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Milwaukee Police Bomb Wagon

Joseph Kluchesky

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MILWAUKEE POLICE BOMB WAGON

Joseph Kluchesky[†]

The special police bomb conveying vehicle developed by the Milwaukee Police Department for the safe conveying of bombs or suspected bombs from the place where found to a quarry or other suitable place for their destruction, is a Stewart truck chassis 1928 model, 1¼ ton capacity, 146 inch wheel-base, which previously served as the chassis for a patrol wagon body.

Upon this chassis is a cab for the driver, the back of which is lined with half-inch boiler plate and bullet-proof glass. On the chassis behind this cab is mounted a hopper-shaped box 5 ft. square at the top and 3 ft. square at the bottom. Five layers of half-inch boiler plate form the bottom. The sloping part of the sides, which are at a 45 degree angle, are made up of two layers of half-inch boiler plate with 2½ inch oak planking between them. The upper part of box is half-inch boiler plate. The whole is welded into one integral unit. The weight of the box is 3,340 lbs. and the total weight of truck complete with box is 8,550 lbs.

On the truck's right side has been built a swinging derrick which is carried in a lowered position when not in use but which when erect and ready for use is arranged to enable the cab occupant to pick up and raise an object on the street level beside the truck by means of a rope and pulley. By the use of a crank inside the cab, the occupant may so raise and lower such object

while protected throughout this operation by the wall of boiler plate and bullet-proof glass which reinforces the back of the cab.

To convey any bomb or suspected bomb from the place where found to the bomb truck, a "bomb basket" has been constructed. It is surrounded on the outside by a mesh of woven ¾" manila rope. The outside dimensions of this basket are: 48 in. long; 30 in. high; and 30 in. wide (to permit passage through average width doors). The four sides and bottom are lined with sisal mattress constructed in all respects like the protective mattresses described below. A ¾" pipe frame between the woven rope mesh and sisal mattress gives it rigidity. The basket complete weighs 200 lbs. Sisal mattress, woven rope mesh and pipe frame are all securely fastened together with ⅝" rope.

A wooden platform with casters, or "dolly" as it is called, is employed to convey the bomb basket from the bomb truck to the place where the bomb is found, and back to the truck with the bomb in it. Ropes 100 feet long are fastened to the basket so that officers pulling it along on the dolly may remain a relatively safe distance from it. If bomb is found on an upper floor it is placed in the basket which is lowered through a window by the use of a specially constructed window-sill pulley.

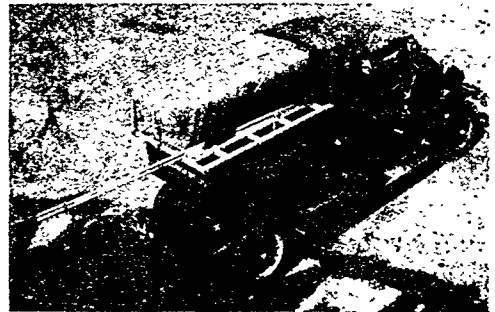
[†] Chief of Police, Milwaukee, Wisconsin.

Mattresses used for the protection of officers while placing bombs or suspected bombs into the bomb basket each consists of the following materials: (a) 29 lbs. of sisal; (b) 50 lbs. of cotton waste divided into 3 layers, 38 x 73 inches; (c) 102 feet of heavy canvas belting; and (d) mattress covering of 8 oz. ACA blue and white striped ticking. A finished mattress weighs 87 lbs. and is 75 inches long, 39 inches wide and 9 inches thick.

The sisal used in these mattresses is a fibrous material of vegetable origin grown in Mexico and Java, the better grade coming from Java. Sisal used in our protective shield mattresses comes in sheets 38 x 73 inches and $\frac{5}{8}$ inch thick. The weight of each sheet is 2 lbs. 14 oz. It is used by mattress manufacturers.

Mattresses used by this department as herein referred to are built up as follows: 1 layer sisal (3 sheets); 1 layer waste; 1 layer sisal (2 sheets); 1 layer waste; 1 layer sisal (2 sheets); 1 layer waste; 1 layer sisal (3 sheets). The whole is pressed tightly together and placed into the previously prepared mattress covering and then securely sewed. Cotton canvas belting, two inches wide, is then placed around the outside in four rows lengthwise and six rows crosswise around the mattress. The mattress is then tufted with heavy cord, the tufts running through where the webbing crosses.

Further equipment consists of three pike poles, 12 feet in length, fitted with special prongs for lifting various types and shapes of packages.



Milwaukee Police Bomb Wagon

This bomb wagon is constantly maintained in a state of readiness for immediate service. While so held in readiness complete equipment is in place on the truck. The bomb basket and dolly are inside the bomb hopper. Carried on top of this hopper are three mattresses, three pike poles, one mattress rack, and one mattress cover. A large tool box on the running board containing complete kit of tools and 1000 feet each of one-half and one-quarter inch manila rope complete the equipment.

The design of the hopper-shaped box on the bomb truck was adopted after consultation with ballistics experts and practical explosives men with many years' experience. Before the truck

was approved for use as herein described, experiments were conducted to develop any defects in design or construction. In the course of these experiments, black powder and dyna-

mite bombs of various loads, both with and without so-called "slugs," were exploded in the hopper-shaped box and results carefully noted in order that weaknesses developed might be rectified. These experiments revealed, for example, that the bottom of the box was subjected to the greatest strain and it was necessary to reinforce this part of the box by the addition of several layers of one-half inch boiler plate. The sloping part of the side walls also required additional reinforcement and this was provided by constructing this part of the side walls of two layers of half inch boiler plate with oak planking between them.

Similar experiments were conducted to determine the best possible type of construction and materials for mattresses to be used as protective shields by officers obliged to approach bombs or suspected bombs to remove them from the place where found.

Experiments especially designed to develop information as to resistance of various substances to penetration by bomb particles were conducted. Mattresses constructed of cotton batting covered with ticking and canvas belting were subjected to explosions of bombs as well as revolver fire and results carefully noted. These cotton

mattresses did not resist such missiles to the desired extent and further experiments were conducted using felt mattresses; and lastly, mattresses constructed as hereinabove described. The latter offered the greatest resistance to penetration by flying bomb particles and revolver fire and were therefore adopted.

The canvas bands around these mattresses serve a two-fold purpose. In addition to adding considerable tensile strength to the mattresses, the bands serve as handles by means of which the mattresses may be conveniently handled by officers employing them. They are strong and securely fastened and readily support the weight of the mattresses while carried or held in position as protective shields.

The bomb truck is constantly maintained in a state of readiness for immediate service. While so held in readiness, complete equipment is in place on the truck. The bomb basket and dolly are inside the bomb hopper. Carried on top of this hopper are 3 mattresses, 3 pike poles, one mattress rack and one mattress cover. A large tool box on the running board containing complete kit of tools and 1,000 feet each of one-half and one-quarter inch manila rope complete the equipment.