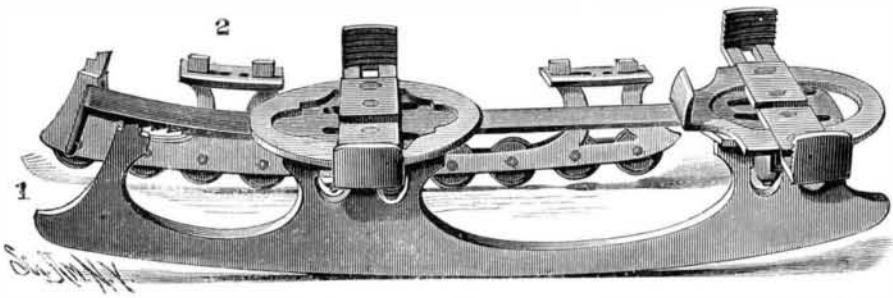


AN IMPROVED SKATE.

The runner is of the usual construction, and is held by screws and nuts on the circular front plate and the heel plate, both plates being formed with transverse grooves for receiving clamping jaws having upwardly bent ends provided on their inner sides with teeth. The clamps are slotted longitudinally, and have their inner ends held between plates in the grooves; these plates are held by screws passing through the



LAMONT'S IMPROVED SKATE.

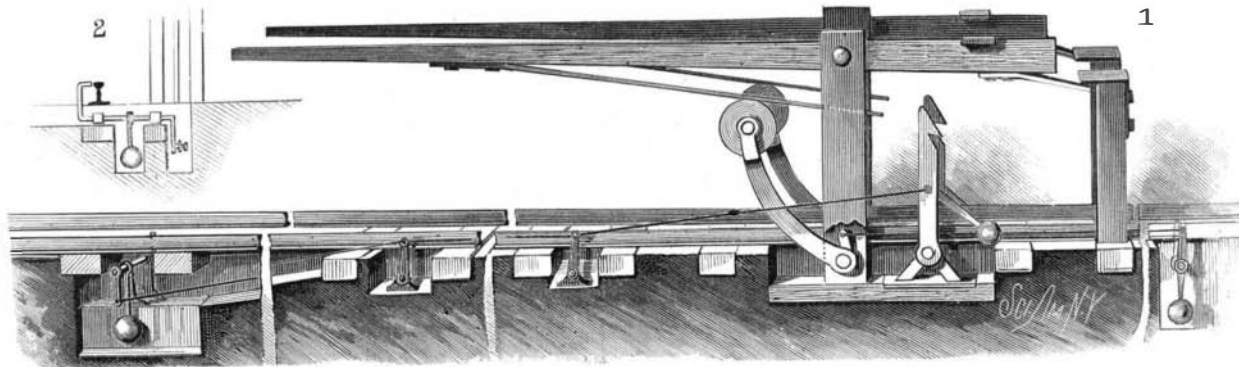
slots in the clamping plates, and by means of which the clamping plates can be adjusted to project more or less so as to fit any size foot. A flat strip, extending the entire length of the skate, passes under the raised parts of the plates and over the grooves, and is formed at each plate with two inclined slots, through which pass screws on the inner ends of the small sliding plates. On the front end of the runner is an upwardly projecting stud adapted to engage with teeth formed on the forward end of the strip.

The clamping plates, being adjusted to the width of the sole and heel, the front end of the strip is raised and pulled forward, thereby moving the clamping plates outward and permitting the foot to be placed upon the skate. The strip is then pushed toward the rear, when the clamping plates are moved toward each other, causing the serrated ends to clasp firmly the edges of the sole and heel. The teeth on the strip engage with the stud, and automatically lock the strip and clamps in place. To remove the skate, the front end of the strip is raised and pulled forward. In place of the single runner, the double runner shown in the background can be used. This consists of two parallel runners united by cross pieces and having rollers arranged between them. The rims of the rollers are made convex, to admit of running with the skate at a slight inclination.

This invention has been patented by Mr. Charles G. Lamont, of Astoria, Oregon.

RAILROAD GATE.

The railroad gate herewith shown is constructed in such a manner as to be closed by an approaching train and opened by a departing train. The gate bar is pivoted at a little distance from its lower end to a post, and is made tapering toward its upper end. The long upper part is a trifle heavier than the lower part, so that when released the upper part will slowly descend until a spring attached to the lower end strikes a stop plate, secured to a short post, which gradually checks the movement of the bar, and holds it in a horizontal position. When open, the gate bar is held in an erect position by a catch bar, attached to its lower part, which engages with a hook secured at its lower end to a shaft journaled in support's anchored in the ground at opposite sides of the track. The hook is held forward in position to engage with the catch bar by a bar carrying a weight, the upper end of the bar being rigidly attached to the middle part of the hook. To the middle part of the hook is fastened the end of a wire extending along the outer side of the track to a downwardly projecting arm (Fig. 2), formed upon a short shaft journaled in bearings anchored in the ground. The inner part of this shaft passes under the rail, and has an arm so shaped as to be struck by the flanges of the wheels of the train, thereby turning the short shaft and swinging its arm in the opposite direction. In the case of a train approaching the gate, the arm will be swung from the gate, and will draw the wire in the same direction, causing it to withdraw the hook from the catch and allow the gate to swing down. In case of a train moving from the gate, the movement of the shaft will produce no effect upon the wire. A weight upon the shaft brings it to its normal position after having been struck by the flanges. To supports anchored in the ground at a suitable distance at the other side (shown at the right in the engraving) of the gate is a short shaft similar to the one just described. The wire from this shaft extends to an upwardly pro-



MURRAY'S RAILROAD GATE.

jecting arm formed upon a shaft rocking in bearings in the lower part of the main posts, and to which is rigidly attached the lower end of a curved arm having a friction roller pivoted in its upper slotted end. The roller is directly beneath the lower part of an inclined spring fastened to the gate bar.

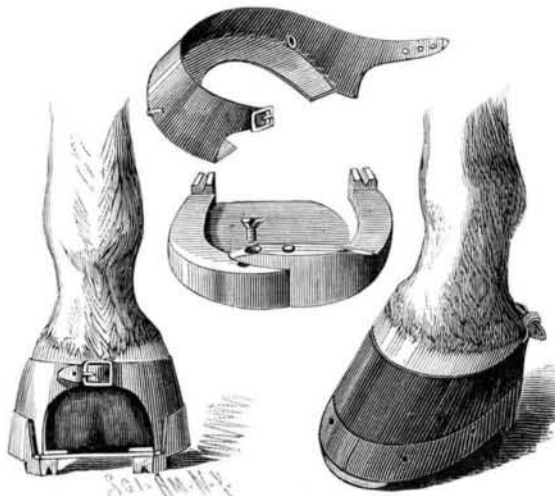
When the wheels of a train moving from the gate strike the arm of the short shaft, the curved arm will be swung upward, and will press with sufficient force against the spring to raise the gate bar into an upright position, when the catch will lock the gate in place until released and closed by the approach of another train. It will be seen that this gate is designed exclusively for use upon double track roads.

This invention has been patented by Mr. John J. Murray, Jr.,

of 68 South 2d Street, Brooklyn (E. D.), N. Y.

IMPROVED HORSESHOE.

The horseshoe herewith illustrated is designed to facilitate the securing of the shoe to the horse's feet, and to prevent the hoofs from being injured by attaching the shoes or by traveling on rough surfaces. The construction of the shoe and the method of attaching it to the hoof are clearly shown in the engraving. The shoe is constructed in two parts, hinged to each other at their forward ends, and having an inwardly inclined rim upon their outer edges. Formed upon one part is a plate which overlaps the other when the two parts are brought toward each other. The shoe is provided with a pad having a buckle and strap at its rear end and projections upon its sides, which engage with apertures in the sides of the rim of the shoe. The pad serves to



SCHWAAB'S IMPROVED HORSE SHOE

lessen, in a great degree, the effect of the concussion of the hoof upon the pavement, and also serves to hold the shoe securely to the hoof. The calks are so constructed as to prevent transverse slipping. The shoe can be easily removed, after work, to enable the horse to rest naturally.

This horseshoe is the invention of Mr. Law. Schwaab, of 70 Varick Street, New York city.

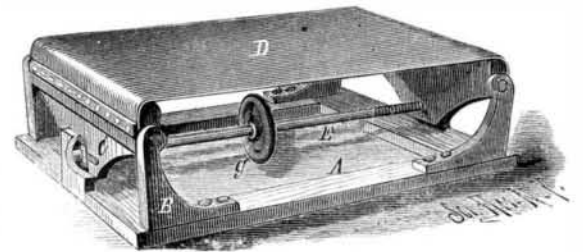
Treatment of Boils.

Halle recommends the following application in furuncle: Tannic acid, 1 part; powdered gun acacia, 1 part; tincture of arnica flowers, 2 parts. This is to be painted over the boil and for a little distance around it, several coats being applied until it forms a thick and firm covering. Halle states that this mode of

treatment quickly relieves the pain and diminishes the swelling. When taken in time, the boil disappears without the formation of pus; and when this has already occurred, the application causes the extrusion of the core and prompt healing of the furuncle.

VEHICLE SEAT.

The object of an invention patented by Francis W. Coleman, M. D., of Rodney, Miss., is to provide a soft, elastic, and cool seat for vehicles, and which may also be used for lounges, chairs, cots, etc. At the four corners of the frame, A, are secured the bracket-shaped standards, B, in the upper ends of which are bearings for the journals of the end frames, C. These frames are formed with straight upper edges, to which the flexible seat, D, is attached. Through the lower portions of the frames pass the opposite ends of a right-



COLEMAN'S VEHICLE SEAT.

and-left screw rod, E, which is turned by means of the hand wheel, G. The ends of the rod enter nuts of peculiar shape, set in recesses in the frames. Short uprights at the ends of the frame, A, in line with the screw rod, prevent longitudinal displacement of the rod, and cause it, when turned, to give an equal inward or outward motion to the fulcrumed frames. The ends of the seat are clamped between the straight upper edges of the end frames and a metal strip by bolts or nuts, so that if the seat bags more than can be taken up by the screw rod, the strips can be loosened and the fullness taken up. This construction permits the seat to be readily removed when worn, and replaced by a new one.

Human Electrotypes.

M. Kergovatz, a chemist of Brest, has proposed a new method of disposing of the human body after death, which he considers preferable in every way to either burial or cremation. His system is an antiseptic one, much simpler and less expensive than the old process of embalming, and is nothing more than a new galvanoplastic application. The body is coated with a conducting substance, such as plumbago, or is bathed with a solution of nitrate of silver, the after decomposition of which, under the influence of sunlight, leaves a finely divided deposit of metallic silver. It is then placed in a bath of copper sulphate, and connected for electrolysis with several cells of a gravity or other battery of constant current. The result is that the body is incased in a skin of copper, which prevents further change or chemical action. If desired, this may be again plated with gold or silver, according to the taste or wealth of the friends of the dead. M. Kergovatz has employed the process eleven times on human subjects, and on many animals, and states that in all cases it was perfectly satisfactory. In spite, however, of his warm recommendation, the idea is repulsive. It seems a mockery to give permanence to the temple, when all that once made it valuable is gone.

Water Gas Steel.

Bull's patent process of steel manufacture by means of water gas—converting ore into steel without first making pig—is thus described: The gas producers are similar to the Strong and Lowe, or the quasi recuperative type. The coal is forced by a hot blast of air into partial combustion, the resultant heat of which is collected into separate recuperators. An interval follows, during which the air is turned off, steam is forced in a reverse direction through the recuperators, and, becoming highly superheated, is decomposed or transformed into a powerful reducing gas. This is led through conduits to the tuyeres of the blast furnace. It is expected from the careful arrangement of the crucible of the blast furnace, which is of the cupola form, that a bath of pure iron can be maintained in a fluid condition. When the metal is tapped it will be carried by ladle, and run into a Siemens open hearth steel furnace.

THE Mexican Financier thinks the best monument the United States can rear to the memory of General Grant is to put in operation the reciprocity treaty which he negotiated with Mexico. This monument, the editor thinks, would have the advantage of being a paying investment, a fact which ought to have weight with a very practical nation.