Collodion Encyclopedia Article

Collodion

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Collodion

Collodion, a clear, viscous solution of cellulose nitrate, was discovered in 1846 by Christian Schönbein. Experimenting with nitric and sulfuric acids in his kitchen, he accidentally spilled the acids and cleaned up the mess with his wife's cotton apron. When the apron dried, it burst into flames. He had discovered cellulose nitrate or guncotton. Later he dissolved the guncotton in ether and alcohol to form collodion, a more stable mixture that could be handled with greater safety. It was used as a protective dressing on wounds, in photography, and in blasting gelatin. When it is spread on a surface, the solvents evaporate, leaving behind an airtight film which has a multitude of uses.

Frederick Scott Archer, an English inventor, is credited with developing the wet collodion process in 1851. This photographic method was the first to create fine-grain negatives, but it was not convenient because it required a portable darkroom. A glass plate coated with collodion containing potassium iodide was dipped into a silver nitrate in solution. This process had to take place in the dark. The plate was then exposed, developed, and printed. William Henry Fox Talbot, the inventor of a process using silver iodide paper to make paper negatives, sued Archer for patent infringement. Talbot lost the case, and Archer went on to market his technique. Unfortunately, he went the way of many inventors and died penniless in 1857. For twenty years the wet collodion process was the main photographic process and was used, for example, to chronicle the American Civil War. The dry plate method replaced the wet process in 1871.

Alfred Nobel, the Swedish inventor of dynamite and the founder of the Nobel prize, also used collodion. By combining it with nitroglycerin, he produced an explosive more powerful than either component and much more stable. He patented blasting gelatin in 1875. Although collodion has since been replaced by more advanced polymeric materials, it is considered to be the forerunner of the lacquer paints that are now widely used in the automobile industry.