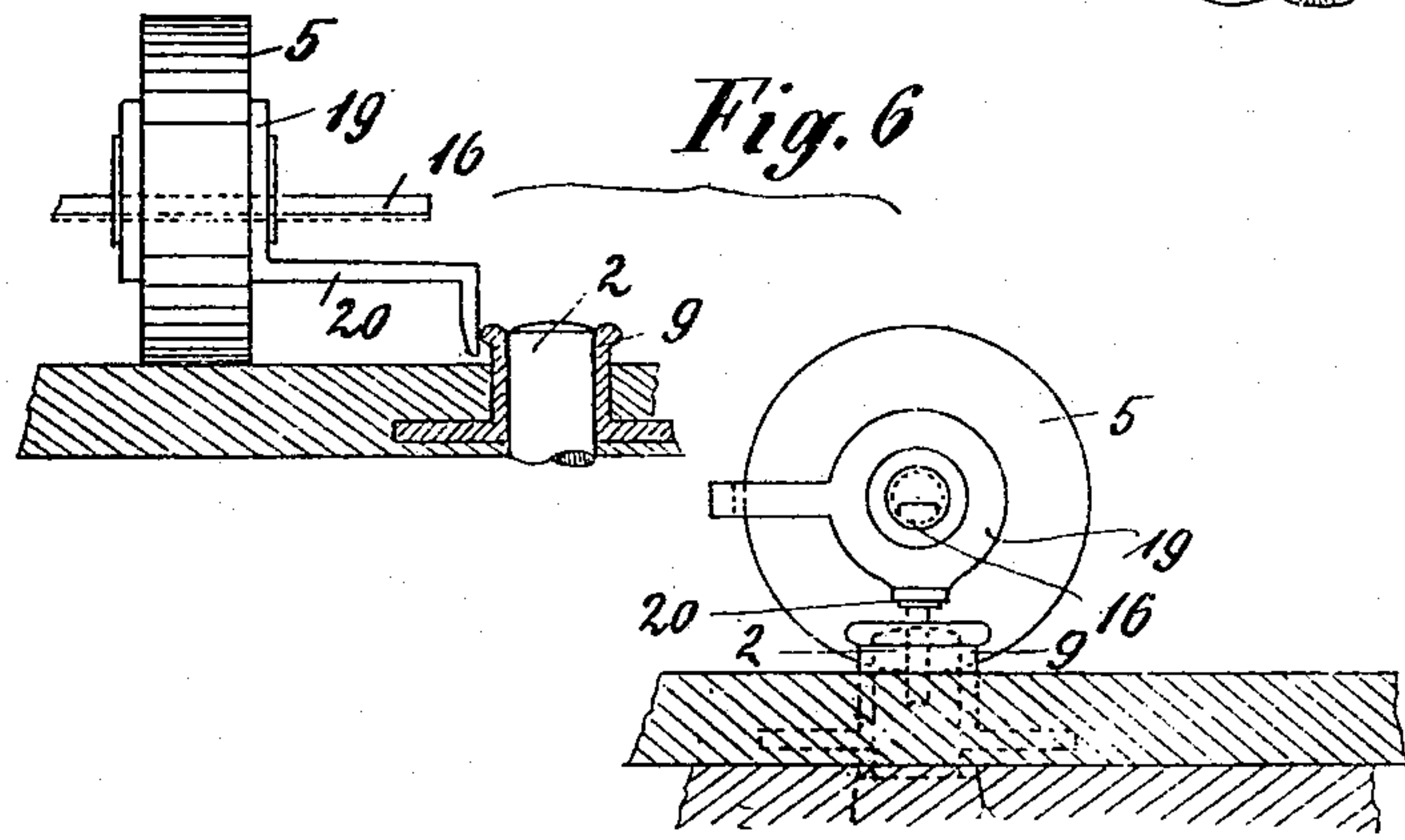
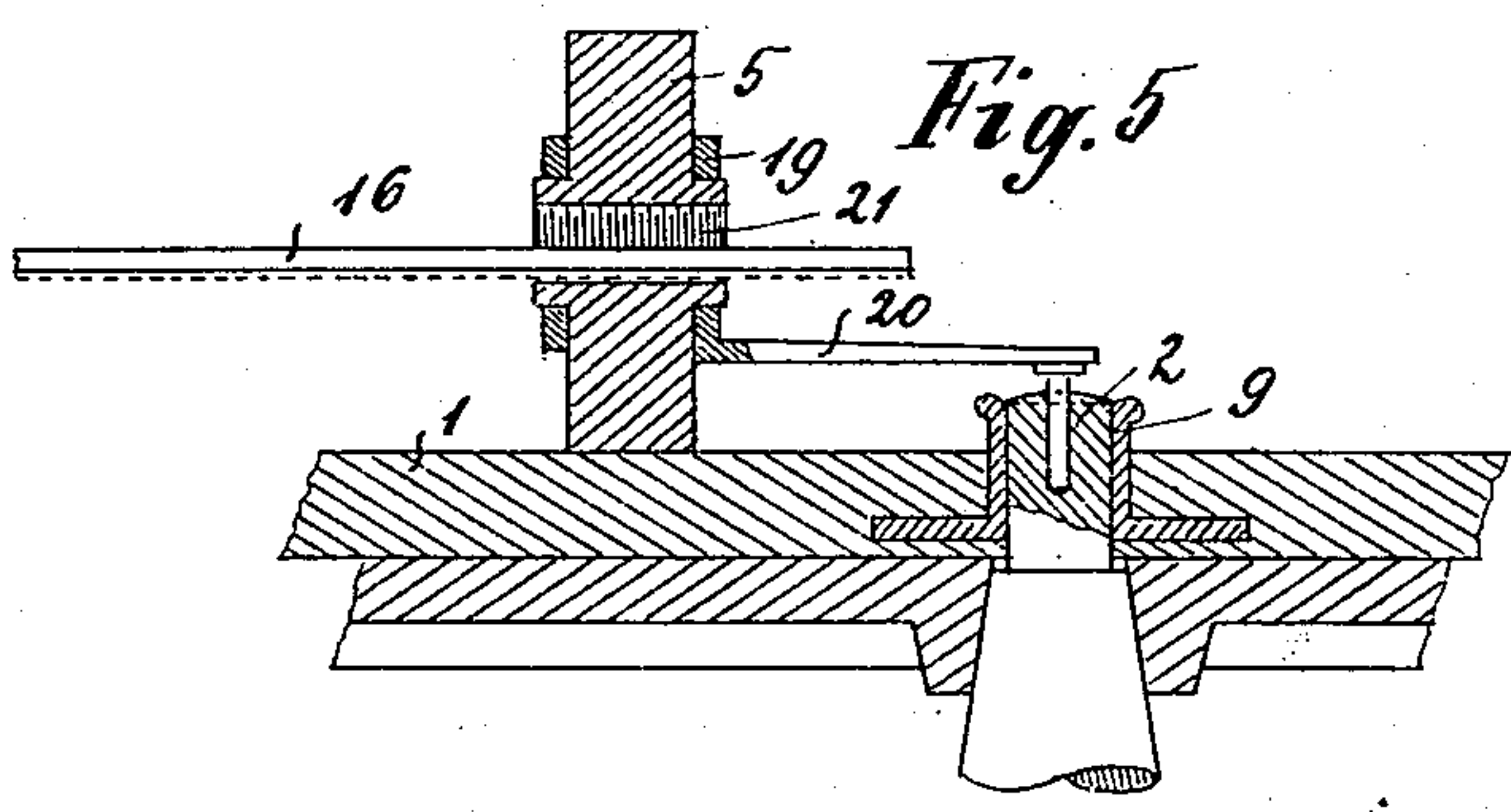
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3 SHEETS—SHEET 2.



WITNESSES.

INVENTOR.

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3 SHEETS—SHEET 3.

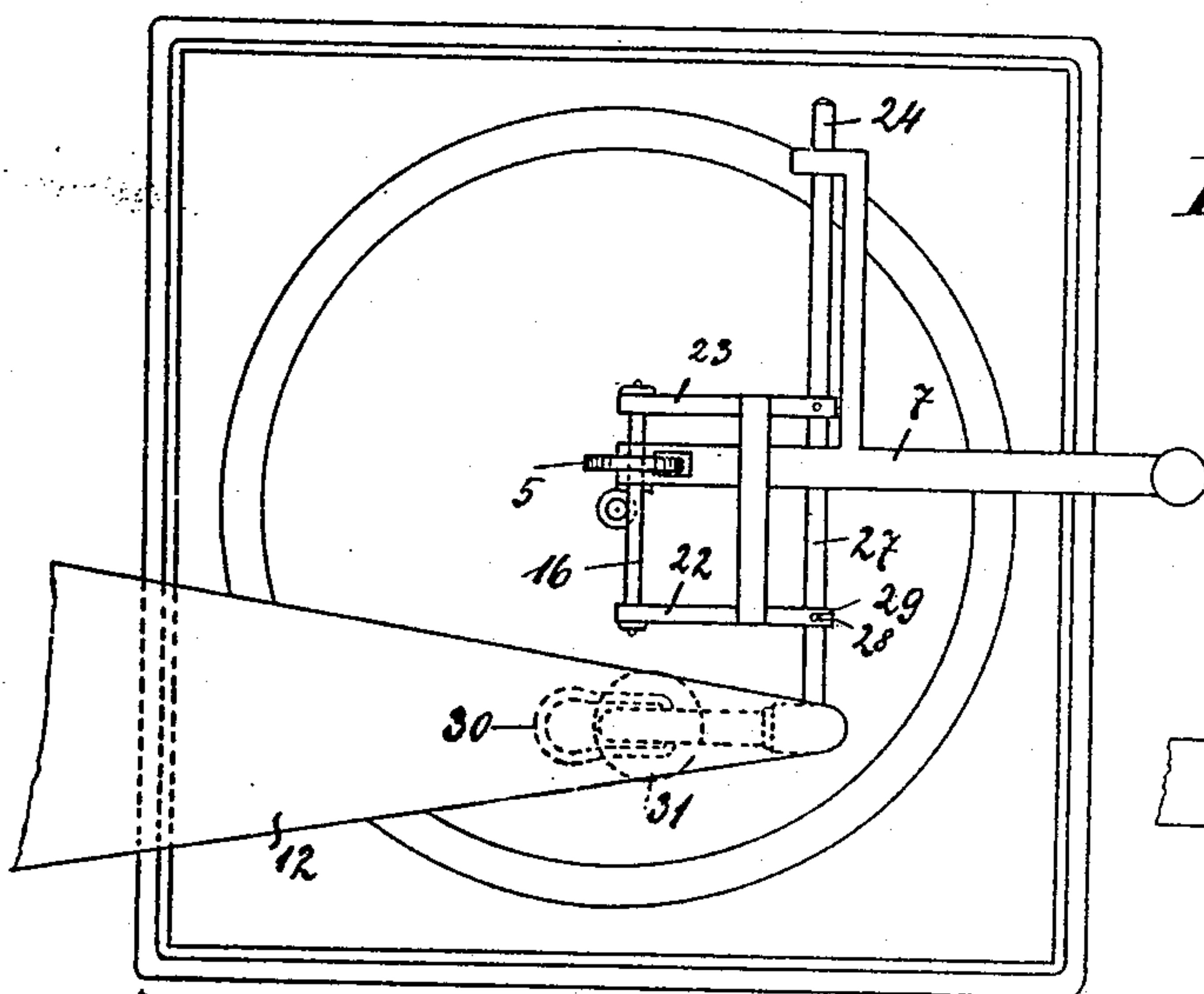


Fig. 8

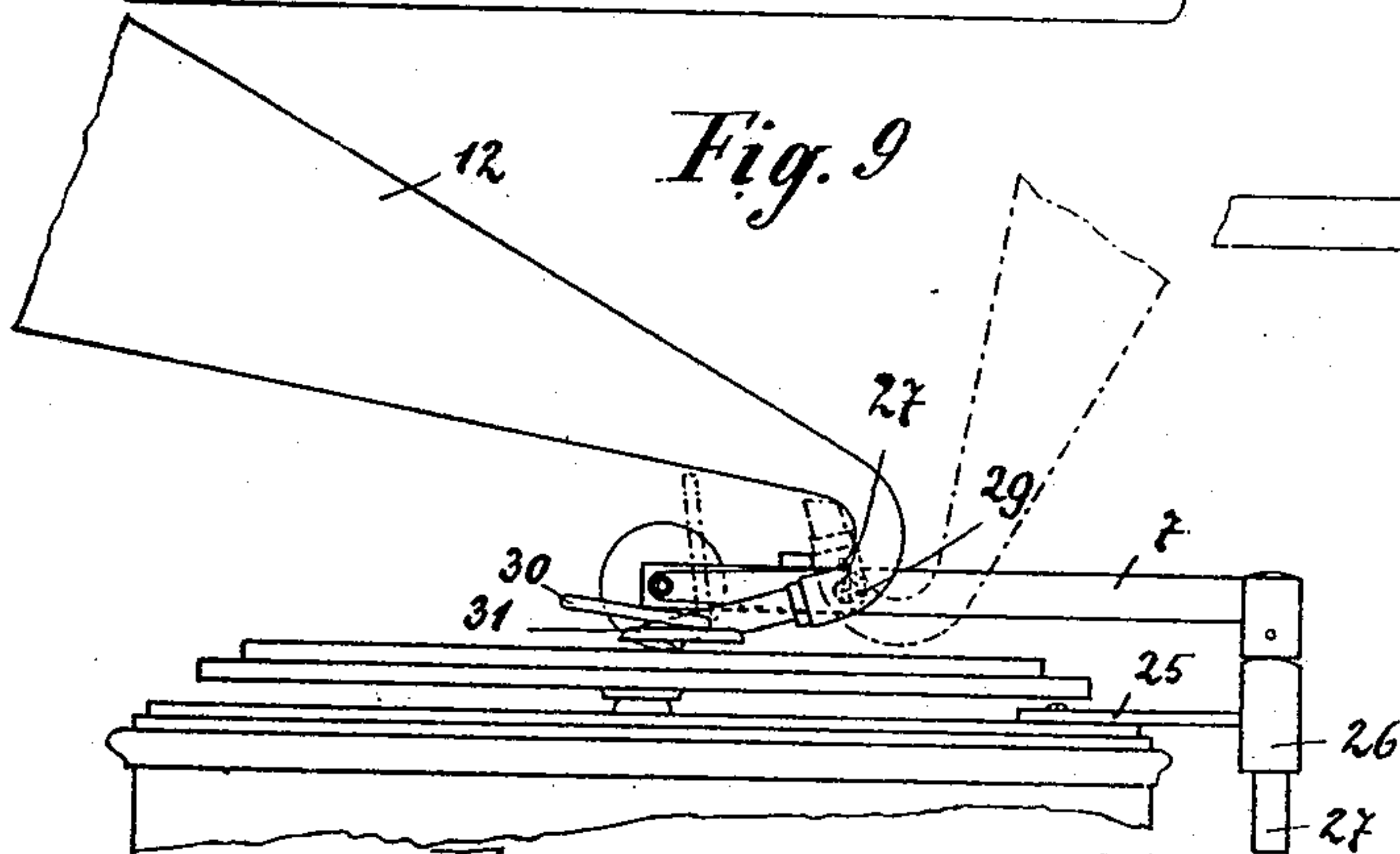


Fig. 9

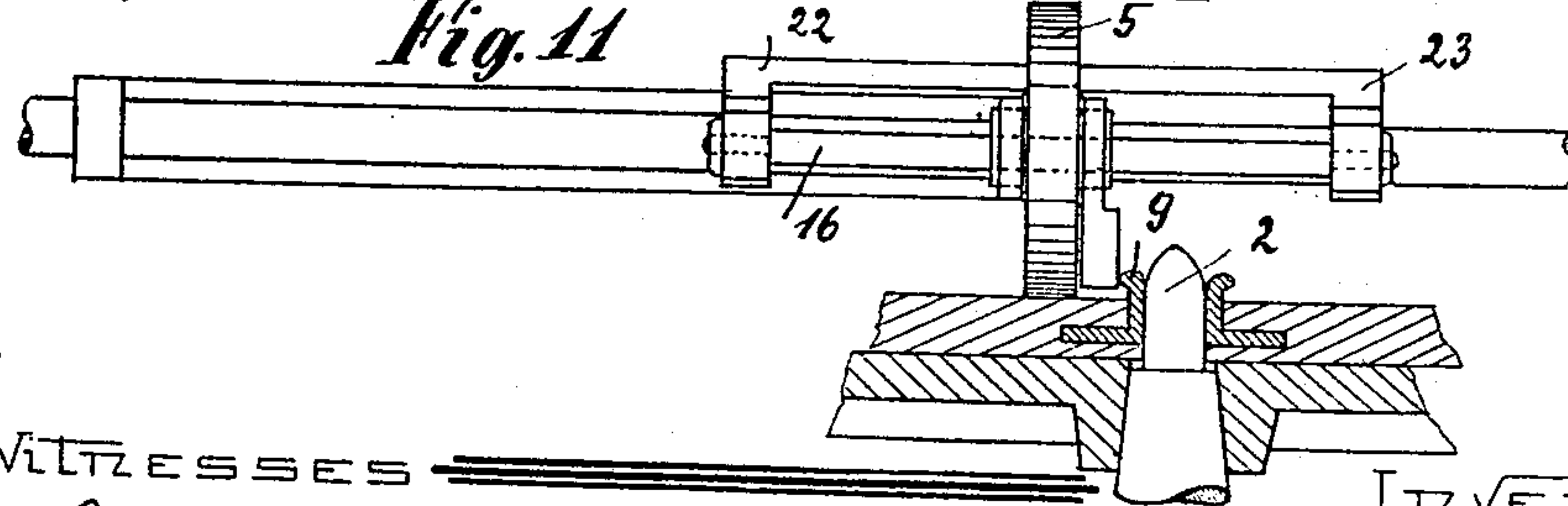


Fig. 11

WITNESSES

Wm. Orrell
Adele Glatt.

IN WITNESS WHEREOF

Eduard Wawrina
by Partner Steward
Att'y

UNITED STATES PATENT OFFICE.

EDUARD WAWRINA, OF VIENNA, AUSTRIA-HUNGARY.

GRAMOPHONE MECHANISM.

No. 847,033.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed November 7, 1905. Serial No. 286,306.

To all whom it may concern:

Be it known that I, EDUARD WAWRINA, mechanician, a subject of the Emperor of Austria, residing in Vienna VI., Gumpendorferstrasse 32, Austria-Hungary, have invented new and useful Improvements in or Relating to Gramophone Mechanism; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of the present invention consists of a receiver mechanism for gramophones in which a displacing mechanism directly operated by the motion of the plate and comprising a rotary part engaging the plate causes the receiving-trumpet, connected in the usual manner with the reverberator and the stylus, to possess a motion toward the middle of the plate, and thus force the stylus to engrave spiral courses on the plate.

In the drawing the object of the invention is illustrated in three constructional forms by way of example.

Figures 1 and 2 illustrate one constructional form in plan view and in side elevation and partial section, whereas Figs. 3 and 4 illustrate details of the apparatus. Figs. 5 to 7 show a second constructional form of the invention in longitudinal section, side elevation, and plan, respectively, while Figs. 8 and 9 illustrate the third constructional modification, and Figs. 10 and 11 illustrate further details of the apparatus.

The plate or record-tablet 1, operated in the well-known manner by means of clock-work or the like, possesses a groove arranged concentrically to the opening for the reception of the central pivot 2. By means of this groove a hub is formed, the outer edge of whereof is sloped off, so that it forms a cone or friction wheel 3. With this projection a cone or friction wheel 5, bearing a worm-wheel 4, engages, said cone-wheel being preferably supported in the fork end 6 of a revolvable arm 7, connected with the gramophone-box.

In order to maintain the two above-mentioned wheels continuously in engagement with each other, there is provided a pivot 8, fixed to the end of the arm 6, forming the bearing, which pivot slides on the periphery of the plate-aperture 9, and thereby assures

the connection of the cone-wheels, which can, moreover, be adjusted relatively to each other by adjustment of the screw 18.

At the free end of the supporting-arm 7 is provided a cylinder 10, which again supports a second cylinder 11, in which a pivot 13, supporting the trumpet, is capable of being secured at the desired height by means of a set-screw. To the inner cylinder 11 aforesaid there is attached an arm 15, which supports a toothed rack at its end, which rack engages with the aforesaid worm-wheel 4.

The operation of the device for the forming of records is as follows: By means of the set-screw 14 the trumpet 12 is so adjusted that the stylus placed upon the outer edge of the plate 1 presses upon it with the required pressure. The plate 1 is then rotated in the well-known manner, whereby the cone-wheel 3 aforesaid also receives rotary motion, and by means of the worm-wheel 4 and curved rack 16 the arm 15 and also (by the turning of the trumpet 12) the stylus are drawn gradually toward the middle of the plate. From these two motions there results a spiral drawn by the stylus. By suitably adjusting the gearing the mutual distance between the separate spirals can be regulated at will.

In a constructional modification, Figs. 5-7, a plate is provided which has at its center either a projecting journal-box or a hub. Instead of the cone-wheels above described there is in this modification provided a friction-wheel adapted to revolve either against the plate or in a groove on the plate, which friction-wheel is maintained constantly at the same distance from the pivot 2 of revolution by means of a bow 20, connected with the main bearing or simply supported on the central pivot 2. The friction-wheel 5 aforesaid is provided in the inside of the hub with a threading 21, by means of which when the said wheel 5 is revolved a tooth-rack 16 is operated, and thereby the trumpet is moved with it toward the middle of the plate. The operation of this modification is identical with that of the one first described, and the bow 20 may also be connected in any other convenient manner with the revolving pivot 2 or the central aperture 9.

In another modification, Figs. 8-12, the driving of the apparatus is effected as already set forth; but there is a spindle 16 or toothed rack which can be placed between two arms 22 and 23, which arms may form, if desired, a fixed frame. These are con-

5 nected with an axle 24, which is itself ad-
 justably supported upon another arm 7, pro-
 vided with a side arm. On this axle the
 trumpet is supported, or it may rest upon the
 rigid arms 22 23 aforesaid. In order to ren-
 10 der the interchange of the membrane easier
 and to effect the engagement and disengage-
 ment of the apparatus more easily, the axle
 supporting the trumpet and the bent tube is
 arranged revolubly. The limitation of the
 15 motion hereof is provided for by having in
 the frame a slot 28 and a pin 29, which pin 29
 is attached to the supporting-axle 27. More-
 over, it appears often desirable to prevent
 the pressure of the membrane 31, for which
 20 purpose there is arranged a revoluble bow 30,
 by aid of which the center of gravity can be
 altered at will, and thus the pressure can also
 be regulated as desired. Any other loading
 of the membrane 30 is thus rendered unnec-
 essary.

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

1. The combination of a gramophone and
 25 its rotary record-tablet, a movable stylus-
 supporting member, means for supporting
 said member, and means, operative from said
 tablet and comprising a rotary part engaged
 30 tively to the tablet, substantially as de-
 scribed.

2. The combination of a gramophone and
 its rotary record-tablet having a concentric
 hub, a movable stylus-supporting member,
 35 means for supporting the said member and
 means, operative from said hub and com-
 prising a rotary part engaged with the tablet,

for moving said member on its pivot whereby to effect a movement of the stylus relatively to the tablet, substantially as described. 40

3. The combination of a gramophone and
 its rotary record-tablet, a pivoted stylus-sup-
 porting member and means comprising a ro-
 tary toothed part engageable with the tablet
 and a rack controlling said stylus-supporting 45
 member, for moving said member on its
 pivot and thus moving the stylus relatively
 to the tablet, substantially as described.

4. The combination of a gramophone and
 its rotary record-tablet, an arm, means for 50
 supporting said arm, a rotary toothed part
 engageable with the tablet and journaled in
 said arm, a stylus-supporting member ful-
 crumed in said arm and a rack carried by
 said member and engaging said toothed part, 55
 substantially as described.

5. The combination of a gramophone and
 its rotary record-tablet, an arm, means for
 supporting said arm, said tablet having a
 concentric hub, a rotary toothed part engag- 60
 ing the hub and journaled in said arm, means
 for maintaining said part in engagement with
 the hub, a stylus-supporting member ful-
 crumed in said arm and a rack carried by
 said member and engaging said toothed part, 65
 substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 21st day of October, 1905.

EDUARD WAWRINA.

Witnesses:

OMION ST. A. DURR,
 ALVESTO S. HOGUE.