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Police Science Technical Abstracts and Notes

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POLICE SCIENCE TECHNICAL ABSTRACTS AND NOTES

Joseph D. Nicol*

A New Light Source for the Laboratory. A description is given in a paper written by W. D. Buckingham and C. R. Deibert, published in the May issue (Vol. 36:245-250) of the Journal of the Optical Society of America, of work done at the Western Union Telegraph Company on a concentrated arc source. In a spot .003 inches in diameter a brightness of 100 candle per square mm. is attained. This is accomplished by making a specially prepared cathode the source of light. Lamps have been made in the following wattages: 2, 10, 25 and 100, with life spans in the hundreds of hours. The radiation emitted covers the spectral range of 2500A to 10,000A. The brightness of the arc may be adjusted by controlling the current. Intensities approach that of the carbon arc. Special powers supplies are needed consisting of a starting high potential and the running potential. These may be operated from a 110 volt source. The lamp burns quietly with uniform brightness with no need of adjustment. As a point source it has use in photography, lensless projection, studies in oblique lighting of indented writing, etc. More elementary treatments with the applications to photography emphasized may be found in the following publications: U. S. Camera, 9:13, 50, 67 (May, 1946); U. S. Camera, 9:25, 51 (June, 1946); Popular Photography, 18:74, 122 (June, 1946).

A Test Paper Holder. In order to eliminate contamination in gas analysis and permit acid or alkali cleaning, E. B. Parks has designed a test paper holder for all glass construction. This he describes in *The Analyst*, 71:287 (1946), with diagrams enabling the duplication in any lab. equipped with a few tools for glass and metal work. The design is simple.

Carbon Monoxide in Blood. In the *Analyst* of March, 1946 (71:107-10) a method is described for the rough estimation of carbon monoxide in blood samples using quantities as small as 0.25 ml. The analysis as given by C. H. Gray and Marjorie Sandiford in "*A Micro-diffusion Method for the Estimation of Carbon Monoxide in Blood*" may be done either by absorptiometry or colorimetry.

Volatile Saturated Fatty Acids. The use of fatty acids in the range from propionic to valeric acids as components of stench bombs makes a means of separation and identification of these acids necessary. An article on "*Separation and Identification of the Volatile Saturated Fatty Acids*" by L. L. Ramsey and W. I. Patterson in the *Journal of the Association of Official Agricultural Chemists*, 28:644-656 (1945), relates a method applied in biological research. The analysis makes use of chromatographic adsorption on a silica gel column using 1% butanol in chloroform as the solvent. Brom cresol green is used as the indicator. The separated acids are then identified by standard tests. The procedure and identifying tests are described for amounts less than 2 ml. of N/10 acid.

The Use of the Police Club. Various methods for the use of the police club are suggested by Wesley Brown, Jr., "*In Defense of the Police Club*

*Firearms Identification Technician, Chicago Police Scientific Crime Detection Laboratory.

as a Weapon," in the September issue of *The National Law Enforcement Review* (1:10-11). Such "club maneuvers" are suggested as that by which an officer may subdue an offender by a rear approach and pressing against the throat of the adversary using two hands until unconsciousness is attained.

Arson. The salient points of an address by Dr. R. C. Steinmetz before the annual conference of the International Association of Fire Chiefs at Cleveland, Ohio, July 24, 1946, may be summarized as follows: 1) A more thorough investigation of fires by properly trained men. This alertness applies particularly to the men first on the scene. 2) The recognition of the importance of this type of crime and the establishment of arson squads to concentrate solely on doubtful cases. 3) A greater use of police laboratory facilities in an arson investigation. 4) Greater publicity to the arrest and conviction of perpetrators of fires. This coupled with more realistic sentences. 5) Divorce of political control of fire prevention bureaus or fire investigators and sterner action against violators of safe fire practices. 6) Clinical examinations of all "fire bugs" or pyromaniacs. 7) Questioning of all suspects by skilled interrogators. 8) The use of fluorescent powders or pastes and ultra-violet light to apprehend setters of false alarms.

In the September, 1946, issue of the *Journal of American Insurance*, Dr. Steinmetz analyses "*The Changing Pattern in the Crime of Arson.*" Statistics show an increase in arson from 1937 to 1945 in the age group below 21. This takes it out of the usual economic reasons for setting fires and placing it in the emotional and psychological class. However, the cost in life and property is just as high. A large share in the increase must be shouldered by psychoneurotics who set fires only because of uncontrolled compulsions. There does not appear to be any one particular mental affliction more prone to arson than any other. Pyromaniacs are characterized by "out of season" fires, "a string of fires over a limited territory" and "those not logically started by spontaneous combustion." Usually no elaborate mechanism is used.

Color Photography. The work done in color photography at the Ann Arbor, Michigan, Bureau of Identification is described by Vincent H. Fox in the *Michigan Police Journal*, 15:4-5 (Aug.-Sept., 1946). Fox points to the reduced cost in color photography and, more important, to the development of processes by which the development of the films and prints may be carried out in the local police darkroom. A little imagination can show the advantages of color photographs in medico-legal cases and he further indicates its usefulness in document cases where age determination or forgeries are in question. The Washtenaw County jail has used 35 mm color transparencies in identification photographs since August 11th and found the cost only slightly above black and white photographs.
