

No. 883,190.

PATENTED MAR. 31, 1908.

S. W. GIBBS.
PHONOGRAPH STOP.
APPLICATION FILED AUG. 12, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

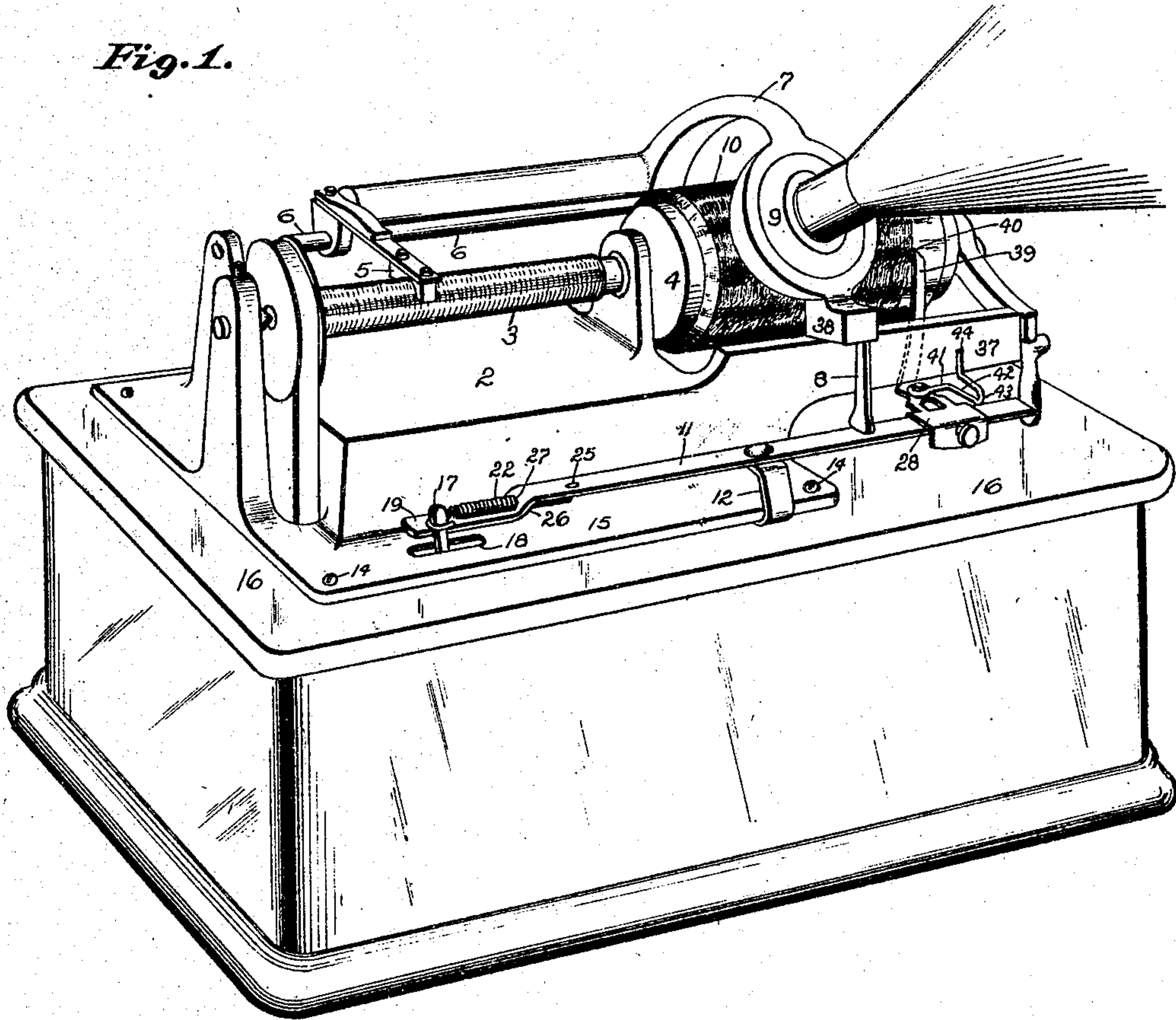


Fig. 2.

Fig. 3.

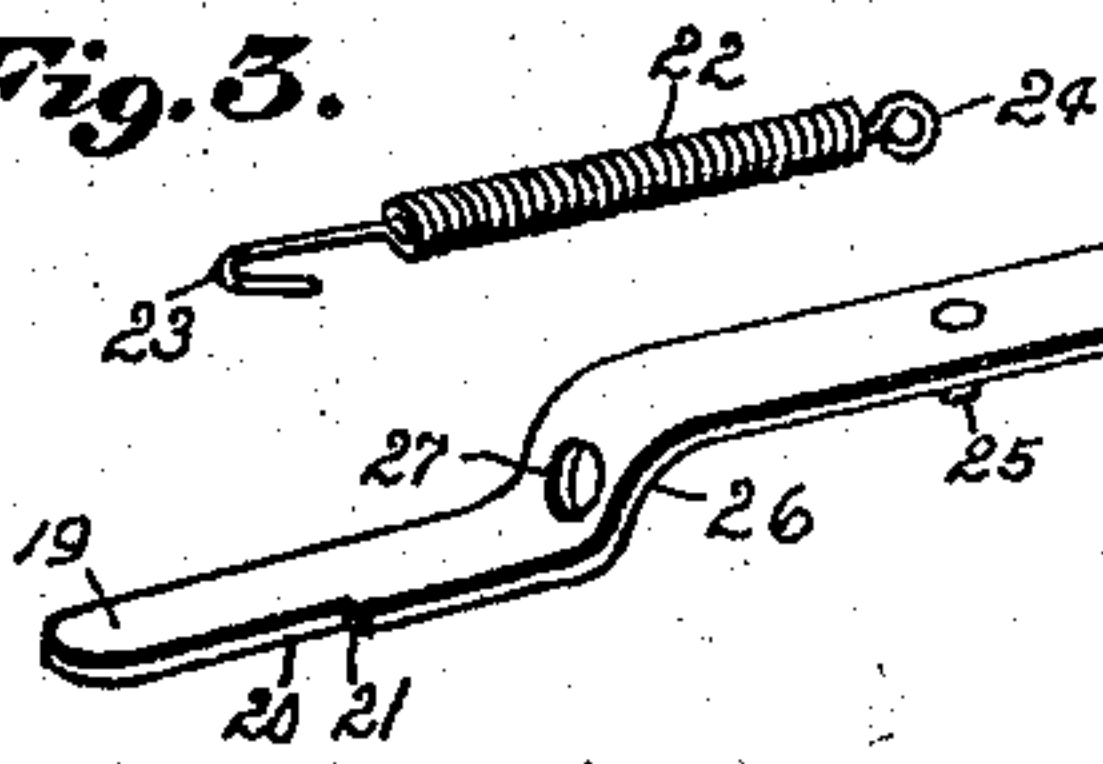


Fig. 5.

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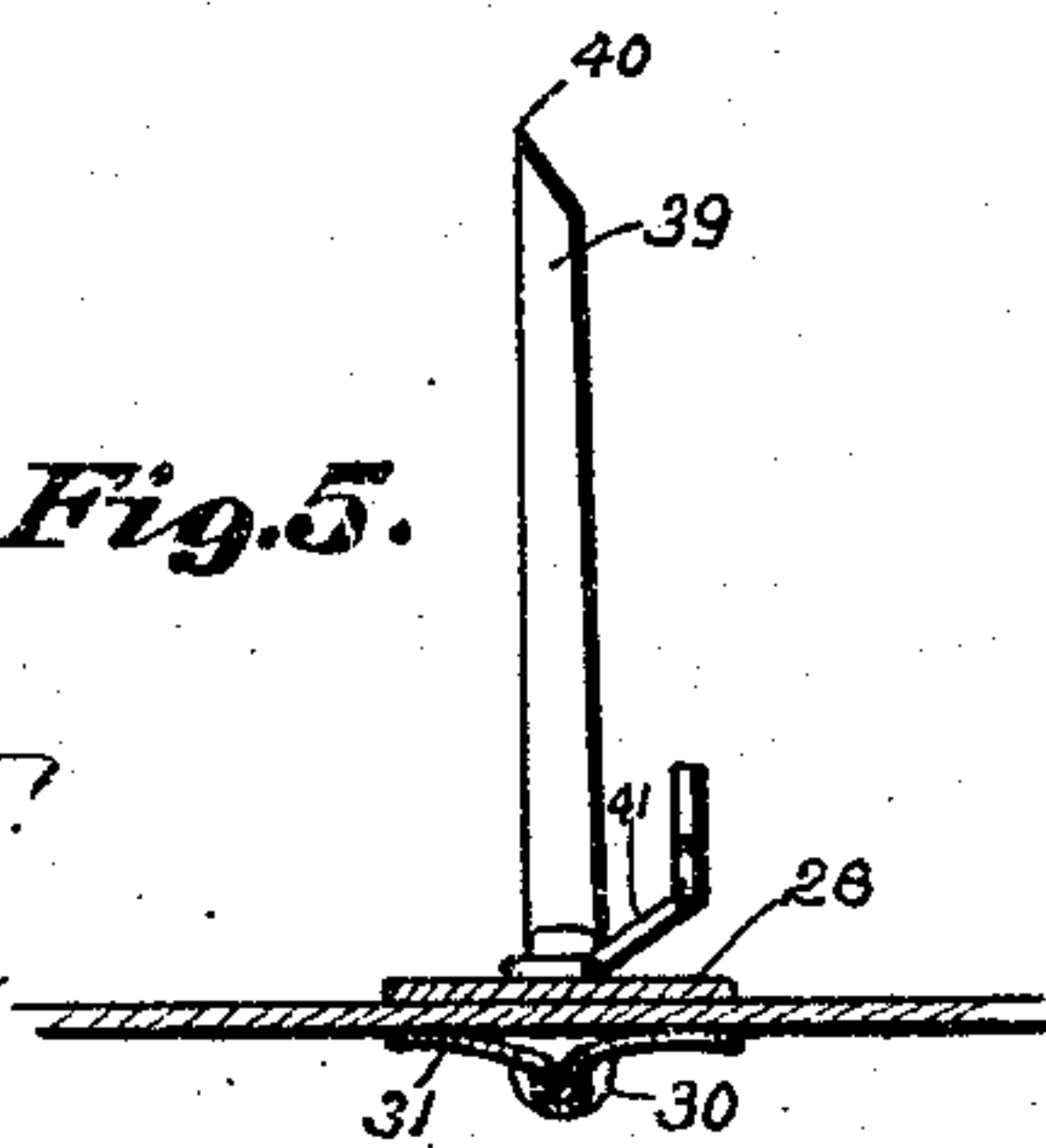
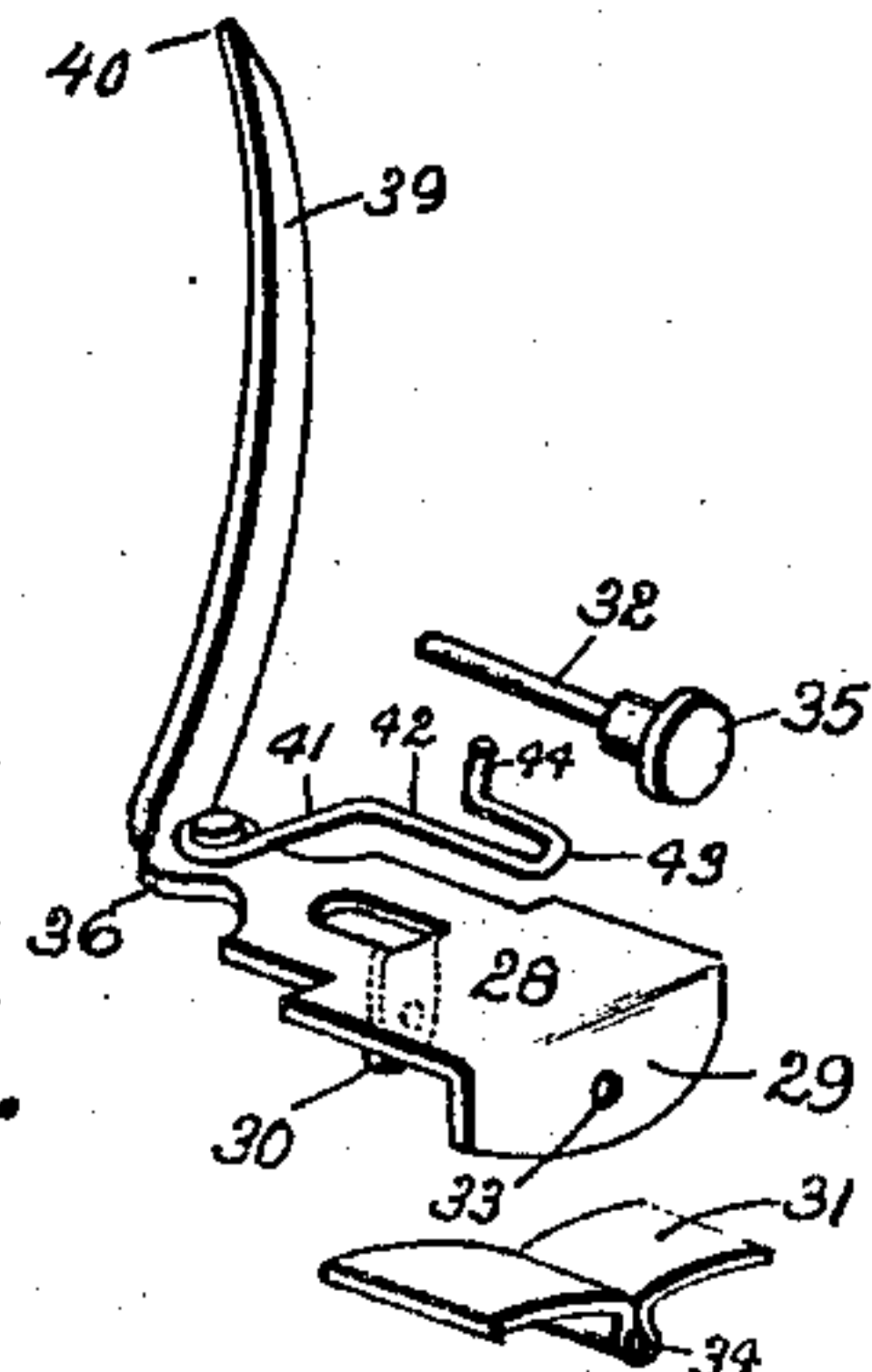


Fig. 4.



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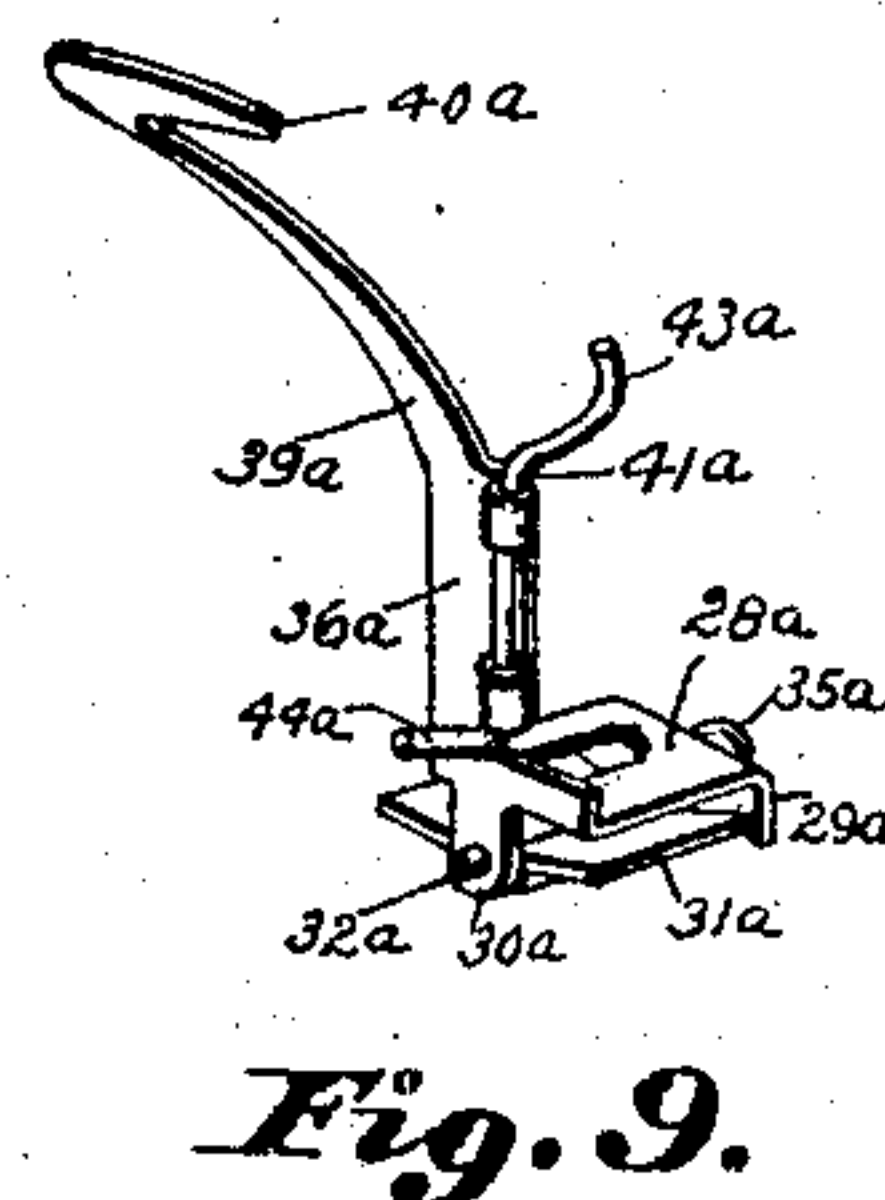
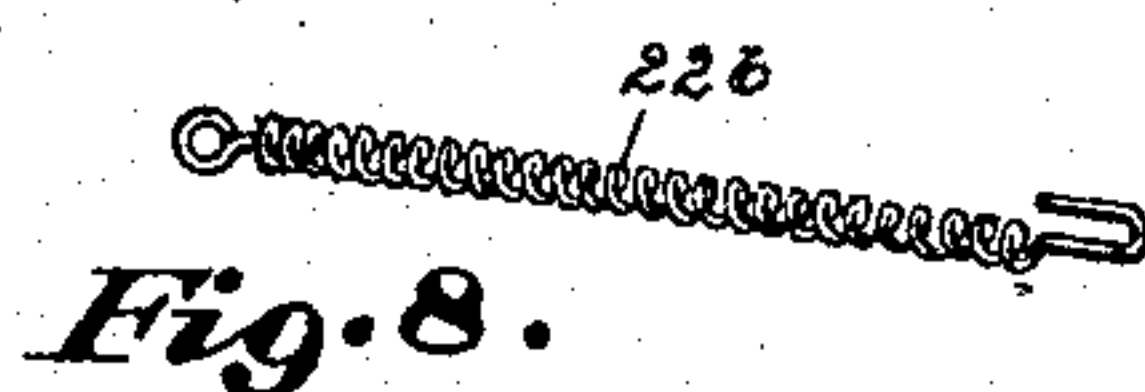
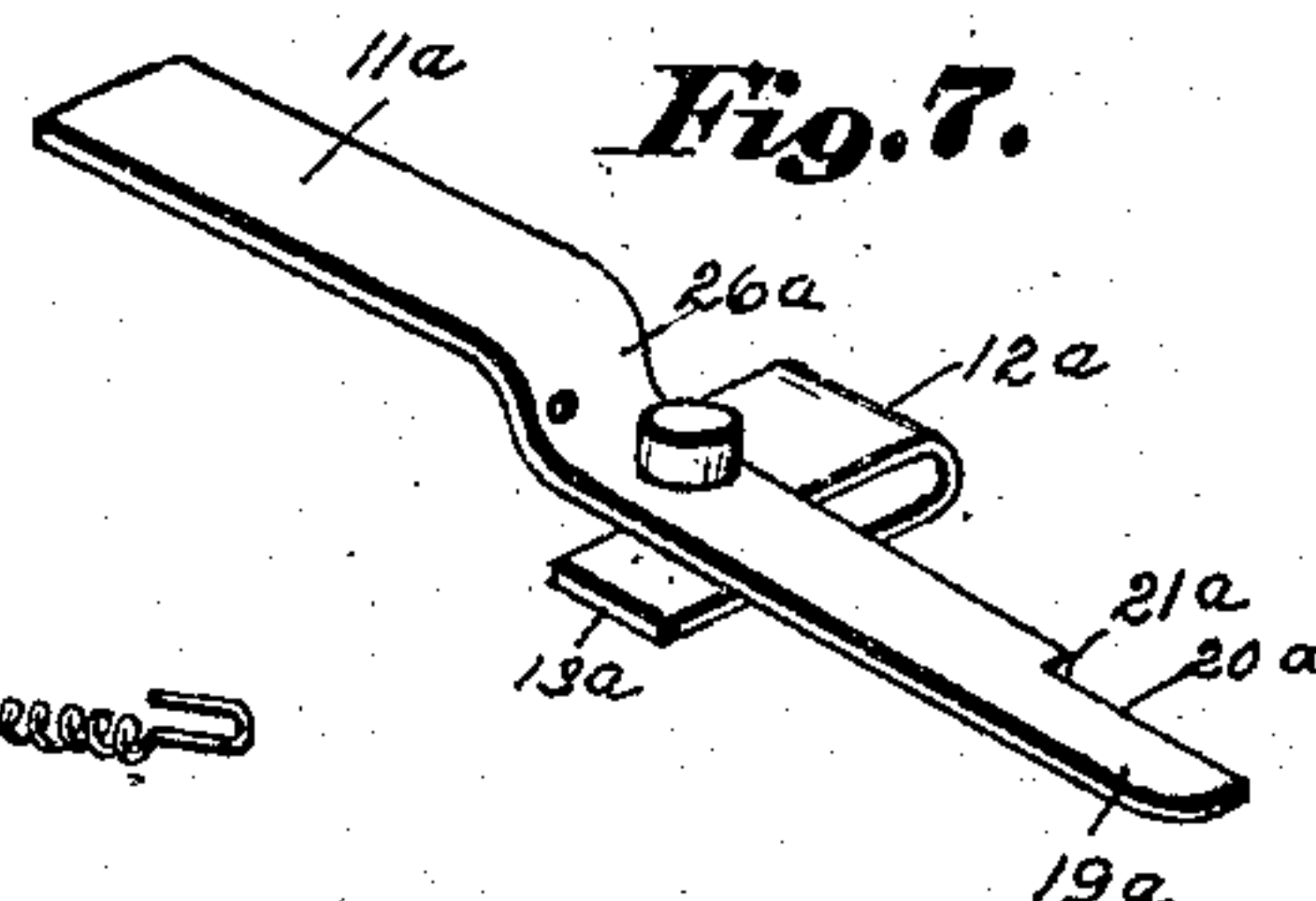
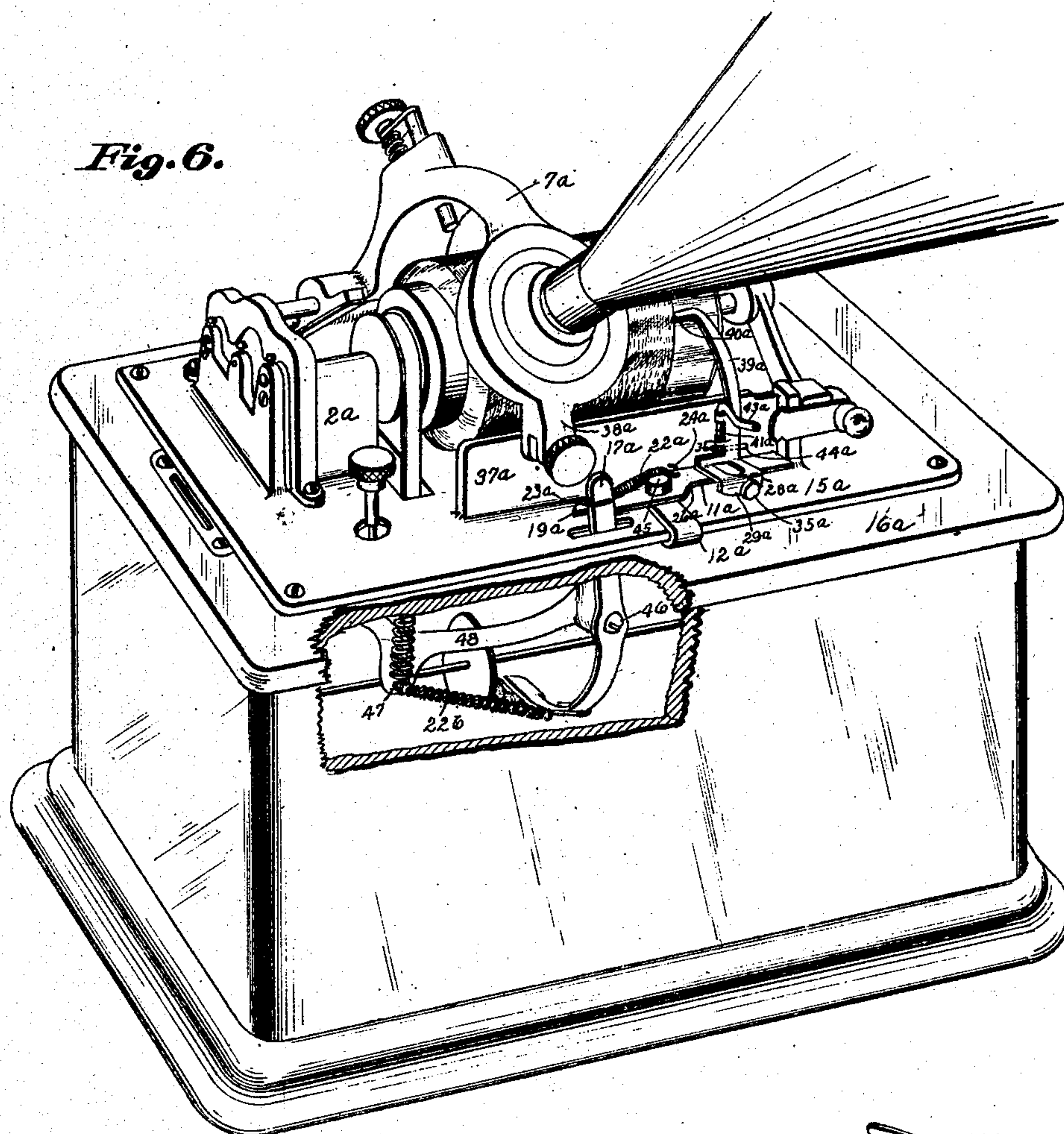
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

SYLVESTER W. GIBBS, OF CANTON, OHIO, ASSIGNOR OF ONE-HALF TO THE GIBBS MANUFACTURING COMPANY, OF CANTON, OHIO, A CORPORATION OF OHIO.

PHONOGRAPH-STOP.

No. 888,190.

Specification of Letters Patent.

Patented March 31, 1908.

Application filed August 12, 1907. Serial No. 388,172.

To all whom it may concern:

Be it known that I, SYLVESTER W. GIBBS, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented a new and useful Phonograph-Stop, of which the following is a specification.

The invention relates to an automatic mechanism for stopping the motor of a phonograph when the button arm of the reproducer has traveled to the end of the indentations on the record cylinder; and the objects of the improvement are to provide a simple and inexpensive device for the purpose mentioned, which can be readily applied to an ordinary phonograph without special preparation or provision being made therefor, which can be readily adjusted to conform to the varying lengths of the record indentations on various cylinders, which is sensitive but certain in its operation, and which is automatically set when the starting lever has been moved into operative position. These objects are attained by the construction, mechanism and arrangement illustrated in connection with two of the ordinary sizes or styles of phonographs in common use, in the accompanying drawings, in which—

Figure 1 is a perspective view of a larger size type of phonograph in common use, showing the stop mechanism adapted and applied thereto; Fig. 2, a detached perspective view of the long controlling-lever which is adapted for use on the larger phonograph; Fig. 3, a detached perspective view of the actuating-spring; Fig. 4, a detached perspective view of the long controlling-lever trip-bracket with the trip-lever thereon, showing the spring and handle separated from the body of the bracket; Fig. 5, a fragmentary sectional view showing the trip-bracket on the controlling-lever; Fig. 6, a perspective view of a smaller size type of phonograph in common use, showing the stop mechanism adapted and applied thereto; Fig. 7, a detached perspective view of the short controlling-lever which is adapted for use on the smaller phonograph; Fig. 8, a detached perspective view of the alternate actuating-spring; and Fig. 9, a detached perspective view of the short-lever trip-bracket, showing the trip-lever thereon.

Similar numerals refer to similar parts throughout the drawing.

Referring to the larger phonograph, illustrated in Sheet 1 of the drawings, the case 1 for the motor mechanism (not shown) and the frame 2 for the phonograph mechanism, the main shaft 3, the cylinder 4, the feed-nut 5, the back-rod 6, the speaker-arm 7, its lift-lever 8, the reproducer 9 and the record-cylinder 10 mounted on the main cylinder, are of the well known character and form employed in phonographs of this type, and do not constitute any part of the present invention. The long controlling-lever 11 is pivoted at a point intermediate its ends to the connecting-bracket 12 having the flat foot 13 thereon, by means of which the stop mechanism is preferably attached to the phonograph. This attachment is made by loosening the screws 14 employed for fastening the phonograph-frame to the case, then slipping the foot of the connecting-bracket under the base-plate 15 of the frame, after which the screws 14 are tightened, thus clamping the foot 13 of the connecting-bracket between the base-plate of the frame and the cover 16 of the case and securely and rigidly holding the stop mechanism in proper position. In this type of phonograph the free end of the starting-lever 17 protrudes upward through the slot 18 in the base-plate of the frame, and the motor mechanism is adapted to be started by moving the end of this lever outward, that is toward the adjacent end of the frame, and to be stopped by moving the end of this lever inward toward the middle portion of the frame. The actuating-end 19 of the controlling-lever is located back of the starting-lever and on its forward edge are provided the recess 20 and the shoulder 21, in which recess and against which shoulder the starting-lever is adapted to rest and to be held when in its open or operative position.

The actuating-spring 22 is preferably in the form of a coiled spring with the hook 23 on its outer end adapted to engage the starting-lever and the eye 24 on its inner end by which it is connected with the controlling-lever, as by means of the rivet 25. The bend 26 is preferably provided near the actuating end of the controlling-lever to bring the respective parts thereof in the proper plane, and the actuating-spring is preferably passed through the aperture 27 in this bend. It is evident that the tension of the actuating spring is slightly diagonal, so that the ac-

tuating end of the controlling-lever is drawn forward at the same time the starting-lever is drawn inward, and the starting-lever is thus securely held in the angle of the shoulder in the front edge of the controlling-lever.
 5 The trip-bracket 28 is preferably formed of a flat plate adapted to rest and slide endwise on the upper side of the trip end of the controlling-lever, with the ears 29 and 30
 10 formed from the body of the plate and bent downward over the front and back edges of the controlling-lever. The flattened or leaf spring 31 is attached to the bracket, as by means of the rivet-pin 32 passed through
 15 the apertures as 33 in the ears thereof and through the tubular aperture 34 formed in the spring, and the handle 35 is preferably provided on the front end of the rivet-pin. The leaf-spring 31 is adapted to press against
 20 the under side of the stop-lever, so that the trip-bracket can be readily adjusted by forcefully sliding it longitudinally along the lever and is then held in any desired position by the frictional contact of the spring.
 25 The rear portion 36 of the trip-bracket extends under and to the rear of the elevated track-bar 37, as the same is formed in this type of phonograph, along which track bar the foot 38 of the speaker-arm is adapted to travel. The indicating finger 39 is formed or
 30 attached on the rear end of the trip-bracket, and extends upward behind the track-bar and in front of the record-cylinder, and the point 40 of this finger is adapted to be adjusted by a proper movement of the trip-
 35 bracket to register with the end of the indentations on the record-cylinder, or to any other point with reference to which it is desired to stop the motor mechanism.
 40 For use in the larger phonograph the trip-lever 41 is preferably formed of strong, stiff wire, and is pivoted to the trip-bracket at a point behind the track-bar, whence it extends forward and preferably outward to an
 45 angle or bend, as at 42, normally directly under the track-bar, whence it extends directly forward in the path of the depending lift-lever 8 of the speaker-arm and is doubled upward and backward upon itself, as at 43,
 50 to the upwardly extending end or shoulder 44 which normally abuts against the forward face of the track-bar. The trip-lever thus described is the preferred form when made of wire, but it is evident that this particular
 55 construction is not essential for the performance of its proper functions, so long as the lever is provided with an arm, as 43, in the path of the lift-lever and a cam-acting shoulder, as 44, in abutment with the face of
 60 the phonograph frame, which arm and shoulder are eccentric to the axis of the pivot of the lever. And it will be understood that, for the purposes of this invention, the lift-arm need not be distinguished from the
 65 speaker-arm to which it is pivoted, for they

both travel together and it is immaterial whether the trip-lever is in the path of the one or the other.

In use, when the starting-lever is thrown toward the end of the phonograph into position for starting the motor mechanism, the
 70 actuating end of the controlling-lever is drawn forward by the action of the actuating-spring, so that the starting lever is engaged in the recess and against the shoulder
 75 formed in the front edge of the controlling-lever, and it is likewise held in this position while the motor mechanism operates the phonograph mechanism and the reproducer is moved from the inner towards the outer
 80 end of the record-cylinder. When the depending lift-lever 8 comes in contact with the arm 43 of the trip-lever, the same is carried outward, and in so doing the shoulder 44 of the trip-lever, being in abutment with the
 85 forward face of the track-bar, slides along the same and becomes a movable fulcrum, about which fulcrum the trip-lever is rotated and its pivot is carried or thrown forward. This forward movement of the pivot of the
 90 trip-lever throws the trip-bracket with the trip-end of the controlling-lever forward and the actuating-end of the controlling-lever backward, so that the shoulder in the front-edge thereof is moved laterally out of en-
 95 gagement with the starting-lever, and the actuating-spring then pulls the starting-lever inward and stops the motor mechanism.

The parts of the stop mechanism are so proportioned and positioned that by adjusting the point of the indicating-finger to register with the outer end of the indentations on the record-cylinder the motor mechanism
 100 will be stopped when the button-arm (not shown) of the reproducer has traveled to the same end of the indentations. It is evident that when the starting-lever is again thrown outward to the position for starting the motor mechanism, the stop mechanism
 105 will be automatically set for another action as before.

Referring to the smaller phonograph illustrated in Sheet 2 of the drawings, the short controlling-lever 11^a is pivoted intermediate its ends to the connecting-bracket 12^a having the foot 13^a, which foot is adapted to be clamped between the base-plate 15^a of the phonograph-frame and the cover 16^a of the motor mechanism as described above for the
 115 larger phonograph. The actuating-end 19^a of the short controlling-lever is likewise located back of the free end of the starting-lever 17^a of the motor mechanism and is provided with the recess 20^a and the shoulder 21^a which are adapted to receive and stop
 120 the starting-lever 17^a when the same is thrown outward to the position for starting the motor mechanism.

The ordinary actuating-spring 22^a is provided with the hook 23^a adapted to engage
 130

the starting-lever and with the eye 24^a in the other end adapted to connect with the short controlling-lever preferably at the bend 26^a therein on the remote side of its pivot-post 45. The actuating-spring 22^a preferably passes back of the pivot-post, so that the tension of the spring will pull the actuating end of the controlling-lever slightly forward when pulling the starting-lever inward. It has been found, however, in practice, that the starting-levers of the so-called smaller phonographs are not uniform in size or shape, so that it is not practicable to use the same form and length of actuating-spring for all machines of this type; and in order to make a stop mechanism which can be used universally on the smaller phonograph it is preferred to use the alternate actuating-spring 22^b which is connected at one end with the starting-lever within the case below its pivot 46, and at the other end to the spring post 47 which is formed or attached on the speed-adjusting-lever 48 in the motor mechanism as shown in Fig. 6.

When the alternate actuating-spring 22^b is employed, the ordinary actuating-spring 22^a can be omitted in the stop mechanism for the smaller phonographs without affecting the essential operations of the same; for, when using the short controlling-lever, the spring between the free end of the starting-lever and the controlling-lever is not so important because of the comparatively short distance between the stop-shoulder 21^a of the controlling-lever and the pivot-point thereof. When the ordinary actuating-spring is not used, the operator readily sets the stop mechanism for action, by using the forefinger of the left hand for moving the actuating end of the controlling-lever forward at the same time the thumb of the same hand is used for moving the starting-lever outward.

The track-bar 37^a in the smaller phonograph is formed integral with the base-plate 15^a of the phonograph-frame 2^a throughout its length, so that there is no space underneath the track-bar through which the trip-bracket and trip-lever can extend. For this reason these parts must be formed and located entirely on the forward side of the track-bar. The body of the trip-bracket 28^a, the ears 29^a and 30^a, the leaf-spring 31^a, the rivet-pin 32^a and the handle 35^a are preferably made the same as or similar to the like parts of the trip-bracket described for use with the larger phonograph. The indicating-finger 39^a, however, is formed or attached to the bracket, and extends upward on the forward side of the track-arm, and thence is bent upward and backward to bring its point 40^a adjacent to the record-cylinder; and the trip-lever 41^a is pivoted on the vertical-extension 36^a of the trip-bracket and is provided with the arm 43^a which extends

forward in the path of the foot 38^a of the speaker-arm 7^a, and also with the rearward shoulder-forming arm 44^a which abuts as a cam the forward face of the track-bar 37^a, the arm and shoulder of the trip-lever being concentric to the axis of its pivot.

In use, it is evident that when the foot 38^a of the speaker-arm 7^a of the phonograph mechanism comes in contact with the trip-arm 43^a, the same will be carried outward with it, thus rotating the trip-lever on its pivot, and the trip-shoulder 44^a which abuts the face of the track-bar 37^a acts as a fulcrum and forces the pivot of the trip-lever forward, so that the trip-bracket and the trip-end of the short controlling-lever are thrown forward and the motor mechanism of the phonograph is thereby stopped in the same manner as described for the long controlling-lever.

It will be understood that in both forms of the stop mechanism which have been described, whenever a new record cylinder is placed on the cylinder of the phonograph, the trip-bracket is adjusted longitudinally on the controlling-lever, if necessary, so that the point of the indicating-finger will register with the end of the indentations on the record-cylinder, which adjustment insures that the motor mechanism will be promptly and surely stopped when the button-arm of the reproducer reaches the same point.

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

1. In a phonograph having a frame with a movable speaker-arm and a motor mechanism with a spring-controlled starting-lever; a stop-mechanism comprising a controlling-lever pivotally connected with the frame, a shoulder on one end of the controlling-lever adapted to hold the starting-lever open, a bracket on the other end of the controlling-lever, an indicating-finger on the bracket, and a trip-lever pivoted on the bracket and having a trip-arm in the path of the speaker-arm and a cam-acting shoulder abutting the frame whereby the movement of the speaker-arm rotates the controlling-lever to disengage its shoulder from the starting-lever.

2. In a phonograph having a frame with a movable speaker-arm and a motor-mechanism with a spring-controlled starting-lever; a stop-mechanism comprising a controlling-lever pivotally connected with the frame, a shoulder on the controlling-lever adapted to hold the starting-lever open, a bracket on the controlling-lever, an indicating-finger on the bracket, and a trip-lever pivoted on the bracket and having a trip-arm in the path of the speaker-arm and a cam-acting shoulder abutting the frame whereby the movement of the speaker-arm rotates the controlling-lever to disengage its shoulder from the starting-lever.

3. In a phonograph having a frame with a

- movable speaker-arm and a motor mechanism with a spring-controlled starting-lever; a stop-mechanism comprising a controlling-lever pivotally connected with the frame, means for detachably engaging the controlling-lever with the starting-lever in its open position, a bracket on the controlling-lever, an indicating-finger on the bracket, and a trip-lever pivoted on the bracket and having a trip-arm in the path of the speaker-arm and a cam-acting shoulder abutting the frame whereby the movement of the speaker-arm rotates the controlling-lever to disengage the starting-lever.
4. In a phonograph having a frame with a movable speaker-arm and a motor-mechanism with a spring-controlled starting-lever; a stop-mechanism comprising a controlling-lever pivotally connected with the frame, means for detachably engaging the controlling-lever with the starting-lever in its open position, a bracket on the controlling-lever, a trip-lever pivoted on the bracket and having a trip-arm in the path of the speaker-arm and a cam-acting shoulder abutting the frame whereby the movement of the speaker-arm rotates the controlling-lever to disengage the starting-lever.
5. In a phonograph having a frame with a movable speaker-arm and a motor-mechanism with a starting-lever; a stop-mechanism comprising a controlling-lever pivotally connected with the frame, a shoulder on the controlling-lever adapted to hold the starting-lever in its open-position, a spring acting to draw the starting-lever into the angle of the shoulder, and means on the controlling-lever

in the path of the speaker-arm whereby the movement of the speaker-arm rotates the controlling-lever to disengage its shoulder from the starting-lever.

6. In a phonograph stop-mechanism, a controlling-lever pivotally connected with the phonograph-frame, a trip-lever pivotally connected with the controlling-lever and having a trip-arm in the path of the phonograph speaker-arm and a cam-acting shoulder abutting the phonograph-frame.

7. In a phonograph stop-mechanism, a controlling-lever, a slidable trip-bracket on the lever and a spring on the bracket in frictional contact with the lever.

8. In a phonograph, a case, a frame attached on the case, and a stop-mechanism bracket having a foot adapted to be entered and clamped between the case and the frame.

9. In a phonograph, a motor-mechanism having a starting lever, a controlling-lever connected with the phonograph, a shoulder on the controlling-lever, and a spring acting to draw the starting lever into the angle of the shoulder.

10. In a phonograph stop-mechanism, an oscillatable controlling-lever connected with the phonograph-frame, an oscillatable trip-lever connected with the controlling-lever and having a trip arm in the path of the phonograph speaker-arm and a cam-acting shoulder abutting the phonograph-frame.

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Witnesses:

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