No. 681,918. Patented Sept. 3, 1901.

E. R. JOHNSON.

MACHINE FOR LEADING SOUND RECORDS.

(Application filed Jan. 20, 1900.)

(No Model.) 2 Sheets—Sheet 1.

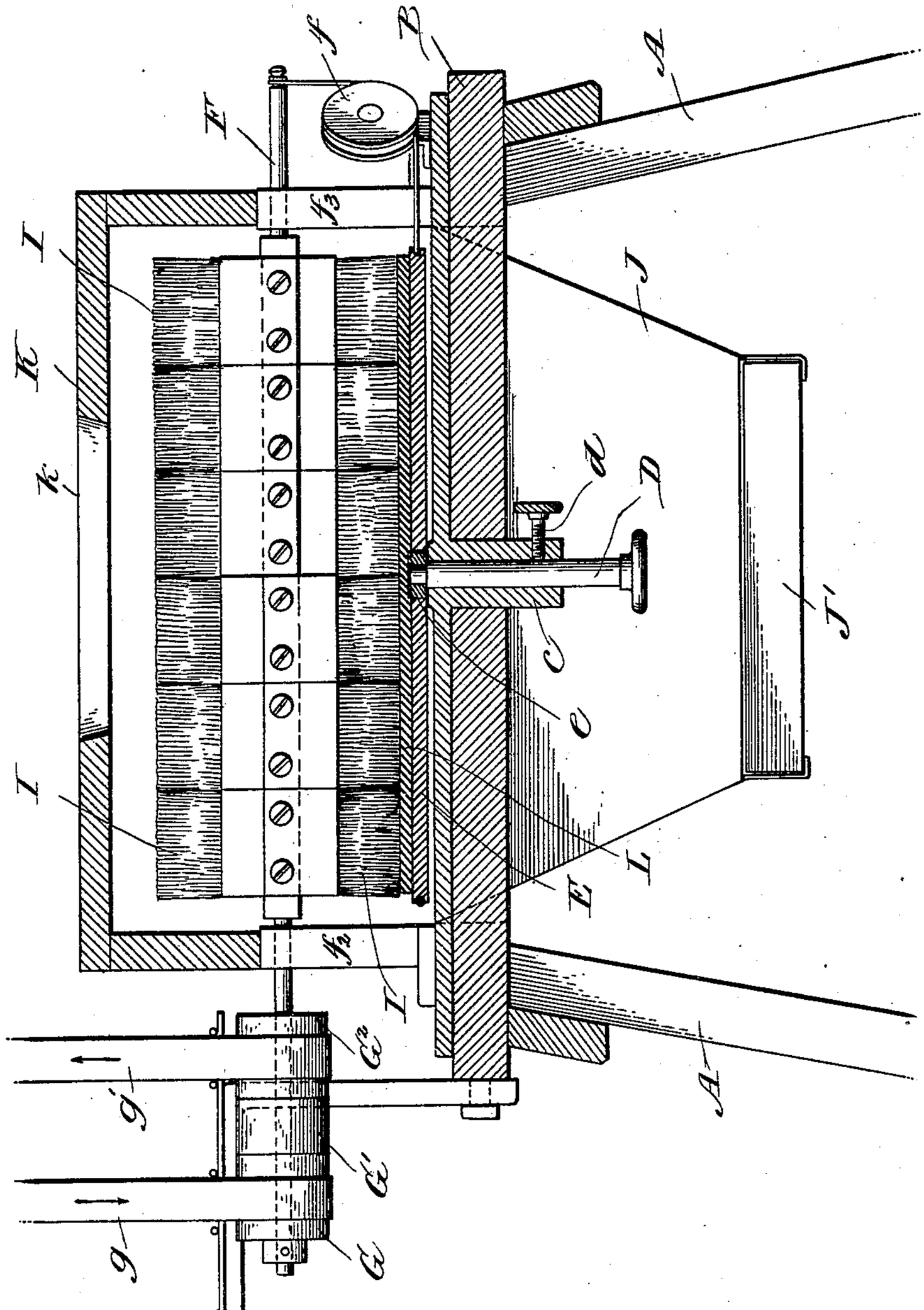

Fig. 1.

Witnesses.
Jno. T. Cross,
J. Henderson.

Inventor;
Eldridge R. Johnson
By Howson & Sons.
Attorney.

No. 681,918. Patented Sept. 3, 1901.

E. R. JOHNSON.

MACHINE FOR LEADING SOUND RECORDS.

(Application filed Jan. 20, 1900.)

(No Model.) 2 Sheets—Sheet 2.

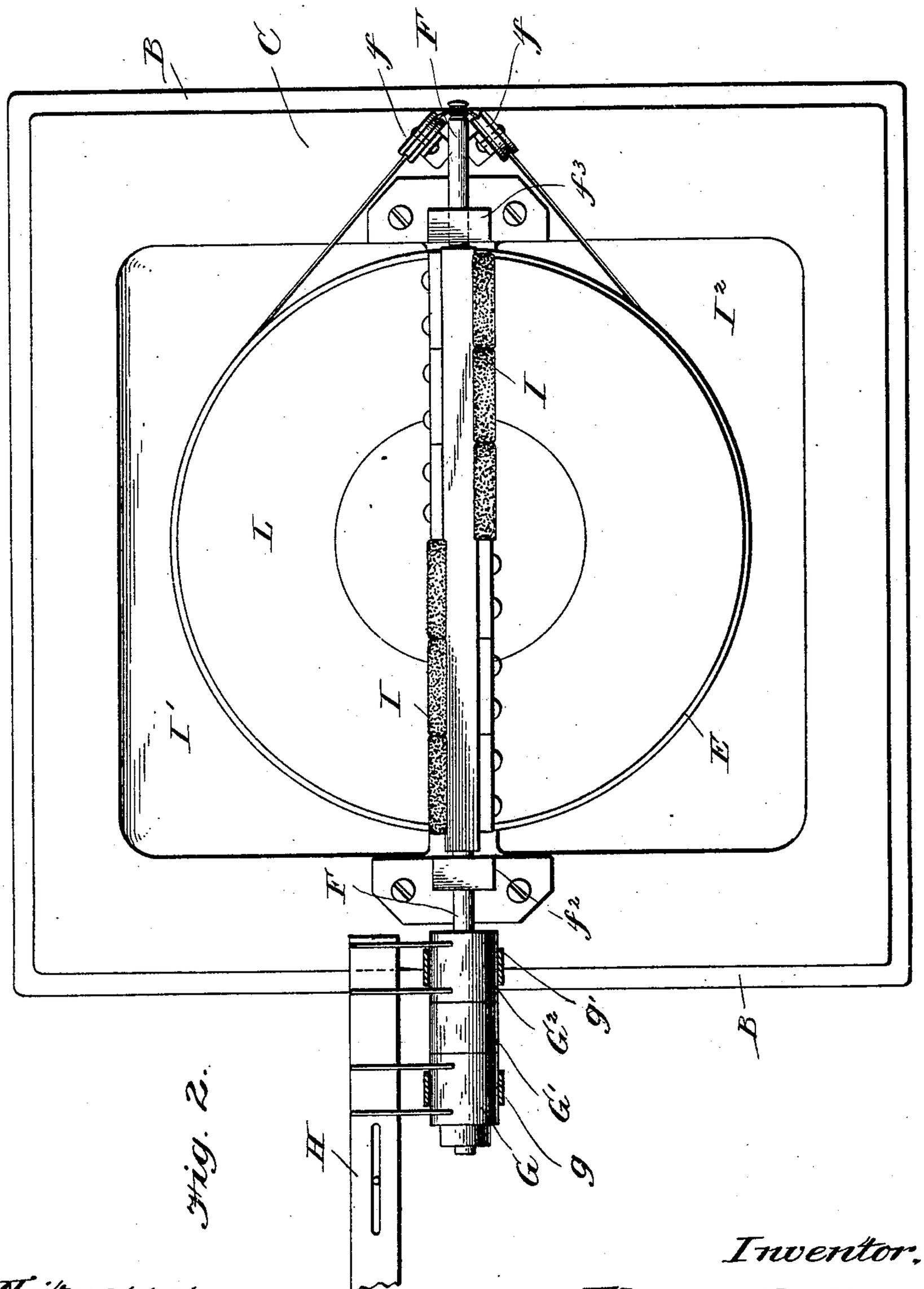

Fig. 2.

Witnesses.
Jno. T. Cross
J. Henderson

Inventor.
Eldridge R. Johnson,
by Howe Peters,
Attorney.

UNITED STATES PATENT OFFICE.

ELDRIDGE R. JOHNSON, OF PHILADELPHIA, PENNSYLVANIA.

MACHINE FOR LEADING SOUND-RECORDS.

SPECIFICATION forming part of Letters Patent No. 681,918, dated September 3, 1901.

Application filed January 20, 1900. Serial No. 2,175. (No model.)

To all whom it may concern:

Be it known that I, ELDRIDGE R. JOHNSON, a citizen of the United States, and a resident of the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Machines for Leading Sound-Records, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an improved construction of machine for leading sound-records after the record-grooves have been recorded therein preparatory to their going to the electroplating-bath; and the principal object of my invention is to provide a machine which will thoroughly coat the records with a finely-granulated graphite or other finely-divided conducting material without in any way impairing the surface of the record. This coating of graphite or other suitable material must be so filmy and thin as practically not to interfere with the proportions of the recorded undulations or to reduce the width or depth of the record-groove. When the record is properly coated or "leaded," it presents upon its entire surface a dull or shiny perfectly smooth appearance.

My invention consists in the construction and arrangement of the parts, substantially as hereinafter fully described, and pointed out in the claims made hereto.

In the accompanying drawings, which form a part of my specification, and in which similar letters are used to indicate similar parts, Figure 1 is a sectional elevation of a machine embodying my improvements. Fig. 2 is a top plan view of the same.

In carrying out my invention I provide a suitable frame, as A, which may be constructed of metal, wood, or other suitable material, having a main supporting-table B, upon which is mounted an adjustable supporting-plate C, which is provided with a central hub adapted to fit in an opening provided in the table B. Through the center of the hub *c* of the plate C is a spindle D, held in its adjusted position by means of the set-screw *d*. The upper end of the spindle *d* is reduced and carries a bushing *e*, which forms the center of a revolving turn-table E. The periphery of the turn-table E is provided with a groove for the reception of a belt or table which passes under and around a pair of pulleys $f f'$, which are secured to the plate C and are arranged at an angle, so as to guide the said belt up over the main driving-shaft F of the machine. The driving-shaft F is supported on two standards, as f^2 and f^3, secured to the supporting-plate C, and on the outer extending end of the said shaft F are driving-pulleys G G′ G², the middle pulley G′ being tight on said shaft and the other pulleys loose. The driving-belts *g g′* are provided together with a shifting-lever H, the said belts running in opposite directions, as shown by the arrows in Fig. 1, so that the main driving-shaft F may be revolved in either direction.

Secured to the driving-shaft between the two standards f^2 f^3 are the brushes I, arranged in sets, as shown most clearly in Fig. 2, one half of said brushes on one side of the shaft being arranged so as to extend upwardly, while the other half extend downwardly, and on the opposite side of the said shaft the said brushes opposite the upwardly-extending brushes extend downwardly and those opposite the downwardly-extending brushes extend upwardly. The hair composing the brushes is quite long and of a very fine grade of camel's hair and is adapted to sweep the entire surface of the record as they revolve.

On each side of the main shaft F in the supporting-plate C are formed the openings I′ I², in which are secured the downwardly-extending chutes J, each chute having provided in its bottom a sliding drawer J′, and are adapted to receive the powdered graphite or other material used as it is brushed off the record-disk. An inclosing casing K is provided which sets over the tops of the brushes I, as illustrated in Fig. 1 of the drawings, the said casing serving to prevent the escape of the powdered material during the operation of the machine.

In operation the casing K is removed and the record-tablet L placed in position on the turn-table E, while the brushes are in a horizontal position. The record can be secured to the turn-table in any well-known or convenient manner, and after this has been done the turn-table can be adjusted vertically by loosening the set-screw *d* and raising the

spindle D, so that the record will bear against the brushes I. The casing K is then placed in position and the graphite or other material introduced through a slotted opening *k*, formed in the top of the casing K. The shifting-lever is then operated, which throws one of the belts *g* or *g'* into contact with the intermediate pulley G', and this drives the shaft F, carrying the brushes I. The brushes should revolve very rapidly, and the belting between the shaft F and the turn-table will revolve said turn-table simultaneously with the brushes. During this operation the brushes will come in contact with the entire surface of the record with a sweeping movement, and thus thoroughly coat and polish the entire surface of said record. The graphite as it is swept from the record will fall in the chute J' and into the drawers J', from which it can be removed and used over again. After this metallic coating or leading operation has been continued for a period of about fifteen minutes the record will be found to be properly leaded or coated and is then removed and is ready for the electroplating-bath. The brushes should be revolved first in one direction and then in the opposite direction, which can be readily accomplished by means of the double-belt system and shifting mechanism heretofore described.

Various changes in the form and arrangement of my machine might be made without departing from the spirit and scope of my invention. Hence I do not desire to be limited to the exact construction shown and described.

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

1. In a machine for leading sound-records, the combination with a supporting-frame, of a turn-table mounted therein adapted to support a record-disk, means for adjusting the turn-table vertically, a series of brushes arranged above the turn-table adapted to contact with the record-disk and means for revolving the said brushes in either direction, substantially as described.

2. In a machine for leading sound-records, the combination with a supporting-frame, of a turn-table mounted in said frame, means for the vertical adjustment of said turn-table, a driving-shaft located above the turn-table, a series of brushes alternately arranged on said driving-shaft adapted to contact with the turn-table as the driving-shaft is revolved, means for operating the driving-shaft and for simultaneously operating the turn-table, substantially as described.

3. The combination with the supporting-frame, of a stationary spindle mounted in the center of said frame, a turn-table secured to the upper end of said spindle, means for adjusting the spindle vertically, a driving-shaft arranged above the turn-table, a series of brushes carried by the driving-shaft adapted to contact with the turn-table, means for revolving the said driving-shaft, and a connection between the driving-shaft and the turn-table for operating the said turn-table simultaneously with the driving-shaft, substantially as described.

4. The combination with the supporting-frame, of a supporting-plate, C, having a central-hub bearing in the main frame, a spindle, D, secured in said hub, a turn-table loosely mounted on the upper end of said spindle adapted to support a record-tablet, a driving-shaft journaled in bearings carried by the supporting-frame, a series of brushes alternately arranged on the driving-shaft adapted to contact with the record-tablet as the driving-shaft is revolved, means for revolving the said driving-shaft, and a belt connection between the driving-shaft and the turn-table for revolving the said turn-table, substantially as described.

5. The combination of a revolving turn-table adapted to support a sound-record, a driving-shaft located above said turn-table, a series of brushes extending radially from opposite sides of said shaft, and means for revolving the said brushes first in one direction and then in an opposite direction, for the purpose described.

6. The combination with a supporting-table, of a turn-table journaled in the center of said supporting-table, a driving-shaft located above the turn-table, a series of brushes carried by said driving-shaft, a belt surrounding the turn-table and connected with the driving-shaft and a pair of idlers for holding the said belt in operative position, substantially as described.

7. The combination with the supporting-table, B, of a turn-table, C, journaled on said table, a driving-shaft journaled in supports carried by the frame, a series of brushes alternately arranged on said driving-shaft, a belt connection between the driving-shaft and the turn-table for revolving the two simultaneously, a pair of loose pulleys, G, G^2, arranged on the end of the driving-shaft and an intermediate tight pulley, G', the driving-belts, *g*, *g'*, adapted to run in opposite directions and a shifting-lever for throwing either of the said driving-belts into engagement with the tight pulley, substantially as described.

In witness whereof I have hereunto set my hand this 18th day of January, A. D. 1900.

ELDRIDGE R. JOHNSON.

Witnesses:

JNO. T. CROSS,

BENJ. F. PERKINS.