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POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

M. Edwin O'Neill

Reproduction of Footprints

A number of valuable suggestions for the reproduction of footprints are described in an article which appeared in the October 1941 issue of the Royal Canadian Mounted Police Quarterly.¹ In discussing methods of reproduction the author, Constable J. R. Abbott, divides footprints into two classes: two-dimension prints and three-dimension prints. The former are classified as *dust* prints (coal, flour, plaster, etc.) and *wet* prints (oil, blood, water, etc.); the latter are classified as *non-porous* (moist clay), *porous* (sand, soft earth, cement, etc.) and *miscellaneous* (submerged, as in mud puddles, and snow).

In making a reproduction of dust prints, a piece of stiff paper or cardboard coated with ordinary gelatine is pressed against the print, removed and dried, and sprayed with fixative. Directions are given for preparing the gelatine and coating the paper.² The same process is used for wet prints by first spraying them with powdered resin, graphite, or talc—thus transforming them into dust prints which can be lifted in the usual way.

For impressions in non-porous materials, as in the case of moist clay, no preliminary preparation of the print is undertaken. A thin mixture of plaster of Paris is simply ladled into the print, reinforced with bur-

lap, and allowed to set. In dealing with porous soils, such as sand and soft earth, the impression is first sprayed with a half-and-half mixture of melted lard and kerosene. An atomizer or "Flit sprayer" is used for applying the lubricant and is held about two feet from the surface to avoid marring the print. Finely-powdered resin is then sprayed on with a syringe to fill the spaces between the soil particles. The cast is made of plaster of Paris of a somewhat thicker consistency than that used for a non-porous surface, and, since the details are reproduced in the resin the completed cast is carefully cleaned by brushing it lightly under water with a soft-haired brush. A very thick plaster mix is used for footprints in snow, the desired consistency being attained by prolonged stirring. Salt is never added to the plaster when reproducing snow prints. The impression is prepared by spraying with resin and shellac alternately three times to form a crust-like shell containing the details of the original print. The plaster is then poured in immediately. In making plaster casts, the author recommends the building of an enclosing wall around the impression to confine the plaster and assure the necessary thickness of cast. Linoleum, cardboard, tin, or soil are suggested as suitable materials for this wall.

¹ Abbott, J. R., "Reproduction of Footprints," R. C. M. P. Quarterly, 9 (2): 186-193 (1941).

² The use of ordinary photographic papers and

films has been proposed by other technicians. (J. Crim. L. & Criminology (Police Sci. Sect.), 26: 273-274 (1935); 27: 598 (1936)).