

No. 659,735.

Patented Oct. 16, 1900.

G. W. GOMBER.
PHONOGRAPH.

(Application filed Aug. 18, 1896.)

(No Model.)

3 Sheets—Sheet 1.

A Fig. 1.

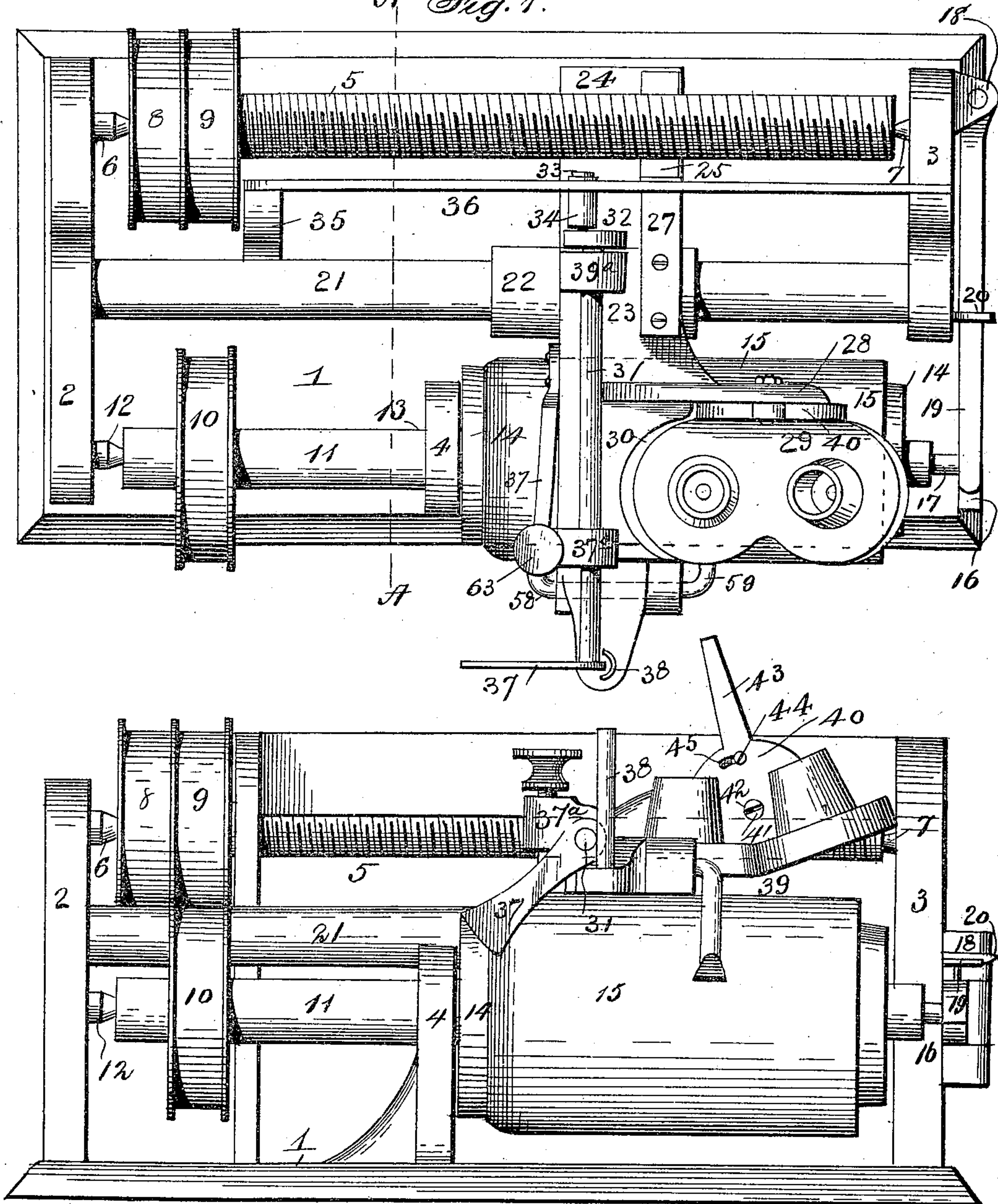


Fig. 2.

Witnesses
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M. Watson.

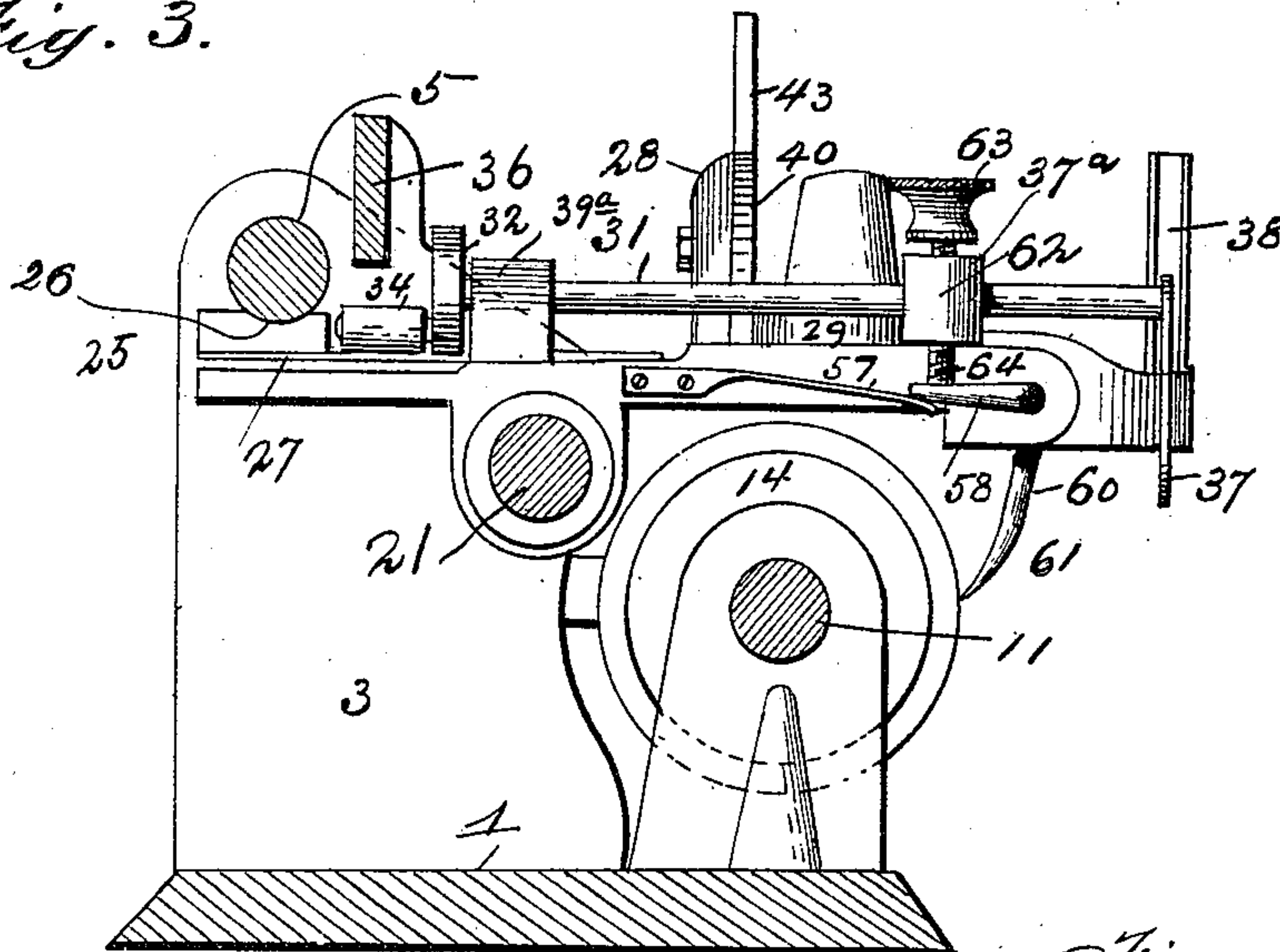
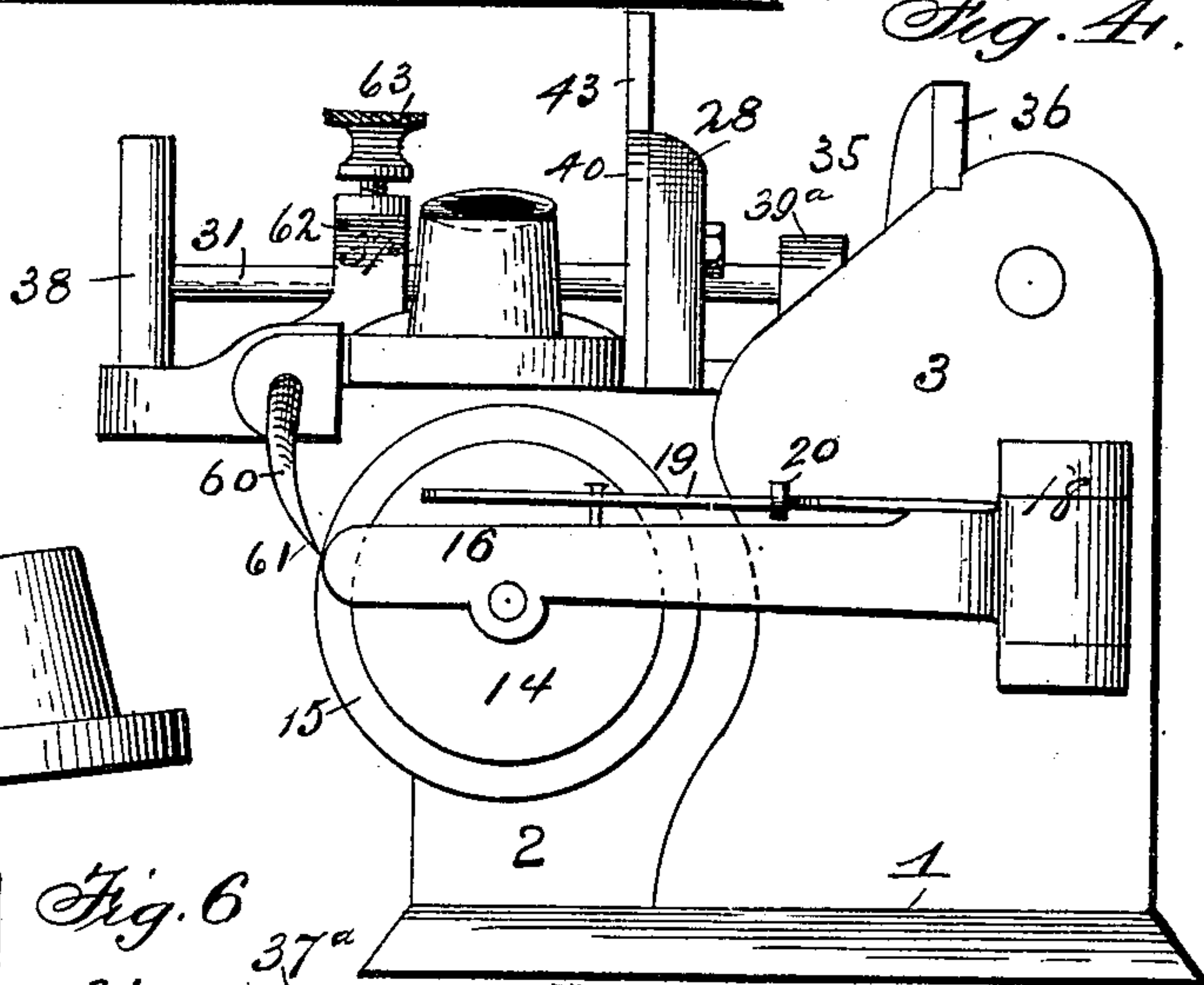
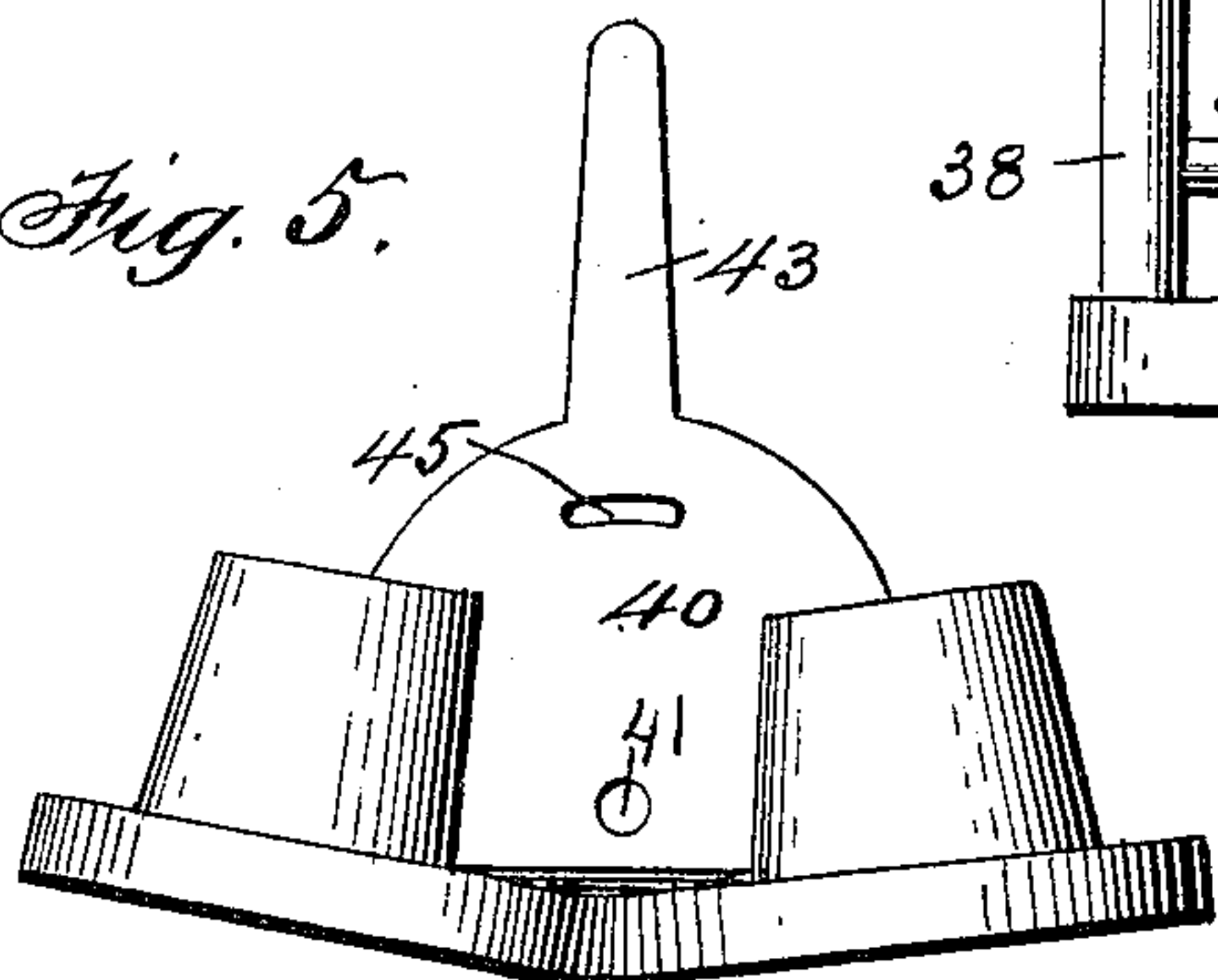
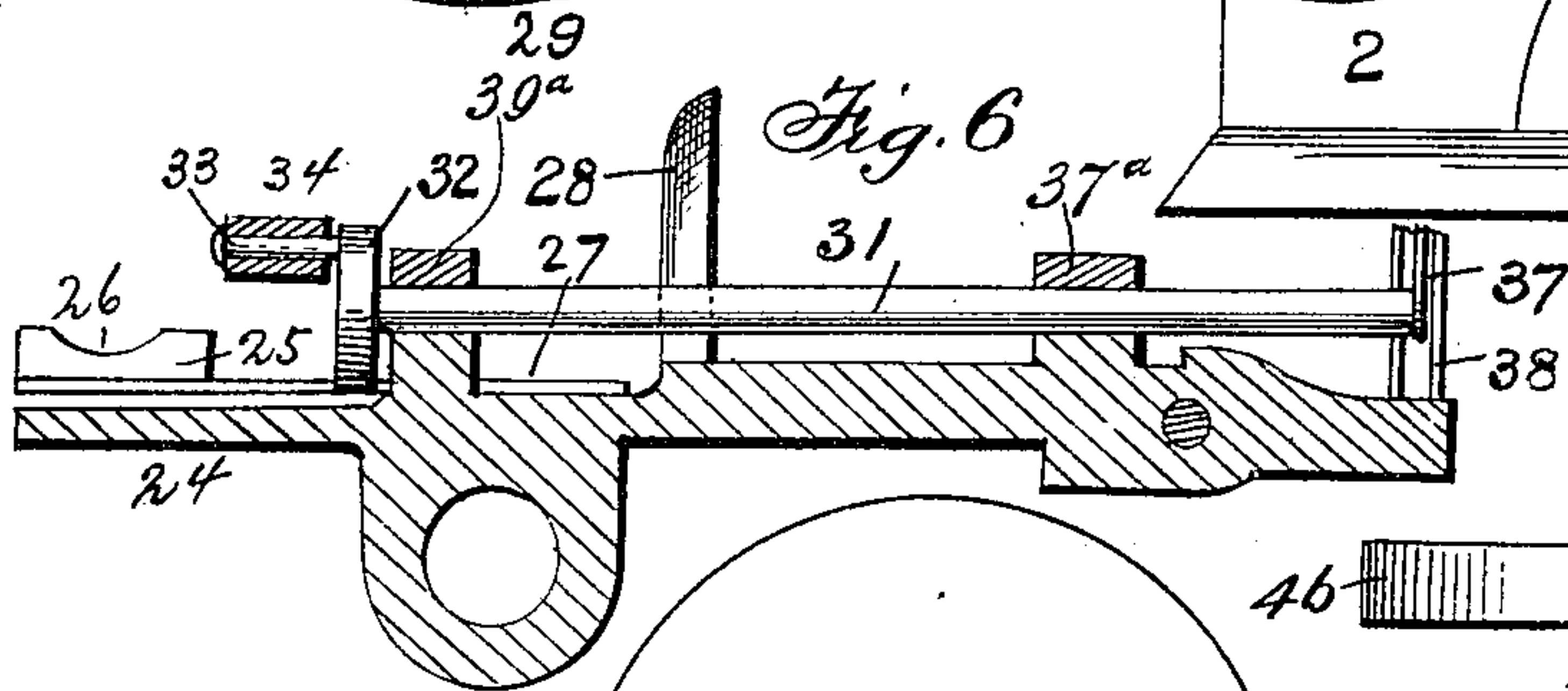
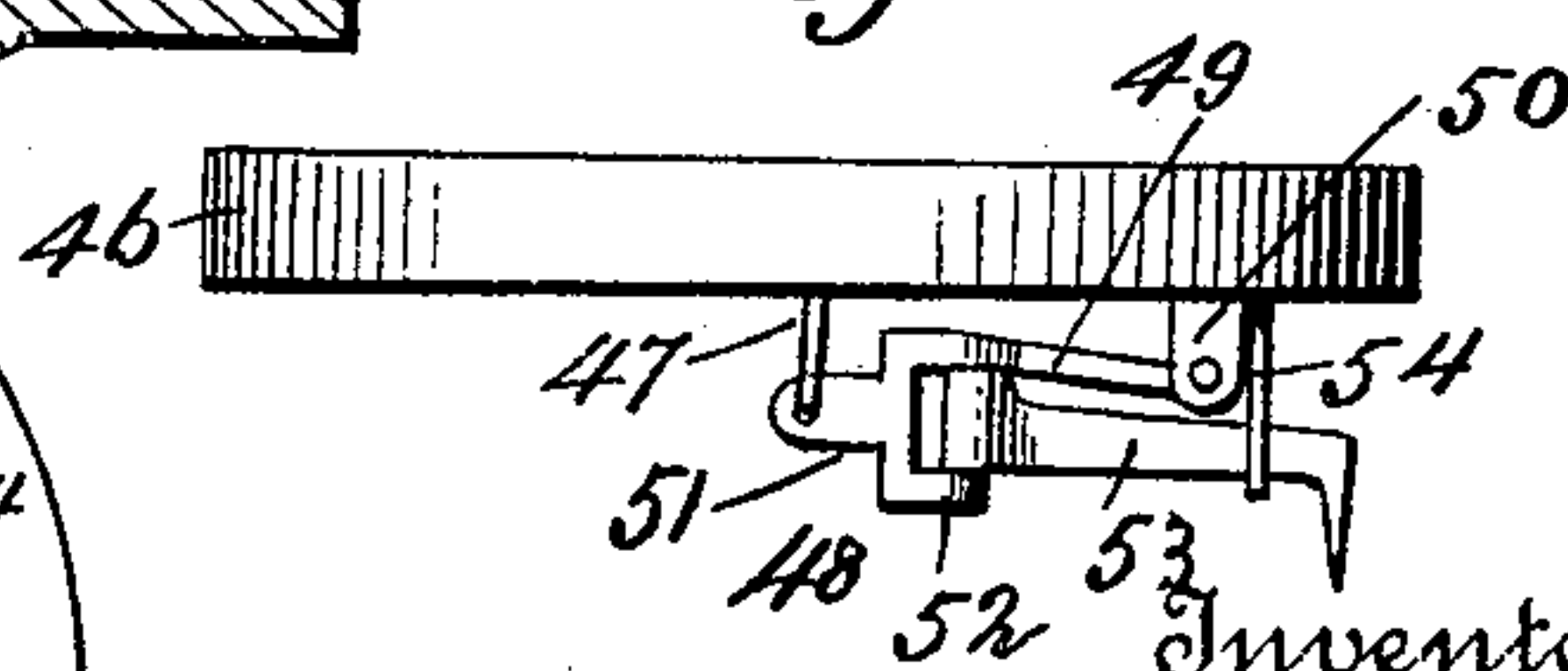
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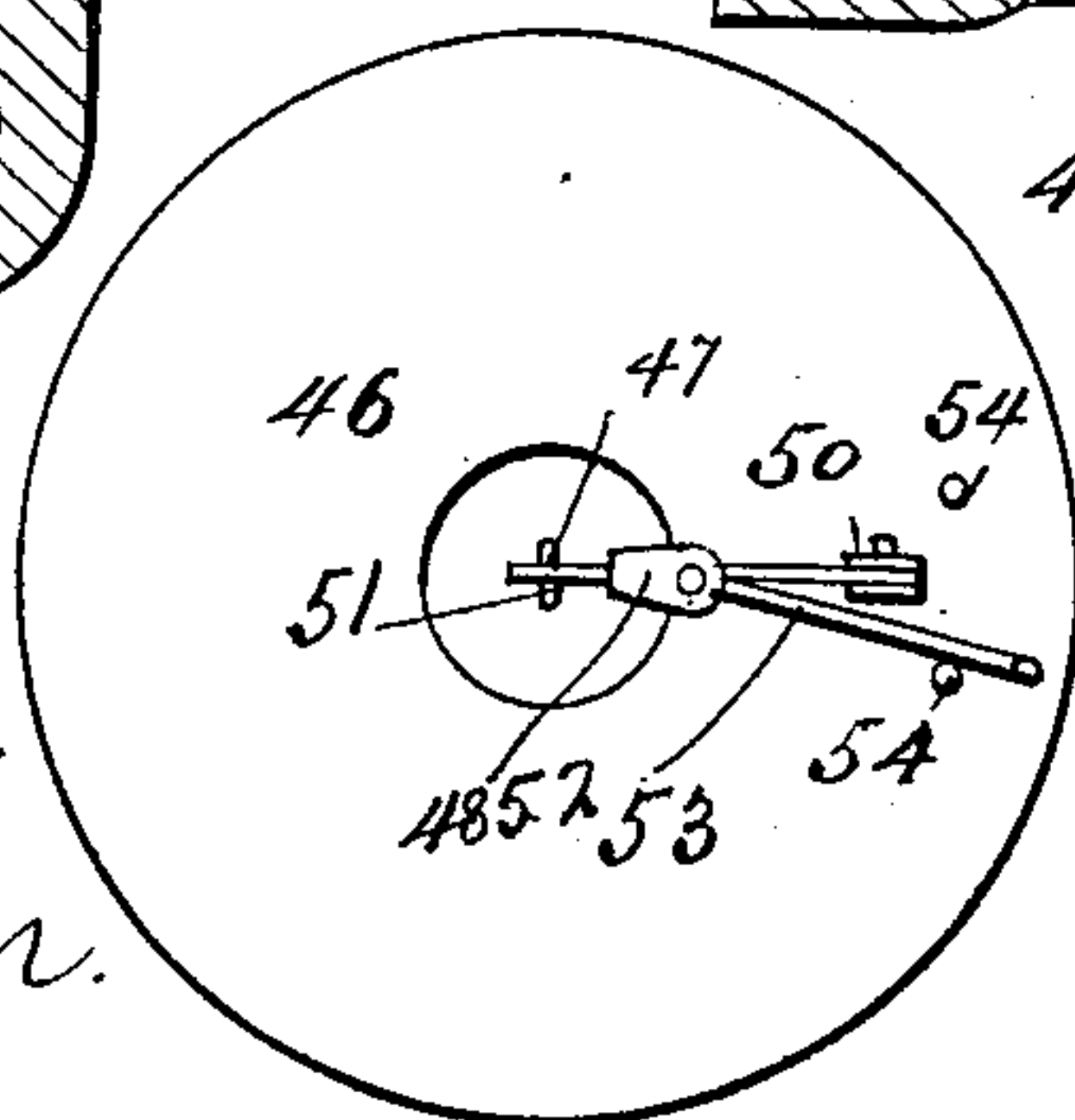
(Application filed Aug. 18, 1896.)

(No Model.)

3 Sheets—Sheet 2.

Fig. 3.*Fig. 4.**Fig. 5.**Fig. 6.**Fig. 8.**Fig. 7.*Witnesses
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No. 659,735.

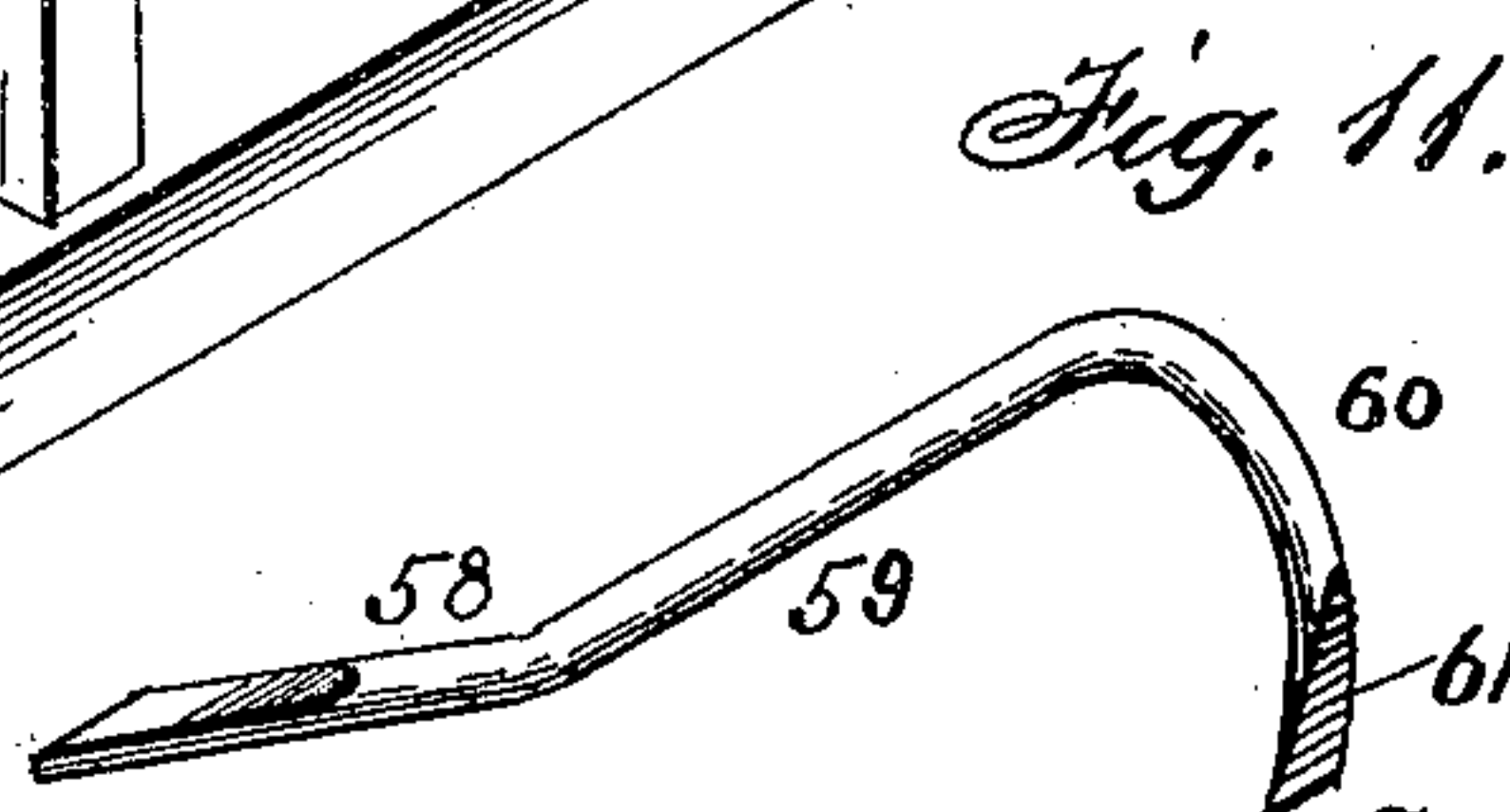
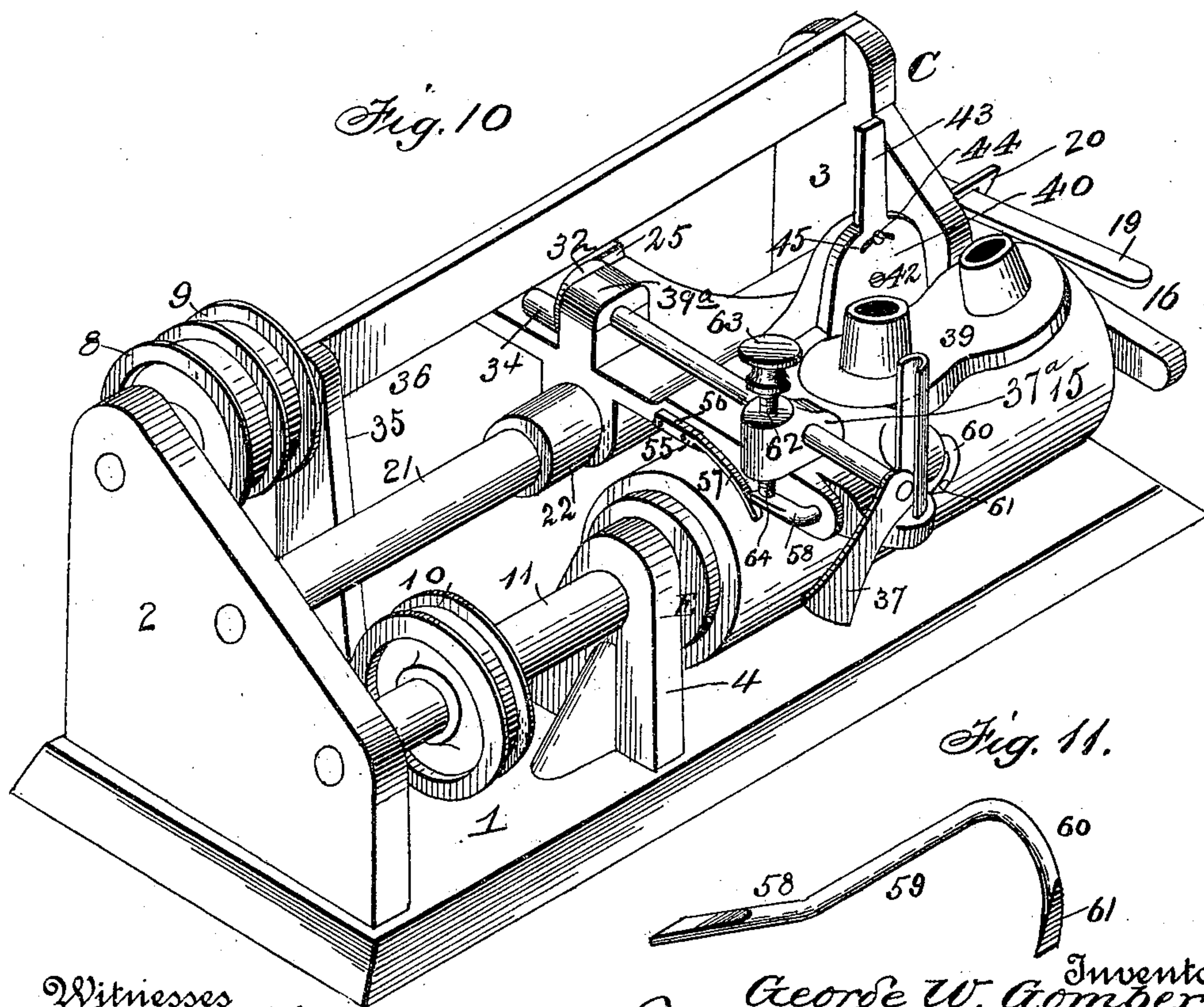
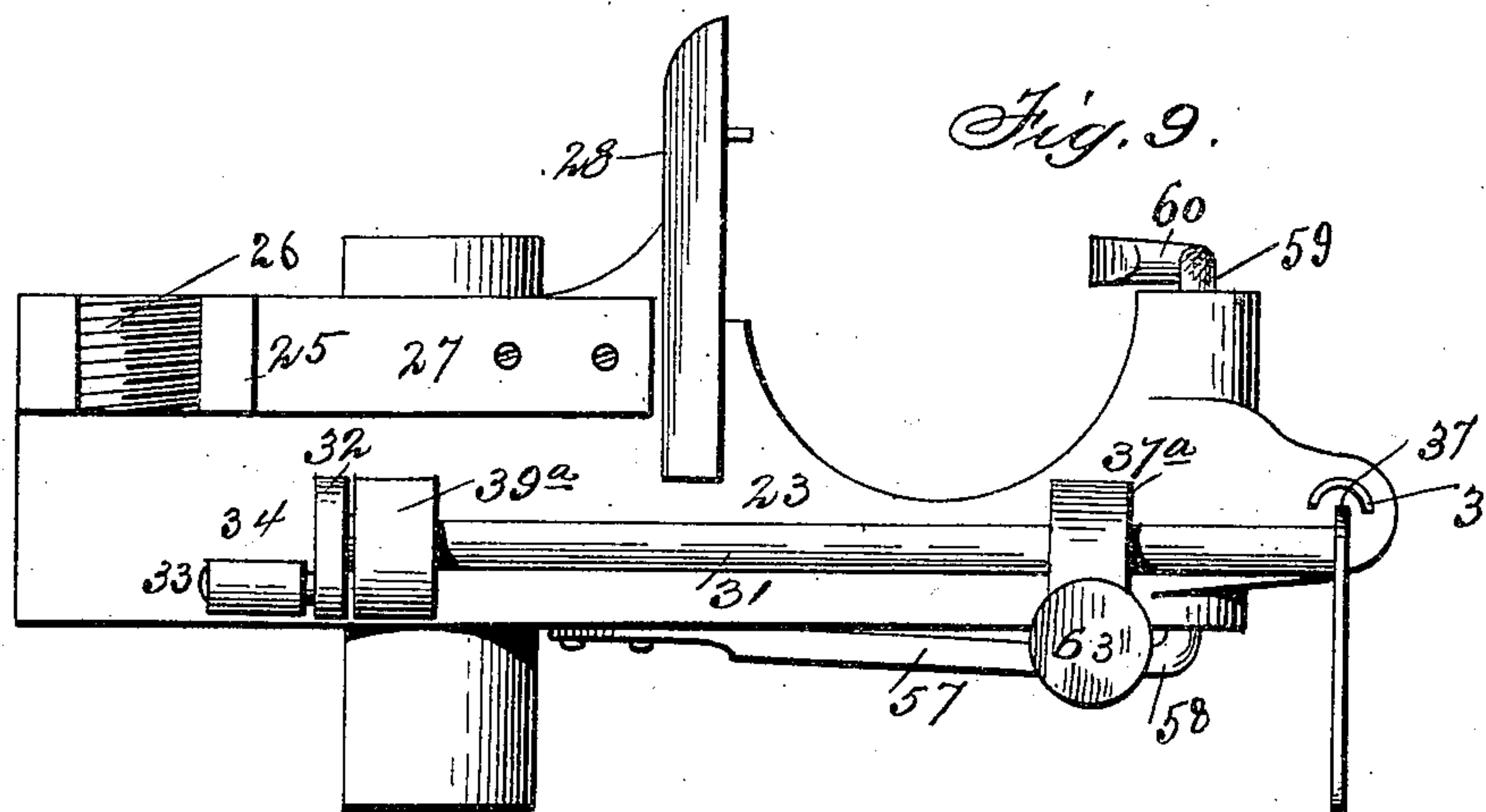
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

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MESNE ASSIGNMENTS, TO THE AMERICAN MULTIPLEX TALKING
MACHINE COMPANY, OF WEST VIRGINIA.

PHONOGRAPH.

SPECIFICATION forming part of Letters Patent No. 659,735, dated October 16, 1900.

Application filed August 18, 1896. Serial No. 603,128. (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.

One object of my invention is to render a talking-machine easily operative and completely under the control of the person using it, and relates to certain details involved in the construction of various parts, as will be more particularly pointed out in the appended claims.

A further result which I aim to produce is involved in the construction and combination of the parts necessary to provide a reproducing-stylus that will readily follow the line of record.

A further object is to provide a paring-knife for placing a perfectly-finished surface upon the tablet or for restoring such surface after the tablet has been filled with a record.

In developing my invention I aim at simplicity of construction of the details involved and provide that such details will be fully under the control of the operator, while my improved paring device for preparing the surface of the tablet for further use may be attached to or mounted upon the phonograph-carriage as now usually constructed, though it is especially applicable to the form of carriage which I have herein described.

The advantages above set forth are attained by means of the special construction and adaptation of parts and their substantial equivalents referred to in the following specification and illustrated by the accompanying drawings, and in conformity with this plan—

Figure 1 is a top plan view. Fig. 2 is a front elevation showing one sound-box disposed in coöperation with the tablet. Fig. 3 is a section of Fig. 1 on line A A. Fig. 4 is an end view showing means for locking the tablet in position and releasing the same.

Fig. 5 is a detail of the duplex holder or combined recorder and reproducer. Fig. 6 is a longitudinal section of carriage-elevating mechanism. Fig. 7 is a plan view of the lower side of the sound-box, showing the stylus-carrying arm swung to one side. Fig. 8 is an edge view of Fig. 7. Fig. 9 is a top plan view of the carriage. Fig. 10 is a perspective view of the talking-machine, and Fig. 11 is an enlarged detail of the knife and its accompanying shaft.

In developing my invention and for convenience in describing the details involved I will refer to and show such parts of the usually-constructed phonograph as may be necessary in order to establish the relative positions occupied by my improvements, and in conformity to this plan the various parts will be designated by figures.

Upon the base 1 I erect the end sections 2 3 and standard 4, the same constituting the general framework for supporting the other parts.

5 represents a threaded shaft formed in the usual manner and mounted in conical end bearings 6 7, seated, respectively, on the standards 2 3. Upon the end of said shaft I mount, near the bearings 6, the pulleys 8 9, the former adapted to receive power and the latter adapted to communicate it to pulley 10, mounted on the shaft 11. Said shaft 11 is provided with a central bearing-point 12, carried by the end section 2, and is further supported by a suitable bearing 13, provided in the upper end of standard 4.

By mounting the shaft 11 in the manner above described the free end thereof, or that part projecting through the standard 4, is adapted to support and carry the tablet-cylinder 14 in such a manner as to permit the tablet 15 being removed or replaced and locked in position when the pivoted holder 16, carrying the center point 17, is swung into its operative position, causing said center point to enter the seat provided in the end of the shaft. The holder 16 is provided with a suitable hinge or bearing 18, attached to the end section 3, enabling it to be swung outward for releasing the tablet-cylinder, and

it is locked in its normal position by the longitudinally-disposed spring 19, engaging with its keeper 20. Disposed intermediate of the shafts 5 and 11 is the stationary shaft 21, rigidly secured in apertures provided in the end sections 2 3. This shaft is cylindrical in form and provided with a smooth surface, enabling the barrel 22 to slide loosely thereon. Said barrel has a smooth bore of proper diameter to receive said shaft and is firmly attached to the under side of the carriage 23, or it may be formed integral therewith, if desired.

The carriage 23 is in general outline an oblong and extends sufficiently rearward to reach under and slightly past the threaded shaft 5, and also extends forwardly, reaching over and past the tablet. Upon the rear end 24 of the carriage is mounted the guide-block 25, formed of suitable material and provided with the concave threaded face 26, designed to engage the periphery of the threaded shaft 5, whereby when the shaft 5 is rotated the carriage is moved in either direction. Said guide-block is disposed and normally held slightly above the surface of the carriage by means of the supporting-spring 27, secured to the carriage at any desired point. At a point nearly over the cylinder-tablet I erect on the carriage the laterally-reaching arm 28, adapted to carry the duplex diaphragm-holder or double sound-box 29, which is pivoted thereto in such a manner as to have a rocking movement, as will be hereinafter referred to. The edge of the carriage opposing the end section 3 is provided near its outer end with a semicircular opening 30 to enable one end of the duplex holder to rest therein, and thus enable the recorder or reproducer to be brought with its stylus in contact with the tablet without the necessity of providing an undesirable length for said arm 28. In order to elevate the outer end of the carriage, I provide the controlling-shaft 31, which is disposed parallel to the carriage and passes through apertures provided in the shoulder 37^a, and a bearing-seat 39^a, the latter being erected upon the opposite end of the carriage nearly over the barrel 22. Upon the inner end of the shaft 31 thus provided I secure the disk 32 by means of a suitably-formed central mortise or aperture. Said disk is changed into an eccentric by mounting upon its inner face near its outer edge the finger 33, and upon such finger I loosely mount the sleeve 34, which is designed as an antifriction device.

By means of the standard 35, erected upon the base 1, I support the bar 36, one end being supported by said standard, while the other end reaches in a horizontal plane to the end section 3, in which it is properly secured. The lower edge of said bar contacts with the sleeve 34 and being properly adjusted will cause said sleeve to bear against it, thereby depressing the inner end of the carriage when the shaft 31 is properly rotated. The outer end of said shaft is provided with an operat-

ing handle or lever 37, which is so mounted upon the shaft with respect to the location of the finger 33 that it will cause said finger to slightly pass the dead-center when said handle 37 is inclined against the supporting-standard 38.

The guide-block 25 may be held slightly above the surface of the carriage by the spring 27, thereby causing it to yieldingly receive the contact of the threaded shaft, and thus obviate any unnecessary blows. By elevating the handle 37 the carriage will be disconnected from its source of power, when it may be freely moved upon the shaft 21, thereby enabling the recorder or reproducer to be moved to any desired point on the surface of the tablet and the ready interchange of position of the recording and reproducing stylus, as may be desired.

The holder 29, which I will term a "spectacle-frame," is so formed as to provide a means for carrying both a recording and reproducing stylus and their respective sound-boxes, joined together, substantially as shown, in such a manner that they will occupy a different plane with respect to each other. To the rear side of the two sound-boxes thus joined together I attach at a central point the upwardly-inclined lip 40, provided with a centrally-disposed aperture 41, by means of which said lip is pivotally connected to the arm 28 by the bolt 42. By thus mounting the duplex holder it will have a vibrating or oscillating movement, thereby enabling the recording and reproducing stylus to be alternately brought into coöperation with the tablet.

For convenience of manipulating the duplex holder I erect upon the upper edge of the lip 40 the lever 43, and to check further movement of the holder when the recorder or reproducer is in its proper operative position I provide the stop 44 and the slotted aperture 45, formed in said lip. When either stylus is brought into coöperation with the tablet, the stop 44 will check further movement, and the device may thus be held in an adjusted position by a suitably-provided spring (not shown) or other preferred means.

The sound-box 46 is constructed in the usual or any preferred manner and has dependent therefrom the usual form of link 47, pivotally connected to the stylus-holder 48. This holder is of a peculiar construction and consists of the main section or body 49, reaching toward the edge of the sound-box, where it is pivotally seated in the bifurcated standard 50, erected upon the under side of the sound-box near its outer edge. The stylus-holder 48 also has the vertically-disposed extension 51, which terminates in the lip 52, disposed at right angles to said extension and parallel with the body 49. By this formation I provide a seat in which I pivot the inner end of the stylus-carrying arm 53, as is clearly seen in Fig. 8. In order to circumscribe the lateral swing of said arm, I erect at proper distances on either side of the plane occupied

by the holder 48 the posts 54. (More clearly shown in Fig. 7.) In practice it will be found that only a limited lateral departure is made by the line of record, yet the construction above set forth will enable such line of record to be reliably followed at all times.

In developing my improved paring device I attach to the left-hand edge or outer end of the carriage-body a spring 55, provided with a body-section 56 and a flexible spring-section 57, and I so dispose said spring that its free end will rest under the end of the lever 58, which passes through the end of the carriage and is seated in suitable bearings therein. To the other or right-hand end of the shaft is attached the shank 60, on the end of which is provided a knife or blade proper, 61. In order to control the position of the cutting edge of the knife, I mount in a suitable bearing or seat 62 the set-screw 63, so disposed in a vertical plane in said bearing that its free or lower end 64 will bear upon the upper side of the lever 58 and overcome the tension of the spring 57. The spring 57 normally holds said lever in an elevated position. By causing the set-screw to pass downward into its seat or bearing the lever will be depressed, resulting in a recession from the tablet of the cutting edge of the knife, while the elevation of said set-screw will permit the lever to rise by the action of the spring 57, causing the knife to take into the surface of the tablet to any desired extent.

In practice it is found desirable that means be provided for preparing a tablet for additional service after the same has been once filled with a record. This I have accomplished in a manner which will prevent a special operation for that purpose, as the rotation of the tablet necessary to transcribe a record thereon may be utilized for removing said record immediately after the transcriber has passed over it, inasmuch as the paring device may be placed immediately in advance of the recording-stylus, so as to remove a prior record placed thereon.

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

1. In a carriage-controlling device for phonographs, the combination with the carriage, of a shaft mounted thereon and provided with an operating-handle; an eccentrically-disposed arm secured to the end of said shaft and adapted to bear against a part

of the frame of the machine, thereby causing the inner end of the carriage to be forced out of contact with the source of power and locked in such position when said handle moves said arm past the dead-center, as and for the purpose set forth.

2. As an improvement in talking-machines, the herein-described carriage comprising a barrel 22 adapted to loosely receive the shaft 21 and the carriage-body secured to said barrel and extending rearwardly and forwardly therefrom and having on its interior extension the laterally-reaching arm 28 and the semicircular opening 30, and means for detachably connecting said carriage with the threaded driving-shaft, in combination with said threaded shaft and with a rocking shaft having an eccentric head mounted on said carriage and provided with an operating-lever adapted for simultaneously elevating the forward end and depressing the rear end of the carriage, as and for the purpose set forth.

3. As an improvement in talking-machines, the combination with a sound-box, of a stylus-carrying arm or holder 48 having the vertical extension 57 and the lip 52, and further having the stylus-carrying lever 53 pivoted on said lip, and means to limit the lateral movement of said lever, substantially as specified and for the purpose set forth.

4. As an improvement in talking-machines, the combination with a sound-box, of a link, a support pivoted at one end to said link and at the other to a suitable standard provided on the sound-box, said holder having the pivotal seat provided by the lip 52; a stylus-carrying arm pivoted on said lip, and suitable means for limiting the lateral movement of said arm, substantially as specified.

5. In a paring device for talking-machine tablets, the combination with the diaphragm-carriage, of a rock-shaft mounted thereon and provided with a knife and a lever; a set-screw bearing upon said lever and thereby adapted to throw the knife out of contact with the surface of the tablet, and means substantially as described for normally holding said lever in an elevated position, as and for the purpose set forth.

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

GEORGE W. GOMBER.

Witnesses:

HARRY F. GOMBER,
JAMES MENIG.