

**Automobile News.**

A new apartment house in course of erection on West End Avenue and Seventy-ninth Street, New York, will have attached to it automobile stables for housing the automobiles of tenants. Facilities for charging the electric vehicles are provided on the first floor, and the second floor is intended for living apartments for the vehicle attendants.

The new system of electrically propelled vehicles known as the Lombard-Gerin automotor has recently been put in operation at Vincennes Park. In this system the car, a kind of omnibus, is driven by a motor attached to one of the axles; it takes its current from an overhead wire, which supports a rolling trolley carriage from which hangs a flexible cable connected with the vehicle. At Vincennes a series of posts have been erected along the road which passes around Lake Daumesnil. As there are, of course, no rails, two bare copper wires are strung upon the posts; upon this rolls the carriage, carrying the flexible cable. The cable passes into a hollow mast supported on the top of the vehicle; its length may be increased or diminished, the slack being partly taken up by a counterweight contained in the column. The trolley is itself provided with an electric motor, which operates two friction rollers driving the main pulleys, which travel over the wire. The motor of the vehicle is of the continuous current type with series winding. On the opposite end of the shaft it carries a collector formed of three rings, by which alternating current, three-phase, is taken when the motor is in operation. This current is used to drive the motor of the trolley, and to this end the cable uniting the latter to the vehicle has six wires, two of these being direct current at 500 volts to the motor of the vehicle; this current then returns to the trolley in the form of three-phase current by three wires of the cable. The sixth wire is used to control a brake on the motor of the trolley. This system has been previously tried over a stretch of road five miles in length along the quay of Issy-les-Moulineaux, outside of Paris, where it succeeded very well. The tests made at Vincennes have met with equal success, and show to the public the method of working and the advantages of the system.

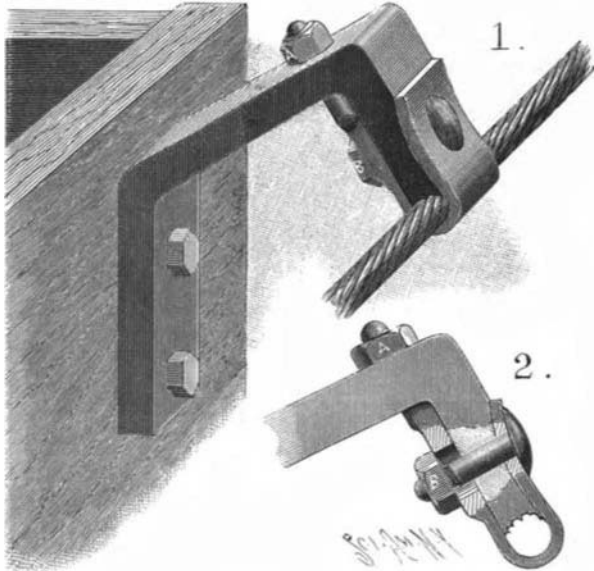
One of the most interesting features in the recent series of military maneuvers carried out in France has been the use of automobiles for transporting the officers and for carrying searchlights. The officers are now commencing to use the automobile and find it a great convenience. General Brugère, for instance, has professed quite a liking for the automobile; during the maneuvers he made a trip from Chartres to Rambouillet, in order to pay his respects to President Loubet. Mounted on a 16 horse power machine, he made a speed of 36 miles an hour, the train making only 30 miles; he now prefers the automobile to the horse. General Lucas also favors the automobile, but prefers to travel at somewhat safer speeds. The officers had prepared a surprise on the occasion of the maneuvers, in the shape of an automobile searchlight. This was kept secret until the last moment, having been constructed under the supervision of General Brugère. M. Marcel Renault is the inventor of the system. The automobile used is of the road-wagon type, having two seats in front. In the rear has been constructed a light column which supports the searchlight at the top, carrying an arc lamp entirely inclosed in a metallic case which takes about 7 horse power. Below is a small dynamo of 7 horse power; it is mounted on a secondary shaft, which may be connected with the main shaft of the motor by a transmission system capable of being disconnected at will. The machine started out after dark on the immense plain of Beauce, which extends around Chartres, making a certain distance lighted only by its acetylene headlight, which covers about 150 feet. At intervals the machine stopped, and by means of a lever the dynamo was set in motion; the searchlight then sent a stream of light covering a distance of two miles, and by its means the country around was explored. After proceeding a certain distance this maneuver was repeated, and it was seen what valuable services an apparatus of this kind would render in such cases. The military staff were greatly satisfied with its performance, and there is no doubt that this automobile searchlight will prove a valuable adjunct to the army. For illustrations see the current SUPPLEMENT. On one occasion, a member of General Brugère's staff traveled over 100 miles in an automobile in a very few hours, and was able to supply the commander-in-chief of the army with full details of the operations accomplished by the various detachments. The Scotte train appears to have distinguished itself also in these maneuvers. One morning this train left Paris at six o'clock in the morning with a load of 30,000 pounds of corn for the front, and returned the same night, having accomplished a total distance of 50 miles. To perform the same task with animal labor it was estimated that thirty-six horses would have been required, and that they would have occupied three days to cover the same distance with the same convoy, which would have been twice as long and would have required a larger escort.

**A CABLE-GRIP FOR MINING-CARS.**

The accompanying illustrations represent an improved cable grip invented by Mr. George C. Niles, of Arcata, Cal., for use on mining-cars and other vehicles to be propelled by a traveling cable. Fig. 1 represents the device in perspective; Fig. 2 in partial section.

The grip comprises a fixed jaw secured to a bracket and a U-shaped clamping-band between the unequal members of which the jaw projects. The lower middle portion of the band clamps the cable against the free end of the fixed jaw. The band is clamped to opposite sides of the fixed jaw by means of a bolt and nut, *B*, the bolt passing through a slot in the longer member of the band. The end of the longer member of the band is screw-threaded, passes through a slot in the bracket of the fixed jaw, and is held in place by a nut, *A*.

When the nut, *B*, is released and the nut, *A*, screwed



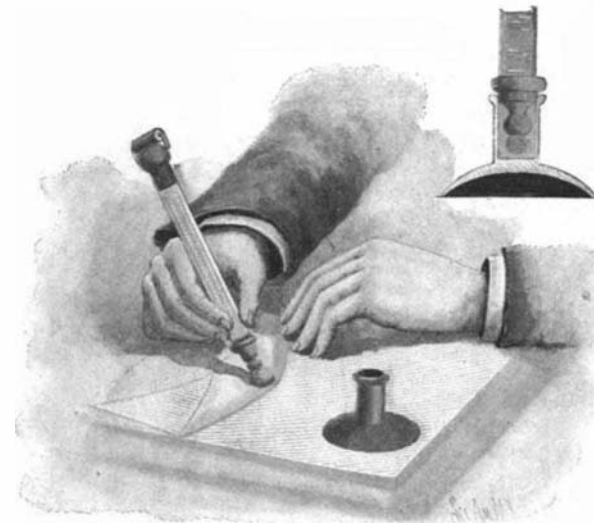
AN IMPROVED CABLE-GRIP.

up, the clamping-band forces the cable up against the free end of the fixed jaw. This adjustment having been made, the nut, *B*, is screwed up so as to hold the members of the clamping-band firmly in position on opposite sides of the fixed jaw. The short member of the clamping-band is bent to fit the correspondingly-shaped outer face of the fixed jaw, so that the lower curved portion of the clamping-band properly fits the cable after having been adjusted.

**A CONVENIENT ENVELOP MOISTENER AND SEALER.**

An invention which has recently been patented by Charles L. Vose, of Westerly, R. I., provides a simple device for moistening and sealing envelopes in a manner which is certainly far more cleanly than the method with which we are all familiar.

The moistener and sealer consists essentially of a central glass tube provided at one end with a soft rubber nipple in which a sponge is received, and at the



VOSE'S ENVELOP MOISTENER AND SEALER.

other end with a hard rubber cap in which the metal bearings of a soft rubber roller are held. The central glass tube contains water which is fed to the sponge. In sealing an envelop, the gummed flap is moistened by means of the sponge. The device is then turned around, and the moistened flap evenly and squarely sealed by means of the rolls journaled in the cap previously mentioned.

For the purpose of holding the moistener and sealer when not in use, Mr. Vose employs a holder composed of a soft rubber suction base upon which a glass holder is mounted. When the rubber suction base is moistened and pressed down on a table or desk so that the air is expelled, the holder will be so firmly affixed that its removal requires no little effort.

A CORRESPONDENT in Providence, R. I., suggests that wireless or aerial telegraphy be called "airograph."

**Science Notes.**

The tomb of Sir Humphry Davy, at Geneva, which has been in a neglected state for some time, has recently been restored.

Astronomer Wolff, of Heidelberg, has, by means of his photographic process, discovered three asteroids in a single night.

Nearly every window in Paris, specially in the poorer quarters, has plants growing in pots. A wealthy philanthropist has had the idea of opening a hospital for sick plants in the Faubourg St. Antoine. Greenhouses have been built and there are gardeners to look after plants that are brought in until they recover. They are then returned to their owners.

A basket modeler has been invented by Mr. Thomas Taylor, the superintendent of the Liverpool School for Indigent Blind, for the purpose of assisting blind people in the construction of their baskets. The device consists of a wooden base-board drilled with holes into which are fitted steel pins arranged to the required shape. The wicker is then worked over these pins with the utmost ease and rapidity.

The Prussian government is making systematic inquiries with a view to increasing knowledge upon the subject of cancer. Every registered physician has received a paper asking questions relative to experience in cancer cases. An attempt is being made to find out if cancer is hereditary, if it is contagious, and whether it is connected with any particular habit, such as over-indulgence in alcohol, tobacco, etc., and whether it is more prevalent in one district than in another.

Widespread damage has been caused in the Archaeological Museum in Florence through the madness of a door-keeper. He at first endeavored to murder the director of the museum, but as his efforts in this direction were frustrated, he seized a chair and commenced to smash everything that came within his reach. Before he was overpowered he had hopelessly pounded to fragments an ancient historic vase discovered in China in 1844 and estimated to be worth \$100,000, and also a Roman chariot found in Egypt which was worth over \$600,000 and which we have illustrated.

A short time ago, during some digging operations in Chester, England, an interesting relic of the Roman occupation of Great Britain was unearthed. This was a section of lead piping, supposed to have been laid about the year 79 A. D., and was utilized for the purpose of carrying water to the Roman camp. About twelve months ago a similar piece of piping was unearthed near this same spot, but its origin was disputed. This new discovery, however, sets all such controversies at rest, since upon the piping are plainly inscribed the words "Cnæus Julius Agricola." This relic is additionally interesting since it is said to be the only inscription extant bearing the Roman governor's name.

One effect of the cotton crisis in Liverpool, Manchester, and the other towns of Lancashire, owing to the failure in American cotton, has been the introduction of Egyptian cotton upon the English market. Efforts have been made for some time past to induce the spinners of Lancashire to experiment with the Egyptian product, but with only indifferent success, since the supply from America was so adequate. But America's shortage has proved Egypt's opportunity, and now several spinners are using Egyptian raw material. If the latter article obtains a strong footing among the Lancashire spinners, it will possibly be a heavy blow for the American growers, since the Egyptian producers will exert themselves to the utmost to flood the market. If they can only succeed in meeting the demand, they will be sure of an increasing and lucrative trade.

M. Schoen has devised a new photographic printing process. The inventor bases his discovery upon the use of diazo compounds, as in the primulin process and feer-type. He converts ortho-amido-salicylic acid into its diazo compound by the action of sodium nitrite on a well cooled solution of the acid in dilute hydrochloric acid. The precipitated product which results is washed with small quantities of water, and is subsequently dissolved in a dilute sodium carbonate solution. The paper to be coated is either immersed in this solution, or the latter may be applied to the paper with a brush; or with a mixture of it and gelatine, and then dried in the dark room. The paper is then placed in the printing frame under the negative, and printed in the ordinary way until a strong red image is obtained. The fixing and toning of the prints are exceedingly simple, since the print has only to be washed in water, as is the case with ferro-prussiate paper, until the yellow color of the unexposed parts of the paper has disappeared, when the finished picture in red is obtained. This red substance is the resultant effect caused by the light acting upon the diazo compound. The color does not change at all through exposure to the light, but a variety of tones may be obtained by immersing the finished picture in solutions of salts of iron, cobalt, etc., or in lime or baryta water.