THE STATUE OF LAFAYETTE AT PARIS.

Our engraving gives an excellent idea of the statue of Lafayette presented by the people of the United States to France. It was unveiled at Paris on July 4. The statue was modeled by Mr. Paul W. Bartlett, an American sculptor of prominence. Lafayette is represented as offering his sword and services to the American colonists in the cause of liberty. He is attired in the rich embroidered costume of an officer of the nobility. His Flemish steed is represented with its mane knotted and tail dressed in the style of the time. An equestrian statue of Lafayette is particularly appropriate, for, after landing at South Carolina, he rode from Charleston to Philadelphia on horseback and there offered his services to Congress. The statue has been erected in the Place du Carrousel in the space partly enclosed by the buildings of the Louvre. The pedestal was designed by Mr. Thomas Hastings, and the whole monument is intended to harmonize with the richly ornamented surroundings of the Louvre. The work has been carried out under the direction of M. Redon. The height of the statue is 15 feet, and that of the pedestal 26 feet.

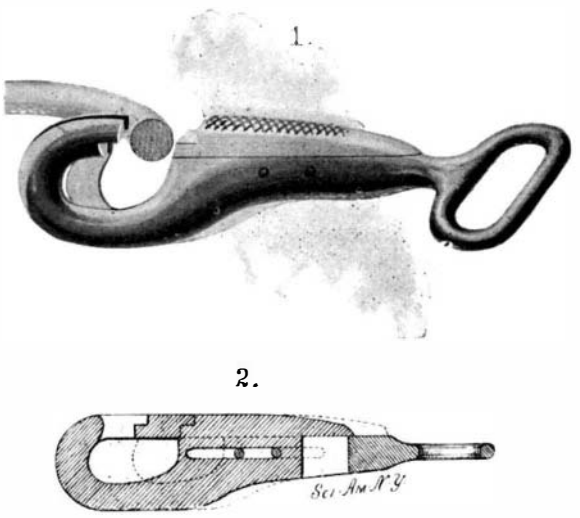
Never before was the Fourth of July so enthusiastically celebrated in Paris, not only by Americans, but by the French. Everywhere the American and French flags were entwined and a gigantic American flag floated from the Eiffel Tower, and even the street venders did a brisk business selling the Stars and Stripes. The Washington statue had been unveiled on July 3, and the Lafayette statue was unveiled on July 4. It was presented to France by American children. The statue and pedestal were erected in staff, following the excellent French custom, for when statues are not entirely completed, they exhibit and unveil the model, and the statue is placed in position subsequently. Around the plaster model a large stand had been constructed and was occupied by prominent French and American persons. Sousa's band played the "Marsellaise" on the arrival of President Loubet, who was received by General Horace Porter, the American Ambassador to France. General Porter addressed the audience in French and English. A speech was also made by Commissioner-General Peck. President Loubet accepted the statue in the name of France and two boys unveiled it. There were other speakers, and Archbishop Ireland made a fine dedication address. A reception was given by Ambassador Porter in the evening, and a banquet was held at the Chamber of Commerce. The day closed with the playing of Sousa's band in front of the Opera House.

Experiments in Temperature of Explosives.

In a communication recently made to the Royal Society, Messrs. Macnab and Ristori, continuing their researches upon modern explosives, give an account of a series of experiments to determine more exactly the temperature reached by explosives in a closed chamber. Previous experiments have shown that a thin platinum wire is melted by the heat developed during the explosion, while a thick wire is unaffected; this proves that the temperature exceeds the fusing point of platinum, but the duration of the maximum is very short. The experimenters use for the purpose a thermo-electro couple of rhodium and platinum wires having different diameters, and thick enough not to be melted by the explosion. The deflection of the galvanometer would then vary inverse ratio to the thickness of the wire forming the couple, and it would then be easy to calculate the deviation which would be caused by a couple infinitely small which would absorb all the heat in a time infinitely short; this deviation, expressed in degrees, would represent the temperature reached. In the experiments a series of thermo-electric couples formed of wire of platinum and an alloy of platinum with 10 per cent of rhodium were used, whose diameter varied from 0·25 to 1·1 millimeter. Each couple was successivly fixed in the interior of a shell, and the deviation of the galvanometer was registered by the photographic method. It was thus found that gun-cotton is the explosive giving the lowest temperature; then follow in order cordite ballistite (70 per cent fulmicotton with 30 per cent nitroglycerine), then another form of ballistite, with equal parts of cotton and nitroglycerin. The experiments are now being made to determine the elements necessary to convert the deviation of the galvanometer, expressed in degrees, into degrees of temperature.

A SPRINGLESS HARNESS SNAP-HOOK.

A snap-hook made without springs, and therefore more certain in its action than most similar devices, forms the subject of our engraving. The hook comprises a main portion and a keeper. The main portion has a hook projected from the shank and a longitudinal slot extending into and through the shank. The keeper consists of a thumb-plate with a plane under face lying snugly on the plane top face of the main portion, the front end of the thumb-plate being projected in position to engage the point of the hook, so as to close the hook. On the under face of the thumb-plate is a longitudinal web lying friction-tight in the slot of the main portion. The web has a front extension forming a hook and lying adjacent to the hook of the main portion. The keeper is slidably mounted on a pin extending through a slot in the web (Fig. 2). In using the hook, the keeper is moved to the position indicated by dotted lines in Fig. 2, and the eye or ring which is to be engaged is dropped into the hook of the web below the point of the hook of the main portion. Strain is then placed on the hook, so that the keeper and its web are made to move to the position shown in full lines in Fig. 2, thus preventing the disengagement of the snap-hook from the eye or ring of the harness with which it is connected. Since the keeper is friction-tight on the body of the snap-hook, it cannot move accidentally to open the hook. Moreover, the strain of the harness will cause the keeper to remain in closed position. To open the hook, it is necessary only to push the thumb-plate back, to move the parts to the position shown by dotted lines. The device is the invention of James A. Gavitt, Waitsburg, Wash.



A SPRINGLESS SNAP-HOOK.

STATUE OF LAFAYETTE UNVEILED AT PARIS ON JULY 4.

A New Antarctic Expedition.

The International Meteorological Committee, which held its last meeting at St. Petersburg, gives an account of the projected expedition to the South Pole, which will be under the direction of Herr von Drygalski. The expedition will leave at the end of August, 1901, and go at once to the Cape of Good Hope, stopping only to make soundings from time to time in the South Atlantic. The equipage will be completed at that point, if necessary, and the magnetic observations will be begun. From the Cape the expedition will pass by Prince Edward and Crozet Islands to Kerguelen, where at least one series of magnetic observations will be made. During the sea voyage, meteorological observations will be made every four hours, and between 11:30 A. M. and 1 P. M. a number of temperature readings will be taken, so as to determine more exactly the maximum temperature of the air above the ocean. At Kerguelen it is proposed to establish an auxiliary station, which will contain a registering instrument for magnetic variations, magnetometers and an inclinometer, and meteorological observations will be made there, using automatic registering instruments. In November, 1901, the main party will proceed eastward to 90° longitude, then to Termination Island, going from there to the hypothetical west coast of Victoria Land; it is proposed to establish there the principal observing station, which will be in operation from February, 1902, to the same period of 1903; the return trip is then to be made. In February, 1903, the expedition will proceed westward toward Wedell Sea, if possible, and from there pass by Georgia toward Tristan da Cunha. Starting from Kerguelen, the magnetic and meteorologied observations will be made during the trip; at the main station will be established a complete set of instruments for magnetic variations and a set for absolute magnetic measurements. From the station a series of observation trips will be made in sleds, and magnetic readings will be taken with the portable instruments. The vessel carrying the expedition is constructed of wood, with a complete rigging of sails and an auxiliary steam engine. The latter, with its accessories, will be placed in the rear so as not to disturb the magnetic observations, which will be made on the captain's bridge. The use of iron will be avoided for a distance of six yards around the observation posts.

Old Spiral Car Springs.

A use has been discovered for old spiral car springs, says The American Railroad Journal. It has been found that these often contain enough carbon to permit of making cold chisels. Forging into the necessary form is easy and the additional carbon required may be added by the cementation process. Cold chisels made in this way cost half as much as the high grades of steel which were formerly used.