

No. 654,493.

Patented July 24, 1900.

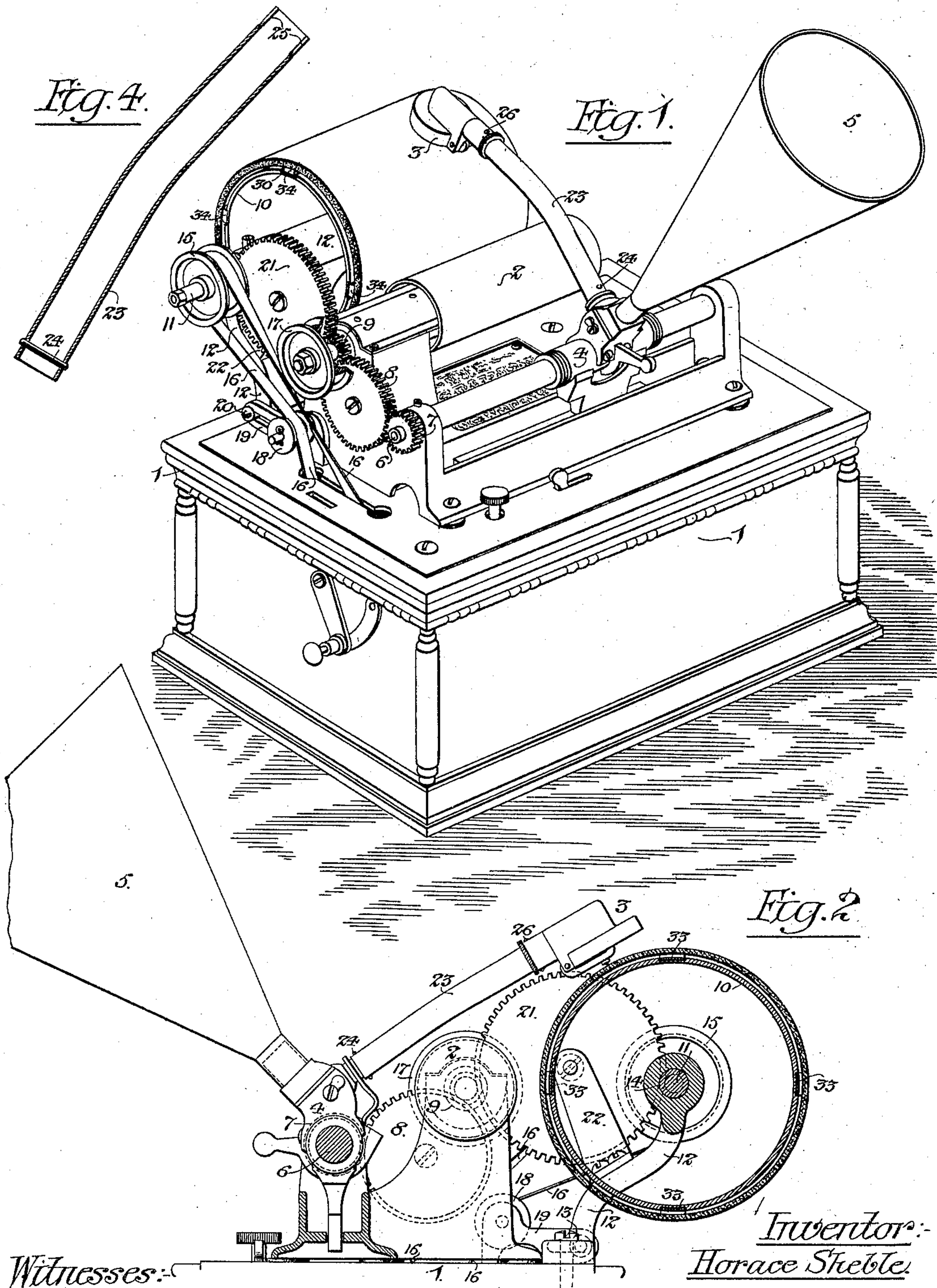
H. SHEBLE.

ATTACHMENT FOR PHONOGRAPHS.

(Application filed Dec. 11, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:  
Louis H. Whitehead  
J. E. Beckford

Inventor:  
Horace Sheble  
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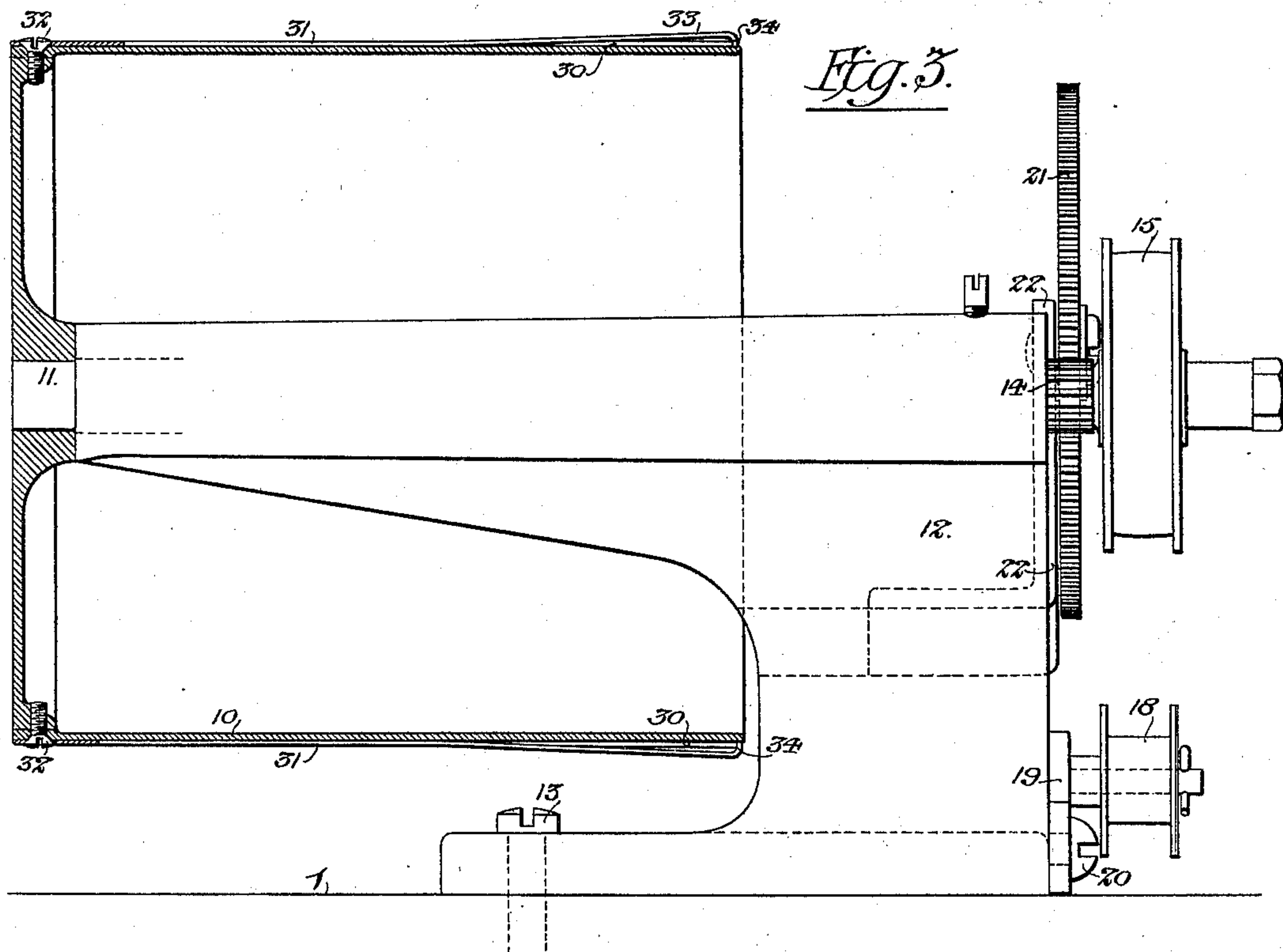


Fig. 3.

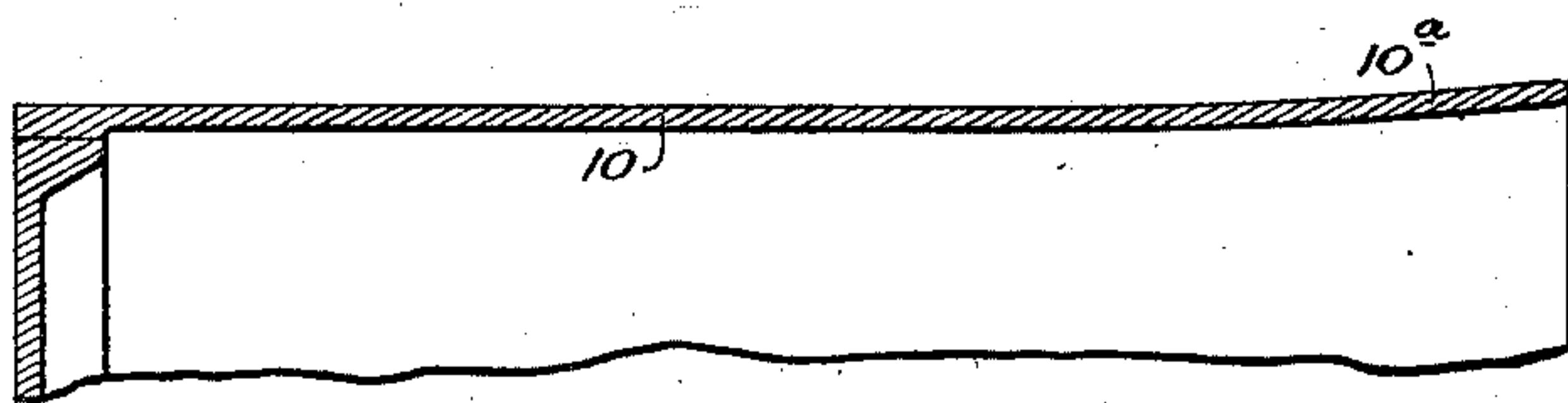
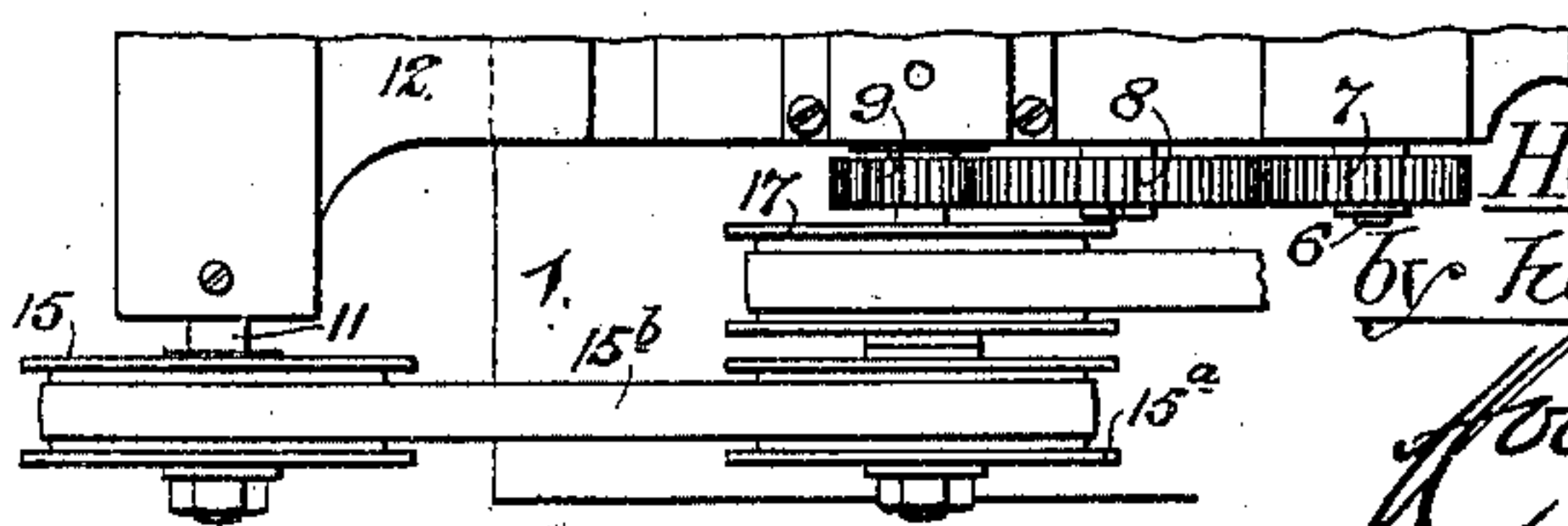


Fig. 6.

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# UNITED STATES PATENT OFFICE

HORACE SHEBLE, OF PHILADELPHIA, PENNSYLVANIA.

## ATTACHMENT FOR PHONOGRAPHS.

SPECIFICATION forming part of Letters Patent No. 654,493, dated July 24, 1900.

Application filed December 11, 1899. Serial No. 739,941. (No model.)

*To all whom it may concern:*

Be it known that I, HORACE SHEBLE, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented an Attachment for Phonographs or Graphophones, of which the following is a specification.

The object of my invention is to provide a simple form of attachment whereby an ordinary phonograph or graphophone instrument intended for using record-cylinders of small diameter may be readily adapted for the use of the modern and more desirable record-cylinders of large diameter. This object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of an ordinary phonograph or graphophone instrument to which my attachment has been applied. Fig. 2 is a view of the same, partly in transverse section and partly in end elevation and on a larger scale. Fig. 3 is a view of the attachment, partly in side elevation and partly in longitudinal section. Fig. 4 is a sectional view of one of the elements of the attachment. Fig. 5 is a view illustrating a modified form of record-holder which may be used, and Fig. 6 is a top or plan view illustrating a modification of the driving device.

The record for use in an ordinary phonograph or graphophone instrument is formed upon a wax cylinder about two inches in diameter; but it has been found that much better results in reproduction are attained if the record-cylinder is of larger diameter, and special forms of phonograph or graphophone instruments are made for the purpose of using such large record-cylinders. These machines are, however, expensive; and the object of my invention is to provide an attachment which can be applied to an ordinary phonograph or graphophone instrument and which will render it available for using such large records, thus permitting the owners of the present instruments to obtain at a small cost all of the advantages of the larger and more expensive instruments.

The attachment consists, mainly, of a supplementary holder for the large record, an extension-tube for the support of the reproducer, and means for rotating the supplementary

record-holder at the desired speed, and also, by preference, gearing for connecting the shaft or spindle of said record-holder with the screw-shaft, which effects the longitudinal traversing movement of the reproducer.

In the drawings, 1 represents the motor-box of an ordinary phonograph or graphophone instrument; 2, the cylindrical record-holder; 3, the reproducer; 4, the carriage whereby the longitudinal traversing movement of the reproducer is effected; 5, the horn or trumpet; 6, the end of the screw-shaft which moves said carriage, and 7, 8, and 9 intermeshing spur-wheels, whereby said screw-shaft is connected to the shaft which carries the record-holder 2, the said shaft being provided with a pulley 17, which usually receives a belt running from a pulley forming part of the power mechanism in the box 1.

The supplementary or enlarged record-holder forming part of my attachment is represented at 10 and consists of a cylinder secured to and rotating with a shaft 11, which is adapted to turn in a bearing in a bracket 12, the latter being secured to the base-plate of the phonograph or graphophone instrument by a screw 13, which may be adapted to the threaded opening usually formed in said base-plate for the reception of a rail-supporting stem or standard, so that no special preparation of the machine for the reception of my attachment is rendered necessary. The shaft 11 has secured to it a spur-pinion 14 and a pulley 15, the latter receiving a belt 16 from the pulley forming part of the driving mechanism in the box 1, said belt passing over an idler-pulley 18, carried by a slotted bar 19, which can be adjusted so as to properly tighten the belt 16 and after adjustment can be secured to the bracket 12 by means of a clamp-screw 20. The spur-pinion 14 meshes with a spur-wheel 21, which is mounted so as to be free to turn on a stud carried by a secondary bracket 22, secured to and projecting from the main bracket 12 of the attachment, said spur-wheel 21 meshing with the spur-pinion 9 on the shaft of the record-holder 2.

If desired, the pulley 15 may be dispensed with and the ordinary driving-belt adapted to



the pulley 17 can be used; but I find that better results are attained if the driving-belt is adapted to a pulley on the shaft of the cylinder 10, so as to apply the power thereto directly instead of through the medium of the gears 14 and 21.

The gears 14 and 21 may be dispensed with in some cases by providing the shaft of the ordinary record-holder 2 with a second pulley 15<sup>a</sup> and running a belt 15<sup>b</sup> therefrom to the pulley 15, as shown, for instance, in Fig. 7; but this construction does not provide the desired positive driving connection between the feed-screw 6 and the shaft of the supplementary record-holder. Hence the use of the gears is always to be preferred.

In order to support the reproducer 3 in its proper relation to the enlarged record on the holder 10, I employ an extension-tube 23, which is inserted between the reproducer and the carriage 4, said tube having at its lower end a pin 24 for engagement with the slotted tube on the carriage, which ordinarily receives the reproducer, and at its upper end having slots 25 for engagement with the transverse pin 26 on the reproducer 3. All that is necessary therefore in order to convert the ordinary phonograph or graphophone into one capable of using large records is to secure the bracket 12 in place by means of the screw 13, remove the ordinary driving-belt and apply the belt 16, and insert the tube 23 between the reproducer and its carriage.

If desired, a reproducer or a carriage having a long tube may be used instead of the supplementary tube 23; but this would necessitate a change in the construction of the ordinary instrument. Hence the use of the supplementary tube will in most cases be resorted to. The use of the long tube gives to the reproducer the added weight desirable in order to secure the best results in reproduction from the large record.

The record-holder 10 of my attachment instead of being tapered externally from end to end, as usual, is cylindrical externally and has a series of longitudinal grooves 30—four in the present instance—each of said grooves receiving a spring-bar 31, which is secured to the cylinder at one end by means of a set-screw 32 and is bent at the other end, so as to form a flaring tongue 33 for engagement with the tapering interior of the wax cylinder which carries the record, the tongue being bent down at the end, as shown at 34, so as to bear upon the cylinder 10. This construction is not absolutely necessary, however, as the cylinder itself may be flared at the inner end, as shown, for instance, at 10<sup>a</sup> in Fig. 5. Either of these constructions provides a rigid bearing at one end of the cylinder for the large end of the tapered bore of the record and a rigid bearing at the other end of the cylinder for the contracted end of said tapered bore of the record, thereby overcoming the objection of uncertainty of concentric

support for the record, which results when yielding spring-holders on the cylinder are employed.

Instead of using a continuous cylinder a skeleton cylinder or a series of fingers projecting from the head, which is secured to the shaft 11, may be employed in some cases, so as to lessen the weight of the supplementary record-holder, and thereby decrease the amount of power necessary to rotate it.

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

1. A phonograph or graphophone attachment consisting of a record-holder independent of the ordinary record-holder of the instrument, a bearing in which said supplementary record-holder is free to rotate, means for rotating it and provision for mounting the reproducer in proper relation to it, substantially as specified.

2. An attachment for phonographs or graphophones comprising a record-holder supplementary to the ordinary record-holder, means for rotating the same, and a detachable extension-tube interposed between the reproducer and the reproducer-carriage, substantially as specified.

3. A phonograph or graphophone attachment comprising a record-holder supplementary to the ordinary record-holder, a bearing therefor, means for rotating said supplementary record-holder, gearing connecting the shaft of the same with the feed-screw for the reproducer-carriage, and provision for mounting the reproducer in proper relation to said supplementary record-holder, substantially as specified.

4. An attachment for phonographs or graphophones comprising a record-holder supplementary to the ordinary record-holder, a bearing therefor, a pulley on the shaft of said supplementary record-holder, an idler-pulley for the support of the driving-belt, a slotted bar carrying said idler-pulley and adjustable in order to slacken or tighten the belt, and provision for mounting the reproducer in proper relation to the supplementary record-holder, substantially as specified.

5. An attachment for phonographs or graphophones comprising a supplementary record-holder, means for mounting and rotating the same, and an extension-tube interposed between the reproducer and the reproducer-carriage, said tube having a pin at one end for engagement with the slotted reproducer-tube of the carriage, and slots at the other end for engagement with the pin of the reproducer, substantially as specified.

6. A record-holder for phonographs or graphophones, cylindrical throughout the greater portion of its length and adapted to fit the contracted end of the tapering bore of the record, said cylinder having at one end an outwardly-flaring portion or portions with gradual increase in diameter for engagement



with the enlarged end of the tapering bore of the record whereby said record is rigidly supported at each end, substantially as specified.

- 5 7. A record-holder for phonographs or graphophones consisting of a cylinder adapted to fit the contracted end of the tapering bore of the record and having a series of bars flared outwardly at one end of the cylinder  
10 but having a rigid bearing upon the latter and adapted to fit the enlarged end of the

tapering bore of the record, whereby said record is rigidly supported at each end, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HORACE SHEBLE.

Witnesses:

F. E. BECHTOLD,  
JOS. H. KLEIN.