

1946

## Police Science Technical Abstracts and Notes

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# POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

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X-Ray Fluorescence in Gemstones, by A. E. Alexander, in "The Gemmologist" 15:49 (1946): X-rays may be used to determine locality of origin of precious stones; stones from one locality fluorescing and the same type from another region exhibiting no fluorescence. A list of tests and fluorescent characteristics is given.

Proof Marks on European Shotguns, by A. Engelhardt, in "The American Rifleman," 94: 20-23, 34, 35 (Jan., 1946): Proof marks of English, German, Belgian, French, Italian, and Spanish guns are discussed. Helpful illustrations are given with lucid explanations. An historic discussion of the origin of proofing is given.

The German "Numbers Game," from *Dope Bag*, in "The American Rifleman," 94: 47 (Apr., 1946): Attention is called to the method of numbering German arms. The serial numbers consist of 5 or 6 digits and a lower case letter. These numbers run in series with the same alphabetical symbol. It is important in checking ownership of guns to include the letter designation.

DCM Shoppers' Guide, by Edward Brown, Jr., in "The American Rifleman," 94 16-19 (Apr., 1946): Government guns and ammunition on sale through the Director of Civilian Marksmanship are described. Of particular interest are the descriptions of steel jacketed .45 caliber and .38 Special bullets. The data given will be helpful to firearms technicians.

The Mauser, H. S. V., by Capt. C. H. Howell, Jr., in "The American Rifleman," 94: 15-16 (Aug., 1946): A comparison is made between the Walther P 38 automatic pistol and the Mauser 9 m/m H. S. V. automatic pistol. The descriptions given are only of functioning details and no ballistic data or data of rifling is given.

Analysis of TNT and related compounds, from The Metabolism of 2:4:6-trinitrotoluene, by H. J. Channon, G. T. Mills and R. T. Williams, in "The Biochemical Journal," 38: 70-85 (1944): This reaction or method is credited to Prof. W. M. Cummings. A modified Webster test. The substance is dissolved in acetone to a conc. of 0.1 mg./1 ml. 1 ml. is evaporated to dryness in vacuo and then dissolved in 1 ml. of a mixture of 1:1 purified methyl ethyl ketone and cyclohexanone. 0.5 ml. of 10% KOH is added with shaking; after standing the ketone layer is colored. A table is given showing colors obtained.

Photography of Coins and Medals. Subject discussed in article entitled *Handling Shadows on Small Objects*, by Herman De Wetter, in "American Photography," (May, 1944) at pp. 32, 33. When photographing medals or other low relief objects, use only one illuminating light, in order to bring out whatever surface details there are. Use a spotlight at a close distance from the coin and at a very oblique angle. The resulting photographs will show details barely noticeable to the naked eye.

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When photographing such objects, always remember that the direction of the light which falls on the objects is a very important consideration. It is a well known fact that most medals and coins are designed to be viewed with light striking them from the left, or upper left-side and this is the direction from which the illuminating light should usually come. The light should never come from the top or bottom, but when medals depict a human head in profile, the light should be directed toward the face and not toward the back of the head. Only in this way is it possible to retain the often delicate modeling around the eyes, nose and lips.

A slightly diffused light will aid to avoid over-emphasizing shadows.

(Note submitted by *D. J. Purtell* of the Chicago Police Scientific Crime Detection Laboratory.)

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Photographic Aids to Law Training and Bar Activities, by Charles B. Stephens in "Journal of the American Judicature Society," 29: 120-122 (Dec., 1945). Various methods of visual education are suggested for training law students, among them microfilm, motion pictures, lantern slide projection, etc. It is also suggested that films be made as vocational guidance for high school students. These techniques could be applied to advantage in police training schools.