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COPY OF LETTER FROM MR.C.G.CHILD, PHILADELPHIA – JAN.5TH. 1905.

My dear Mr. Birnbaum,

Enclosed you will find instructions as to the method employed in our Laboratory for the making of duplicates by moulding process.

I think that if this memorandum is followed absolutely you will have no difficulty whatever in getting a good duplicate. One point which is of some importance and not covered in the Memorandum is the treatment of the matrix or shell which is held for the Master. With us this shell is never polished or burnished in any way. After backing up, the matrix is carefully cleaned with gasoline or petrol and is then boiled in lye to remove the grease: given a very thin coat of nickel which in its turn is never polished or burnished. The reason for this is that the graphite adheres more readily to the surface of the mould if this surface is not too brilliantly polished. The shell from the mould, from which stock records are pressed, is polished in the usual way.

You may find it an advantage also to use, especially for the covering of the mould, the graphite treated by the formula which we use in our depositing tanks. Mr. Royal has this and knows just how the lead is treated. We find that with graphite or lead treated in this way we are able to cover the surface of a moulded record in practically two-thirds less time than when using the unprepared graphite.

Special emphasis should be given to the last paragraph of the enclosed memorandum - that is - great care should be taken to keep the material fresh and not allow it to be melted and used over and over again without the addition of a proportion of wax.

We also find that for some reason the second shell from a mould is not always as good or as smooth as the first, and therefore we make but one shell from each mould cast. If the second or third shell is required a new cast is made.

I think that this fully covers the points which will be of advantage to you in trying out this process, and shall be extremely glad to know just what success you meet with. We consider it absolutely a life saver here!

Very truly yours,
(Signed) C.G.Child.
Manager Laboratory

COPY (From Mr.Child's letter 5.1.05.)

MOULDS

The process of making Moulds is as follows :-

Mix 4½ oz selected hard Carnauba Wax, 3 oz. hard black ozokerite, 2½ oz. lamp black and cook over a moderate heat for one hour; ad 11 oz. stearic acid.

When the mixture is melted add, slowly, enough heated plaster of Paris to make a plastic mass. Heat the object to be moulded to a temperature not higher than 212° F. Wipe matrix with light oil of camphor and pour on enough composition to make mould. Arrange pan containing matrix and composition so water will circulate all around and underneath. Separate mould while yet warm.

In making a mould it is necessary to use great care in applying the oil of camphor; use just enough to moisten the surface of the hot matrix and no more. When every part of the matrix surface has been coated with oil, rub it vigorously with a clean piece of muslin until it is absolutely dry. If this is done and the composition is poured on the heated matrix at a temperature of 212 ° F a perfect impression should be the result.

After composition has been used for a while it may begin to stick to the matrix or crack while cooling or buckle too much. A little Carnauba Wax melted and thoroughly mixed with the composition will prevent the sticking. The addition of a mixture of ozokerite and stearic acid will prevent the cracking, while an addition of plaster of Paris will prevent the buckling.
