The Scientific American.

The Barning of Gosport Navy Yard.

ELEVEN VESSELS SCUTTLED AND BURNED-THE STRAM TUG "YANKEE" TOWS THE "CUMBERLAND" TO SEA.

On Saturday evening, April 21st, at 9 o'clock, the Pawnee arrived from Washington with 200 volunteers and 100 marines, besides her own crew, and at once the officers and crew of the Pawnee and Cumberland went to the Navy Yard and spiked and disabled the guns, and threw the shot and small arms into the river. At 10 o'clock, the marines, who had been quartered in the barracks, fired them, and came on board the Pawnee. This movement was premature, for it was the intention to fire all the buildings simultaneously. A party of officers, meantime, were going through the different buildings and ships, distributing waste and turpentine, and laying a train so as to blow up the dry dock. They were engaged in this work until two o'clock, when the train was fired. At 3 o'clock, the Yankee, to the captain of which, Charles Germain, much credit is due, came along and took the Cumberland in tow, the Pawneetaking the lead. All the vessels beat to quarters, the guns were manned, and everything was in readiness to carry out the threat of Commodore McAuley, that if a gun was fired from either shore, he would level both Portsmouth and Norfolk. At this time the scene was indescribably magnificent, all the buildings being in a blaze, and explosions here and there, scattering the cinders in all directions.

The government vessels had been scuttled in the afternoon before the Pawnee arrived, to prevent their being seized by the Secessionists, who had been in arms in both Norfolk and Portsmouth, under the command of General Taliaferro. Their number is estimated at some 1,400 men. The scuttling was done between 12 and 2 o'clock on Saturday. Lest this mode of destruction should not be complete, however, trains were laid on them and the vessels were fired with the buildings.

The following are the names of the vessels which were destroyed :- Pennsylvania, 120 gun-ship; steamfrigate Merrimac, 40 guns ; sloop-of-war Germantown, 22 guns; sloop Plymouth, 22 guns, frigate Raritan, 50 guns; frigate Columbia, 50 guns; Delaware, 84 gunship; Columbus, 180 gun-ship; United States, in ordinary; brig Dolphin, 8 guns; and the powder-boat.

Of these the Merrimac, Plymouth and Germantown were ready for sea, but the Pawnee made her appearance at the yard too late to save them. The Merrimac, in fact, had had steam on only a few hours previously.

The Vankse, as we have already said, left the yard with the Cumberland In tow about 8 o'clock. The flect proceeded down the river until 9 o'clock, when it came to anchor within a mile of the point where wrecks were known to have been sunk for the purpose of obstructing the navigation. Boats were sent out to take soundings in order to ascertain whether some other passage than the regular channel could not be found. All efforts proved unsuccessful, so the fleet raised anchor and forced their way directly through the wrecks. The Cumberland caught one of the sunken vessels and carried it along with her, and apprehensions were at first entertained that she might be carried on to Sewell's Point, where it was supposed the rebels had erected batteries. Meantime the Keystone State came up from Washington with marines, and by her help and that of the Yankee, the Cumberland was towed into deep water and the wreck disentangled. She then went up under protection of the guns of Fort Monroe and came to anchor. While the vessels lay there, four men, who had been employ. ed in the Navy Yard, succeeded in making their way down the river, and reported that they left everything in flames, and the smoke and flames could easily be seen from the Cumberland. The rebels, too, they reported, were fearful of attempting to arrest the flames because they apprehended that a train was laid to blow up the buildings.

The Yankee left on Tuesday morning for New York. She reports that the Pawnee and Keysione State had got the crew of the Penneylvania, and the marines who occupied the barracks, on board, to carry them to Washington. Both left for the capital at 9 o'clock.

No vessels are allowed to leave New York harbor now between sunset and sunrise, an order to that effect coming from the Secretary of the Treasury. The rule is enforced by armed vessels in the Narrows and in Long Island Sound.

EXPLOSIVE RIFLE BULLETS.

The only superiority which breech-loading cannon has over those which are loaded at the muzzle, is that they are adapted for the use of explosive shells. We do not mean bomb shells, but those which are charged with powder and explode when they strike. Breechloading rifles may be used for the same purpose in a most effective manner, and we revive our percussion explosive bullet, in order to draw attention to its destructive qualities. Fig. 1 is a section of it, and Fig. 2 represents it afterstriking and exploding. A is the hollow conical bullet, cast with a stem of lead, D; or this stem may be a common screw nail placed in the mold to form a pin for the sabot. B is a hollow chamber filled with percussion powder, and C is a plug fitted in the opening. E is a sabot made of cork fitted in the stem, D, and two pieces of leather, F, are glued to the sabot, which would be a little wider than the bullet. Such an explosive missile as this may be used for breech-loading rifled cannon, and by having the sabot of greater diameter than the shell, the latter need not be made with lead bands around it.

When used for cannon, the plug, C, should be made of iron : for rifles the plug may be a small conical



glass tube filled with percussion powder. When the point of the bullet strikes an object, the plug ignites the percussion powder in the interior, B, and the shell explodes.

We would suggest an important improvement of General Jacobs on this explosive bullet, so as to render it as safe for carriage by a soldier as a common cartridge. It is this :- Instead of casting the bullet for a moveable plug, let it be cast for the insertion of a small conical fixed nipple, to be inserted after the shell is charged with the common powder, or gun cotton. When about to load the rifle with one of these shells, place a percussion on its point, and this, when it strikes, will ignite the charge inside.

The late General Jacobs, of the East Indian army, was a most consummate tactician for mounted rifle men. His troops were armed with double barrelled rifles, and were the terror of the natives during the great Indian rebellion. He made a host of experiments with explosive rifle balls; and he has frequently set ammunition wagons on fire at a distance of 1,200 yards with them. With the common rifle, by careful loading at the muzzle, General Jacobs also blew up caissons at 2,400 yards distance, at Enfield, England, in 1857, just with such shells.

In the Baden and Würtemberg German armies, rockets are used for small arms. These rockets are inclosed in copper tubes. Capt. Delvigne has also introduced these explosive bullets into the French army.

MAP OF THE SEAT OF WAR.-It is impossible to understand military operations without maps, and in order that our account of the great war now raging in the country may be intelligible, we accompany it with a remarkably plain plan of the present theater of hostilities. It shows clearly the relations of Harper's Ferry and the Gosport Navy Yard to Washington ; also, the line of communication now open from the North to the seat of government via Annapolis Railroad.

Some 20 tuns of ammunition, including about 400, 000 musket cartridges, have been sent from the Watertown (Mass.) Arsenal to Harrisburg, Pa.

POWDER SEIZED .- A brigantine called the Tornado was seized, a few days since, by the Surveyor of this port, having on board 8,000 kcgs of gunpowder. It seems she cleared from this port in December last, for New Orleans, and, in a gale of wind, lost her mast, and was obliged to put into St. Thomas in distress, where she was refitted as best she could be, the Captain not having the means to repair, and she returned to this city. The peculiar circum stances of the case led to the discovery of the nature of her cargo, and to its providential seizure.

SOLDIERS' COMFORT. - Opposite to our windows in the park, extensive temporary barracks have been constructed, for the accommodation of troops arriving in this city. The eating house is 400 feet long, and the wash room and bunk room is 200 feet. They are fitted with gas and Croton fixtures, and have three large ranges in the kitchen of sufficient capacity to cook for 2,000 men.



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