

BALLOONS IN WARFARE.

In the early part of the famous French Revolution, science and art were marshaled into the service of the republic, and the Academy of Sciences recommended the use of balloons for reconnoitering the positions of the enemy's forces; and for this purpose an aeronautic school was established near Paris. This was done with great secrecy so that the French could alone avail themselves of such advantages. The management of this institution was committed to eminent philosophers, and 50 military students were admitted into it for special training. A practicing balloon, containing 17,000 feet of hydrogen gas, was kept constantly full and ready for exercise; and whenever the weather permitted, the colonel of the corps and a pupil seated themselves in the car and were elevated to any height desired, the balloon being confined to the earth by a cord attached to the car, and operated by a windlass. So successful were these school-experiments that balloons were made for every division of the French army. Just before the battle of Fleuris, in June, 1794, M. Contet ascended in his war-balloon with an adjutant and a general, to reconnoiter the hostile Austrian army. They rose to a height of several thousand feet, with their rope and windlass machinery to make it stationary, and took observations for several hours. The reconnoissance thus made enabled the French general (Jourdan) to dispose his forces in such a manner that he gained a speedy and decisive victory.

Sixty-five years have passed away since that event took place, and in the same month (June) the French now find themselves once more before the same foes ready to engage in the same deadly struggle; and it is a remarkable coincidence that the same means of reconnoitering are again employed by the same people. On the 24th of June, the great battle of Solferino was fought in Italy, between the French and Austrians, in which the latter were defeated, and the former suffered so severely that their army could not follow the retreating enemy. The brothers Goddard, of Paris, whose fame as aeronauts is very high, were on the ground with their balloon; and one of them made an ascent on the day preceeding the struggle, to explore the Austrian positions. He rose about 3,500 feet, made some observations then descended, having apparently perfect control over his balloon. It is not stated how this affected the result of the battle; it did not, at least, lead to any disposition of the French army for attacking the Austrians, as the latter were the attacking party. But the Austrians may have thought that these balloon observations, by giving the French a key to the positions of the enemy, placed them (the Austrians) at a disadvantage, and their best policy was to change their entire arrangement, by taking the initiative. It is stated that Messrs. Goddard are to accompany the army, and this affords some data for concluding that ballooning is to be further employed in this war. Whether (as has been proposed by some authority) cannon and shot may be carried up in balloons, and discharged down upon an enemy remains to be seen, as such experiments have not yet been made.

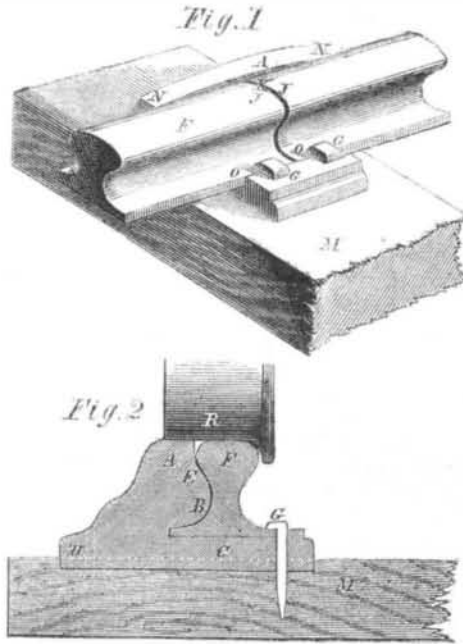
In connection with this subject we may state that, in fulfillment of the intention expressed in our last issue, we succeeded in procuring an illustration of the great balloon, *Atlantic*, in which Mr. Wise and his three courageous associates were conveyed from St. Louis, Missouri, to Jefferson county, New York; but on inspecting it, we found it to be only an ordinary balloon, quite destitute of any feature of novelty that would interest our readers, and hence we resolved to exclude it from our columns and substitute the above letter-press upon a kindred topic, which will doubtless be much more attractive to the greater portion of the reading public, especially to the friends of Italy, American aeronauts, and military men of all nations.

WHY A SHIP IS "SHE."—Some heartless wretch (who should be punished by being tied to a post with his face within six inches of kissing distance of a pair of bewitching "cheery lips"—feminine lips—with the certainty of never reducing that number of inches between him and bliss) says "a ship is called *she* because a man knows not the expense till he gets one—because they are useless without employment—because they look best when well rigged—because their value depends upon their age—because they bring news from abroad, and carry out news from home."

LANDRY'S RAILROAD CHAIR.

The chair which forms the subject of our engravings is used on the Troy and Boston and the Rensselaer and Saratoga railroads, on each of which it gives great satisfaction.

Fig. 1 is a perspective view of the chair and joint, and Fig. 2 is a section showing the chair, rail and car-wheel. A is a projecting piece of metal which is cast on the chair and hardened, or it may be made of wrought iron or steel and secured to the chair or to the rails themselves. B is the support to the rail for lateral pressure, and C the seat of the rail. The rail is wedged up tight by spikes, G G, that are driven through the chair into the cross-tie. E is the inside of A, which is kept as close to the rail as possible, but so as not to prevent the wedging up. H are the holes in the chair to admit of its being spiked to the cross-tie. J J are the ends of two rails, which ought to be laid as close together as possible;



but when laid in cold weather, a space, K, should be left between them. The projecting piece, A, is level with the rail at its two extremities, N N, but rises a little higher in the center and so relieves the ends of the rails from pressure, causing them to wear considerably longer. Small oblong jams, O O, are made in the rail to admit of the spikes, G G. R is the wheel passing over the rail, F. By the use of this chair a bearing will be afforded to the cones of the wheels of locomotives and cars, thereby preventing the unpleasant jarring of the machinery and the undue wearing of that particular part of the rails. These chairs can be made of any required size and strength, taking as much bearing from the ends of the rails as the maker may determine, and they can be applied to any rails.

The inventor is H. A. Landry, of Camden, N. J., and the patent is dated Jan. 18, 1859. The invention has been assigned to F. G. Ransford, of Troy, N. Y., who will be happy to furnish any further information upon being addressed.

DEATH OF RUFUS CHOATE.

This distinguished man departed this life at Halifax, N. S., on the 12th inst. About a month previous to this event he had sailed for Europe, from Boston, in search of health, but was so feeble that he proceeded no further than Halifax, where he remained until death closed his eyes. Rufus Choate was born at Ipswich, Mass., in October, 1799. He distinguished himself for ability while a student at Dartmouth College; and having chosen law as his profession, he studied at both Cambridge and Salem, and commenced business at Danvers in 1824. He soon began to take an active part in politics, early became distinguished for his eloquence and power of argument, and was elected to the State Senate in 1838, when only 29 years of age. He also filled the position of United States Senator for four years from 1841 to 1845, and then retired from politics and devoted himself exclusively to his profession. Since the death of Daniel Webster, he was undoubtedly the ablest lawyer and statesman in Massachusetts.

NEW INVENTIONS.

A BUGGY BOAT.—For the convenience of travel, to enable a person to perform a long journey over a diversified tract of country, where rivers and lakes would be apt to impede his progress in an ordinary vehicle, or for many pleasure excursions, a carriage which could be changed into a boat would be very convenient; and such an invention has been patented this week by Perry Davis, of Providence, R. I., the proprietor of the well known "pain-killer." He mounts a common row or pleasure boat upon three wheels, the spokes of the two rear ones being so formed that they can become suitable paddles, so that when they, by cranks and belts, are operated from the inside of the boat, they propel it through the water, and serve the double purpose of paddle-wheels and ordinary carriage wheels.

DITCHING AND DREDGING MACHINE.—Anton Menge, of Point a la Hache, Parish of Plaquemine, La., has invented and patented, this week, a new machine for digging ditches and canals, and also for dredging them. The principal features of the invention are in the arranging of the bucket or cutter-frame in an inclined position in front of the boat, and constructing it so that it can be readily slewed from right to left of the boat by proper machinery. The bucket is also of improved construction, as it acts as a cutter, and has a hinged bottom in order to open and allow the earth or mud to fall at the proper place of discharge; and in connection with this peculiar bucket are arranged revolving cutters, which are situated on the extreme end of the swinging frame, and are made to operate so as to cut and loosen the earth on each side of the buckets while they are digging or excavating, and conveying it to a barge or any suitable place to be discharged.

ARTIFICIAL STONE.—In the list of claims will be found a patent issued to J. L. G. Ward, of Adrian, Mich. for an artificial stone, which is a compound of a solution of silicate of soda, pulverized flint-spar, pulverized pumice-stone, and Roman cement, which, when properly compounded, forms an excellent protection for the interior or exterior of buildings against the weather or fire, and it can be molded or cast into suitable forms for architectural purposes, or taking casts of sculpture, or other uses. The composition hardens quickly by exposure to the atmosphere, and, when hard, has the most indestructible character, resisting effectually the severest weather, and being only with great difficulty injured by the action of instruments of metal.

PAPER BAG MACHINERY.—This invention consists, firstly, in making the cutter which cuts the paper from the roll or piece, of a peculiar irregular form; whereby it is caused, by the operation by which it cuts the paper from the roll or piece, to give it the form which permits it, without further cutting out, to be folded into a bag. It also consists in the attachment of the "former" round which the paper is folded to form the bags, to the cutter which cuts it from the roll or piece. It also consists in a certain mode of applying and arranging a paster, in combination with the "former" attached to the cutter, for the purpose of pasting the lap which closes the bottom of the bag. It also consists in a certain construction of two side lappers operating in combination with the former to fold the bag, whereby the bottom lap is partly folded by the act of folding the side laps. It also consists in a contrivance applied and operating to start the folded or partly-folded bag from the "former." It also consists in a pair of rollers arranged in a vibrating frame and operating so as to remove the bag from the "former," close the laps and discharge the bag from the machine. It is the invention of William Goodale, of Clinton, Mass.

BIG SAWING.—The Alton (Ill.) *Democrat*, of the 7th inst., describes a feat of sawing which deserves more than a mere passing notice. On the day previous to that date, the editor visited the saw-mill of T. Hamilton, on Wood river, the machinery of which was made by Johnson & Emerson, of the Piazza Foundry, Alton; and between the hours of 5 A. M. and 7 P. M., 100 logs of oak, elm and hickory were sawed, the amount cut being 31,200 feet. This was cut by one circular saw of 58 inches diameter; the time occupied was 14 hours, giving an average of 2,228 feet cut per hour.