

TORPEDOES USED BY THE REBELS.

For the following very interesting information concerning rebel infernal machines we are indebted to a correspondent with the James River Expedition; his name is not given for obvious reasons.

EXPEDITION UP JAMES RIVER, }
June 11, 1864. }

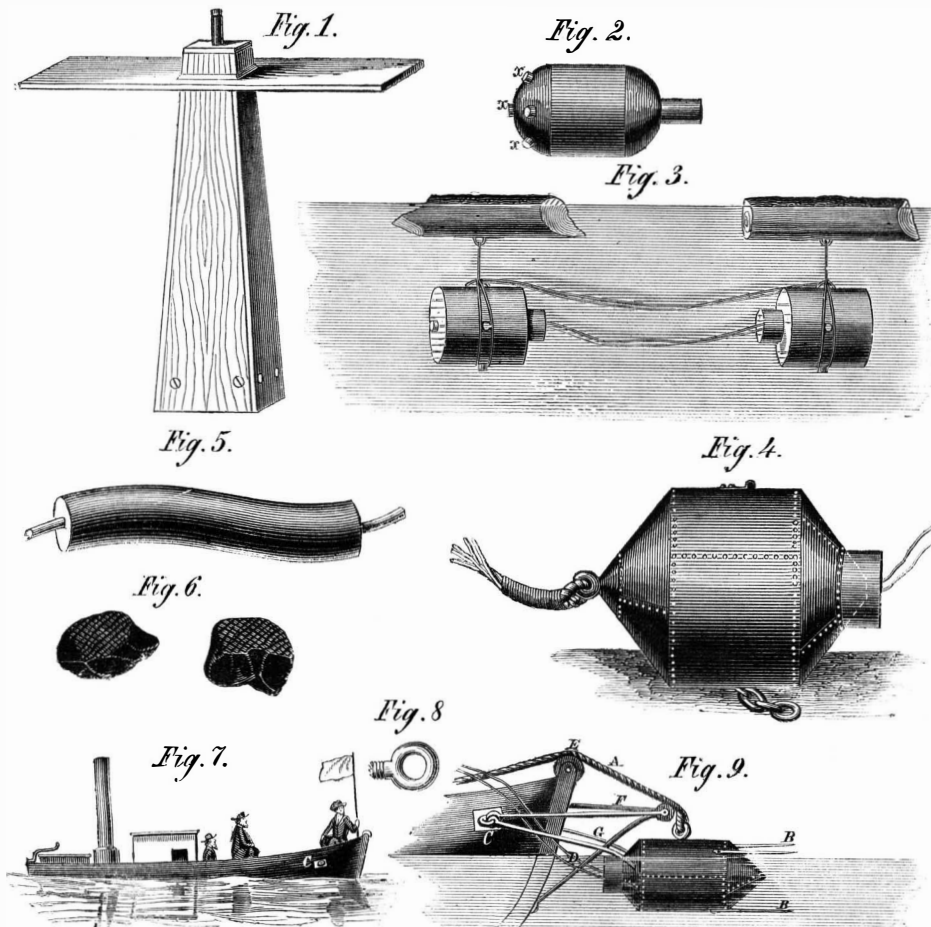
MESSRS. EDITORS:—Supposing it may not be an uninteresting topic, after reading the article on "Submarine Batteries," on page 282, Vol. X., SCIENTIFIC AMERICAN, it occurred to me that I might communicate to you some facts relative to the various torpedoes found by our vessel and others of this fleet.

But, first, let me remark that the cause of the rebel steamer not being promptly pursued after exploding the torpedo under the *Minnesota*, on the 9th of April, 1864, was owing to the fact that a tug which was lying alongside the *Minnesota* had not sufficient steam up to chase the vessel. Our vessel (the ——— is a fast side-wheel craft, and could have overtaken the rebel easily, in the right direction—James river. But we were not hailed or ordered alongside the *Minnesota* until half-past 3 A. M.; and not until 7 A. M. were we sent with the *Commodore Perry* (a slower craft) up Nansemond river—a fruitless search.

It has since happened that, on the 14th of May, while lying at the point where the *Commodore Jones* had been blown up 8 days before—waiting for the *Stepping Stones* to raise a torpedo—a small rebel propeller, about 25 feet long, answering the description of the one that tried to destroy the *Minnesota*, came down under a flag of truce. We had heard her occasionally on the river puffing, before day-break, about a mile or two above us. In Fig. 7 I have given a representation of her; Fig. 9 shows her probable method of attaching a torpedo and then casting off from it by cutting the rope, A, backing a short distance and exploding it by means of the connecting wires. My reasons for supposing that this is the mode of attachment of the torpedo to the bow of the boat are these:—I noticed the rope, A, and pulley, E, also the plate, C, on the bow of the boat, and imagine it was intended to receive an eye-bolt, Fig. 8, to which the rods, F and G, are attached. In the affair of the attack on the *Minnesota*, after replying to the hail, the tug stopped a moment, then suddenly steamed under full headway, bow on, for the *Minnesota*, thrusting the torpedo forcibly against the ship, thereby causing the spikes, B, to fasten themselves firmly in the timbers; then, on cutting the rope, A, the tug was instantly detached from the torpedo and backed rapidly to a safe distance, and the powder fired by means of the wires, D, either by pulling them or using a galvanic battery. The suddenness with which the rebels worked, no doubt, took the officers of the *Minnesota* so by surprise as to render them incapable of prompt action. For it was done in probably half the time it will take to read this description.

Of the torpedoes, eleven were found by our vessel, and six by others; two of the largest size (Fig. 4) were rendered harmless by breaking their connections, though they were left in the river. Fig. 1 is a floating torpedo, made of tin, covered with wood; it is five feet high and contained 30 lbs. of powder. We found eight of them. Fig. 2 is made of copper, and is intended to be sunk to a certain depth and exploded by contact, being supplied with five percussion caps,

the machine is to contain about 50 lbs. of powder; it is two feet long. Fig. 3 represents two made of tin; they are floated about two feet under water, suspended to short logs, and lashed together by cords, a; the wires, c, are also united. The torpedoes are 14 inches long and 13 inches in diameter, and are intended to be exploded by friction primers and pulling wires, c, and contained each 66 lbs. of powder. We found two of them. Fig. 4 is the "daddy" of torpedoes; it is made of half-inch boiler-iron; 33 inches outside diameter, length 4 feet; cylindrical length 22 inches; it contained 1,015 lb. of powder (size of grains shown in Fig. 6); it was designed to destroy a monitor. The one that destroyed the *Commodore Jones*



REBEL TORPEDOES.

was of this size; it was fired by means of insulated wires (of the size shown in Fig. 5), which were laid to some secret covert or in the bank of the river where a rebel constantly laid on the look-out for one of our vessels. Finding that there was danger of our discovering him and spoiling his fun, Britton (the rebel) concluded he would blow up the *Commodore Jones* for want of a monitor, particularly as the small boats, in dredging with grapples, had already found his wires and were then pulling at them at the risk of displacing them.

While he was deciding what to do and immersing his galvanic battery in the bath, the *Commodore Jones* had probably been lying over the spot some five minutes. The position of the torpedo had been kindly pointed out to us by an old colored man; and why Capt. Wade, the commander of the vessel, knowing its position so perfectly, should go to the spot and stop directly over it, is more than I can understand, as he always had the good and safety of his men at heart. The entire middle of the boat was blown up 50 or 60 feet into the air, killing about 35 of the men and wounding 25 others. We were about the distance of one or two city blocks away, yet the sound of the explosion was so muffled by the water that I did not hear it. The poor negro was sent on board the *Shavusheen*, and was either killed or captured on the next day (May 7th) with that unfortunate vessel. If captured, we know that he soon met a horrible fate at the hands of our merciless foe.

After starting ahead again, the fleet delayed 29 hours over the first torpedo, and 3 or 4 more over the next three. Hence, when the attack commenced on Chapin's bluff—the outworks of Fort Darling—we were just 45 hours too late to assist Gen. Butler.

Each of our vessels in advance is supplied with a torpedo holding about 50 lbs. of powder on a 30-foot pole projecting from our bow.

New Method of making Bread.

Good bread is a good thing and one not so easily obtained. A correspondent of the *American Agriculturist* says she can make good bread, and tells others how to do it. She says:—

"Instead of protracted agony of twelve or eighteen hours, it will only be a pleasant exercise of a few minutes in making it—just two hours for raising—and baked in fifty minutes, and then out come the loaves, so round and light, so tender and sweet, the whole household will be delighted. The first thing, and last in fact, is proper temperature, both while making it and in process of raising. Without heat, internal as well as external, fermentation cannot be rapid enough. Then heat two bricks to 100° or more, and place the pan you make the bread in on them, and so knead and work in the heat with the materials. And now, though the great army of bread-makers stand up in flour-y array against me, and even shake their dough-y fingers at me, I shall not wince or 'abate one jot.' 'Success is the test of merit,' as the world goes, and this past delusive notion that after bread is light, once, it must forsooth be molded over into loaves and set to work again, is all nonsense. It often induces sourness, certainly multiplies labor, and takes time. Well, then, have two tins well greased (butter is hopeless in these days) and divide the dough equally. (I use two quart tins, which, of course, requires two quarts of flour and over for a loaf) and set them to rise by the stove on the hot bricks, with a piece of carpet over the bricks to moderate the heat, and then well cover with warm woollens. In two hours it will be rising like Aladdin's palace, and when fairly brimming full, place it in your oven, and you will soon have as delicious bread to eat as one ought to expect out of Paradise. I claim this as original, and only ask you to follow these directions and give us the result. Thus bread-making ceases to be the tax on time and patience it usually is, and the harassing doubts and fears one usually goes through with while following the old method, are quite done away with. I could say much on the philosophy of baking bread, in adjusting the 'golden mean,' which, after all, is half. A peep into some of the closed ovens would, I fear, call out the exclamation of the dogs in Landseer's picture of 'too hot, too hot.'"

[These instructions are so plain, and the results promised so great, that they are worth trying.—Eds.]

Combustion of Gunpowder in a Vacuum.

The eminent French chemist, M. Bianchi, is the author of some curious experiments of the combustion in a vacuum. He found that this substance, and also the fulminates, burned quickly if loose in an exhausted vessel, and suddenly brought to a temperature exceeding two thousand degrees. If, however, the powder was placed, under similar circumstances, in a pistol, it inflamed with the suddenness exhibited in the air. Gun-cotton slowly disappeared; the layer nearest the source of heat going first, but without the production of any light. In all these cases the products of combustion were the same as in air. Combustion also took place in nitrogen, carbonic acid, and other gases which do not support it, with little diminution of the ordinary rapidity of the process.