

IMPROVED ELECTRIC GENERATOR.

A great deal of attention is now given to the relief and cure of diseases without the use of drugs, and electricity is being recognized as one of the important healing agents for accomplishing this very desirable end. Hitherto it has generally been considered the prerogative of a physician to properly apply the electric current to curative purposes; but since it has been discovered that a mild continuous current is effective in the treatment of diseases, it is apparent that any one having the necessary appliances may use the electric current to advantage.

The engraving represents a very simple and compact generator or battery for creating a continuous electric current for curative purposes. It is a modification of the well known Trouvé blotting paper battery, and is capable of yielding a constant current for a long time.

The inventors of this generator and its accessories state that they have had batteries of this class in use yielding a current for over a year without attention, and it may be renewed at the end of that time without trouble or expense.

The rubber case contains two plates, one of zinc, the other of copper, each connected with a clamping screw extending through the cover. Flexible cords connect the binding posts with the electrodes, the latter consisting of two nickel plated disks, each having two slots for receiving a strap by which the electrode may be bound upon the affected part. The generator is carried in a pocket in the inside of one of the garments. This may be done with perfect safety, as the exciting fluid with which the generator is charged is entirely absorbed by the porous filling placed between the zinc and copper plates.

The electrodes are often worn on a belt, one being placed in front of the body, the other at the back. Fig. 2 shows the method of attaching one of the electrodes to a sponge for bathing purposes, and Fig. 3 shows its application to the hand when the current is employed to supplement frictional treatment.

There are a number of other methods of applying the current, which need not be described in detail here. Further information in regard to this invention may be obtained by addressing the Constant Current Cure Company, 207 Main street, Buffalo, N. Y.

IMPROVED FREIGHT CAR.

The engraving represents an improvement in freight cars lately patented by Mr. Francis Klier, of Cairo, Ill. The car is so constructed and arranged that it can be readily converted from a box freight car into a bottom discharging grain car. The great advantage secured by this arrangement is that the car may always be used in one way or the other, and when in use as a grain car it may be much more rapidly unloaded than the ordinary car, thus preventing the frequent blockades that arise from the slow discharge of enormous quantities of bulk grain transported by the roads.

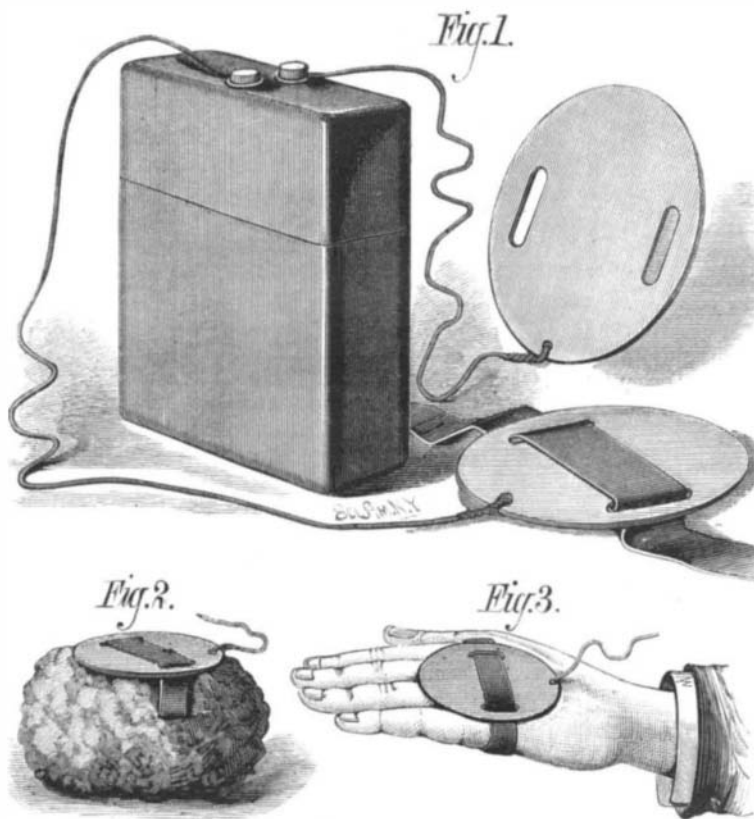
The invention is very simple for one that accomplishes so much.

Fig. 1 in the engraving is a side elevation of the improved car, with the side of the car removed to show the internal construction. Fig. 2 is a partial plan view showing one half of the car arranged as for carrying ordinary freight, with the other half arranged as for carrying grain.

In the engraving, A represents the solid level floor of the car, depressed at its central section by removal of the floor at that point about the central opening, B. The end sections of the floor have several longitudinal parallel grooves, D, formed in them for the reception of the bars, C, which are of iron, and pivoted at one end on the borders of the middle or hopper section when the car is to be used for ordinary freight, and through these grooves and floor of the car holes are made for the reception of the supports of the bars, C, so that the said bars can, when desired, be arranged flush with the surface of the floor, A.

The false floor is constructed in two end sections, F, and

two central sections, E, the former being hinged by long strap hinges to the opposite ends of the car, about twelve inches above the floor, and being of sufficient size to reach entirely across the car and half way to the central section of the fixed floor, while the central sections, E, of the false floor are hinged to the floor, A, along the edges of the hopper, and meet in the center of the car over the central opening, B, and form a portion of the ordinary freight car floor,

**CONSTANT CURRENT ELECTRIC GENERATOR.**

or turn up to meet and abut against the sections, F, when they are turned down and form a portion of the sloping grain car floor.

When arranging the car for carrying the grain the bars, C, are raised from their grooves and moved laterally, and adjusted with their supports resting in socketed plates attached to the floor; the sections, F, of the false floor are then let down upon the bars, C, and the sections, E, are raised and turned back on the bars, C, forming a floor sloping from each end toward the center of the car. This floor is covered with zinc or sheet iron, so that the grain may

get into a car and begin to work at unloading in the usual manner.

MECHANICAL INVENTIONS.

An improved car coupler, patented by Mr. Stephen Farnham, of Forest Home, Texas, consists in a transversely arranged bar supported by suitable hangers secured to the end of the car a suitable distance above the draw bar, each end of the transverse bar being provided with hand wheels having a notch on their outer periphery, with which engage weighted pawls suitably pivoted to the side of the car; also in an arm extending from the transverse bar for supporting the link, provided with a spring arranged to exert pressure thereon, and thus assist in holding the pin down in place.

Mr. Thomas Bradley, of New York city, has patented an improved machine for sweeping streets, gathering the sweepings, and delivering the material gathered to carts at one operation. The object of this invention is to save the use of horses and men, especially for the sweeping machine, by furnishing a machine adapted for attachment behind the carts used to convey away the sweepings, so that the sweeper can be attached, drawn along, and, when the cart is filled, the machine disconnected and left for the next cart.

Mr. James McKinney, of Saltillo, Miss., has patented a portable machine for sawing off the mashed and burred ends of railroad rails, instead of chipping them off with a hammer and chisel, as heretofore. The invention consists in a novel arrangement of a frame for attachment to the rail, and a frame suspended therefrom and carrying a rail saw and devices for operating it.

An improved road engine has been patented by Mr. Abraham O. Frick, of Waynesborough, Pa. The principal features of improvement consist in the structure of the framework and means for hanging the boiler therein to compensate for expansion; in the means for connecting the engine and the frame so as to avoid working strain on the boiler sheets; in the construction and arrangement of the front truck, and in the means for guiding the engine.

An improved machine for making rims for metal vessels has been patented by Mr. William W. Jones, of Nashville, Tenn. This invention relates to a machine for forming rims for the covers of sheet metal vessels, which rim is in the nature of a hoop or band of metal having on one of its edges an out-turned flange.

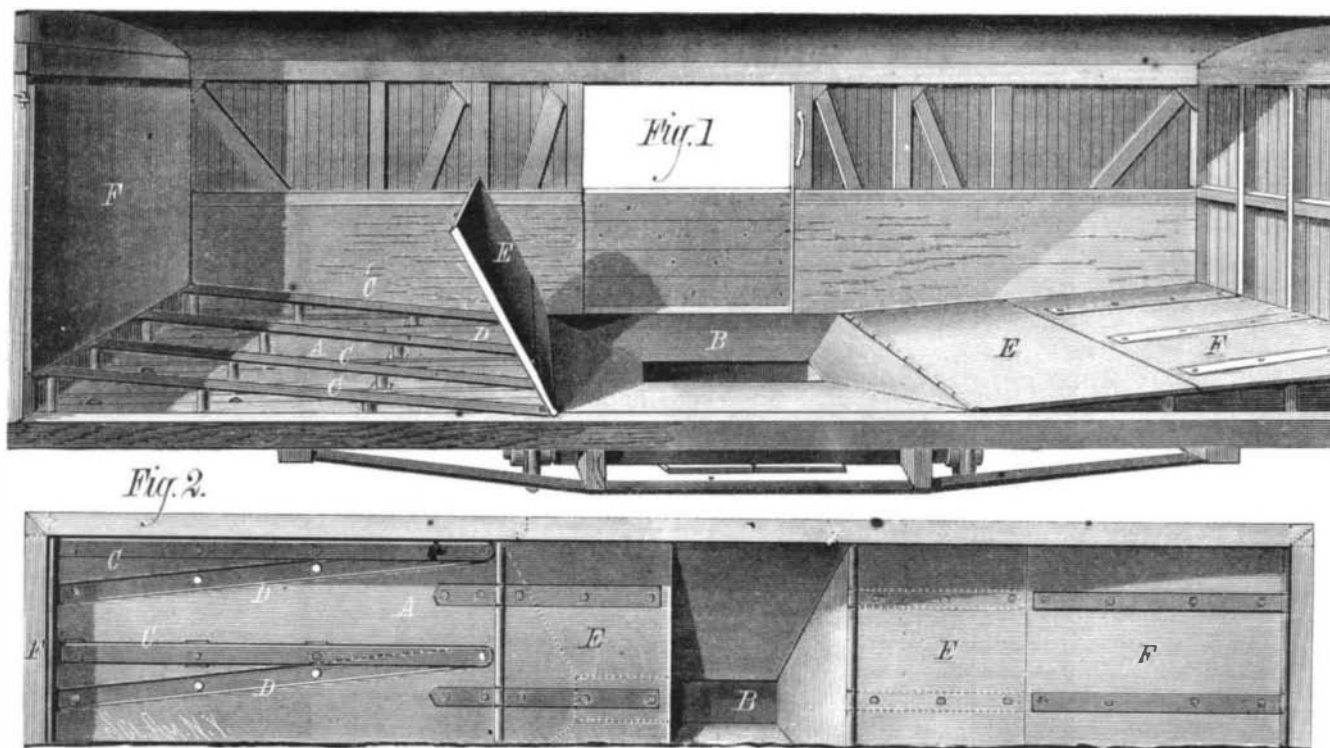
Mr. Abraham O. Frick, of Waynesborough, Pa., has patented an improvement in steering gear or road engines, which consists in combining the pivoted front axle

and the positively-acting steering gear shaft by a connection which makes the strain of the steering gear on the axle an elastic one, and whereby, also, in the event of one of the wheels striking a stone or obstruction, the shock is taken up and not allowed to injuriously affect the steering gear, and the axle is immediately restored to its former true position for running in a straight line after it passes the obstruction.

An improved axle skein has been patented by Mr. Isaac E. Ricketts, of Garnett, Kansas. The object of this invention is to provide a device whereby the friction of the wheel hub on the axle thimble is greatly reduced, so that the wheel will run in an easier manner and the thimble will endure much longer.

Mr. John S. Whitney, of Lowell, Mass., has patented an automatic oiler for heavy fast running bearings, whereby all waste of oil and the entrance of dust and dirt upon the bearings are prevented.

An improved ore concentrator has been patented by Mr. Robert Parry, of Alpine, Col. The invention consists in diaphragm moving bars combined with adjustable tops, whereby the motions of the diaphragms may be increased or diminished.

**KLIER'S FREIGHT CAR.**

readily slide upon it, and all the joints about the floor are made tight. The grain door is then set in place in the cast iron door sill and door jambs, and held down by iron pins or other suitable fastenings. When ready to unload the car load of grain, one man will open the outlet, B, by turning the wheels and screws below the car floor, thereby moving the slides which close the opening, apart, and the grain will then shoot through the outlet, B, into the conveyor beneath the track or into other suitable receptacle, unloading the car in less time than it would take four or five men to