

Mr. Edison's Kinetoscope in London.

The latest, and not the least remarkable, of Mr. Edison's inventions is the kinetoscope, of which a private demonstration was given recently at 70 Oxford Street. The London Times says: This instrument is to the eye what Edison's phonograph is to the ear, in that it reproduces living movements of the most complex and rapid character. To clearly understand the effect it is necessary to explain the cause, but to appreciate the result the working of the invention must be witnessed. The moving and, apparently, living figures in the kinetoscope are produced in the following manner: Mr. Edison has a stage upon which the performances he reproduces are enacted. These performances are recorded by taking a series of 43 photographs in rapid succession, the time occupied in taking them being one second only. Thus every progressive phase of every single action is secured, and the photographs are successively reproduced on a film of celluloid of the length required for recording a given scene. When this film is passed before the eye at the same rate of speed as that at which the photographs were taken, the photographically disjointed parts of a given action are united in one complete whole. Thus supposing a person to be photographed taking off his coat—as is done in one case—the successive views representing the phase of action at every forty-third part of a second are joined up, and the complete operation of taking off the coat is presented to the eye as it would appear in reality. In other words, the kinetoscope is a perfect reproduction of living action without sound.

The apparatus in which the reproduction takes place is a cabinet about 4 ft. high, 2 ft. wide, and 1 ft. 9 in. deep. It contains the celluloid film band, the apparatus for reconstructing the disjointed views, and a small electric motor for driving the apparatus. The chief detail of the mechanism is a flat metal ring having a slot in it, which makes about 2,000 revolutions per minute. The film passes rapidly over the ring, beneath which is a light. The spectator looks through a lens on to the film, and every action recorded on it passes under his view. Ten machines were shown, in which the most rapid and complex actions were faithfully reproduced. One scene represents a blacksmith's shop in full operation, with three men hammering iron on an anvil, and who stop in their work to take a drink. Each drinks in turn and passes the pot of beer to the other. The smoke from the forge is seen to rise most perfectly. In another view a Spanish dancer is shown going through her graceful evolutions, as is also Anna Belli in her serpentine dance. There is likewise a wrestling scene and a cock fight, in which feathers are seen to fly in all directions. All the features of an original stage production are given, of course on a small scale, but possibly only for the present on a small scale, for Mr. Edison promises to add the phonograph to the kinetoscope and to reproduce plays. Then by amplifying the phonograph and throwing the pictures on a screen, making them life size, he will give the world a startling reproduction of human life.

The Hygiene of Sorrow.

In a recent issue of a New York newspaper an article by Dr. Louise Fiske Bryson formulates some distinctly modern views upon the effects of grief. The attempt to act as if nothing had happened after the advent of some misfortune, and to conduct life exactly as before, is one of the greatest possible mistakes. It is an outrage on nature, which she resents sharply in the end. Pay day comes sooner or later; and the overthrow caused by blinding catastrophe arrives, even if deferred.

The nervous system requires complete rest after blows caused by sorrow. Recent medical observations (Fere, Bassi, Schule, Zenker) show that the physical results of depressing emotions are similar to those caused by bodily accidents, fatigue, chill, partial starvation, and loss of blood. Birds, moles, and dogs which apparently died in consequence of capture, and from conditions that correspond in human beings to acute nostalgia and "broken heart," were examined after death as to the condition of their internal organs. Nutrition of the tissues had been interfered with, and the substance proper of various vital organs had undergone the same kind of degeneration as that brought about by phosphorus or the germs of infectious disease. The poison of grief is more than a name. To urge work, study, travel, the vain search for amusement, is both useless and dangerous. For a time the whole organism is overthrown, and temporary seclusion is imperative for proper readjustment. After some bereavement the custom of wearing mourning has a distinct moral value. But its period of use must be brief: a few weeks, months, perhaps a year; otherwise dense black draperies become a burden, an aesthetic blunder, and a source of depression in themselves. For a time they have a place, securing consideration from strangers and silence from mere acquaintance, since sorrow is one of the touches of nature that makes the whole world kin.

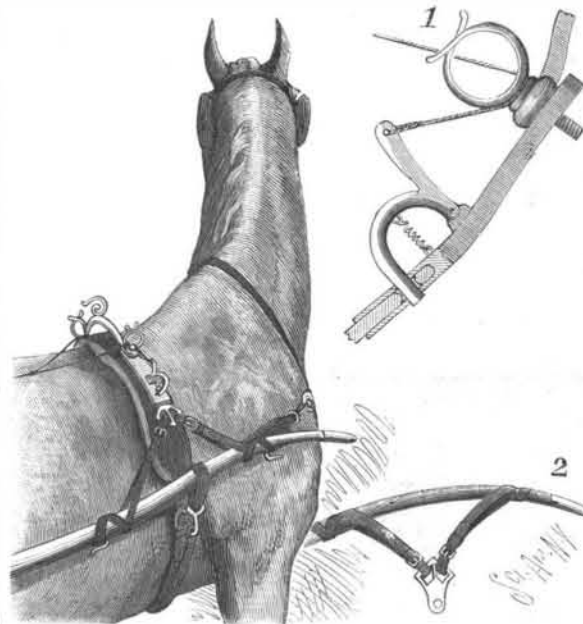
Where there is nearness of relationship to nature, rambles in the open air, days alone with the sea, alone in the forest, console as nothing else can. Quiet, silent

drives, or even short journeys by rail, will reveal a new heaven and a new earth to one fatigued and worn by sorrow. Music, when it can be borne, has a soothing power beyond words. Books, too, have their place, those gentle companions without speech whose calm society helps annihilate time and space, and who always receive us with the same kindness. The familiar faces of newspapers and journals bring a stray comfort that even the tenderest heart is powerless to bestow. The care and companionship of children is another source of strength. Children are not watching to see how the afflicted are bearing up under sorrow, nor are they waiting for some expression of sentiment or the overthrow of self-control. A child is always the best comforter, uttering no word of sympathy, yet rousing interest in life because its nature is sweetness and light.

Grief cannot be ignored, neither can it be cheered up. It must be accepted, and allowed to wear itself away. Readjustment comes slowly. Sorrow, grief, and all great misfortunes should be regarded as conditions similar to acute infectious diseases, which they resemble in result; and later, as convalescence from such diseases. Seclusion, rest, sleep, appropriate food, fresh air, sunshine, interests that tax neither mind nor body, these are requirements in this class of illness. The care of the condition following depressing emotion calls for the same treatment in greater or less degree.—Medical Record.

AN IMPROVEMENT IN HARNESS.

The illustration represents a harness with which a horse may be readily hitched to the shafts or instantly detached therefrom in case of a runaway. It forms the subject of a patent issued to Mr. Ricardo Ortega, of Ciudad Porfirio Diaz, Coahuila, Mexico. On the jockey plate, on opposite sides of the saddle,

**ORTEGA'S HARNESS.**

is secured a separate bar, as shown in Fig. 1, having in its lower end a recess to receive the apertured end of a plate engaged by straps fastened to the shafts as represented in Fig. 2. The latter plate is locked in place on the bar by a pivoted U-shaped bolt, the pivoted end of the bolt having an upwardly extending arm connected with one end of a cord passed around the base of the terret and thence extending to the driver's seat. There is a spring connecting the bolt and bar, to hold the bolt normally in the position shown in Fig. 1, but by pulling on the cord the outer end of the bolt is withdrawn to release the plate engaging the straps attached to the shafts, thus releasing the animal from the vehicle. The saddle has the usual belly band, and on the shafts are held loops connected with an additional band passing under the belly of the horse, to prevent the rising of the shafts.

Medical Etiquette among the Ancients.

There is an old manuscript in the National Library, at Paris, which has the following: "On approaching the patient you should assume a calm expression and avoid any gesture of greed or vanity, greet those who salute you with an humble voice, and sit down when they do. Then turning to the sick person, ask him how he is, and examine his urine. To the patient you promise to cure, but immediately on leaving the room you say to the relatives that the disease is grave. The result will be that if you cure him, your merit is greater, and you will receive the greater praise and fee, while, if he dies, they will say that you had no hope from the first." On the subject of table manners for the doctor, it proceeds to say: "When those who preside over the house ask you to the table, conduct yourself in a seemly manner. Each time that a new dish is brought on do not fail to ask for the condition of the patient. This will give him great confidence in you, as he sees that in the midst of the variety of the repast you do not forget him. On leaving the table return to the patient, and tell him that you have dined

most excellently, and that everything was served to perfection. The sick person who was anxious about these points will rejoice at your words."

Why Leaves Fall.

Why leaves fall is thus explained in a recent number of the Gardeners' Magazine:

As Kerner remarks, in stating his views on the question, it appears strange that the fall of the leaf should be sometimes connected with the approach of cold, and sometimes with hot weather; but it is very conclusively shown that this is the case. Heat and cold are only indirect causes, the primary cause being the danger threatened to the plant by the continuance of transpiration; and it is contended that the throwing off of the transpiring surface and the temporary stoppage of the sap current furnish one of the best protective measures in plants surrounded by air against excessive transpiration. Again, in autumn the absorbing activity of the roots is so reduced by the low temperature of the soil that the water which is lost by transpiration is no longer replaced. Frost hastens the fall of the leaf, but it was partially accomplished before frost set in; and where the leaves still cling to the branches preparations are already made for their detachment. Kerner is careful to point out that it must not be assumed that the plants foresee the approach of either the dry season or the winter, and he explains the phenomenon on the assumption that in a climate which renders a long cessation of transpiration necessary those plants flourish best whose natural characteristic is to follow a period of energetic working by a season of rest. Plants differ materially in the time of their shedding their leaves, trees growing on mountains losing their foliage several weeks in advance of those in the plains, although much later in coming into leaf. Primarily, the stripping of the leaves depends upon the drying up of the sources from which they obtained their water, and the detachment is brought about by the formation of a special layer of cells known as the layer of separation. This consists of a parenchymatous tissue, and the walls are so constructed that they are easily separated by mechanical or chemical agents. As soon as restriction of transpiration commences, thin-walled cells are formed in the lower part of the leaf or leaflet, and form a zone. When the layer has attained its proper thickness its cells separate from each other, the so-called middle lamella of the cell wall is dissolved by organic acids, and continuity between the cells of the layer of separation destroyed, with the result that the most trifling cause will effect a fracture and bring the leaf to the ground.

Sunken Vessels Raised by Air Bags.

An improved method of raising vessels, in which air bags are employed, has been invented by Grant Brothers, of New York and Tacoma. The bags are attached to the vessel and air pumped into the bags, the invention being such that the air pressure never exceeds the water pressure; hence no bursting of the bags can take place. When a sufficient number of bags are attached to the vessel and the air pressure admitted to them, the vessel rises to the surface and there remains so long as the air pressure is maintained.

The new method was lately applied in raising a schooner which had been sunk in this harbor by a collision with steamer. Messrs. Grant write as follows:

"We raised the schooner Alwira, register 90 tons, 23 feet beam, 95 feet long, 5 feet 8 inches hold, on Saturday, October 13, 1894, at Quarantine Station, Staten Island, which was sunk in about 10 feet of water, or 4 feet over all. She was stove in so the tide rose and fell in her, rendering it impossible for any pumps now in use to keep it clear or raise her. It required only six bags, 4½ feet in diameter and 24 feet long, to give sufficient displacement to raise her, leaving her decks dry. Her deck was partially torn off and several deck beams were broken away at the ends. In one hour and five minutes after lying alongside we had the bags placed and ready to raise, and inside of four hours from that time we had her at the drydock at Port Richmond. The drydock being in use at the time, we let the schooner sink near by, and on Thursday, October 18, we raised her the second time and placed her on the dock for repairs, and upon examination, after she was on the dock, disclosed the fact that she was in such a condition that it would have been impossible to pump her out or expel the water by any other process except Grant Brothers' air bag system."

Dr. Roux's Cure for Diphtheria.

A few weeks ago the Paris Figaro opened a subscription list in order to enable the Pasteur Institute to supply Dr. Roux's antidiphtheria serum to all medical applicants. The appeal has resulted in a sum equivalent to about \$50,000 being raised. It is hoped that institutes in which experienced physicians will administer the cure will soon be established. The Paris Academy of Medicine has reported in favor of Dr. Roux's treatment.