

NOTE.—The application for a Patent has become void.

This print shows the Specification as it became open to public inspection under Section 91 (3) (a) of the Acts.

PATENT SPECIFICATION



Convention Date (France): July 25, 1929.

365,108

Application Date (in United Kingdom): July 8, 1930. No. 20,671/30.

Complete not Accepted.

COMPLETE SPECIFICATION.

Improvements in or relating to Cinematograph Films.

We, SOCIETE FRANCAISE CINECHROMATIQUE (Procedes R. Berthon), a French Societe Anonyme, of 24, Rue de la Pepiniere, Paris, France, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention has for its object the application, in the engraving process performed on cylinders for use in embossing microscopic refractive elements on the surface of cinematographic and like films, of the well known process used for cutting very fine screw threads, viz. cutting the thread on a lathe, after which the groove is polished by means of an abrasive applied on a wedge of soft metal.

When applied to the engraving of cylinders for use in film embossing, no other modifications are introduced in the process than those relating to the shape of the groove bottom to comply with the optical conditions which must be satisfied by the film once operated upon by such cylinders, and those connected with the fineness of engraving aimed at. As a rule, the curvature of the groove bottom will be in the neighbourhood of four hundredths of a millimetre, while the number of grooves per millimetre will be about 25 to 30.

The procedure will thus be as follows:—

1. By means of a tool made of steel or diamond or any suitable material of sufficient hardness, a thread is cut in the surface of the cylinder the pitch of which is such as to allow 25 or more grooves to be obtained to the millimetre. The cutting edge of the tool is given a blunt profile, or simply that of a comparatively obtuse wedge, the amount of metal to be taken away in order to bring the groove from the angular to the circular shape being an infinitesimal one which can readily be obtained in the polishing process.

[Price 1/-]

2. The initial groove once obtained on the cylinder, use is made of a wire of about 8/100th of a millimetre in thickness, which is stretched on a bow and coated with a suitable abrasive material such as rouge; the wire is laid upon the cylinder while a rapid movement of rotation is imparted to the latter. The bow may be carried on a lathe carriage or simply held by the hand, and may comprise a plurality of wires arranged in parallel relation. Irrespective of the arrangement used, the wire will engage one of the initial grooves cut in the cylinder by the tool, and the friction of the same in the bottom of the groove through the action of the abrasive material will cause the said groove bottom almost instantaneously to acquire the shape of the calibrated wire; the only thing necessary is to change the point of engagement of the wire so that no change in the shape of the groove may occur as the wire becomes worn out.

The method described is applicable to the production of cylinders made of hardened steel, glass or like hard materials, provided the initial spiral groove is cut with the aid of a diamond. The curvature of the groove bottom will then be obtained merely as a result of the action of the wire coated with an abrasive material.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A process for the production of grooves in cylinders for use in embossing microscopic refractive elements on cinematographic films, consisting in that a screw thread is cut on the surface of the cylinder, the pitch of which is such that at least 25 grooves to the millimetre will be obtained, after which the bottom of the groove is rounded by means of a suitable wire stretched on a bow held by the hand or carried on a lathe tool.

2. The process for the production of

grooves in cylinders for use in embossing microscopic refractive elements on cinematographic films, substantially as described.

Dated this 8th day of July, 1930.

SOCIETE FRANCAISE CINE-
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Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1932.