

The Great Electric Light Suit.

In the case of the Edison General Electric Co. vs. the Sawyer-Man Co. and the Westinghouse Electric Co., the U. S. Circuit Court of Appeals has granted an injunction prohibiting the defendants from making incandescent electric lights covered by the following:

"It is the combination of carbon filaments with a receiver made entirely of glass and conductors passing through the glass, and from which receiver the air is exhausted, for the purposes set forth."

The objections of the defendants against the grant of the injunction were overruled.

The court, among other things, holds as follows:

"The present complainants are entitled by the patent laws to a monopoly for the term of the patent of the manufacture and sale of the lamps made under it. The right to this monopoly is the very foundation of the patent system. They do not lose that right merely because they may have joined in a combination with others holding other patents securing similar monopolies, which combination may, when judicially examined in the proper forum, be held to be unlawful.

"We do not feel justified in assuming upon the facts in the present suit that the use which the complainants propose to make of the injunction will be such as to promote any other monopoly. When it shall be made to appear that some one, to whom in fairness and good conscience these same complainants should sell their lamps, has been arbitrarily refused them, save upon oppressive and unreasonable terms, it will be time to consider whether the complainants should be allowed to continue in possession of the injunction.

"The injunction order appealed from should be modified so as to cover only lamps made in infringement of the second claim of the patent, the other claims not having been infringed according to the adjudication of the circuit court or of this court. It should also contain a provision reserving the right to the defendant to move hereafter for the vacation, suspension, or modification of the injunction upon proof of specific instances of refusal upon the part of the complainants, or either of them, to supply the lamps of the patent upon terms reasonable under the circumstances of the particular case to the owners of electric light plants which were installed before the rendition of the interlocutory decree of the circuit court sustaining the validity of the patent."

A Pulverizing Mill Plant in Brooklyn, N. Y.

The Bradley Fertilizer Company, of Boston, have recently erected a complete plant at the foot of Thirtieth Street, Brooklyn, for the purpose of showing the Griffin roller mill to those interested in the kind of work it will do. This embraces the pulverizing of all kinds of ores, phosphates, cements, carbon, foundry facings, plumbago, and other hard and refractory substances. The mill is installed to grind in ordinary way up to 100 mesh, and beyond this point and up to 250 mesh a system of air separation is connected, thus exhibiting a plant in actual operation with a range from 80 to 250 mesh, the product of the mill being delivered, finished, and of any mesh desired. The company express a willingness to grind samples for any one desiring to judge of the quality of the work and the advantages of this method of grinding. A full illustrated description of the Griffin roller mill appeared in the SCIENTIFIC AMERICAN of August 6, 1892.

Teeth Mutilation.

Dr. Magitot, of Paris, has published an interesting account of the mutilation of the teeth practiced by various savage tribes. One variety, which is chiefly met with on the coasts of Africa and the west coast of New Guinea, consists of the breaking of a portion of the incisor by means of a knife and a piece of wood, and is performed between the ages of twenty and twenty-five. The custom of extracting the two central incisors is found in both hemispheres. According to Zerate, it has been practiced in Peru from time immemorial, where it is inflicted on conquered tribes as a sign of slavery. In Africa it has been observed on the Congo, among the Hottentots and the Batoxas. The mutilation by filing has for its exclusive center the Malayan Archipelago, whence it has spread to the adjoining islands. It is a religious act, which is celebrated with great festivities at the age of puberty, but this only by the Mohammedans. The degree and character of this filing vary with the habits of the family or caste. The operation is performed by an expert, the *Tukang pangur* (filer), by means of a chisel, three bricks, two files, a small saw, and a pair of cutting nippers, the instruments being rubbed with arsenic and lemon juice before being used.

It is the fashion among some tribes on the Senegal River to extract the upper temporary incisors in girls

when quite young and to manipulate the chin, so that it is drawn forward and the lower incisors are made to protrude so as to overlap the upper lip, thus producing an artificial prognathism. In Indo-China and Japan a girl on her marriage paints her teeth with a black varnish. However, as this operation requires time and money, it is only practiced by the wealthy class. Livingstone reported that among the Kafirs a child whose upper teeth erupted before the lower ones was regarded as a monster and killed. On the Upper Nile the negroes have their upper incisors extracted, in order to avoid being sold as slaves, because of the loss of value brought about by this mutilation. Among the Esquimaux, as described by the Abbe Peritat, in some regions there exists a custom of transversely cutting off the upper incisors, the object of this being, according to local tradition, to prevent the human chin looking like that of a dog.—*Lancet*.

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RECENTLY PATENTED INVENTIONS.**Engineering.**

STEAM GENERATOR.—Pierre A. Chatelet, Paris, France. This invention consists principally of a tubular casing closed at its ends and adapted to be heated, the casing being connected with a water charging device arranged to spray in the water in a finely divided state, while a tube open at its inner end is held in the casing to form a narrow annular space for the passage of the vapor, as it is heated by the wall of the casing, to the open inner end of the tube. The highly heated dried steam is passed from the inner tube to a steam-receiving vessel or to the engine.

SUBSTRUCTURE.—Samuel A. Oliver, Houston, Texas. This is an improvement in substructures designed to form supports for bridge piers and similar uses. Combined with the main structure is an inclosing caisson for its lower portion, a filling between the caisson and the main structure, and an inclined protecting plate for the top of the caisson. This substructure is designed to be conveniently erected and strong, amply protected against the action of water, and so built that the protective part of it may be easily renewed when necessary.

Railway Appliances.

CAR COUPLING.—Michael Werner, Allegheny, Pa. In this device the coupling hook is pivoted in the drawhead, and has a tail and lip projecting down through and into a base slot, and a top extension projecting into an upper opening, a transverse shaft carrying a finger to engage the tail piece, while the ends of the shaft have each a crank at the side of the car, by which the shaft may be rocked to effect an uncoupling. The device may also be operated from the top of the car, and the coupling is entirely automatic as the cars come together. This coupling is very simple and inexpensive, and may be used when the opposing drawhead is only adapted for the ordinary form of link and pin coupling.

CAR COUPLING.—Levi W. Houghton, Bath, Me. This coupling is designed to be readily applied to drawheads of the ordinary construction, and is arranged for automatic coupling. The invention consists of arms mounted to swing and adapted to support the coupling pin, with an arm for moving the swinging arms, and supported on the drawhead, to be engaged by a like arm on the opposite drawhead of the approaching car.

DRAW BAR ATTACHMENT.—Wilber B. Orton, Nickerson, Kansas. This invention relates to lugs to take the thrust or pull of the drawhead or drawbar spring when a car is pulling or backing up. The lug plate forming the spring pocket has integral vertical solid lugs for receiving the thrust of the spring followers, the lug plate also having other novel features of construction to make the lugs strengthen the draught timbers.

SPIKE.—Emma A. Streeter, New York City, N. Y., and Bradford W. Nichols, Herkimer, N. Y. This is an improved double-shanked spike, the shanks being straight and parallel sided, with its points similarly beveled on opposite front and

rear sides, and the head having a lateral flange on the front side. This spike is designed to be employed wherever an ordinary spike may be used, and especially in laying railroad rails, the dual shanks holding so that the spike cannot be canted from side to side, and will not be loosened by the vibrations of the rails.

Mechanical.

POWER TRANSMITTING MECHANISM.—David C. Frazier, New Market, N. J. A shaft journaled in a suitable supporting frame carries a drive wheel or fixed gear, while on the shaft is mounted a tubular shaft having one or more toothed wheels arranged to mesh with the teeth on and traverse the periphery of the drive wheel, an internally toothed rim being formed on the peripheral edges of the toothed wheels. The invention also includes other novel features, the mechanism being designed to impart increased velocity and power to a rotary shaft with which it is connected.

BALL COCK.—Gaylord S. Hunter, Pawtucket, R. I. This is an improvement in hydraulic safety valves, such as are used for automatically shutting off the supply of a tank of any kind. It has a casing held in the wall of the tank, and when the water rises to the required height it lifts a float and tilts a lever to close the valve firmly upon its seat. The construction is such that, if the float or lever should be broken, the head of the water would close the valve. The device may be adjusted to automatically shut off the supply at any time, and it is designed to keep itself clean from rust or scale.

LAST.—Arthur M. Leighton, Port Townsend, Washington. This is an adjustable cobbler's last, automatically adjustable to closely fit any size of boot or shoe, no matter whether it has a pointed or wide toe. A reach bar having a locking notch connects the toe and heel sections of this last, a spiral spring wound around a portion of the bar bearing against the heel section. When the last is placed in a boot or shoe the several parts are expanded by the spring, which is released by pressing a catch on the outside, the last then completely fitting the boot or shoe, ready for the workman.

Agricultural.

PLOW.—Frederick S. Moore, Hanford, Cal. This plow is especially adapted for use in vineyards and orchards. The beam is pivoted to the forward part of a share-carrying frame, a short distance from its inner end, in which is a longitudinal slot, while an angle lever fulcrumed on the frame has on its inner end a pin working in the slot of the beam, there being between the handles a rack with which the upper end of the lever engages. With this construction the draught may be quickly and easily changed from right to left by the plowman, so that the near or off horse of a two or three horse team can walk in the furrow, and so throw the shares of the plow closer to a tree or vine than would otherwise be possible.

HAY SLING.—James M. Kellogg, Bozeman, Montana. The carrier of this device consists of a pole from which is projected a series of ropes terminat-

ing at their outer ends in rings or loops, and all adapted for attachment to a trip mechanism, a back rope having both ends secured to the pole being also connected with the tie rope of the trip mechanism. The hay or straw may be carried by this device from the delivery spout of a thrashing machine to the place where a stack is to be formed, the load not being dumped or spilled out except as it is placed in the desired position.

BRANDING TOOL.—John R. Todd, Glenrock, Wyoming. This implement consists of a tube with pointed ends, in which slides a plunger, while there is an adjustable gauge on the tube. The pointed end of the tube is plunged into an animal, and then a tag previously placed in the tube is driven inward through the tube by the plunger, the tag being left in the flesh under the hide after the tube is withdrawn. The tag cannot afterward be removed without mutilating the animal, being found in the beef only as it is marketed.

Miscellaneous.

BICYCLE TIRE.—George R. Bassett, New York City. This is a pneumatic tire on which is a tread piece, with two separate cushions between the wheel rim and tire, and a fibrous envelope around the cushion rings and between the tread piece and pneumatic tire. The improvement forms a detachable shoe, readily removable, partly or entirely, when desired, and preventing injury to the inner pneumatic tire.

BICYCLE ATTACHMENT.—Allen Matthews, Pittsburg, Pa. This is a simple device for automatically locking the steering fork, and which may be readily released when necessary to bring the steering wheel under the complete control of the driver. A spring lock normally engages the fork to hold it from rotation in its sleeve, the lock having a vertical arm held from lateral movement, while a laterally movable swinging bearing member is carried by the fork and engages the lock rod, and an operating lever engages the bearing.

CARRIAGE BRAKE.—Philippe Brailly, Bellaire, Ohio. The brake beam of this device is journaled in vertical bearing blocks resting upon a transverse spring, in connection with which are an operating rope and guide pulleys, a winding drum, foot levers, pitmen, and intermittent gripping devices, forming a brake readily operated by foot power, and in which all the operative mechanism is concealed from view and protected from the elements. The connection of the body with the rear springs is also simplified, and the several parts of the brake mechanism are automatically returned to their normal position after the brake is released.

CURRYCOMB.—George W. Neuls, Kane, Pa. The body and teeth of this implement are made entirely of wood, and the grain of the wood runs lengthwise with the teeth, the latter being so tapered that they will be thoroughly effective without producing undue irritation, and without tearing or cutting the hair. The comb is so made as to be very durable and inexpensive, means being provided for attaching the handle to the body in a very solid manner.

BRIDLE.—Alexander and Louis Hasselbauer, New York City. This invention provides a

simple and durable bit support, conveniently adjustable to properly fit the animal's head without the use of buckles or similar fastening devices. It consists of a single endless strap doubled upon itself and formed into two cheek sections and throat latch sections, bit-supporting loops being formed at the juncture of the lower ends of the side sections, while a slide or ring connects the throat latch sections above the bit loops, above which also is a nose strap, and a slide or ring connects the upper crossed ends of the cheek and throat latch sections.

COMBINATION TICKET.—Martin Ralph, Queens, N. Y. This ticket has a central continuous web, sufficiently strong to hold the tickets together, but which may be readily torn asunder when necessary, the tickets being separate upon the web, and the loss of time necessary to cut apart being thus saved. The improvement is applicable for railway coupon tickets, or for price or tag tickets, the tickets being provided in the latter case with fastening pins.

LETTER BOX.—Oliver P. Johnston and Calvin M. Gates, Butte City, Montana. This is an improved mail box for the reception of letters, papers and other mail matter, to protect the contents from the weather and keep them from the reach of unauthorized persons. The casing has at its top a letter slot and an opening to receive papers, etc., and a pivoted cap covers the slot and the opening. At one end of the casing is a door, fastened by a hasp and lock.

ELEVATOR.—Lucas M. Kuehn, Wabasha, Minn. This is a device more especially designed for use on large ice boxes and other receptacles, for conveniently elevating and depositing blocks of ice or other articles in the receptacles. It consists of a frame adapted to be raised and lowered on which is mounted to swing a platform that may be automatically tripped to move into an inclined position to deliver the elevated article into the desired place.

SHIFTING DEVICE FOR ELEVATORS. James Flemming, Buffalo, N. Y. A simple and durable device is provided by this invention, more especially designed for grain elevators used to load or unload vessels, and arranged to conveniently shift the elevator leg, to hold it in contact with the grain. The leg is pivoted at its upper end to the frame, while a swinging arm pivoted to the frame engages at its free end the back of the elevator leg, a counterweight holding the free end up against the leg, novel means being provided for operating the swinging arm.

GUN.—Robert A. Steinert, Washburn, Wis. The breech of this gun has a transverse recess in which is mounted a sliding breech-block carrying a spring-projected firing pin engaged by a detent, a cam or incline on the breech being adapted to retract the pin, for which there is also a releaser adapted to release the pin when the breech block reaches its inner or closed position, or which may be moved into inactive position. The construction is simple and durable, and arranged to securely lock the cartridge in place for firing and at the same time actuate the firing pin.

OIL FILTER.—Oskar Lindberg, Helsingborg, Sweden. This is a sectional filter, which may be readily taken apart, cleaned and put up again, and its construction is such that the oil placed in the upper

