

No. 887,978.

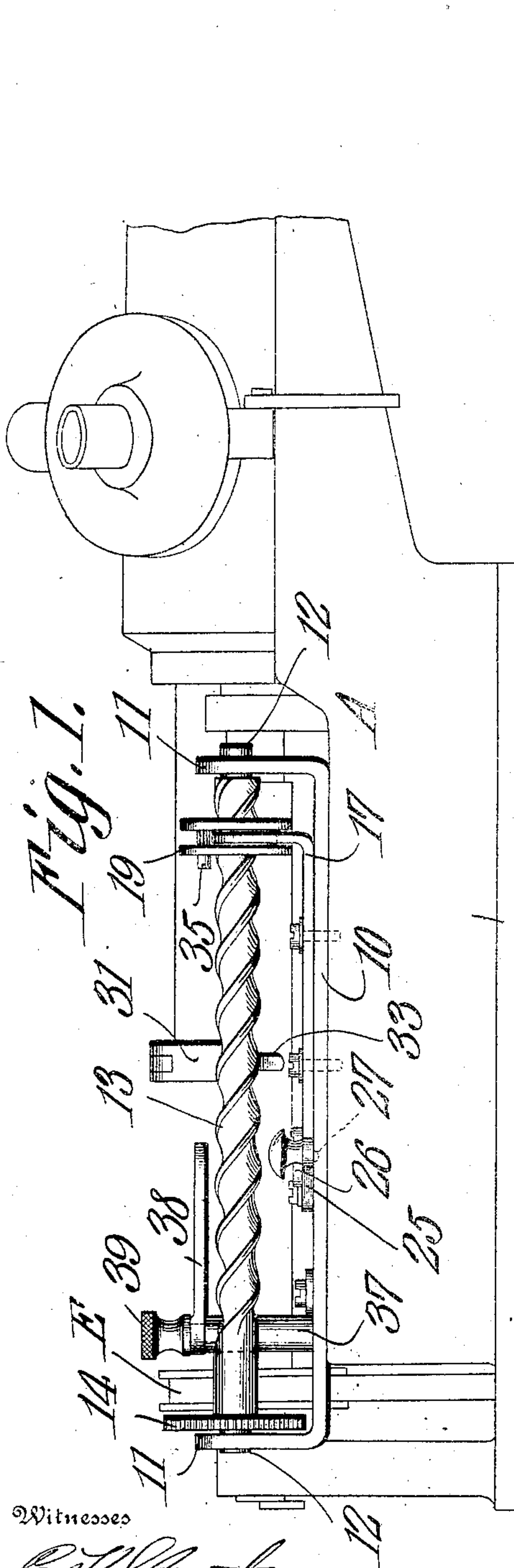
PATENTED MAY 19, 1908.

J. H. STINSON.

REPEATING ATTACHMENT FOR PHONOGRAPHS.

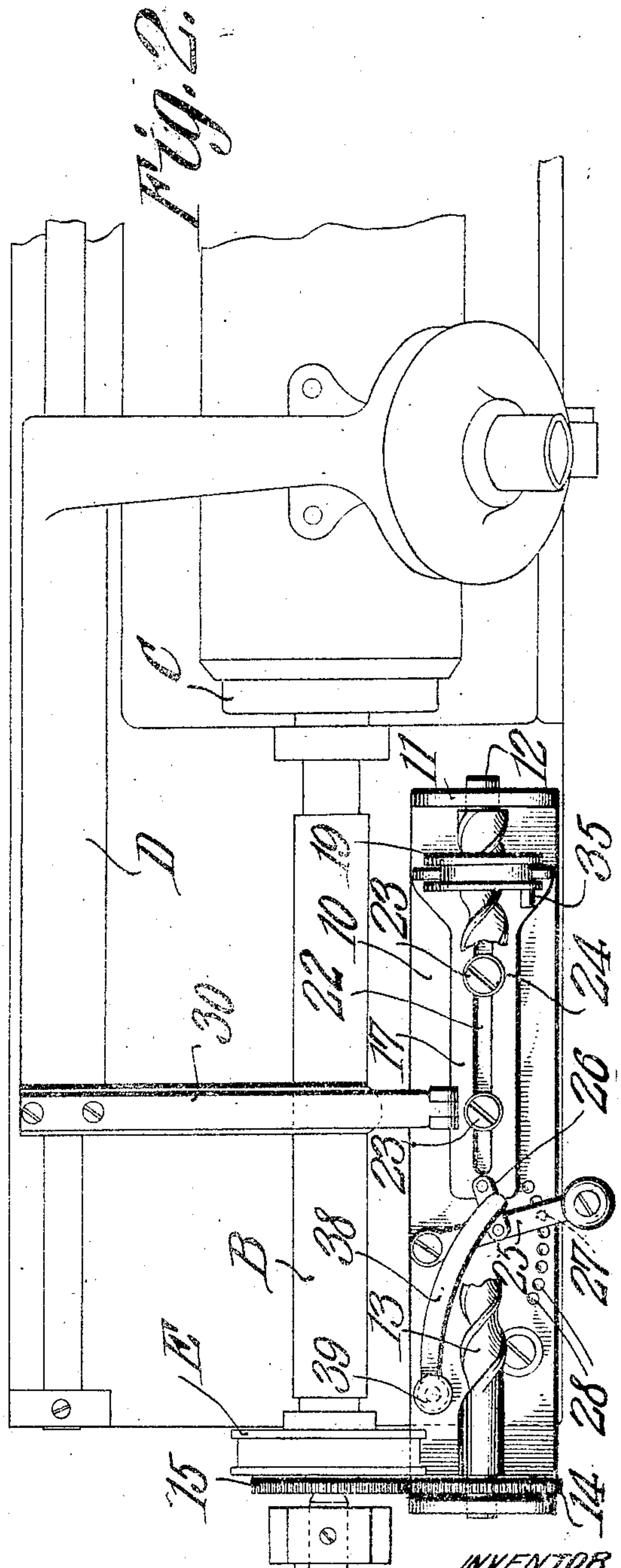
APPLICATION FILED DEC. 7, 1907.

2 SHEETS—SHEET 1.



Witnesses

E. H. Stewart
Jno. C. Parker



384

INVENTOR
James H. Stinson
Chas. Snow
Attorney

No. 387,978.

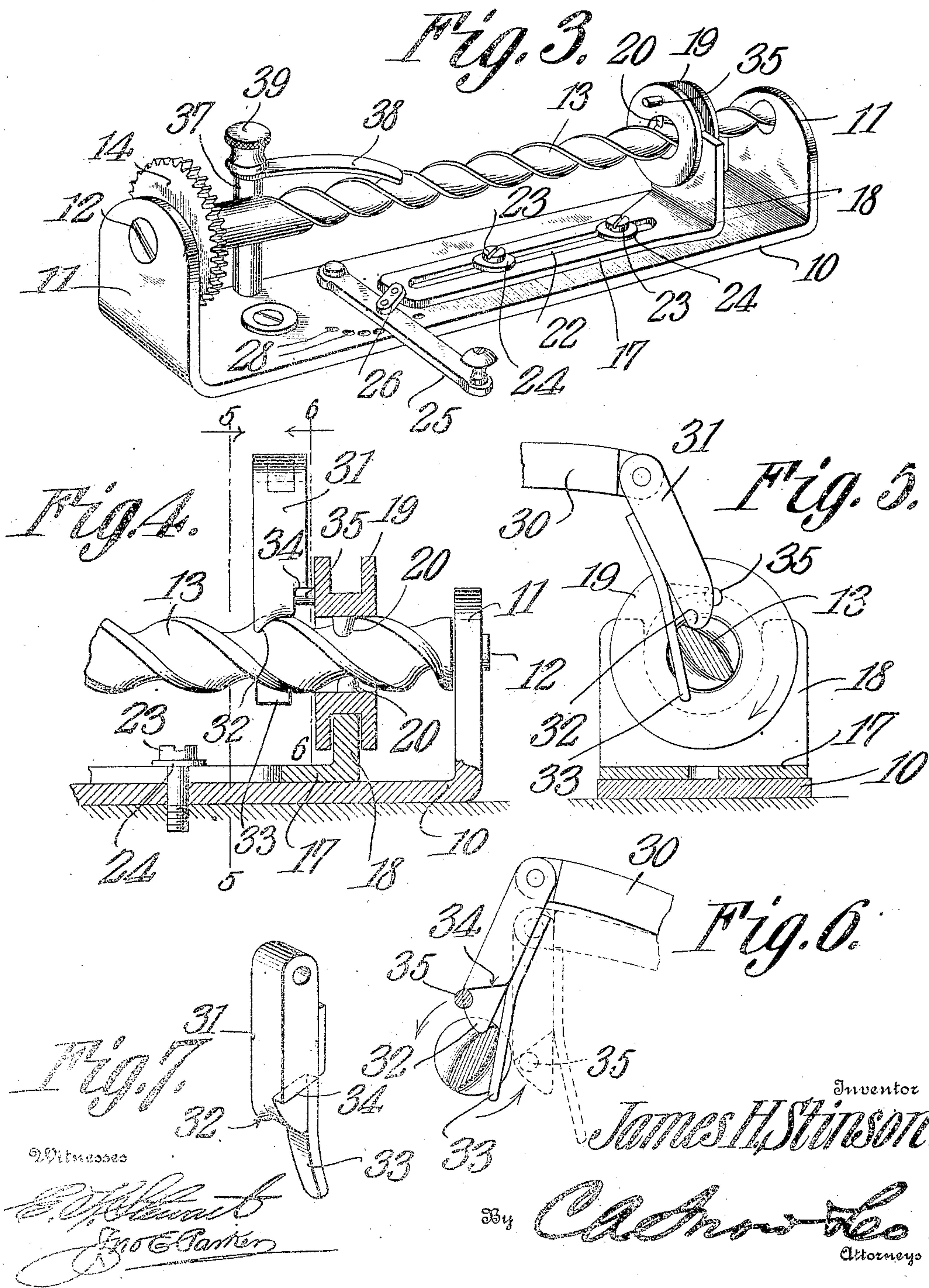
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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

JAMES H. STINSON, OF COOKE, MONTANA.

REPEATING ATTACHMENT FOR PHONOGRAPHS.

No. 887,978.

Specification of Letters Patent.

Patented May 19, 1908.

Application filed December 7, 1907. Serial No. 405,628.

To all whom it may concern:

Be it known that I, JAMES H. STINSON, a citizen of the United States, residing at Cooke, in the county of Park and State of Montana, have invented a new and useful Repeating Attachment for Phonographs, of which the following is a specification.

This invention relates to repeating attachments for phonographs.

10 The principal object of the invention is to provide a device of simple construction which may be readily attached to existing phonographs and like sound reproducing machines for the purpose of returning the sound box carriage to the starting point after the completion of each reproducing operation.

15 A further object of the invention is to provide a device of this type that may be quickly and accurately adjusted for the purpose of starting the return movement as soon as the reproduction is completed, so that the reproducing stylus will not be compelled to travel over a blank portion of the record.

20 With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

25 In the accompanying drawings:—Figure 1 is a front elevation of a phonograph provided with a repeating attachment constructed in accordance with the invention. Fig. 2 is a plan view of the same. Fig. 3 is a detail perspective view of the attachment complete. Fig. 4 is a vertical sectional view of a portion of the same on an enlarged scale. Fig. 5 is a transverse section on the line 5—5 of Fig. 4. Fig. 6 is a detail transverse section on the line 6—6 of Fig. 4. Fig. 7 is a detail perspective view of the carriage returning nut, detached.

30 Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

35 In the drawing there is shown a portion of an Edison phonograph including a frame A, and a main shaft B, the latter carrying the record supporting cylinder C and being threaded for the reception of the half-nut of

the sound box carriage D, all of these parts being of the usual construction.

40 Secured to the main frame at a point in front of the shaft B is a plate 10 having upwardly bent ends forming brackets 11 for the reception of a pair of pivot screws 12, which serve as supports for a return screw shaft 13, this shaft having a quick pitch auger-like thread, and being provided at one end with a gear wheel 14, which is in constant mesh with a gear wheel 15 carried by the main shaft B, and this latter gear may for convenience be connected in any suitable manner to the power transmitting pulley E of the main shaft.

45 Mounted on the plate 10 is a slidable plate 17, having at one end an upwardly bent arm 18 that is provided with an approximately semicircular recess for the reception of a grooved collar 19 that is loosely mounted on the screw 13, and projecting inward from the bore of the collar is a pair of pins 20 that fit the threads of the shaft 13 in such manner that the collar will be rotated with the shaft while at the same time longitudinal movement of the plate 17 will be readily accomplished for the purpose of moving said collar in the direction of the length of the screw.

50 The plate 17 has an elongated slot 22 for the passage of a pair of screws 23, that fit in threaded openings tapped in the main frame, and between the heads of the screws and the upper face of the plate are washers 24 which will exercise sufficient friction on the plate 17 to hold the latter in any position to which it may be adjusted.

55 On the plate 10 is pivoted a small handled lever 25, that is connected to the plate 17 by a link 26, and this lever has a downwardly projecting boss 27 that is arranged to enter a series of notches or depressions 28 formed in the main plate 10, these notches or depressions being disposed in an arcuate row struck from the center of movement of the lever 25, and when the boss engages with these notches or depressions, the lever will be firmly held, and movement of the plate 17 prevented.

60 On the half-nut carrying arm of the sound box carriage is secured an arm 30 that projects over and forward of the main shaft, and to the front end of this arm is pivoted a nut 31, having a tooth-like projection 32 that is arranged to engage with one side of the thread of the screw 13, while the main portion of the lower face of the nut is slightly

rounded in order that it may ride freely on top of the thread. To the rear face of this nut is secured a pendent tongue 33, that engages with the rear of the screw 13, while the nut is in operative position, and prevents the nut moving forward over the screw to inoperative position, and said tongue will serve further as a means for automatically disengaging the nut from the screw in case the latter reaches the end of the thread.

One side of the nut is cut away to form an inclined shoulder 34, that is arranged to be engaged by a pin 35 projecting from the face of the collar 19, this pin serving to lift the nut up into engagement with the screw, the movement being from the dotted line position to the full line position of Fig. 6.

At that end of the plate 10 nearest the gear 14 is a standard 37 on which is pivoted a nut disengaging arm 38, which may be turned to any position over the screw 13 and locked in place by a nut 39. The function of this arm is to engage the nut and move the latter to inoperative position by the time the recording stylus has reached a position over the starting point of the record, and this arm may be readily adjusted and locked in place in accordance with the position of the record on the cylinder.

In operation, the screw 13 is constantly rotated, so long as the main shaft B is operated, and during a reproducing operation, the nut 31 hangs in a position immediately to the rear of the screw 13, this position being best indicated by the dotted line in Fig. 6. When the reproduction is completed, the pin 35 will engage the shoulder 34 of nut 31, and will lift the latter from the dotted line position to the full line position of Fig. 6, so that the tooth 32 of the nut will engage the thread of the screw 13, while the tongue 33 will engage against the rear face of the screw and will prevent the nut from moving forward to inoperative position. This movement will, also, be transmitted to the sound box carriage through the arm 30, so that the reproducing stylus will be raised from the record. The screw 13 will then rapidly move the nut and sound box carriage toward the starting point, and when the movement is completed, the nut will engage the arm 38 and will be deflected rearward to a position out of engagement with the screw, allowing the sound box carriage to descend, placing the reproducing stylus in contact with the record cylinder. As the records are not always of the same length, and start and end at different points from the ends of the record cylinder, the arm 38 may be adjusted to effect disengagement of the nut at the starting point of the record, while the collar 19 may be quickly adjusted in order to raise the carriage and start the return movement immediately after the completion of the record.

Should the arm 38 be moved out of oper-

ative position, the depending tongue 33 of the latter will by engagement with the unthreaded portion of the screw 13 move said nut rearward to inoperative position and prevent breakage or disarrangement of the parts.

I claim:—

1. A phonograph repeating attachment comprising a screw rotatable continuously while the phonograph is in operation, a nut carried by the sound box carriage, means carried by the screw for elevating the nut into engagement with the thread of said screw and at the same time raising the sound box for engagement with the record, means for adjusting the screw-carried means with relation to the length of the record, and means for determining the different positions of adjustment of the screw-carried means and for stopping the adjusting means in such different positions of adjustment.

2. A phonograph repeating attachment comprising a screw capable of continuous rotation during the operation of the phonograph, means carried by the screw for connecting the sound box carriers thereto and at the same time disconnecting the sound box carrier from engagement with the record, and means for adjusting the elevating means for the sound box carriage longitudinally on the screw, said means being supported independently of the screw.

3. In a repeating attachment for phonographs, a screw connected to the phonograph, drive mechanism for continuous rotation while the phonograph is in operation, a sound box carriage, a nut carried thereby and disengaged from the screw while the sound box is in reproducing relation to the record, a collar on the screw rotatable about the longitudinal axis thereof, means in engagement with said collar for adjusting the latter longitudinally on the screw and for holding the same in the adjusted positions, and means on said collar for engaging and raising the nut into engagement with the screw and at the same time elevating the sound box out of operation with the record.

4. In a repeating attachment for phonographs, a continuously revoluble screw, a sound box carriage, a nut carried thereby and disengaged from the screw during the reproducing operation, a grooved collar centrally bored for the free passage of the screw, pins projecting inward from the collar for engagement with the thread of the screw, an adjustable plate having an upwardly bent end portion recessed to receive the grooved collar and through which said collar may be adjusted in the direction of the length of the screw, and a pin projecting from the screw and arranged to engage and elevate the nut at the end of each reproducing operation.

5. A repeating attachment for phonographs comprising a screw capable of continuous rotation by the actuating mechanism of

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the phonograph, a collar mounted on said screw and in continuous engagement therewith for rotation by said screw, said collar having means for moving the sound box out of active relation to the record, and means in constant engagement with said collar for moving the latter longitudinally upon the screw and for locking it in adjusted positions.

6. In a repeating attachment for phonographs, a base plate having end standards, a screw shaft mounted between said standards, gearing connections between the screw shaft and the main shaft of the machine, a slotted plate adjustable endwise of the base plate, guiding screws extending through said slot, an adjusting lever connected to the slotted plate and having a projecting boss, the base plate being provided with an arcuate row of notches or depressions to receive said boss, a bracket arranged at the end of the slotted

plate and provided with an approximately semi-circular recess, a grooved collar fitting within said recess and surrounding the screw, a pair of pins projecting inward from the collar and engaging the thread of the screw, a pin projecting from said collar, a sound box carriage, an arm projecting therefrom, a nut pivoted to the arm, and having a toothed portion for engagement with the thread, said nut having an inclined shoulder movable into the path of movement of the collar pin, and a tongue depending from the rear face of the nut and arranged to engage the rear face of the screw.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JAMES H. STINSON.

Witnesses:

JAS. M. WALKER,
JNO. E. PARKER.