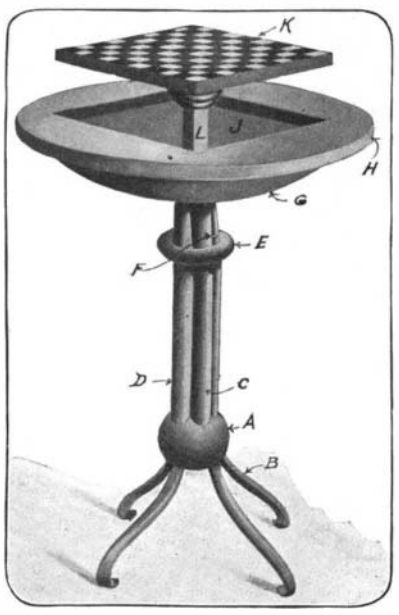
Patent Department

A CONVENIENT GAME TABLE.

We illustrate herewith a convenient game table invented by Mr. Marten Manfred, 314 State Street, Santa Barbara, Cal. The table is arranged with a movable

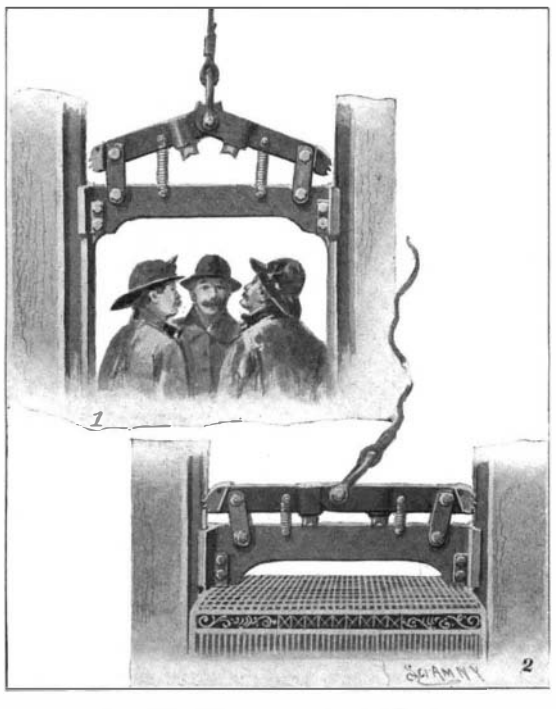


CONVENIENT GAME TABLE.

top section, which when released exposes a compartment under the top surface of the table in which game apparatus may be stowed. The base of the table comprises a member *A*, from which the legs *B* project. A stem is mounted on this member, and is formed of four parallel rods *C* and *D*, all of which are rigidly attached thereto. Three of the rods are rigidly secured at their upper ends to the body *G* of the table, while the fourth rod *C* has slight play therein. The rods, it will be noticed, are tapered to receive a clamping ring *E*. Centrally spaced in the table-top *H* is a compartment *J* which forms a receptacle for the game apparatus above referred to. The movable section or game board *K* is provided with a shank *L*, which passes down through the table body and is arranged to slide between the rods *C* and *D* of the stem. A spiral spring at the bottom of the shank serves to raise the game board to the open position illustrated. A pin *F* is carried on the shank *L*, and projects between the rod *C* and one of the fixed rods. When desired to close the compartment, the game board is pressed down flush with the top of the table, and then the clamping ring *E* is pressed downward on the stem. This serves to press inward the rod *C*, which tightly pinches the pin *F*, thus holding the game board in place against the tension of the spring. The table may then be used in the usual manner; nor does it even appear externally that the table is of any more than ordinary construction. To reach the interior compartment, it is merely necessary to raise the ring *E*, whereupon the spring throws up the game board and exposes the cavity *J*.

A SAFETY CATCH FOR ELEVATORS.

A very simple device for preventing elevator accidents is provided in an invention recently patented by



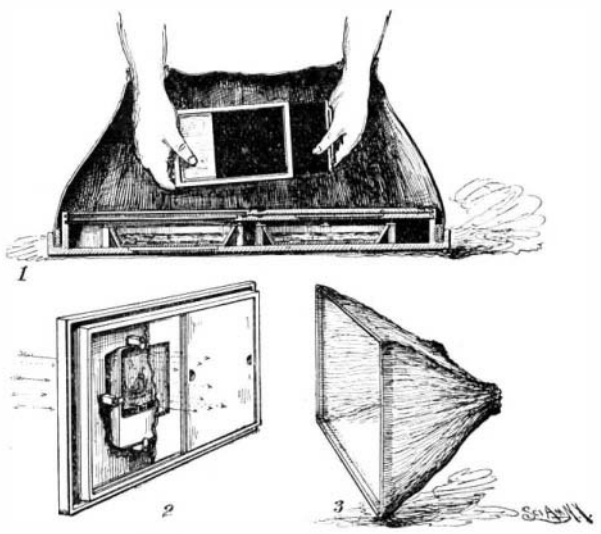
SAFETY CATCH FOR ELEVATORS.

Mr. Robinson Hainsworth, of 11 Victoria Street, Hull, England. The invention is particularly applicable to mine and lift cages, skips, and the like, though obviously it may be employed on any class of elevator, the arrangement being such that should the hoisting rope break, the safety catch will immediately operate to bring the car to a standstill. We illustrate herewith the simple device employed. It consists of a pair of toggle-levers fulcrumed to the cross beam of the car, and at their common joint connected to the hoisting rope by a pin and shackle link. The outer ends of the toggle-levers terminate in dogs or shoes which are serrated, so that when brought into operative position they will be embedded in the guides in the shaft. Normally, however, they are kept out of engagement with the guides by the tension on the hoisting rope. When in this position, as shown in Fig. 1, the toggle-levers are drawn upward and inward until limited by shoulders at their outer extremities which engage the fulcrum links. Now, should the hoisting rope break, the toggle-levers will be immediately straightened by the tension of a pair of springs, so that their serrated ends would be thrust into the guides. The weight of the car tends only to further straighten out the toggle-levers and embed the dogs into the guides, thus arresting the downward motion of the car, as illustrated in Fig. 2.

A successful trial of this safety catch was recently made in a mine in Cornwall, England. The test which aroused greatest interest was one in which the skip was filled with iron to a weight of about four tons. The hoisting rope was cut when the device was midway between the dividers. At this point there was some give to the guides, but the skip was brought to rest after sliding a distance of 3 feet 9 inches, or about 9 inches from the point of full embedment, thus demonstrating that, as claimed by the inventor, there is no shock, but a gradual arrest of the cage or skip. The inventor is at present on his way to the Transvaal to install his gear in a number of mines in that region.

DAYLIGHT DEVELOPING BOX.

A most troublesome feature of photography, particularly for amateurs, is the necessity of performing



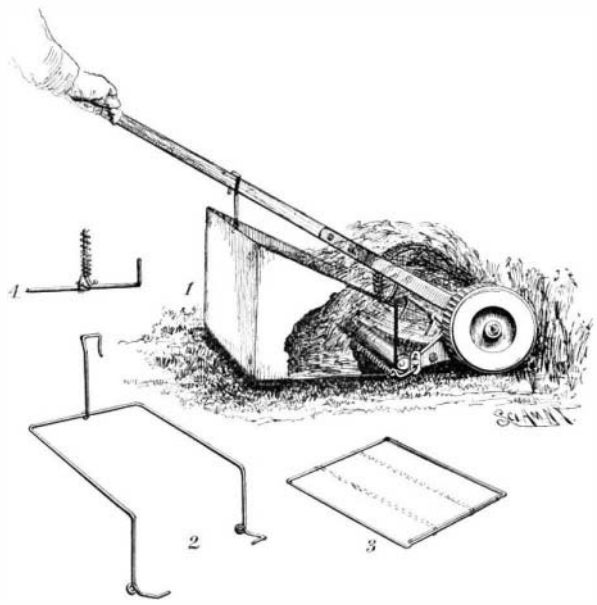
DAYLIGHT DEVELOPING BOX.

the developing operations in a dark room under a red light; for, aside from the difficulty of arranging the room so that no ray of white light may fall upon the plate, one must move with utmost caution under the dim red light to avoid upsetting and spilling the developing and fixing solutions.

We present herewith the illustration of a daylight developing box invented by Mr. Samuel J. Sloane, of 256 Ninth Street, Jersey City, N. J. This box contains two trays, one for the developing solution and the other for the fixing bath. The cover of the box comprises two lids, which are mounted to slide in grooves in the side walls of the box, so that access may be had to either tray. In the bottom of the box beneath the developing tray is a plate of ruby glass; a similar plate of glass is provided in one of the lids. When removing the plates from the plate holder and placing them in the box, a hood is used, as shown, which covers the entire box, fitting tightly into the grooves at the sides. Armholes in the hood permit access to the interior without admitting the light. After a plate has been placed in the tray containing the developing solution and covered with the lid having the glass plate, the hood may be temporarily removed. The developing operation may be watched by holding the box up to a window or lamp from time to time, permitting the light to pass through and reveal the condition of the plate. The hood is applied again when it is time to change the plate over into the fixing solution, and the lid containing the red glass is moved to cover this plate before the hood is removed. The fixing operation may then be easily observed through the glass. In order to prevent the solutions in the trays from pouring out when the device is held up to the light, a strip of glass is cemented over the lower end of each tray, forming a pocket to catch the solutions.

ODDITIES IN INVENTIONS.

USEFUL DEVICES FOR THE CARE OF THE LAWN.—We picture in the accompanying illustration a very useful attachment for lawn mowers. It consists of a receptacle which may be readily secured to any lawn mower to catch the grass as it is cut, thus preventing the lawn from becoming littered, and collecting the cut grass for feeding horses or other animals. The receptacle consists of a canvas bag stretched over a wire frame. Fig. 2 shows the upper frame, which is



ADJUSTABLE GRASS RECEPTACLE FOR LAWN MOWERS.

hooked over the handle of the lawn mower, while its lower end is secured to the mower frame. The lower frame is shown in Fig. 3, and consists of a rectangle of wire, with its ends overlapping at the lower side, where it is attached to the upper frame. A spring coiled over these ends, and secured as shown in Fig. 4, serves to draw them inward, thus holding the ends of the upper frame tightly hooked on to the mower frame. This arrangement obviously permits attachment to any width of lawn mower. Braces shown in dotted lines, Fig. 3, serve to hold up the slack of the bag when it is attached to a small or narrow machine.

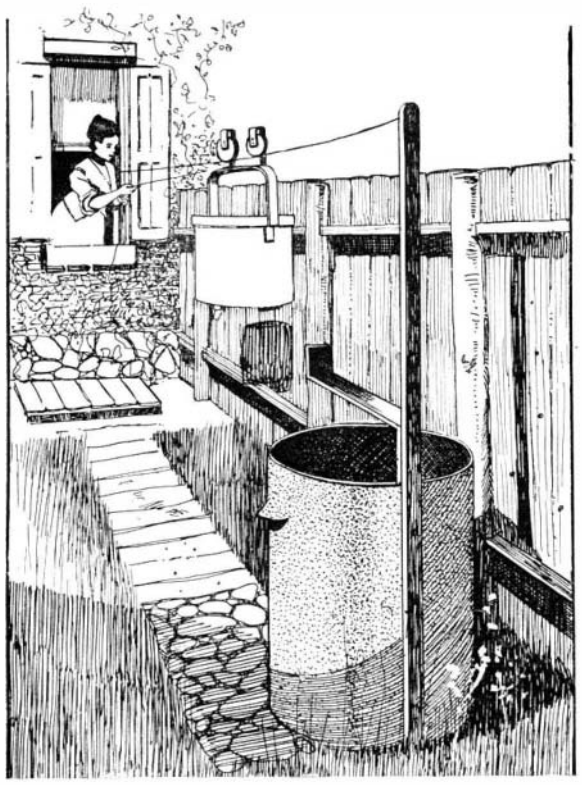
Another device which will be found useful for trimming lawns consists of a pair of shears arranged to lie parallel with the ground, but having operating levers or handles extending vertically therefrom. The blades are pivoted on a shoe, which holds them a suitable distance above the ground, and on a vertical extension of this shoe the levers are pivoted, with their lower ends projecting in slots in the blades. A cross piece on the shoe extension is provided with members for limiting movement of the levers. The device will be found particularly useful for trimming around bushes or along a fence, as illustrated. It also offers

SHEARS FOR TRIMMING LAWNS.

the advantages of being operated by a person standing in upright position, and further insures cutting the grass at a proper height above the ground.

SELF-DUMPING GARBAGE-CAN.—An up-to-date way of disposing of one's garbage is shown in the accompanying illustration. The arrangement will be found particularly useful for flats or adjacent apartments, enabling the cans to be directed from a series of points to a common receptacle, into which they will automatically deposit their contents. An overhead trolley wire is strung from the kitchen window to a post situated at any suitable point. The garbage can is suspended from a pair of trolley wheels adapted to travel

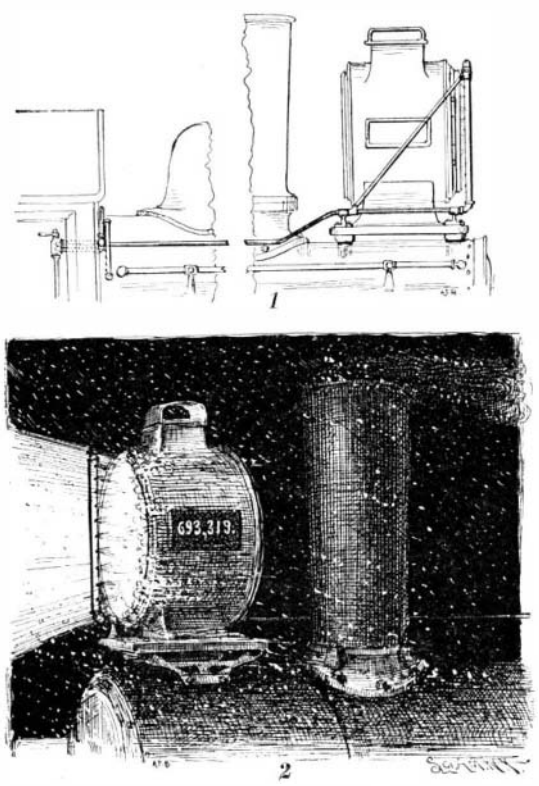
along this wire. A hinged lid which is held in closed position by means of a spring latch forms the bottom of the can. The trolley wire is preferably inclined, so that the can will travel by gravity to the dumping point. When this point is reached, the spring latch encounters a trip-piece which draws it out of engagement with the lid, permitting the same to drop. The



SELF-DUMPING GARBAGE-CAN.

contents of the can are thus deposited into a suitable receptacle. The trip-piece is hinged so as to permit the latch to pass when the can is drawn back for refilling. On stormy days and in extremely cold weather this invention will be found particularly useful, because the operator does not need to expose himself to the elements when disposing of his garbage.

Locomotive Headlight Cleaner.—When running rapidly through a heavy snowstorm, the headlight of a locomotive is often so completely covered with snow as to seriously obscure its light. Similarly, the flying snowflakes lodge upon the front cab windows, shutting off the engineer's outlook. It is unnecessary to dwell upon the dangers of such an emergency, for they are apparent to all. However, a recent invention provides a simple method for cleaning the headlight and cab windows of the locomotive, and we illustrate herewith the appliance used. It consists, briefly stated, of spray-tubes located at the sides of the window and the headlight, and suitably connected to a steam supply pipe



LOCOMOTIVE HEADLIGHT CLEANER.

in the cab. A valve on this pipe may be operated by the engineer to supply steam to the spray pipes, which are so placed as to direct a steam spray against the snow-covered glass panes. The snow is thus cleared off by the heat and the high pressure of the steam.

The total number of patents granted during the year 1902 was 27,775. One hundred and nine of these covered improvements on the Nernst lamp.

Brief Notes Concerning Patents.

Prince Augustin Iturbide, who was the heir of two emperors of the Mexican throne before that country became a republic, has developed into a promising inventor. He lives at Rosedale near Georgetown, where he maintains quite an imposing workshop. He has recently devised and patented an important improvement to the ordinary microscope, by which the power and field of the instrument are greatly increased. A small flower or insect placed in the instrument can be observed in its entirety, whereas it has been necessary heretofore to examine a part of the object at one time. The other invention, which has also been patented, is an improvement in the manner of projecting daylight into dark interiors.

It is reported that a company with a capital of one million dollars has been organized at New Orleans for the purpose of engaging in the business of purification of a number of liquids by the means of electricity. This company has secured the control of the patents of Capt. J. M. Murphy, formerly of Harrisburg, Pa., and an effort will be made to secure a contract for treating the municipal water supply of New Orleans.

The Hartman Anti-Friction Bearing Company has been recently organized at Pittsburg, Pa., for the manufacture of an improvement in the equipment of freight cars. The patent is that of an Allegheny City man, and its object is to diminish the wear and tear on the rolling stock as well as the track, and at the same time increase the capacity of the cars. This is done by the use of ball bearings on the supporting sections of the truck, which sustain the weight of the car. In rounding curves, this device is said to be particularly effective, as it permits the wheels to adjust themselves to the track, dispensing with all grinding, and therefore relieving flange wear. The manufacturers claim that the adoption of these bearings increases the carrying capacity of a car by about ten per cent.

According to the Hartford, Conn., Telegram, A. W. Cash, formerly of that city, was recently surprised by receiving a patent which had been issued after a delay of sixteen years. The invention relates to the improvement on typewriter machines, and the application was made sixteen years ago, when Mr. Cash was in the employ of the Typography Company in that city, but since that time he has moved to Newark, N. J. He had almost lost sight of the matter when he was surprised to receive the patent papers.

An ingenious machine for separating dust from grain has been placed on the market by a firm of Rochdale, Lancashire, England. It is simple in design and highly efficient. It consists of a galvanized iron cylinder provided with a spiral coil at the bottom, the spiral being of sheet metal, two or three inches wide, placed on end, and so arranged that the dust, as it is deposited, gradually creeps along until it is discharged down a central opening in the bottom of the collector. Air is forced into the room containing the grain, where it picks up all the dust, and is then directed by a duct leading to the machine, and is delivered into it tangentially, striking the casing with a high velocity on entering it, the dust being separated and collecting at the sides, until, losing all momentum, it descends to the bottom. A gyratory motion of the air is set up in the collector on account of its entering tangentially, so that the dust falling to the floor of the apparatus is forced round till it reaches the opening, which is connected to a chute where it is collected.

Prof. Elmer Gates, of Washington, D. C., has recently invented an electrical machine for the extraction of gold from the sands of the desert. The plant is mounted on a four-wheeled truck, and besides a dynamo and the means of driving it, includes a system of buckets mounted on chains, and with these the sand is scooped up as the outfit travels along and dumped, the stream being made to pass through a magnetic field, thereby inducing a static charge of the gold particles, which fly off and away from the sand, being attracted by a metal knob of opposite polarity. The cost of the operation of the machine is said to be very low, and Prof. Gates says that he has proven that it is entirely practical. As to the richness of the desert sand in the yellow metal, it it said that 216 samples taken at different points from an eighty-mile stretch of desert, yielded never less than twelve cents per ton, and sometimes as high as eighteen cents. At this rate he claims that the gold can be secured at a great profit.

Thomas Costello, an inmate of the Licking County jail in Ohio, has invented and made a stove during his term of confinement which is said to have many advantages over those of the old type, principally that it requires a very small amount of coal to do a great deal of work. Outwardly, the stove looks like any other stove, but the interior is supplied with two fire-boxes instead of one. The fire is made in the lower one, and the upper one is filled with coal. As the fire burns below, the coal above cokes, and the gas emitted during this action is carried down and is consumed in the flames. When more fuel is demanded by the fire, the coke is allowed to fall down into the lower fire-box. A stove has been built on these lines, and has been in use in the institution, and the attendants vouch for the economy of the device.

A new and novel system of train lighting is just being introduced, after having been subjected to successful tests, which resembles the axle system, inasmuch as the power for driving the dynamo is derived from the motion of the train as it passes along over the rails. In this case the necessary power is supplied by means of a rotary fan mounted on the head of the engine. The motion of the train alone is said to be sufficient to generate current enough to light the train. It is not at all dependent on any gale of wind, but merely that made by the train's movement, and the mechanism does not add anything to the ordinary resistance of the train. It does not obstruct the view of the engineer or offer any other objectionable features.

The Buffalo, Rochester & Pittsburg Railroad is about to be fitted out with the telegraphone, which instrument has already been referred to in these columns. This system permits of the use of the telegraph wire strung along a railroad line to be used also for telephone purposes. Instruments will be installed in the cabs of many of the locomotives, in baggage cars and cabooses, and in case of an accident of any character, the train can be placed in communication with the nearest telegraph station within a moment's time.

An effort will be made to secure an appropriation from the West Virginia Legislature for the purpose of erecting a monument to the memory of James Rumsey, who, it is claimed, was recognized by George Washington as the inventor of the steamboat. The proposed memorial will be erected on a high cliff of the Potomac River at Shepherdstown, overlooking the spot where it is alleged that the first application of steam to the purpose of marine propulsion was made.

M. Ducretet, a well-known French engineer, is exploiting a loud-speaking telephone, the invention of Lieut. Gaillard, of the French navy, which has some novel features. The receiver and transmitter are mounted together for the sake of economy of space, and are rigidly placed on a wall or some convenient point in the room. It is said that one speaking into the receiver in an ordinary tone can be easily heard at the other end of the line by persons located fifteen or twenty feet from the apparatus. The device is particularly intended for use on shipboard, or to connect the office of a factory with a noisy shop. There is no bell, for this is said to be unnecessary. A person desiring to speak to another simply walks up to the 'phone, and calls the one he wants to converse with. This is entirely sufficient.

A safety dress designed for the use of electricians and others working around high tension apparatus, has been invented by Prof. Artemieff, and it was recently given a successful trial at the laboratory of the Siemens & Halske Company. The dress, says Engineering, consists of a covering of closely-woven and very fine wire inclosing completely every part of the wearer. It weighs 3.3 pounds, but its cooling surface is so great that a current of 200 amperes can be passed through it for some seconds without perceptible heating effect. Standing on the ground uninsulated, Prof. Artemieff drew sparks from the secondary terminals of a transformer which was giving a tension of 75,000 volts with a period of 50 cycles per second. The inventor concluded his experiments by short-circuiting a generator of 170 kilowatts capacity by clutching hold of the terminals, and the current passed 200 amperes. Throughout the experiments, the Professor declared that he did not feel the slightest sensation of a current passing through his body.

John H. Price, the superintendent of the Candee rubber manufactory at New Haven, Conn., has just received his sixth patent for machines used in the making of rubber shoes. His latest invention is an improvement in the manner of cutting the shapes for rubber boots, by which a great saving of material is effected; and as this waste consists largely of rubber, any saving at the present price of the commodity is a great consideration. He has estimated that the value of the reclaimed waste every day at the Candee factory will be a trifle over $500.

J. J. Pole, a well-known musician of Geneva, N. Y., has recently devised a method of making a very old musical instrument in a new way. He is the inventor of a process by which the tympanum or kettle drum may be made of wood instead of copper, thereby lessening the cost to a great extent. The new drum consists of a number of pieces of mahogany, which are bent in the desired shapes under pressure, and after being put together, the whole is finished in a lathe and the head and trimmings put on. The innovation is said to have met with the approval of musicians in this country and Europe. The inventor claims that the tone of the wooden instrument is superior to that of the metal one.