

Spontaneous Combustion.

Dr. Kedzie, professor of chemistry in the Michigan State Agricultural College at Lansing, in a recent address before the Michigan Association of Fire Underwriters, said: "Vegetable oils, and especially spirits of turpentine, tend to take oxygen rapidly from the air, and thus generate heat. The large extent of surface exposed to the air promotes this oxidation, and the rags, being poor conductors of heat, retain the heat produced by oxidation, and hence arises the danger of spontaneous combustion. The danger is increased if the rags are moist. Similar instances of spontaneous combustion are seen in hay mows, when the hay has been put up damp. The danger is greater where the rags are soiled by vegetable oils, for example, linseed and cotton seed oil, and especially spirits of turpentine used in making varnish.

"One day, while returning from Lansing, I saw Mr. Lapman rush out of his planing mill with a box of smoking sawdust in his hands, which burst into flames when thrown upon the road. A painter had rubbed the paint from his hands with the sawdust in the box, and departed unconscious of danger. Within fifteen minutes the oil of this paint thus spread over a large surface of sawdust was smoking and just ready to break into flame.

"The danger from spontaneous combustion is increased where a quantity of greased rags are left in a pile so loosely placed as to allow a free access of air, yet so compact as to keep in the heat caused by oxidation. The mineral oils are much less liable to spontaneous combustion than vegetable oils."

NAVAL RESERVES AT TARGET PRACTICE.

Nelson laid his ship, the Victory, beside the enemy and dashed into the opposing ship his entire broadside. Fifty cannon sent forth each its roundshot and stand of grape—the round to open the way, the grape-shot to follow in and spread destruction generally. Sometimes the opposing ships were so close that their sides ground together on the swell of the sea and the lower port covers had to be blown off to allow the loaders to use their rammers.

If Nelson had been told by one of his captains (the gallant Trowbridge, for instance) that the day would come when guns would be made carrying a shot equal in weight to his entire broadside and as large and heavy as one of his big guns, and that the shot would go in the breech instead of the muzzle, and its range would be fifteen miles, the good admiral would probably have said:

"Trowbridge, poor fellow! has lost his mind."

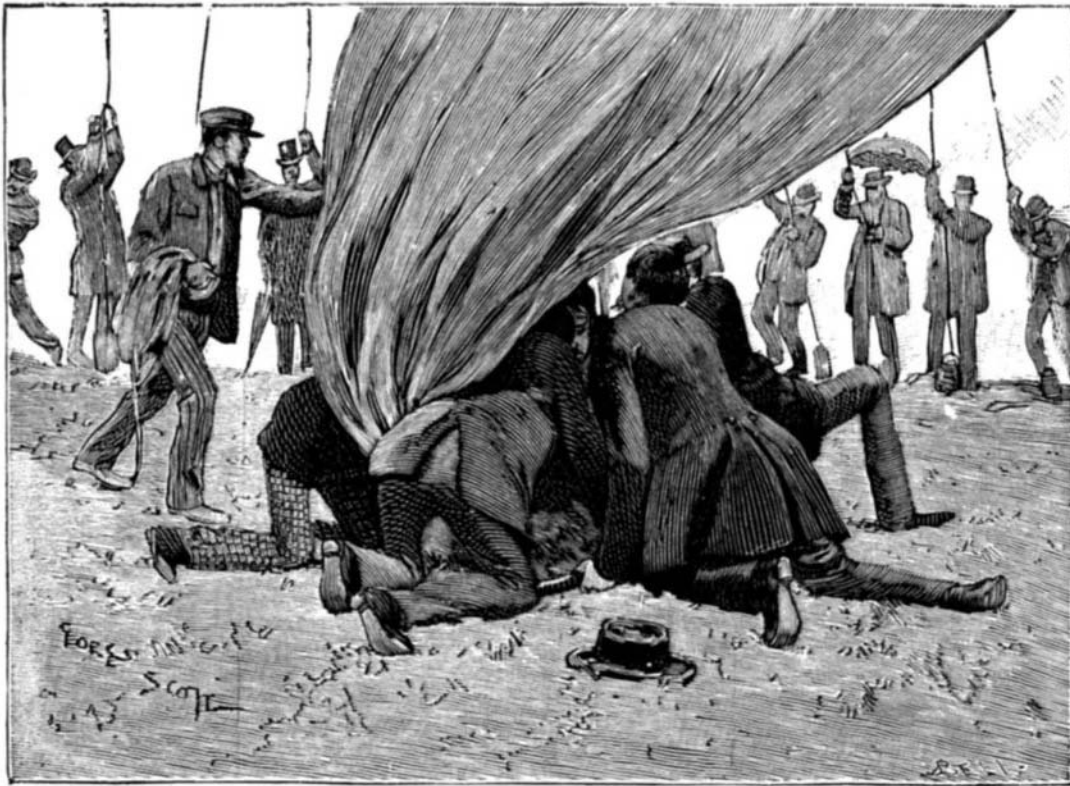
We have such guns now, however, and, stranger yet, the men who manned them lately and made their great shots dance over the sea to the horizon were crews of "greenhorns" and "haymakers," who, two years ago, knew nothing about guns and ships. When the gallant naval reserves first trod the white decks of Uncle Sam's war ships the true professional salt water "Jackies" made much of them—patted them on the back encouragingly as they showed them how the big guns were worked. The haymakers, lawyers, and millionaires did little talking but much thinking, and when it came their turn to fire off those big rifles they demolished those targets looking like specks out on the water in a fashion that made the old salts stare and stow away their patronage indefinitely.

To the old-timer, used to twenty-two men at a gun, needing five minutes to

fire, there is much to marvel at in the new ten-inch rifle with crew of ten firing a shot in two minutes. The old gunner with his priming needle is also out of date, for the modern gun cartridge is too long for a needle to serve, and in its place there is used a small rifle cartridge, which shoots its little bullet into the big one and opens up a passage throughout the mass of powder, into which the flame follows and ignites it all at once.

Horticultural buildings. The landscape work is nearly finished around these two buildings, and John Thorpe, of the Bureau of Floriculture, is busily engaged on the large rockery which is to be placed in the central dome of the Horticultural Building.

Of the large buildings not yet completed, the Manufacturers' Building is getting along most expeditiously. The skylight glass is being rapidly placed over the nave trusses. The ironwork is entirely finished on Machinery Hall, and some of the sculptured figures have been placed along the ridgeline of the roofs. Decorative fresco work has been begun in the lobbies of the Agricultural Building, and the large sculptured pediment is being placed; the staff work is being rapidly put on the agricultural annex. The superstructure is well under way for the colonnade connecting the Agricultural Building with Machinery Hall. In the Fisheries Building the aquarial tanks are nearly completed. Upon the Palace of Fine Arts staff work is nearly finished. Twenty-three State buildings are progress. Montana's will probably be the first finished, for the interior work, as well as the exterior staff work, is already well advanced. The Turkey village on the Midway Plaisance will be immediately started. Work has been begun on the building for Germany. On the Mines, Transportation, and Woman's buildings little now remains to be done except the interior decoration. The work on the Electricity Building is being rapidly advanced. The staff covering on its towers advances well. The large hemicycle at the main entrance is now being constructed; under this the statue of Franklin will be placed. The government structures are being actively pushed forward. The main building is nearly finished, while the brick warship Illinois begins to look like a real man-of-war. Its white covering of cement and smokestacks are in place. Work has been begun on the government life-saving station.



A SQUALL DURING THE INFLATION OF THE BALLOON.

Compare, too, the striking power of one of Nelson's guns and those used by the naval reserve. If Nelson's broadside did any damage at a mile, his ordnance officers passed compliments on the excellence of their work. A shot from one of the ten-inch guns that our gallant reserves have been putting through the targets starts on its flight with a striking power at one mile equal to Cleopatra's obelisk in Central Park lifted to Trinity Church steeple and dropped on the pavement. Our picture, for which and the description we are indebted to *Once a Week*, shows the scene at sea when one of these shots strikes close to the floating target. Had it not missed, our artist would have had no chance to show how a target looks.

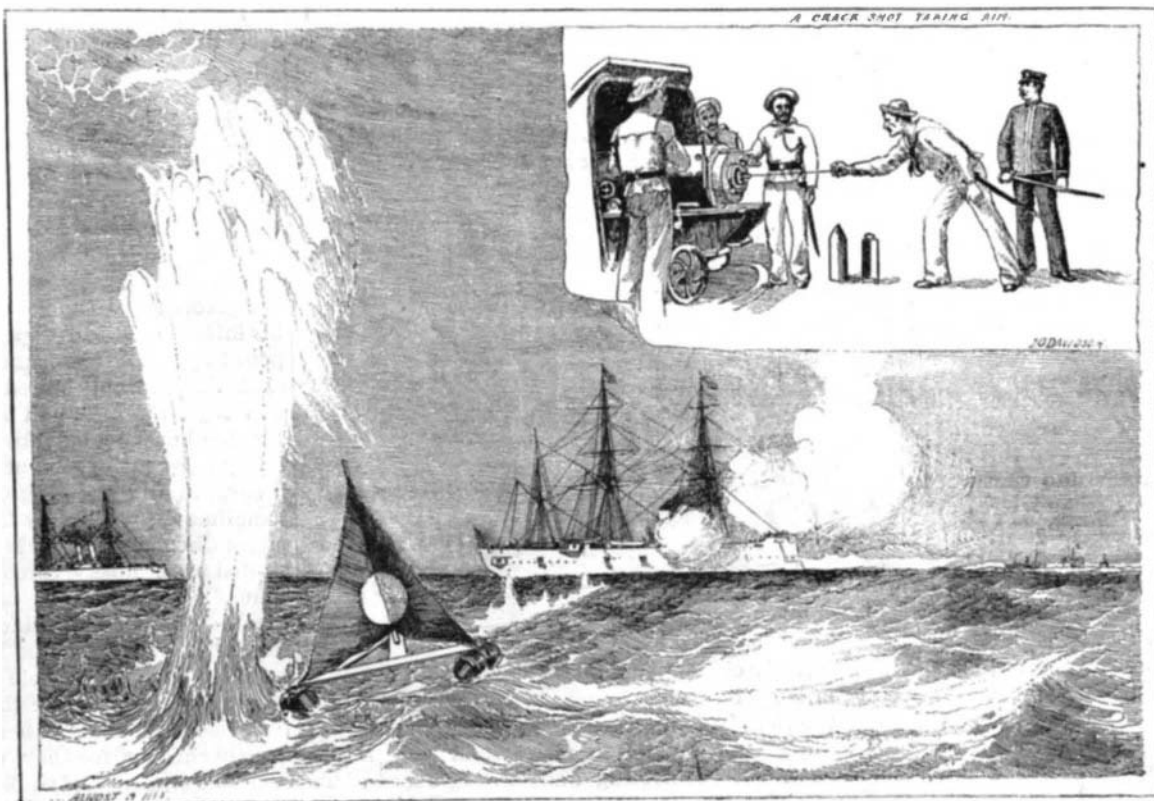
Progress of the World's Fair Buildings.

How far along the buildings at Jackson Park are advanced is shown in the official statement issued August 13. There are 8,488 men on the work. This increase is due to the activity of work on the various State buildings, special structures, and concession buildings. The grass plots, flower beds, and roadways are being made. Nearly all the ornamental railings and balustrades around the lagoons are finished. Five large steam rollers are at work packing down the permanent crushed stone roadways and paths around the Woman's and

The Restoration of Those Overcome by Inhaling Illuminating Gas.

A correspondent of the *American Gas Light Journal* says: I have seen hundreds of men overcome by the inhalation of gas, and I wish to say that to keep a man so overcome on his back would be the worst possible course to pursue; and I should expect to see a man so placed succumb rather than revive under that treatment. The absence of air in the lungs must of necessity cause the limbs to become damp and cold. If the following instructions be faithfully followed—I do not care how bad the case may be—I will guarantee that 99 per cent will be restored inside half an hour. As soon as it is observed that a man is overcome with gas he should be placed on his feet, and large quantities of milk be given him to drink. He may show a disinclination to swallow; if so, the milk must be forced down his throat. A man should be placed on each side of the sufferer, and he should then be walked up and down. He will want to sit down, but on no consideration should this be allowed. When the patient vomits, more milk must be administered, and when the patient is out of immediate danger, which will be the case inside of half an hour, he should be placed in bed, when a little warm brandy and water may be given. The above is a panacea, and I confidently submit the recipe to any one that is engaged on main or service laying.

A VIENNA doctor has declared that cancer can be arrested by an injection of one of the coal-tar derivatives, methyl violet.



NAVAL RESERVE TARGET PRACTICE IN GRAVESEND BAY.