

POI ONEP, NOT DROWNED.

WHY SO FEW OF THE PASSENGERS ON THE "PRINCESS ALICE"
WERE SAVED.

We submit that the error—wilful or accidental, whichever it may have been—of the captains of the two vessels was not the *causa causans* of the death of the majority of this multitude. It is simply incredible that, out of some eight hundred people who were suddenly submerged, not a dozen should have saved their lives by swimming, and it is equally remarkable that of those few none were actually under water a second. There must be, unless we are prepared to enunciate new canons of logic, a connection between cause and effect, and in this case it is more than evident that a very large number of persons able to swim succumbed. The blame, therefore, rests not only with the Princess Alice and the Bywell Castle, but with those who have rendered the waters of the crowded Thames absolutely deadly. In plain English, and it is impossible to be too positive with the fact staring us in the face, the six hundred and odd souls were poisoned. The entire sewage of the metropolis is discharged into the river at Barking Creek in a raw condition, converting thereby the stream into a common sewer. Now, the immediate effect of plunging a human being into sewage is stupefaction and asphyxia. Captain Webb himself, if placed under such conditions, could not save his life. At the moment of the collision there was actually being turned into the Thames, in close proximity to the scene of suffering, a colossal mass of fermenting sewage, black as Erebus, effervescent with the vilest gases, and, so the chemists tell us, potent as prussic acid. Who can doubt, after this, the real reason of the awful mortality! The *a priori* argument is indeed incontrovertible, and it is verified amply by the product of experience. What, we would ask, could have rendered the task of identification so supremely difficult? What chemical force could have changed in about half an hour a bright olive dress to a dark brown, and what caused the almost immediate decomposition of healthy bodies? The answer to these queries is obvious. It was the same horrible compound which deprived these poor souls of what chance they would otherwise have had. One of the saved, we note, in his description of his brief experience under water, imagined that the blackness and disgusting impurity of the stream was to be attributed to the smoke from the Princess Alice. He was not aware, of course, of the cesspool into which he had been precipitated, nor of the fact that a few seconds more of submersion would have rendered him helpless. A very superficial examination however, of Barking Creek, with its two ominous columns of sewage, and of the quality of the water just below, would suffice to prove the accuracy of our contention that the true cause of death of these hundreds of people was sewage poison. For many years the Metropolitan Board of Works have been suffered to evade the common law, and to claim an immunity, granted to no other riverain town, from the just penalty which ought to accrue for the offence of polluting the river.—*Whitehall Review*.

SENSATION DURING HANGING.

A question has arisen which very few living persons are in a position to answer, viz., what sensations are experienced during hanging? Some of the few who have been able to give an account of their consciousness at so critical a moment, say that after one instant of pain, the chief sensation is that of a mass of brilliant colors filling the eyeballs. The *Quarterly Review* (volume lxxxv.) treating on this matter, says:—"An acquaintance of Lord Bacon, who meant to hang himself partially, lost his footing, and was cut down at the extremity, having nearly paid for his curiosity with his life. He declared that he felt no pain, and his only sensations were of fire before his eyes which changed first to black and then to sky blue. These colors are even a source of pleasure. A Capt. Montagnac, who was executed in France during the religious wars, but was rescued from the gibbet at the intercession of Marshal Turenne, complained that, having lost all pain in an instant, he had been taken from a light of which the charm defied description. Another criminal, who escaped through the breaking of the halter, said that, after a second or two of suffering, a light appeared, and across it a most beautiful avenue of trees." All agree that the uneasiness is quite momentary, that a pleasurable feeling immediately succeeds, the colors of various hues start up before the eyes, and that these have been gazed at for a limited space, the rest is oblivion. The mind, averted from the reality of the situation, is engaged in scenes the most remote from that which fills the eye of the spectator.—*All the Year Round*.

THE CARE OF SHOP TOOLS.

The *American Machinist* has some important suggestions concerning the advantage of care and system in the treatment of shop tools. First cost of tools seldom represents their ultimate cost, whether it becomes necessary to repair them or not. If a good mechanic makes a tool last a year in constant usage, while his careless neighbor uses up one of the same kind in six months, the cost of the latter should be accounted twice that of the former. When repairs are made their value must be added in computing the whole cost of the tool.

One primary reason why some shops can show a greater profit on a given amount of work is because they get more service out of their tools. This is just as evident when tools are cheap as when they are dear, for the products of mechanical labor fluctuate the same as the first cost of tools; and if a large part of the income of business goes for working tools and repairs to the same, balances on the right side of the ledger are likely to be diminutive, if indeed they appear at all. It is the first requisite that tools and machines should be adapted to the work to be performed. Fine tools should not be used on heavy, coarse work. They must also be kept in good working order, cutting edges well sharpened and bearing surfaces lubricated, shafting kept well aligned, pulleys balanced, belts kept clean and pliable and at the correct tension, rust prevented, emery wheels and grindstones trued up and dirt kept out of all wearing parts.

Machines should be mounted on stable foundations and run neither above nor below the proper speed required to do the work. Small tools demand as much care as large ones, and a careless or inexperienced workman will often spoil more than the amount of his wages in files, drills, chucks, reamers, taps, dies, calipers, wrenches and the like, unless closely looked after by the master mechanic. It is therefore very essential, in order to insure proper care of tools, that workmen know just how to use them. All small tools should be laid away systematically in a dry place when not in use. In large shops a room should be set apart for this purpose, and a man detailed to take charge of it and keep the tools in good working order. There is no part of a large machine shop from which an outsider can form a better judgment of the general management than by an observation of the tool-room. The best economy is established by securing none but the best tools at the outset, for in the long run they will be found the cheapest. As a rule it is expensive trying experiments by purchasing tools of new and untried patterns or material. New machines and tools are often constructed so as to leave no reasonable doubt of their successful operation, but this is not invariably the case. It is always safe to buy those about the working of which there is no doubt. Second-hand machinery can often be obtained in good order at very low prices, if the purchaser has extra time at his disposal to loop it up, but when machinery is much worn, its value is questionable at any price. It is not only easier, but a greater satisfaction, to take care of good tools than of poor ones.

AN EFFICIENT DISINFECTANT.—A correspondent of the *New York Herald* says that the "chloride of lead is the cheapest and most efficient deodorizer and disinfectant known. As some neutralizing agent of this kind should be freely used at this time in every house, we give the process of preparing and using it as given in the *Herald*: To prepare a solution of chloride of lead on a small scale for family use, take one-eighth of an ounce of nitrate of lead and dissolve it in one quart of boiling water; then dissolve one ounce of common salt in five gallons of water, pour the two solutions together, and when settled pour off the clear mixed solution and keep well corked in a demijohn or jugs for use. A cloth wet with this and suspended in the room will neutralize all offensive vapors, and a little dashed into a privy, sink, drain or sewer will disinfect and destroy all noxious gases by combining with them. It is said to be in general use in England for purifying sewers; also for destroying the stench of bilge water in the holds of vessels.

THROUGH a mistake of our lithographer the wrong title was put to an illustration and specification for the plumbing of a house, in our last number, pages 350, 351. We were indebted to the *Plumber and Sanitary Engineer* for the article and drawing, and not to the *American Architect* as erroneously printed.