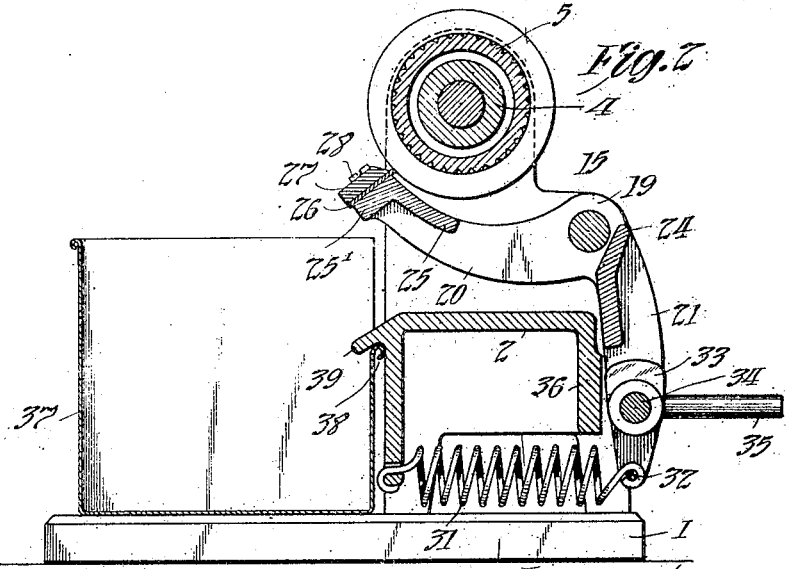
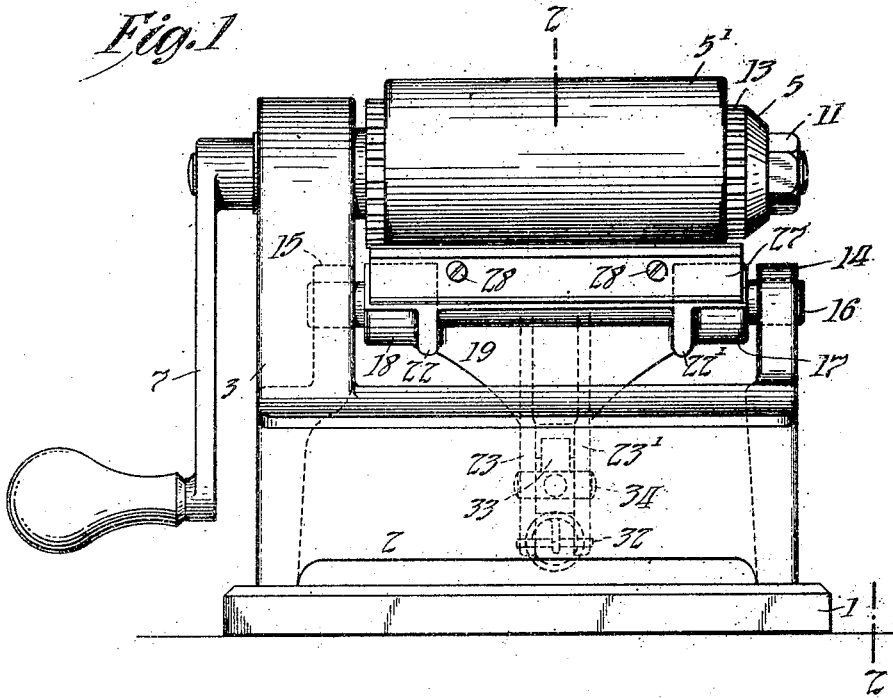


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 MACHINE FOR SHAVING SOUND RECORDS OR BLANKS.  
 APPLICATION FILED JUNE 22, 1911.

1,130,156.

Patented Mar. 2, 1915.

3 SHEETS-SHEET 1.



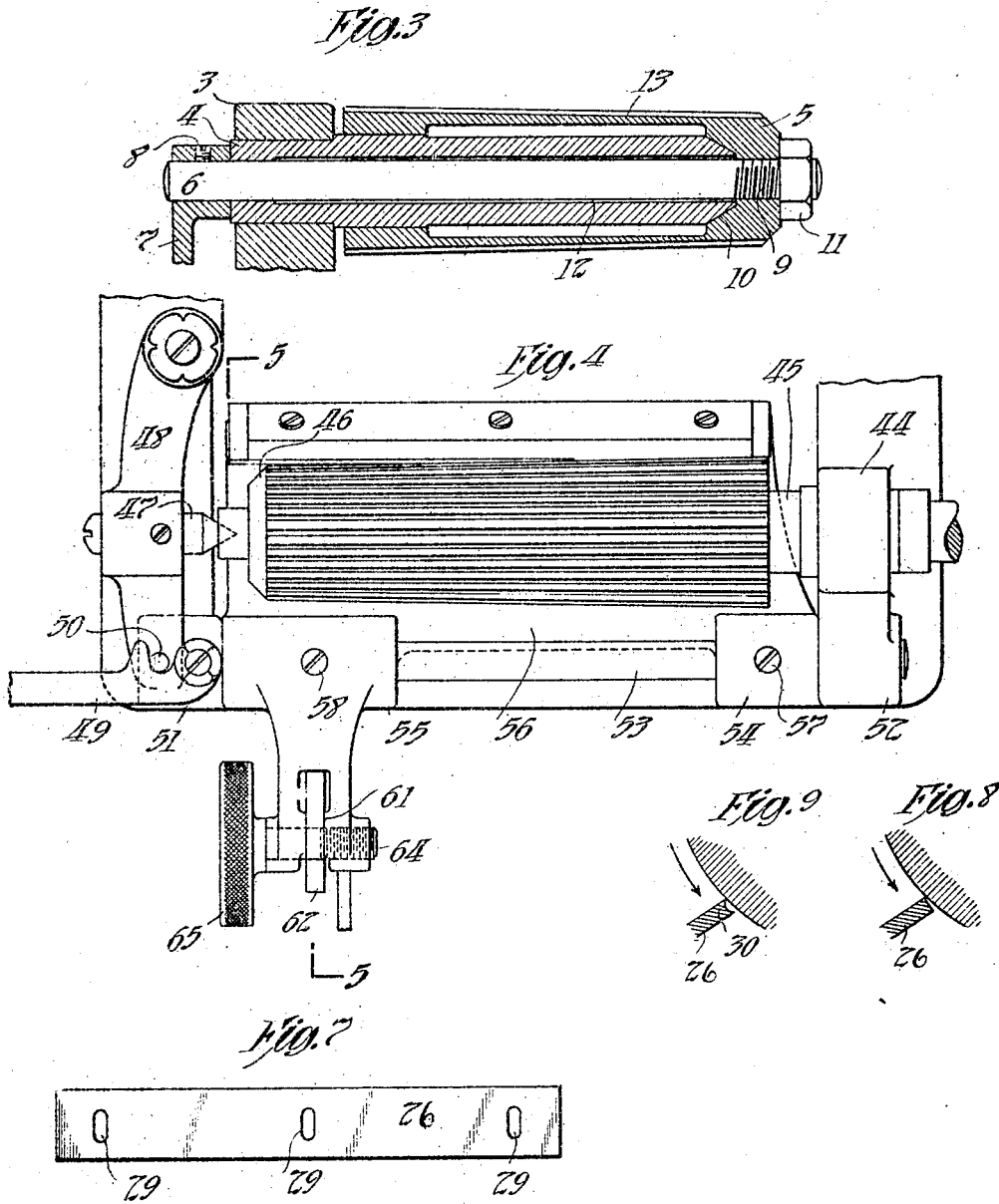
*Witnesses:*  
 Frank M. ...  
 Frederick Packman

*Inventor:*  
 Thomas A. Edison  
 by Frank T. ...  
 his Atty.

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 Frank D. Lewis  
 Frederick Bachmann

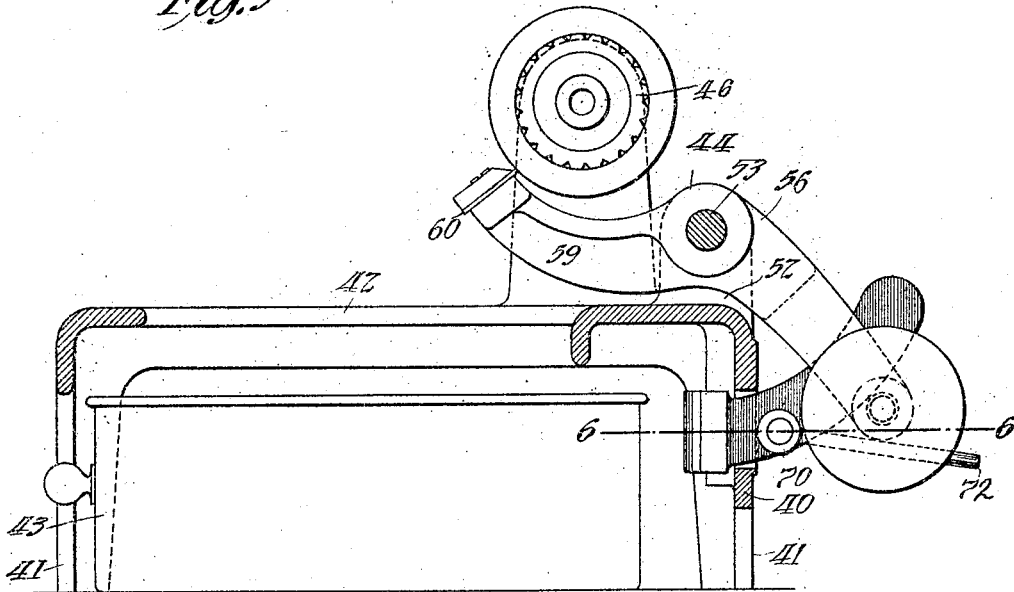
*Inventor:*  
 Thomas A. Edison  
 by Grant T. Ryan  
 1015 Atty.

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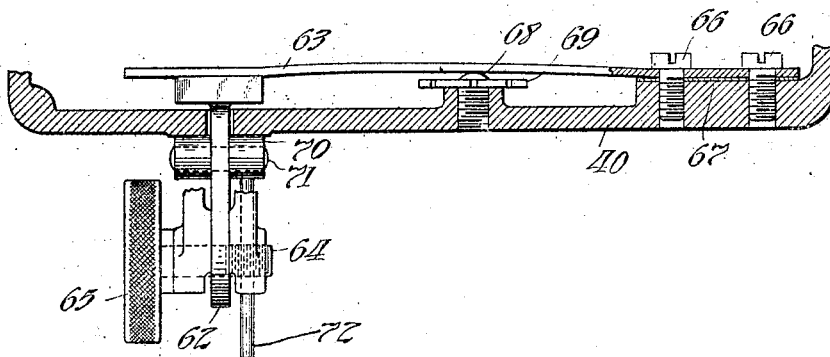
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 3 SHEETS—SHEET 3.

*Fig. 5*



*Fig. 6*



*Witnesses:*

*Franc D. Lewis  
 Frederick Bachmann*

*Inventor:*

*Thomas A. Edison  
 by *Franc L. Perry*  
 His Atty.*

# UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF LLEWELLYN PARK, WEST ORANGE, NEW JERSEY, ASSIGNOR TO  
NEW JERSEY PATENT COMPANY, OF WEST ORANGE, NEW JERSEY, A CORPORATION  
OF NEW JERSEY.

MACHINE FOR SHAVING SOUND RECORDS OR BLANKS.

1,130,156.

Specification of Letters Patent.

Patented Mar. 2, 1915.

Application filed June 22, 1911. Serial No. 634,806.

*To all whom it may concern:*

Be it known that I, THOMAS A. EDISON, a citizen of the United States, and a resident of Llewellyn Park, West Orange, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Machines for Shaving Sound Records or Blanks, of which the following is a description.

My invention relates to machines for shaving sound records or blanks, particularly, but not exclusively, those of cylindrical form.

In shaving machines now in common use, it is customary to provide a narrow knife for turning off the surface of the record or blank. This construction is objectionable owing to the time consumed in turning off the surface and to the necessity for providing more or less complicated mechanism for feeding the knife along the record. Both of these objections are obviated by the employment of a knife extending throughout the length of the record or blank to be shaved, as disclosed in United States Patent No. 457,314, granted to me on August 11, 1891.

One of the objects of my present invention is to provide an improved device of this character which is simple, compact and capable of rapid and efficient operation.

Other objects are to provide a new and efficient shaving knife and improved means for feeding the knife into the record or blank.

Further objects will appear more fully in the following specification and appended claims.

In order that my invention may be better understood, attention is directed to the accompanying drawings forming part of this specification and in which:—

Figure 1 represents a front elevation of a shaving machine embodying one form of my invention; Fig. 2 represents a cross section thereof taken on the line 2—2 of Fig. 1; Fig. 3 represents a central longitudinal section of the record or blank support and its mounting; Fig. 4 represents a plan view of a modified form of my invention; Fig. 5 represents an end view thereof partly in section on line 5—5 of Fig. 4; Fig. 6 represents

a plan view partly in section taken on line 6—6 of Fig. 5; Fig. 7 represents a plan view of the shaving knife; Fig. 8 represents a cross section of the preferred form of shaving knife; and Fig. 9 represents a similar view of a modified form of the shaving knife.

In all the views like parts are designated by the same reference numerals.

Referring to the drawings and more particularly to Figs. 1, 2 and 3, the base 1 is provided adjacent the forward end thereof with a box-like frame portion 2 from one end of which projects a standard 3, in the upper end of which is rotatably mounted one end of the hollow core 4 of the mandrel 5 for supporting the record or blank 5'. Through the center of the core 4 extends a shaft or rod 6 to one end of which a crank 7 is secured by a set screw 8 or other suitable means. The opposite end of the shaft 6 is threaded as shown at 9 into the outer end of the mandrel 5, the core 4 being firmly held between the crank 7 and the conical portion 10 of the mandrel. A check nut 11 locks the parts of the mandrel and shaft 6 in position. The core 4 preferably engages the shaft 6 only at one end thereof, the remainder of the central aperture therein being preferably formed of slightly greater diameter than the said shaft as shown at 12 in Fig. 3. In order to prevent slipping of the record or blank on the mandrel 5, the latter is formed with ribs 13 or is otherwise suitably roughened on the outer or record engaging surface thereof. By securing the crank 7 directly to the mandrel shaft, it is possible to rotate the mandrel without any lost motion such as is commonly produced by reason of the employment of interconnecting mechanism, such as belts, between the driving means and the mandrel.

Rotatably mounted in the bearing 14 and in the bearing 15 projecting from the standard 3 is a shaft or rod 16 adjacent the ends of which are secured the collars or bosses 17 and 18 on the lever 19. It is, of course, understood that the lever 19 might be rotatably mounted on the rod 16. The lever has an arm 20 extending rearwardly under the mandrel and a downwardly directed arm 21,

each of these arms being formed of two spaced sections, which are indicated at 22 and 22' for the arm 20 and at 23 and 23' for the arm 21, the sections of the lever being joined by a web 24 adjacent the pivot 16 and a web 25 adjacent the outer end of the arm 20. The web 25 is provided with a flange 25' extending substantially radially of the mandrel 5, a knife 26 being clamped in position on the said flange by the bar 27, which is held in position by means of screws 28, or other suitable securing means, passing through apertures 29 in the knife 26 and threaded into the flange 25'. The openings 29 in the knife are preferably elongated transversely of the knife, as shown in Fig. 7, so as to permit adjustment of the knife relatively to the record surface.

I prefer to form the knife with a large angle, preferably a right angle, between the surfaces forming the cutting edge thereof (see Fig. 8). This form of knife has more rigidity than the sharp edged knives commonly employed and permits a cut to be taken the whole length of the record cylinder without any chattering such as would occur if a knife with a small angle at the shaving edge were employed. This form also permits the employment of all four longitudinal edges of the knife for shaving. In Fig. 9, I have shown a modified form of knife having the forward portion thereof ground on a curve 30. While this form of knife has given satisfactory results, I prefer to employ the form shown in Fig. 8.

One of the principal features of my invention is the provision of means for automatically feeding the shaving knife into the record material. In the form of my invention shown in Figs. 1, 2 and 3, this means comprises a spring 31 secured at one end to the rear downwardly extending wall of the frame 2 and connected at its other end to a pin 32 mounted at its ends in the sections 23 and 23' of the arm 21 of the knife supporting lever. This spring is given such a tension as to feed the knife into the record material at a rate most suitable for efficient operation of the device. In order to permit control of the movement of the lever 19 by the spring 31, a cam 33 is mounted upon a pin or bearing 34 between the sections 23 and 23' of the downwardly extending arm 21 of the lever. A rod 35 secured to the cam 33 serves as means to rotate the same. The cam being placed in engagement with the front downward extending wall 36 of the frame 2, the arm 35 may be rotated to cause the knife to be moved at will toward or away from the record or blank. The extent of movement of the arm 35 regulates the amount of movement of the knife.

The numeral 37 represents a suitable receptacle adapted to be placed on the base 1 to receive the chips of shavings from the

record blank. One side of the said receptacle is of less height than the remaining sides and is formed at the upper edge with a bead 38, which is adapted to be placed under the inclined rib 39 projecting from the adjacent end of the frame 2.

In the modified form of my invention shown in Figs. 4, 5 and 6, the base or support 40 is provided with standards or legs 41, the top of the base being formed with an opening 42 through which the shavings from the record or blank are adapted to pass into the receptacle or drawer 43 placed under the base and movable between the legs thereof. Mounted in a bearing 44 on the base or support is a shaft 45 which carries the mandrel 46 on which the record or blank to be shaved is held. As in the modification hereinbefore described, the outer surface of the mandrel is ribbed so as to hold the record or blank against slipping. The free end of the mandrel is supported by an end bearing 47 carried by a pivoted gate 48 in the usual manner. A latch 49 adapted to engage the projection 50 on the gate 48 is pivotally mounted on the upright 51 formed at one end of the base or support. Rotatably mounted in the upright 51 and in the corresponding upright 52 at the opposite end of the frame is a rod 53 to which the bosses 54 and 55 on the bell crank lever 56 are secured in any suitable manner, as by screws 57 and 58 respectively. The lever 56 is provided with an arm 59 extending under the mandrel, a knife 60 being adjustably secured to said arm in the manner hereinbefore described. The other arm of the said lever extends forwardly and downwardly and is provided at its lower end with a forked portion 61 within which the sector 62, which is secured to the spring 63, is adjustably held by means of a set screw 64 provided with a knurled head 65. The end of spring 63 opposite that carrying the sector 62 is secured to the base or support by means of screws or other suitable fastening means 66, a washer 67 being inserted between the said spring and the base or support. In order to permit a regulation or adjustment of the pull or motive force of the spring 63 on the lever 56, I provide an adjusting device 68 bearing on the forward side of the spring and threaded into the base or support 40, this device being provided with an enlarged disk shape portion 69 for rotating the same. A cam 70 is mounted on the pivot 71 secured to the sector 62 and bears on the forward end of the base or support 40. By rotating the arm 72 secured to the cam 70, the sector 62 and lever 56 may be moved either by or against the pull of the spring 63 to adjust the shaving knife relatively to the surface of the record or blank to be shaved. The spring is designed to feed the knife into the record

material at the rate necessary for most efficient operation of the knife. The provision of the sector 62 and the means for adjustably securing the same to the lever permits the knife to be adjusted into contact with the record cylinder before the shaving operation is begun so that the shaving will continue during the whole of the throw of the arm 72 from the upper position in contact with the lower end of the lever as shown in Fig. 5 to the lower position in contact with the support for the base 40. The curvature of the cam 70 may be so regulated that by throwing the lever from one extreme position to another, a cut of desired depth will be taken.

It will be seen from the foregoing description that a shaving machine constructed in accordance therewith will be simple in construction and rapid and efficient in operation.

It is furthermore evident, that many modifications may be made in the specific structures shown and described without departing from the spirit of my invention.

What I claim as new and desire to protect by Letters Patent of the United States is as follows:

1. In a shaving machine, the combination of a rotatable support for carrying a record or blank, a knife support movable transversely with respect to said record or blank support, motive means, and an adjustable connection between said motive means and said knife support, substantially as described.

2. In a shaving machine, the combination of a rotatable support for carrying a record or blank, a knife support movable transversely with respect to said record or blank support, resilient motive means, and an adjustable connection between said motive means and said knife support, substantially as described.

3. In a shaving machine, the combination of a rotatable support for carrying a record or blank, a knife support movable transversely with respect to said record or blank support, a spring, an adjustable connection between said spring and said knife support, and means for regulating the motive force of said spring, substantially as described.

4. In a shaving machine, the combination of a rotatable support for carrying a record or blank, a knife support movable transversely with respect to said record or blank support, a spring, a sector secured thereto, and means for adjustably securing said knife support to said sector, substantially as described.

5. In a shaving machine, the combination of a rotatable support for carrying a record or blank, a knife support movable transversely with respect to said record or blank support, a spring, a sector secured thereto,

means for adjustably securing said knife support to said sector, and means for controlling the movement of said knife support, substantially as described.

6. In a shaving machine, the combination of a rotatable support for carrying a record or blank, a knife support movable transversely with respect to said record or blank support, a spring, a sector secured thereto, means for adjustably securing said knife support to said sector, and a cam for controlling the movement of said knife support, substantially as described.

7. In a shaving machine, the combination of a rotatable support for carrying a record or blank, a knife support movable transversely with respect to said record or blank support, a spring, a sector secured thereto, means for adjustably securing said knife support to said sector, means for controlling the movement of said knife support, and means for regulating the motive force of said spring, substantially as described.

8. In a shaving machine, the combination of a rotatable support for carrying a record or blank, a pivoted knife support movable transversely with respect to said record or blank support, motive means, and an adjustable connection between said motive means and said knife support, substantially as described.

9. In a shaving machine, the combination of a rotatable support for carrying a record or blank, a pivoted knife support movable transversely with respect to said record or blank support, a spring, a sector secured thereto, means for adjustably securing said knife support to said sector, means for controlling the movement of said knife support, and means for regulating the motive force of said spring, substantially as described.

10. In a shaving machine, the combination of a rotatable support for carrying a record or blank, a knife support movable transversely with respect to said record or blank support, motive means, a member secured thereto, and means for adjustably securing said knife support to said member, substantially as described.

11. In a shaving machine, the combination of a rotatable support for carrying a record or blank, a knife support movable transversely with respect to said record or blank support, motive means, a member secured thereto, means for adjustably securing said knife support to said member, and means for controlling the movement of said knife support, substantially as described.

12. In a shaving machine, the combination of a rotatable support for carrying a record or blank, a knife support movable transversely with respect to said record or blank support, motive means, a member secured thereto, means for adjustably securing said knife support to said member, and

a cam for controlling the movement of said knife support, substantially as described.

13. In a shaving machine, the combination of a rotatable support for carrying a  
5 record or blank, a knife support movable transversely with respect to said record or blank support, motive means, a member secured thereto, means for adjustably securing  
10 said knife support to said member, means for controlling the movement of said knife

support, and means for regulating the motive force of said motive means, substantially as described.

This specification signed and witnessed this 20th day of June 1911.

THOS. A. EDISON.

Witnesses:

FREDERICK BACHMANN,  
ANNA R. KLEHM.