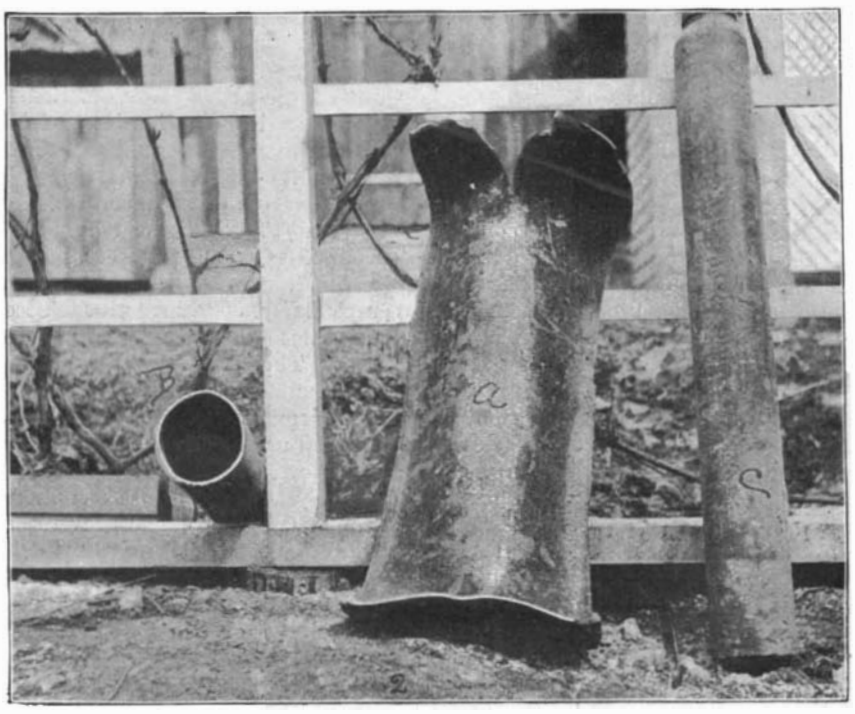
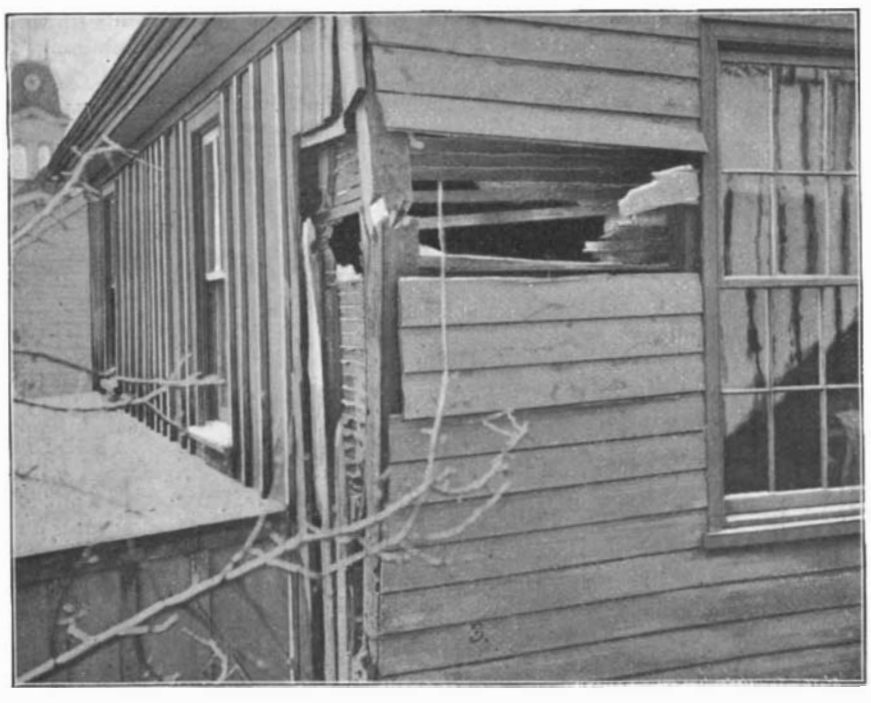
A REMARKABLE EXPLOSION.

The accompanying views are from photographs sent us by Mr. L. G. Harpel, pharmacist, of Lebanon, Pa., together with the explanatory details of a fire and explosion which recently occurred at Haine's bottling works, in that city. A fire from some cause occurred in the little annex of the larger building seen in Fig. 1, separated by a board partition from which were three carbonating cylinders which had been received from Philadelphia that morning. The heat of the fire caused the explosion of two of these cylinders, and the third was found with its valve broken or blown off after the fire. The first cylinder to explode blew out its bottom, passed through the side of the building and diagonally across the street, through the second story window of a double frame dwelling, through a partition separating the dwellings, through the top of a bedstead (as shown in Fig. 4), through other partitions, and then out through the corner of the building (as shown in Fig. 3), breaking a corner post 4 × 4 in., knocking out the weather boarding, and depositing itself in the yard. The other cylinder exploded immediately after, and was turned completely inside out, blowing out its bottom and top and tearing open a space on its side. It dropped a short distance outside of the building, as shown at a, Fig. 2. In the same view, B shows the cylinder which had passed through the building across the street, and C the cylinder which was recovered uninjured. The shells of these cylinders are of scant ¼ in. material, and one of them blew out its bottom clean, while in the other a small piece, about an inch long, of the side, still adheres to it. One of the cylinders is said to have been marked on the top, "Tested, 3,700 lb."

BOTTLING WORKS WHERE THE EXPLOSION TOOK PLACE.



THE RUPTURED CYLINDERS.



THE CYLINDER WENT THROUGH ANOTHER BUILDING.

WRECKAGE IN FLIGHT OF CYLINDER.

AN EXPLOSION OF LIQUEFIED CARBONIC ACID CYLINDERS, LEBANON, PA.

According to the London Times, the amount spent for in-maintenance of paupers in England and Wales during the half year ended Michaelmas, 1894, was $5,338,405, and on outdoor relief $6,167,835, making a total of $11,506,240. This is equivalent to a cost per head of the population of 1 s. 6¼ d. The cost varies from 2 s. 3¾ d. in the metropolis to 1 s. 0¼ d. in the northwestern division. The cost of maintenance of lunatic paupers in county and borough asylums, registered hospitals, and licensed houses is not included.

The number of paupers relieved in the metropolis on the last day of the fourth week of February was 140,088, or 36,355 more than were relieved on the corresponding day last year.

The Sandy Hook Mortar Battery.

For some time past the army engineers have been engaged in the construction of a very important defense for the harbor of New York, a great mortar battery containing sixteen 12 inch breech-loading rifled mortars. Considerable secresy has been maintained regarding this battery which is situated at the extreme end of the Sandy Hook spit and is known as No. 1 A. It is now completed and the fortification is ready for any emergency. The battery controls the entire ranges of the channels leading into the lower bay, and the lower bay as well, so that a landing could only be made, if the vessels succeeded in passing inside the hook, under a terrible fire from the mortars. The chances of the mortars being injured by a hostile fleet are very remote, as they are hidden away behind and below great earthworks, so that a vertical fire only could injure them, and this is difficult to get on shipboard. The battery is surrounded by a counterscarp wall twenty feet high, which is intended only as a shield against the storming party. On this wall in casemates are rapid fire guns which sweep a deep ditch which separates the wall from the earthwork. The mortar pits are four in number and are square like the earthwork. In each pit are four mortars. The mortar pits are connected with passages which are in turn connected with a bomb-proof gallery which is intersected by the magazine. The ammunition is transported from the magazine to the mortars on cars which travel on steel tracks.

Each of the mortars may be fired independently or the whole sixteen may be discharged at once, in which case the fire can be concentrated so that the projectiles will all strike within a space equivalent to the area of a ship. As the shells weigh 600 pounds and are loaded with high explosive, it will be readily seen that no vessel could stand this fire. The men at the mortars, of course, see nothing of the fight and have only to obey the signals which they receive. The officers who direct the fire may be a mile away. With their range finders they plot the course of a hostile vessel, the harbor being divided off into squares on a chart. When the time has arrived to fire they telegraph the position of the vessel on their chart to other officers, who have duplicate charts, at the end of the bomb-proof gallery. The range and elevation of the mortars is rapidly determined by means of tables. The extreme range is about five miles. Orders are given to the men in the pits, the mortars are trained according to the instructions given them and they are then fired by the officers. The projectiles descend in a graceful curve and strike with great accuracy.

In addition to the mortar battery, the harbor is now protected with a gun lift battery provided with two all-steel breech-loading 12 inch rifles, which have a maximum range of ten miles. The battery is placed in a great earthwork. The harbor is to be protected on the southern and eastern extrances by a series of works similar to those already constructed. The projects for defense as contemplated by the Engineer Corps is, according to the report of the Chief of Engineers for 1893, as follows: Twenty-one 12 inch guns on lifts, fifteen 10 inch, nine 8 inch guns on disappearing carriages, one hundred and seventy-six 12 inch mortars and various submarine mines operated from five mining casements. The mining casements are already finished. When all these defenses shall have been completed the metropolis will be amply protected from the attack of any fleet now afloat.

The scales used in weighing diamonds are so delicately poised that the weight of a single eyelash will turn the balance.