

No. 659,734.

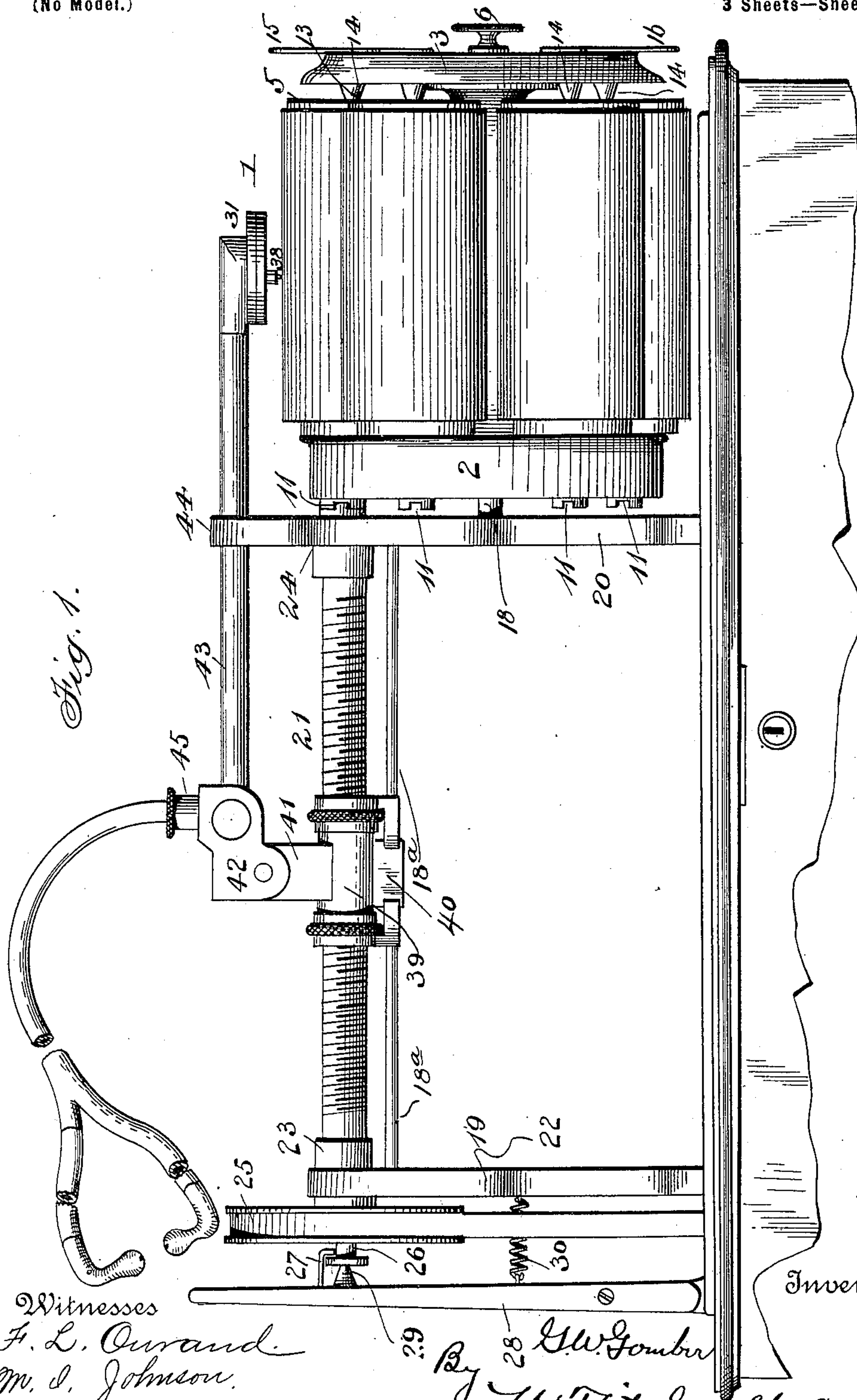
Patented Oct. 16, 1900.

G. W. GOMBER.
PHONOGRAPH.

(Application filed July 13, 1896.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses
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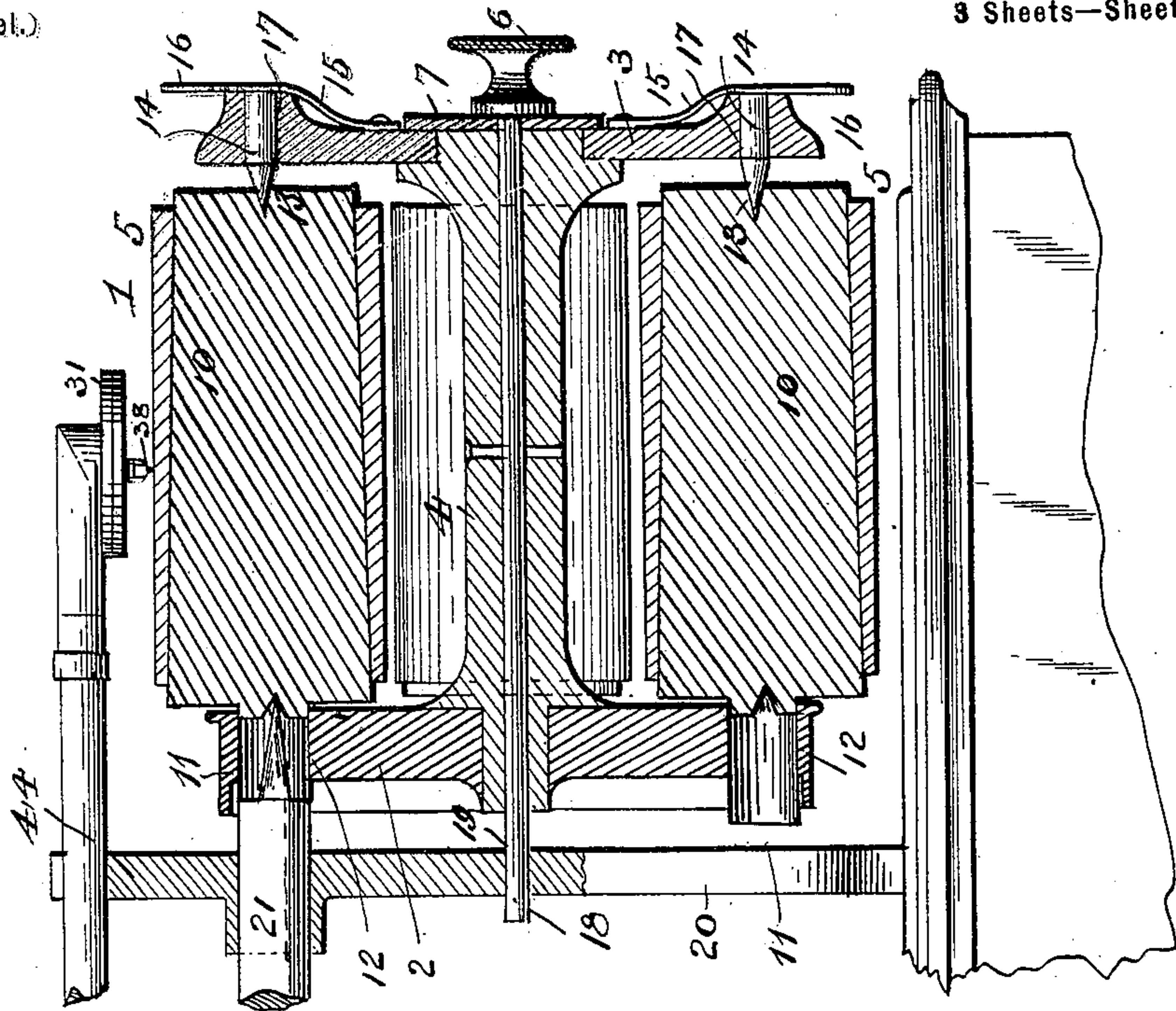
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(No Model.)

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Fig. 2.



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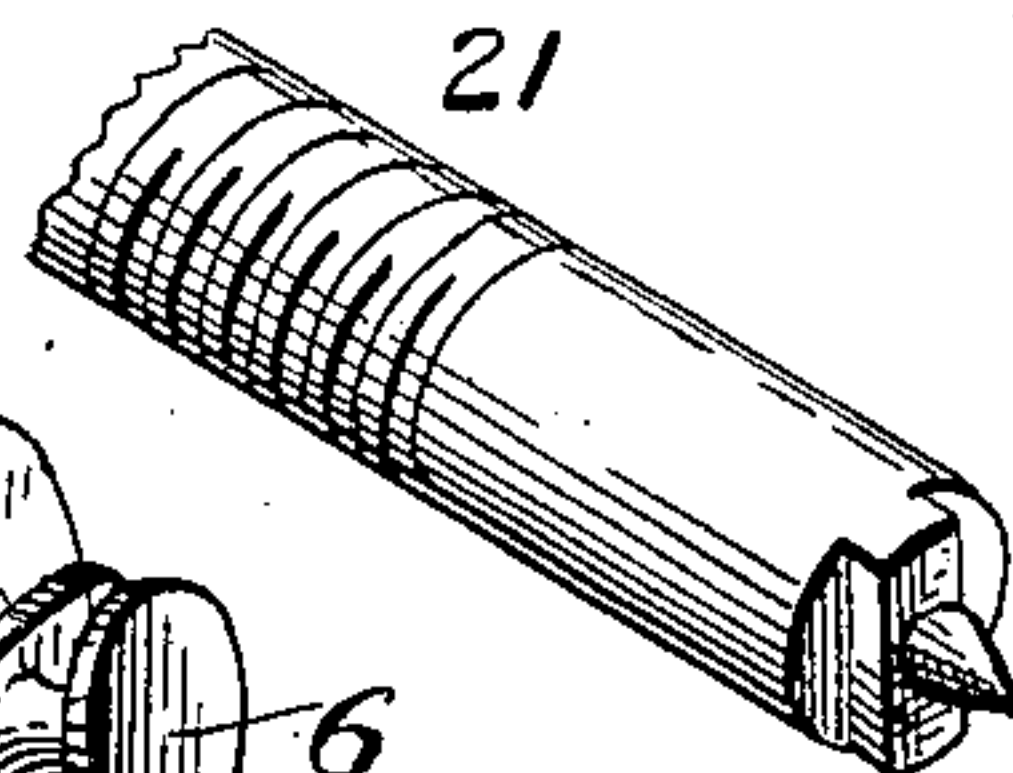
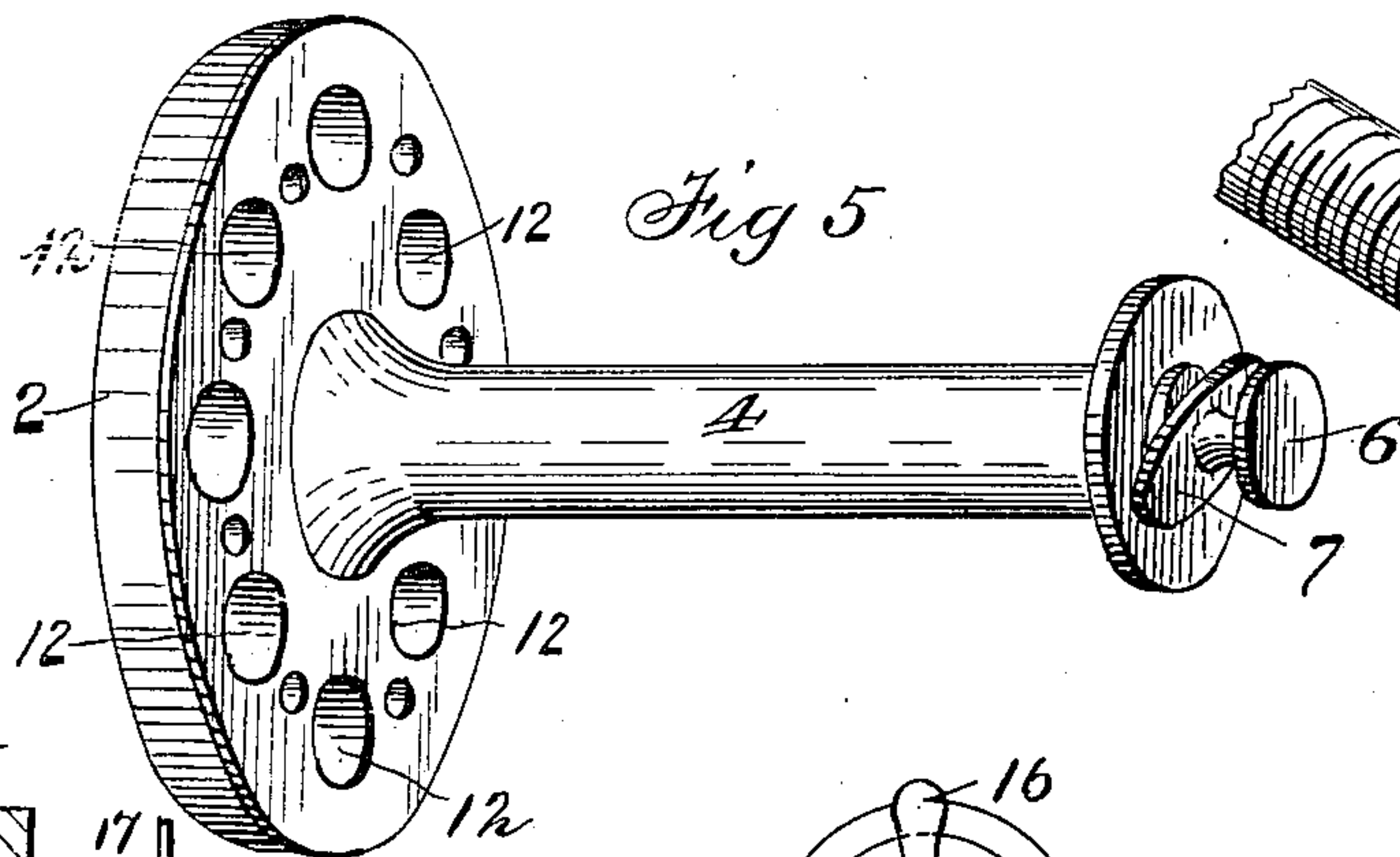
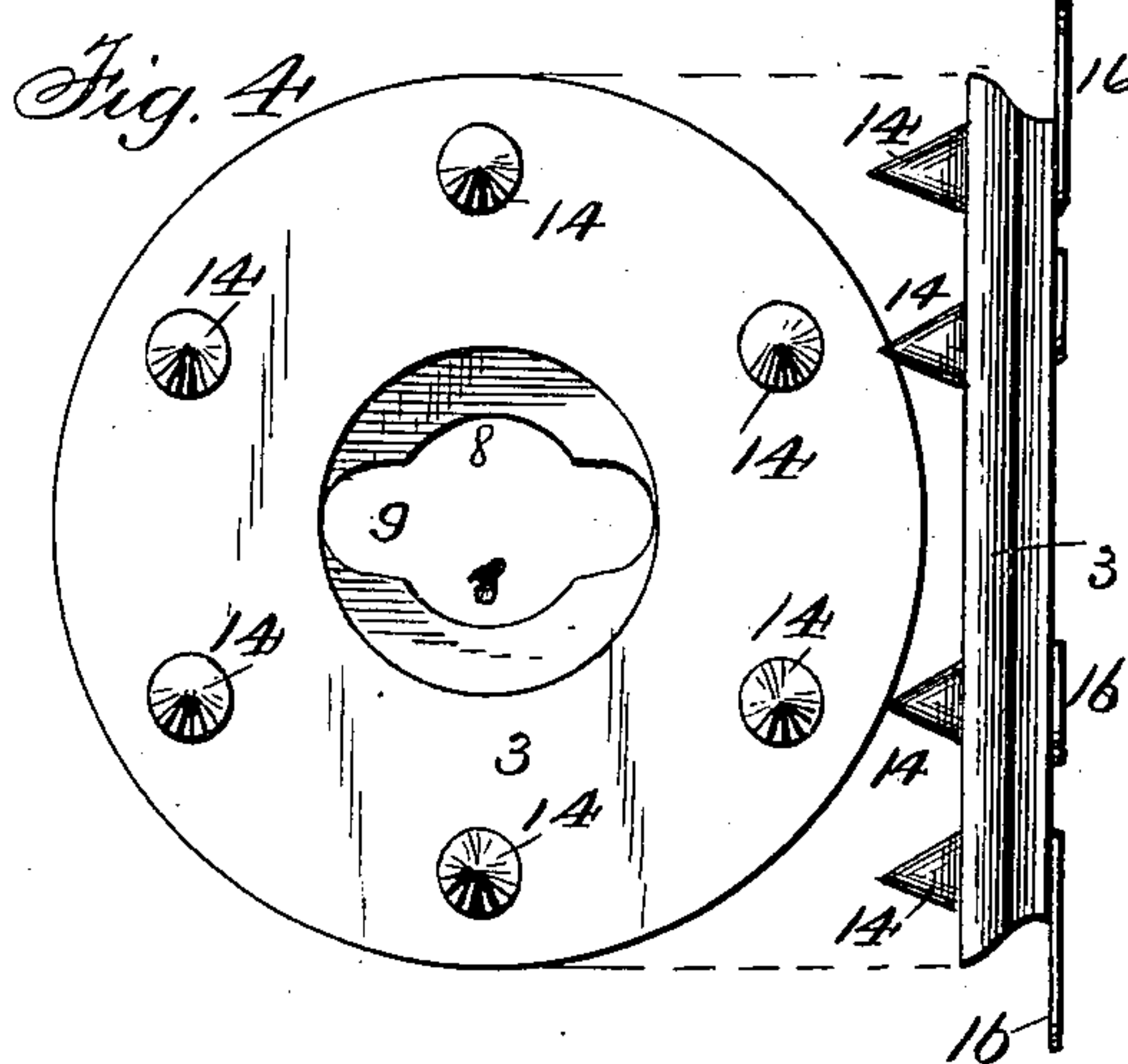
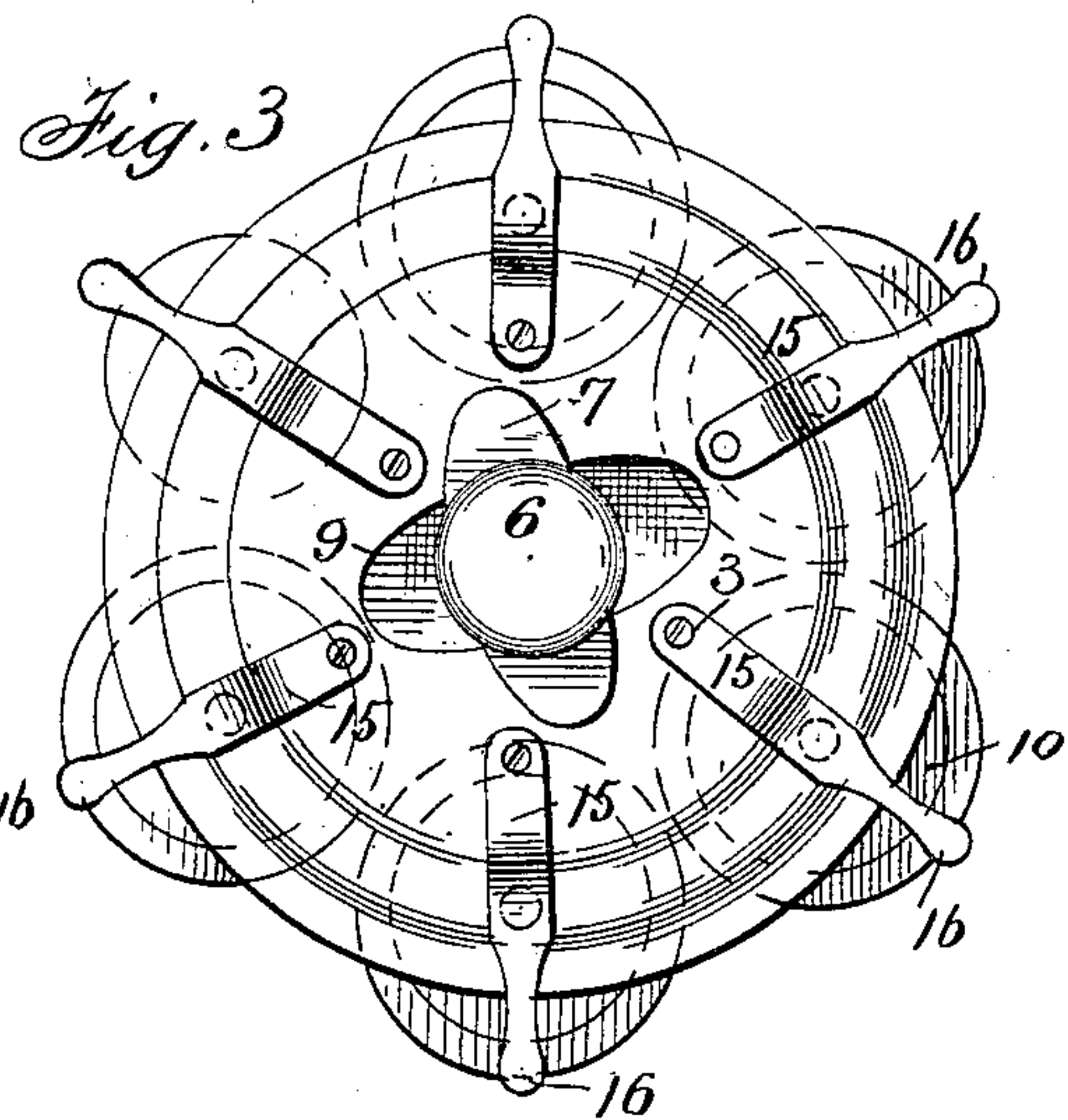


Fig. 7.

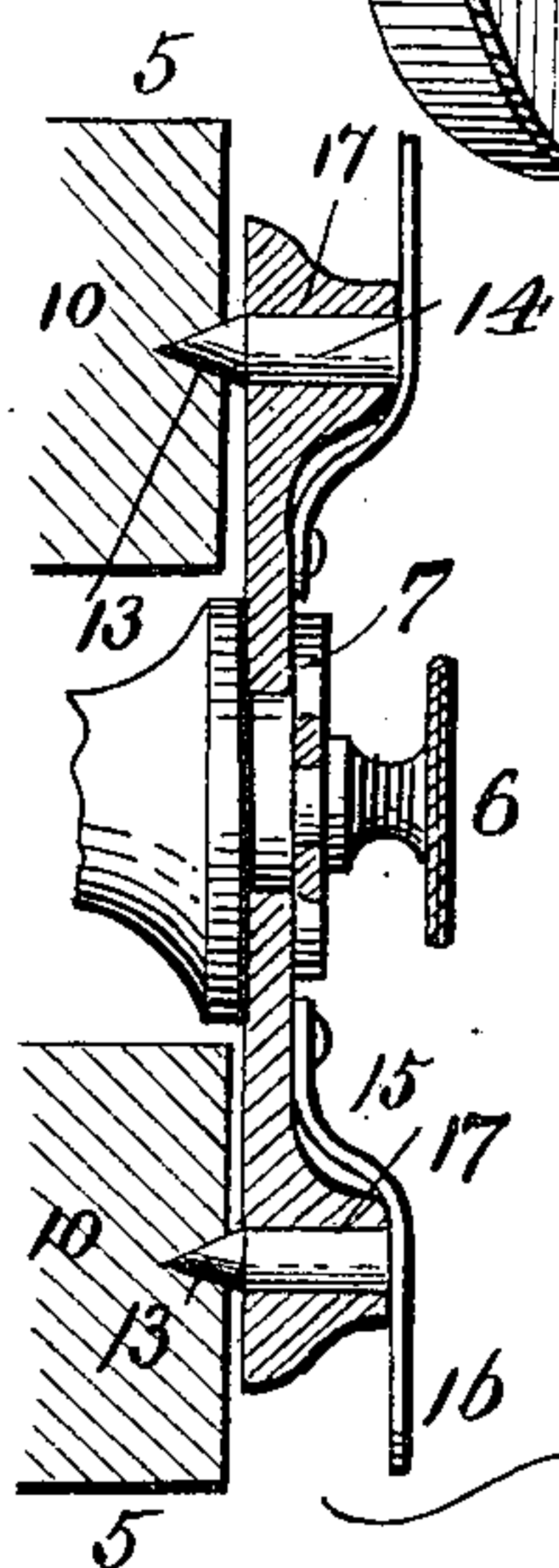


Fig. 6.

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UNITED STATES PATENT OFFICE.

GEORGE W. GOMBER, OF CONYNNGHAM, PENNSYLVANIA, ASSIGNOR, BY
MESNE ASSIGNMENTS, TO THE AMERICAN MULTIPLEX TALKING
MACHINE COMPANY, OF WEST VIRGINIA.

PHONOGRAPH.

SPECIFICATION forming part of Letters Patent No. 659,734, dated October 16, 1900.

Application filed July 13, 1896. Serial No. 599,027. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. GOMBER, a citizen of the United States, residing at Conyngham, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in 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.

My invention has relation to phonographs, and more particularly to the construction of certain parts thereof whereby a series of tablets is provided and placed under the easy control of the operator, enabling the use of one tablet to readily follow its predecessor as the result of partly rotating the magazine, a valuable desideratum when a long speech or continuous line of work is to be followed or when the matter treated is broken into several distinct subjects. It will be apparent, therefore, from the foregoing that the object of my invention is to place at the disposal of the operator a number of tablets, the quantity being determined by the size of the magazine employed, enabling each tablet to be readily placed in or out of their order under the reproducing or transcribing stylus without the loss of time or interruption to the line of thought or a break in the work in hand. All of these features will be clearly set forth in the accompanying specification and drawings.

Referring to the drawings, Figure 1 is a side elevation of the various parts of my invention assembled in their respective operative positions. Fig. 2 is a longitudinal vertical section of Fig. 1. Fig. 3 is an end view of the magazine. Fig. 4 is a view of the edge and the inner face of the retaining head or disk. Fig. 5 is a detail of the securing device for the head of the magazine, showing the shaft to which it is secured with the tablet-mandrel removed and also showing the inner face of the fixed head of the magazine. Fig. 6 is a detail of the individual releasing device for the spindles. Fig. 7 is a detail of a preferred form of clutch for forming con-

nection between the screw-threaded shaft 50 and the tablet-spindles.

Incident to the carrying out of my invention I provide certain preferred details of construction which will be for convenience of description designated by figures, each figure comprehending the same part throughout the several views.

In order to form a group or plurality of tablets, I provide the magazine 1, which is a comprehensive term to designate the disks 2 3 60 and the central shaft 4, securing the disks together at a proper distance from each other to accommodate the mounting of a plurality of tablet-carrying mandrels 5. Said mandrels are removably mounted in suitable bearings, 65 preferably at equal distance from each other, in the periphery of the disks 2 3.

The disk or head 2 is fixedly secured to the shaft 4, while the disk or head 3 is removably attached to said shaft by means of 70 the set-screw 6 and the clamp 7, said set-screw taking into a central bore provided in the end of said shaft and bringing pressure to bear against the clamp, and thus locking the head 3 into its operative position. 75

The removable head 3 is provided with the central bore 8, having the lateral enlargements 9, practically providing an elliptical opening in addition to said bore, with which elliptical opening the clamp 7 in size and 80 shape exactly coincides, and it will be understood that when said clamp, which is loosely mounted upon the shaft of the screw 6, is brought into registration with the elliptical opening thus formed the head 3 may be released from the end of the shaft 4 sufficiently 85 to allow the tablet-bearing mandrel to be removed and replaced as desired.

Each of the tablet-bearing spindles 5 consists of the cylindrical body 10, of the usual 90 or any preferred construction, and have upon one end the trunnions 11, adapted to be received by suitable bearings 12, provided in the fixed head or disk 2, while the other end of said mandrel is preferably provided with 95 the central recess 13, adapted to receive the bearing-points 14, carried by the periphery of the removable disk 3. The bearing-points

14 thus provided for each of the tablet-carrying mandrels may be fixedly secured to the periphery of the removable disk 3, though I prefer to so mount them that they may be readily withdrawn from engagement with the central recess in the end of the mandrels by means of the spring-levers 15. Each of these levers consists of a piece of steel or other suitable material and has one end thereof secured to the head 3 near the periphery of its central bore, while the other end of the spring thus provided reaches slightly past the edge of said head and terminates in a suitably-formed handle 16 for manual control. Each of the springs has secured to it the bearing-points 14, which take loosely through apertures 17, provided in the disk, into engagement with the central recess provided in the opposing end of the tablet-carrying mandrel. The tension of said springs is normally disposed so that the bearing-points will be brought firmly into engagement with the mandrels, and by overcoming the tension of the springs said bearing-points may be withdrawn from their engagement, permitting the ready release or replacement of any one of the cylinders and the tablets carried thereby.

The form of construction just described for providing a releasing device for the tablets is desirable when but one of the tablets is to be removed, while the releasing device, as exemplified by the retaining-screw 6 and clamp 7, is preferable when access is desired to a battery of tablets. It will be understood, therefore, that both constructions may be employed at the same time and the independent or simultaneous release of the tablets be effected, as desired.

In assembling the several parts of the magazine just referred to in detail the tablet-carrying mandrels are severally placed in position by entering the trunnions thereof in their respective bearings provided in the fixed head, when the removable head, with its series of bearing-points, is placed in position upon the end of the shaft after first causing the ends of the clamp to register with the openings 9. After the head 3 is thus placed upon the shaft the clamp is placed in a position at right angles to the ellipse formed by the openings 9, when the retaining-screw 6 is turned home upon the clamp, bringing the same to bear tightly against the head and holding it for rotation with the shaft and at the same time forcing the bearing-points 14 into their respective seats in the ends of the cylinders.

The shaft 4 is supported at its inner end in a suitable seat or bearing provided in standard 20, while its outer end is unsupported, and upon said shaft the magazine is adapted to be manually rotated in either direction at the will of the operator, enabling him to bring any preferred tablet into connection with the stylus.

The trunnions 11 are preferably formed so as to extend entirely through the fixed head

2 and terminate in any preferred form of clutch mechanism for engagement with its complement upon the end of the diaphragm-controlling shaft 21. This shaft I mount in a horizontal plane by means of the standards 20 22, provided with suitable bearings 23 24, which will admit of the shaft 21 having a longitudinal reciprocatory movement therein.

The shaft 21 is actuated in any preferred way, though I have shown a pulley 25 upon its outer end. The shaft 21 projects entirely through the pulley 25 and is provided with the peripheral groove 26, adapted to be engaged by the arm 27, attached to the lever 28. Said lever is mounted in an upright position and is provided with the bearing 29, so placed that its end will enter a suitable bore in the end of the shaft.

By the construction above set forth it will be seen that by means of the lever 28 the shaft 21 may be drawn outward from engagement with the ends of the mandrels. The lever 28 is normally held with its contact point 29 against the end of the shaft by means of the spring 30, reaching from the lever to post 22, forcing the shaft 21 into engagement with the end of the mandrel.

It will be understood that any mechanical equivalent may be employed to reciprocate the shaft 21, and I therefore do not wish to be confined to the means I have set forth.

The sound-box 31, with its accompanying stylus, is mounted over the tablet preferably by the means more fully shown in Fig. 1 of the drawings—that is to say, a follower 39, of the usual construction, is mounted upon the threaded shaft 21 and has the depending anchor 40, the lower end of which engages with the guide-rod 18^a, and being loosely mounted thereon rides freely from one end to the other as the follower is actuated positively or reversely, all of which will be clearly understood. Said follower also has erected upon the upper side the post 41, upon which is pivoted the bifurcated end of the holder 42. Said holder has secured thereto the sound-conveying tube 43, of sufficient length to hold the sound-box (to which it is connected) in its operative position over the tablet. Said arm takes loosely through an aperture provided in the upper end 44 of the standard 20, and as the follower is reciprocated by action of the shaft a similar movement will be imparted to the sound-box. It will of course be understood that other means may be employed for actuating the sound-box, and I do not, therefore, wish to be confined to the construction above set forth. The upper part of the holder has secured thereto the terminal thimble 45, of the usual construction, suitable for receiving the usual flexible tube to convey the sound to the ears of the operator, and as the arm 43 is hollow direct connection with the sound-box is effected, thus providing an unobstructed conduit for the sound to travel to the operator.

In operation the follower 39 is drawn to the

extreme outer end of the shaft 21, which may be effected by reverse rotation or by a suitable releasing device attached to the follower (not shown) when the sound-box is simultaneously brought to the inner end of the tablet, causing the stylus to drop into the initial end of the record, when by the application of suitable motive power the shaft will be rotated, causing the follower to travel toward the magazine, thus driving the sound-box over the record synchronously with respect to the formation thereof.

The arm 43 is so constructed as to enable the expeditious removal of the sound-box carrying the transcribing stylus and to permit the replacement thereof by a sound-box carrying a recording-stylus, which of course is practically the usual construction employed, as will be appreciated by those conversant with the art.

Believing that the advantages, the operation, and the construction of my improvements in phonographs will be clearly understood from the foregoing specification, taken in connection with the accompanying drawings, further reference is dispensed with.

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

1. In a talking-machine, a tablet-magazine having a shaft, a head fixed in relation to the shaft, a removable head and springs carrying spindles passing through the removable head and engaging the ends of the tablets, all combined as set forth.

2. In a talking-machine, a tablet-magazine

having mandrels and a removable head, springs carrying pointed spindles passing through said head and engaging an end of each mandrel, all combined as set forth.

3. In a talking-machine, a tablet-magazine having a removable head carrying spring-controlled spindles, as set forth.

4. In a talking-machine provided with a removable and a non-removable head, mandrels having one end terminating in trunnions seated in the non-removable head, the removable head carrying spring-controlled spindles engaging the other end of the mandrel, all combined as set forth.

5. In a talking-machine, a tablet-magazine provided with a non-removable and a removable head, the latter carrying independent spring-controlled spindles engaging one end of a mandrel whereby any individual mandrel may be removed without disturbing the other mandrels, all combined as set forth.

6. In a talking-machine, a tablet-magazine provided with a shaft and having a non-removable and a removable head having an oblong aperture therein and carrying spring-controlled spindles, and a rod extending through the shaft and having a retaining-nut corresponding in form to the aperture, whereby a quarter-turn will lock said head in position, all combined as set forth.

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

GEORGE W. GOMBER.

Witnesses:

HARRY F. GOMBER,
J. B. BOHLANDER.