 spec. 5

A. is the revolving phonograph-cylinder.
B. is the traveling holding-arm mounted on the guide-sleeve B' and carrying the recorder and reproducer, the arm and sleeve being fed laterally by a lead-screw on the shaft of the phonograph-cylinder, as will be well understood. The frame C, carried by the arm B, rests upon the guide-rest D, it being adjustably supported thereon by a set-screw. 45

Through the arm B passes the shank of the cutting-tool E, adjustable by means of the nut b. There is also carried by an extension on the arm B the heated burning-tool F. This is adjustable by means of the screw c, and acts upon the phonogram-blank surface after the cutting-tool.

In Figs. 1 and 2 the burning-tool is composed of a platinum strip or wire d, to which heavier wires or rods e lead. The rods e are connected by a flexible cord, f, with a battery for supplying current for heating the strip or wire d. The strip or wire d is heated to a dull red, and is made to bear lightly on the wax or wax-like surface of the phonogram-blank. 55

In Figs. 3 and 4 the heat is produced by a small alcohol-lamp, G, which is carried by the guide-sleeve B' and travels with the holding-arm. The burning-tool in this latter arrangement may be a silver or alumininum wire, g—say one-eighth of an inch in diameter and reduced to one thirty-second of an inch at its burning end, such end being heated by conduction from the lamp. The end of the wire g above the flame of the lamp may carry a plate, g', so that the tool can be adjusted without disturbing the intensity of the lamp. The wire, except at the flame and the burning end, may be covered by a poor conductor of heat, such as asbestos. 60

The phonogram-blank H is a cylinder slipping over the phonogram-cylinder A. It has a surface of wax or a wax-like material on a base of harder material—such as plaster of Paris. The phonogram-blank may be turned and burned before being placed on the phonogram-cylinder of the phonograph; but it is preferred to have the cutting and burning-tools upon the phonograph itself, since the phonogram-blank can then be turned true to the cylinder of the machine, and can have the record removed from its surface, so that the phonogram blank can be used over again repeatedly.

1. I do not claim in this application the process of preparing the wax surface of a phonogram-blank by burning the same, or first cutting and then burning the same, since I propose to file a separate application for patent upon such process.

2. Nor do I claim herein a phonogram-blank having a recording-surface of wax or a wax-like material, or having such a surface
and a backing of tougher material, since this is covered by my application for Patent No. 734, Serial No. 252,964; neither do I claim herein such a phonogram blank when the base is of a molded material—such as plaster-of-paris—since this is covered by my application No. 740, Serial No. 256,188; neither do I claim herein a phonogram blank having a burnished wax or wax-like surface, since this will be made the subject of a separate application for patent.

What I claim is—

1. In a phonograph, the combination, with the phonogram-blank carrier adapted to carry a wax-surfaced blank, of a burnishing-tool mounted upon the machine in position to act on the wax surface of the blank, substantially as set forth.

2. In a phonograph, the combination, with the phonogram-blank carrier adapted to carry a wax-surfaced blank, of a heated burnishing-tool mounted upon the machine in position to act on the wax surface of the blank, substantially as set forth.

3. In a phonograph, the combination, with the phonogram-blank carrier adapted to carry a wax-surfaced blank, of a cutting-tool and a burnishing-tool mounted upon the machine in position to act in succession on the wax surface of the blank, substantially as set forth.

4. In a phonograph, the combination, with the revolving phonogram-cylinder and the traveling holding-arm, of the cutting-tool and the heated burnishing-tool moving with such traveling holding-arm, substantially as set forth.

5. In a phonograph, the combination, with the phonogram-blank carrier adapted to carry a wax-surfaced blank, of a burnishing-tool mounted upon the machine in position to act on the wax surface, and electric-circuit connections for heating the tool by an electric current, substantially as set forth.

This specification signed and witnessed this 22d day of November 1887.

THOS. A. EDISON.

Witnesses:

WILLIAM PELZER,

E. C. ROWLAND.