

Summer 1940

The Handling of Explosives and Suspected Bombs

C. W. Muehlberger

Follow this and additional works at: <https://scholarlycommons.law.northwestern.edu/jclc>

 Part of the [Criminal Law Commons](#), [Criminology Commons](#), and the [Criminology and Criminal Justice Commons](#)

Recommended Citation

C. W. Muehlberger, *The Handling of Explosives and Suspected Bombs*, 31 *Am. Inst. Crim. L. & Criminology* 100 (1940-1941)

This Criminology is brought to you for free and open access by Northwestern University School of Law Scholarly Commons. It has been accepted for inclusion in *Journal of Criminal Law and Criminology* by an authorized editor of Northwestern University School of Law Scholarly Commons.

THE HANDLING OF EXPLOSIVES AND SUSPECTED BOMBS

C. W. Muehlberger*

Although there is no absolutely *safe* method which may be recommended to investigators and police officers for handling bombs and other explosives—since any procedure will of necessity carry with it some danger of an explosion—the hazard may be reduced to a minimum by following certain simple precautionary measures:

1. Warn People to Remain at a Safe Distance

The safety of the public should be the primary consideration of the officer. Until persons specially qualified to handle explosives can be called to assist, the public should be kept at a reasonable distance from the suspected bomb so as to avoid danger from flying fragments or debris in the event of an explosion. Where the suspected bomb is in a building, all persons should be warned to go to remote parts of the building or to get outside of the building if this does not require passing close to the suspected bomb. By so doing, they lessen the risk of injury from collapsing structures. (If the bomb is in an open area, a person standing upright is more likely to be struck by flying fragments than a person lying down.) It is hardly necessary to point out that the officer, after looking after the safety of the public, should use due care in avoiding unnecessary personal risks.

* Chief Chemist, Cook County Coroner's Laboratory, Chicago, Illinois.

If an officer comes upon a bomb with a sputtering fuse, he may, in his discretion consider it safe either to pull out the burning fuse or to cut it off at the point of entry into the explosive container, thereby inactivating the bomb. Safety fuse such as is ordinarily used in the construction of bombs, burns at the rate of 30-40 seconds per foot and one can sometimes estimate the position of the burning fuse powder by the external appearance of the fuse. However, with some types of heavily coated fuse, it is almost impossible to judge how much unburned fuse remains. Except where a crowd of people is in the vicinity and great injury or damage might be expected from an explosion, the personal hazard involved in cutting or pulling out a burning fuse seems unjustified. However, no set rule may be laid down to cover all cases. The proper handling of any situation requires quick thinking and sound judgment.

2. Properly qualified Persons Should be Called upon to Carefully Remove the Explosive or Suspected Bomb to a Safe Place

Every police force should have at least one officer (in larger cities an entire squad) who has made a special study of explosives and bombs and who understands their construction and hazards. Upon discovery of a suspected

bomb, the investigating officer should call in the assistance of such specially trained officer or officers in the subsequent handling of the situation. If no explosion has occurred by the time the special officer has arrived, the bomb may, in his discretion, be removed to a safer place for further observation and investigation.

3. If Specialist Is Unavailable and It Becomes Necessary for Investigator to Handle and Transport the Bomb, the Following Precautions Should be Observed

(a) Do Not Submerge Suspected Bomb in Water. There is a popular misconception that soaking a bomb in water renders it non-explosive. Except in the instance of bombs composed of gunpowder encased in containers which are permeable to water, this is incorrect. Nitroglycerin, TNT, blasting gelatin, gelatin dynamites, or even paraffined sticks of ordinary dynamite are not rendered safe by soaking in water. Likewise, blasting caps, especially those intended for electrical ignition, are still dangerous after water soaking. Such explosives are actually used for under-water blasting. Moreover, a bomb may contain substances such as metallic potassium, metallic sodium or calcium phosphide which form explosive or spontaneously inflammable gases when brought into contact with water. In such instances, water may actually set off the bomb.

(b) Do Not Turn, Upset, Jar, or Attempt to Open Bomb. No attempt should be made to open the bomb; neither should it be tipped or turned.

Oftentimes ignition mechanisms are constructed so that any turning of the bomb will cause a container of chemical to spill and ignite the contents or will cause a mercury switch to close an electrical circuit and set off an electric blasting cap. In other bombs, the trigger mechanism is so arranged that by opening the package in the obvious way (as, for example, by releasing the latch of a traveling bag or suitcase) the explosive is set off.

(c) In Transporting Bomb, Avoid Densely Populated Areas of City or Heavy Street Traffic. In transporting the suspected explosive, due care should be taken to keep the hazard to the general public at a minimum. Thus in choosing the route of travel in removing the bomb to another place for subsequent examination, densely populated areas and busy or congested streets should be avoided. Several years ago, two federal investigators carried $2\frac{1}{2}$ gallons of nitroglycerin explosive across the most densely populated business district of Chicago. If this quantity of nitroglycerin had exploded en route (e.g., as a result of a collision of the automobile in which it was carried, or of too much jarring on the floor of the car) the damage and loss of life would have been terrific.

(d) Do Not Add or Destroy Fingerprints. After all due safety precautions are taken, and if circumstances and conditions permit, reasonable care should be exercised by the investigator not to unnecessarily add his own fingerprints to the material or explosive container, nor to destroy or remove

other prints which may be present thereon. This can be done by handling the package as little as possible with gloved hands or by supporting the bomb in an empty cardboard carton.¹

4. The Investigation of the Inside of a Bomb Should be Made Only by Trained Persons and in a Safe Place

Every police department should have some special building located in a sparsely populated area where suspected bombs may be examined with a minimum of hazard to citizens and to investigators. This may be a small one-room building constructed of heavy brick or of reinforced concrete and fitted with a light sheet-metal roof. An explosion in such a building would have its chief force directed upward and would cause a minimum of damage to surroundings. In such a building suspected bombs should be "aged" for at least forty-eight hours before further study.

Space does not permit an extensive

¹In handling nitroglycerin explosives (including dynamites), care should be taken to avoid contact with the skin. Nitroglycerin is rapidly absorbed through the skin and results in a marked fall in blood pressure and a violent throbbing headache. These effects ordinarily

discussion here of the technique of investigating and opening a suspected bomb. The procedure has been presented in greater detail in another paper,² to which the interested reader is referred. Such an examination consists of: (a) Turning of bomb (from outside the "bombproof") to make certain that no ignition mechanisms exist which will be set off by tipping the bomb; (b) Photographing bomb (and especially any handwriting, printing or distinctive markings on it or its container or wrapper); (c) Development of latent fingerprints on outside surface; (d) X-ray examination of bomb to locate electrical circuits and contacts, switches, trigger mechanisms, clock-work ignition devices, batteries and, above all, blasting caps; (e) Cautiously opening container and analyzing its contents.

Obviously such examinations should be made by specially skilled persons and not undertaken by untrained officers.

are not dangerous but are exceedingly uncomfortable.

²Muehlberger, C. W., "The Investigation of Bombs and Explosions," *Jour. of Criminal L. and Crim.* 28:406 and 581 (1937).