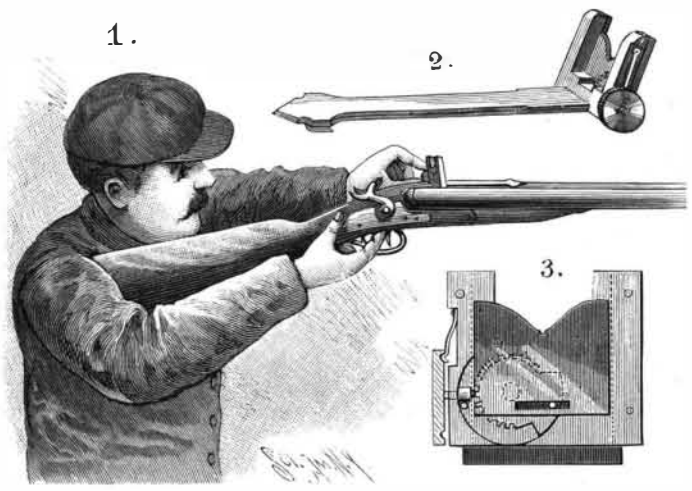
AN IMPROVED SIGHT FOR FIREARMS.

This sight is more especially adapted for use in connection with sporting guns, its construction being such that it may be quickly and conveniently adjusted for any range required, without moving the gun from the shoulder or taking it from firing position. The improvement has been patented by Mr. Louis A. Favre, of Ticonderoga, N. Y. Fig. 1 represents the device in use, Fig. 2 showing it detached from the gun, and Fig. 3 with the front plates or guideways removed. The sight is attached to the barrel by means of a tail-piece



FAVRE'S SIGHT FOR FIREARMS.

having a dovetail block or rib on its under side to enter a corresponding groove in the barrel. The sight comprises a body section, to which a face plate is adapted for attachment, and a sight plate, adapted to be raised and lowered together, the plate sliding freely in ways or guides. The operative mechanism comprises a mutilated gear held to turn in a circular recess in the outer face of the body of the sight, and by rotating the gear by means of a thumb-wheel vertical movement up or down is given to the sight plate.

Sculpture for the Congressional Library.

The sculpture to be used as decorations within and without the new Library of Congress is to be in complete and in low relief, and to consist of statues and busts in bronze and granite; also in bronze relief doors and many large symbolical statues in plaster. The latter will decorate the inner dome, where they will be put about sixty feet from the marble floor of the central hall. They are to be figures 10½ feet high, and presumably colored to go with the stucco ornamentation of the vault. They are eight in number, and will rise against the spandrels between eight arches. John Q. A. Ward will model "Poetry;" Augustus St. Gaudens, "Art;" George Barnard, "Religion;" Bela L. Pratt, "Philosophy;" Daniel C. French, "History;" John Donoghue, "Science;" Paul Bartlett, "Law;" John Flanagan, "Commerce." Bronze doors, three in number, are said to have been given to Olin L. Warner, Frederick MacMonnies, and George Barnard. The inner dome has a balcony running round it, about thirty-five feet from the floor. Here are to stand sixteen bronze figures of famous men, each 6½ feet high. Daniel C. French will model Herodotus; Louis St. Gaudens, Homer; Frederick MacMonnies, Shakespeare; Charles Niehaus, Moses and Gibbon; John Donoghue, St. Paul; John J. Boyle, Plato and Bacon; George Barnard, Michael Angelo; Theodore Bauer, Beethoven; C. E. Dallin, Newton; Herbert Adams, Dr. Henry; F. W. Ruckstuhl, Solon; George E. Bissell, Chancellor Kent; Paul W. Bartlett, Columbus; and H. H. Kitson, Fulton. These names and the names of sculptors appear to have been shaken up in a bag and drawn out at haphazard. But there is this to be noted: no really questionable sculptors have been included in the orders, so that in the majority of cases we shall probably get fairly good works. The least known are Messrs. Bela Pratt and John Flanagan, young men who have worked with St. Gaudens. The windows in the balcony on the facade are to be decorated with nine colossal granite busts. Herbert Adams will model those of Scott, Dante, and Demosthenes, F. W. Ruckstuhl those of Franklin and Macaulay and another, and Jonathan S. Hartley those of Irving, Hawthorne, and Emerson.—N. Y. Times.

A Strange Light on Mars.

Since the arrangements for circulating telegraphic information on astronomical subjects was inaugurated, Dr. Krueger, who is in charge of the Central Bureau at Kiel, certainly has not favored his correspondents with a stranger telegram than the one which he flashed over the world on July 30, 1894:

"Projection lumineuse dans région australe du terminateur de Mars observée par Javelle 28 Juillet 16 heures Perrotin."

This relates to an observation made at the famous Nice Observatory, of which M. Perrotin is the director, by M. Javelle, who is already well known for his careful work. The news, therefore, must be accepted seriously, and, as it may be imagined, details are anxiously awaited; on Monday and Tuesday nights, unfortunately, the weather in London was not favorable for observation; so whether the light continues or not is not known.

It would appear that the luminous projection is not a light outside the disk of Mars, but in the region of the planet not lighted up by the sun at the time of observation. The gibbosity of the planet is pretty considerable at the present time. Had there been evidence that the light was outside the disk, the strange appearance might be due to a comet in the same line of sight as the planet. If we assume the light to be on the planet itself, then it must either have a physical or human origin; so it is to be expected that the old idea that the Martians are signaling to us will be revived. Of physical origins, we can only think of aurora (which is not improbable, only bearing in mind the precise locality named, but distinctly improbable unless we assume that in Mars the phenomenon is much more intense than with us), a long range of high snow-capped hills, and forest fires burning over a large area.

Without favoring the signaling idea before we know more of the observation, it may be stated that a better time for signaling could scarcely be chosen, for Mars being now a morning star, means that the opposition, when no part of its dark surface will be visible, is some time off.

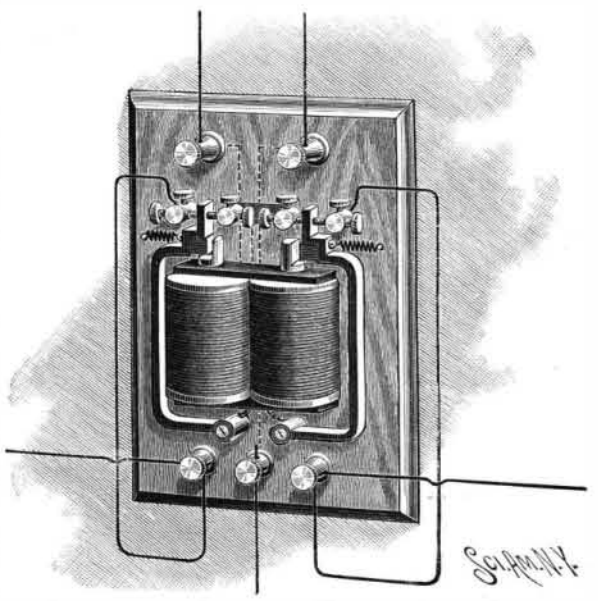
The Martians, of course, find it much easier to see the dark side of the earth than we do to see the dark side of Mars, and whatever may be the explanation of the appearances which three astronomers of reputation have thought proper to telegraph over the world, it is worth while pointing out that forest fires over large areas may be the first distinctive thing observed on either planet from the other besides the fixed surface markings.—Nature.

THE CASCADE WATER WHEEL.

Messrs. James Leffel & Co., of Springfield, Ohio, are putting on the market a new type of wheel with which some most excellent results have been obtained. The illustration is from a photograph of one of these wheels which is said to have yielded from 86 to 91 per cent of useful efficiency in six different consecutive tests, under a head of 125 to 140 feet. The wheel has two separate sets of buckets, located alternately on each side of a central, sharp, continuous dividing ridge, projecting a little in front of the entering edge of the buckets. This dividing ridge has a sharp, cutting edge, which serves to separate or divide the jet of water before it touches or reaches the buckets, and to keep it continuously divided in two equal portions, so that each portion or each half of this single jet is received separately on each side of the dividing ridge. One half of the jet is therefore received by one series of buckets, separate and independent of the other half. Each series of buckets, on each side of this continuous dividing edge, is so arranged that they catch the water alternately, or in such manner that no two come opposite each other, their upper front edges not being on a line. This alternating arrangement of buckets secures greater steadiness of motion, and the shocks or forces are therefore divided more regularly on the wheel, as each bucket passes the point of the nozzle, and catches its half portion of water. These buckets are cast solidly upon each side of the circular dividing ridge, and upon the face or rim of the wheel on each side of this central division; this circular ridge being also angular and curved as it approaches the center, giving to the interior of the buckets a symmetrical and effective curve. This arrangement of buckets and form of construction secures great strength, firmness and stability.

AN AUTOMATIC DISCHARGER OF ABNORMAL ELECTRIC CURRENTS.

The illustration represents a device adapted for insertion in electrical lines, to discharge the lines when an excessive current passes, as in case of a lightning stroke, or when a conductor carrying a heavy current for lighting or power purposes crosses a telephone or telegraph line. The invention has been patented by Mr. J. F. Ganduxer, of Gracia, Spain, and Mr. Enrique Orellana, Consulado 68, Havana, Cuba, is the representative of the inventor for all American countries. The improvement comprises an electro-magnet, an armature lever carrying an armature and prolonged between a pair of electrical contacts, a retractile spring for holding the armature lever normally against the back contact spring, and line and ground connections. The illustration shows a double instrument connected with two electrical lines. The retractile springs are adjusted to cause the armature levers to resist any attraction due to the normal current, which passes

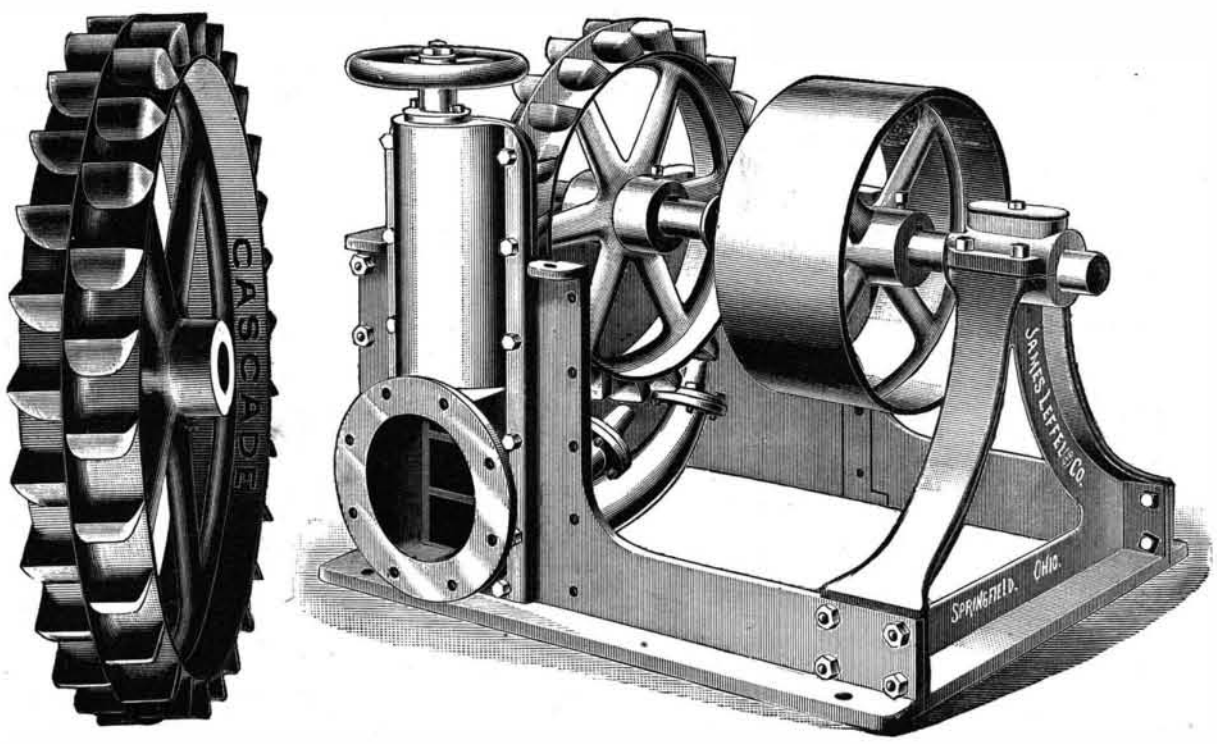


GANDUXER'S AUTOMATIC LINE DISCHARGER.

through the instruments and the lines, while an excessive current attracts the armatures and the current is made to pass to the ground direct, preventing injury to any instruments in the line beyond the line discharger.

Inertia of Fly Wheels.

The enormous amount of energy stored in a revolving fly wheel is strikingly shown when it flies in pieces, as one did in the Manville Mills, at Manville, R. I., on the morning of the 18th ultimo. In bursting, the wheel destroyed two other fly wheels of the same size, 20 feet in diameter and 25 inch face. The break will cause a shut-down of the mills for nearly a month for repairs, and the damage amounts to $16,000. The arms of the wheels were broken off nearly to the hubs, and immense pieces were hurled long distances through the roof and walls of the engine room. Large pulleys and other machinery above the engine room were smashed and twisted into a mass of wreckage. Fortunately no one was injured.



A NEW HURDY-GURDY OR IMPULSE WHEEL.