

AN AMPHIBIOUS TRICYCLE.

The "Amphibie" is the name M. Theodorides has christened his new nautico-terrestrial tricycle, which we illustrate herewith, and which has recently been tried in France.

The tricycle is constructed entirely of aluminum, with the exception of the chain and certain other parts which require the use of steel. The wheels have enormous inflated rubber tires, which give them a diameter of 3'83 feet, and which make each wheel a water-tight float, buoying up the machine on the water.

The tricycle can be used indiscriminately on land or water, and although it does not run very rapidly, it may be of considerable use in special cases.

It weighs but 66 pounds and sinks, when fully loaded, to a depth of only 12 $\frac{3}{4}$ inches. Our engraving shows very well the appearance of this curious machine while navigating on the water.

Cheap Cab Service in New York.

The General Carriage Company, of New York, is to be incorporated for the purpose of constructing and maintaining hacks or other vehicles for hire on the public roads, streets, or highways of cities of the first class, which, of course, means New York and Buffalo. The corporation has the right to establish the time service and the distance service, and to subdivide the latter into a mileage and circuit service. It can charge rates of fare not exceeding 75 cents an hour for each person in the time service, and not to exceed 25 cents per mile for each person for the mileage service, and not to exceed 25 cents a person on the circuit service. It is proposed to establish cheap cab service such as now exists in London and Paris. There is a great field for cheap cabs in New York city, and the electric vehicles which have been in operation there for a long time have won a deserved popularity.

At the sale of the Morrison cameos in London, a Greek gold ring from Tarsus with an intaglio of Bacchus was sold for \$1,150. Another ring with the figure of Bacchus brought \$925. The signet of Asander, King of the Bosphorus, from Kertch, brought \$2,300.

Lord Charles Beresford and Automobile Cabs.

Lord Charles Beresford in his recent trip to America pointed out how much Great Britain is behind the times in the use of electricity. He was amazed to see how much work was done by electricity on board American warships where the English use steam. He is a warm advocate of automobile cabs. He attributed



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the congestion of London streets to the use of horses. He said, "While I was in New York I was supplied with a motor car which had the appearance of a cab and the manners of a kangaroo, but it always got me safely to my destination."

The Building Edition for May.

The Building Edition for May is a beautiful number and its contents are more than usually diversified. A residence at Newark, N. J., forms the subject of the colored cover. It is a handsome brick colonial house built by Messrs. McKim, Mead & White. There are also a number of fine interior views of this house. The stable for the same residence represents a unique treatment of a problem which is often neglected.

There are a number of other interesting houses illustrated. The literary contents are fully up to the usual standard, the editorials being "An Architectural Symposium," "Equestrian Statues," "What to Do With Our Backyards," and "Architectural Education in the United States." There is also an excellent example of an old colonial doorway, reproduced from a measured drawing, and also an interior view of the Cathedral of Münster and the plan of the Palace at Düsseldorf.

The Current Supplement.

The current SUPPLEMENT, No. 1219, has many articles of great interest. The University of Pennsylvania Lecture Course is represented by the second part of Dr. Herman V. Ames' "Peculiar Laws and Customs in the American Colonies," which is concluded. "Wireless Telegraphy" is represented by an article which describes the Ducretet system. The usual notes and consular matter is published. "The Alkali Soils of the Yellowstone Valley" describes some very interesting investigations which have been carried on by the United States Department of Agriculture, in the interests of the inhabitants of this valley. "Electric Traction and its Application to Suburban and Metropolitan Railways," by Philip Dawson, is an important and exhaustive paper on the subject. "The Intelligence of Tropical Ants" is a most attractive paper by

Dr. Eugene Murray-Aaron.

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RECENTLY PATENTED INVENTIONS.

Agricultural Implements.

HARROW.—WILLIAM M. BAKER, Fortville, Ind. This harrow employs a series of revolving teeth in connection with rollers, the teeth being so mounted that, should one of them be broken, another may be readily substituted therefor. The depth to which the teeth may enter the ground may be regulated by plain rollers which are carried by hanger-arms. The adjustment of the hanger-arms regulates the depth to which the teeth enter the soil.

Bicycle-Appliances.

BICYCLE-SUPPORT.—BURR HUBBELL, Kelly's Corners, N. Y. The support has a column on which a body portion is mounted, provided with laterally-projecting lugs. A jaw is pivoted on the body-portion between the lugs, and, when drawn toward the body-portion, clamps the frame of the bicycle. A fork is attached to the body portion and engages the front wheel of the bicycle; and an arm held by the body portion engages the saddle-post tube.

SADDLE.—FREDERICK C. AVERY, 6104 Butler Street, Chicago, Ill. The object of this invention is to provide a saddle in which the seat will sustain all the weight and the horn no part of the weight. The horn is supported by an independent spring, and is made separate from the seat portion. The pommel-spring is attached to the middle plate adjustably; and the same bolt which secures the rear end of the pommel-spring also secures the front end of the seat-support connection. The saddle-cover not only covers the seat and extends forward to form the horn, but also lies over the sides of the saddle. If it be so desired, removable pads can be used between the seat portion and seat cover.

Electrical Apparatus.

TELEPHONE-TRANSMITTER.—EDWARD H. JOHNSON, Omaha, Neb. The transmitter devised by this inventor is designed to multiply the sound-impulses against the diaphragm so that they may be increased in the receiver. The transmitter comprises a diaphragm against which a ring of resilient material, a series of contacts on the ring, and another series of contacts with which the first-named contacts engage. The vibrations of the diaphragm will set the several rings in equal vibration; and the impulses will be generally multiplied through the contacts.

Engineering-Improvements.

VALVE-OPERATING GEAR.—AUSTIN H. KRAUSS, Wymore, Neb. Upon the engine-shaft a hub is secured having flanges, one of which is provided with a slot, extending diametrically. To the other two flanges a plate is fastened, which is provided with a slot controlling the position of the eccentric. The principal feature of the invention lies in the form of this slot, which is neither

straight nor the arc of a circle. The slot is divided into three parts, the central one of which is straight and the end portions curved. By means of this slot the eccentric may be adjusted to give the valve the desired lead for any amount of travel.

Mechanical Devices.

FOLDING AND CREASING MACHINE.—JOHN F. and JAMES A. CAMERON, Brooklyn, New York city. This invention provides a machine for folding, creasing, and cutting cloth into handkerchiefs before or after stitching. The machine is designed to take a bolt of cloth and to turn both edges over simultaneously, so as to form the folds necessary for stretching the edges, and to cut one edge so that it may be torn into designated lengths. The machine comprises folding-guides adapted to engage and fold the side edges of the handkerchief stock. A supporting-plate, which is cut away between the guides, permits the center of the stock to drop between them. Rollers engage and compress the folded edges of the stock.

CRANE.—ALEXANDER GRAFTON, Bedford, England. This crane is provided with a so-called "derrick-motion," for varying the radius of the crane by varying the vertical length of the jib. The improvement devised by the inventor consists in a means for indicating the radius and the load which may be safely carried at that radius. The means consist in the combination of the jib-adjusting gear with a dial and index, one of which is carried by a rotatable axis in gear with the chain-barrel or pulley, so as to be revolved thereby, the gearing being so proportioned that the rotary part will make less than one revolution for the maximum number of revolutions of the barrel or pulley required for adjusting the jib between the extreme limits employed in practice.

Railway-Contrivances.

BOLSTER FOR LOGGING-CAR FRAMES.—SURY PARKER, Pinetown, N. C. The bolster is provided with a standard movable on the bolster, extending above the surface thereof when in use, and below the top surface and out of way when loading or unloading. A retaining device holds the standard on the bolster, guides it in its up-and-down movement, and limits the sliding movement. The standards always remain on the bolsters, and can be readily lifted into an extended position and locked to retain the logs, or released to permit the lowering of the standards for loading or unloading the logs.

Miscellaneous Inventions.

ACETYLENE GAS GENERATOR.—JOHN CARLSON, Mandan, N. D. In this machine an ordinary bell-gasometer floating in a water-tank is used in connection with a generator. A valve-controlled pipe connects the water-tank with the generator, the valve being held normally closed by a lever. An arm is pivoted upon the bell and is adapted to engage the lever to open the valve when

the bell descends, in order to permit more water to reach the carbide, and thus generate a new supply of gas.

DISPLAY-RACK.—JOHN B. CROWDER, Talucah, Ala. This improved display-rack is especially intended for holding nails, brooms and tinware, and is provided with an upright or post having upper and lower rings. Nail-boxes furnished with broom-holders, are seated at their lower ends on the lower ring and have hooks engaging the upper ring. On the post, above the upper ring, a tin-holding frame is mounted.

APPARATUS FOR SEPARATING AND RECOVERING VALUABLE VAPORS.—JAMES R. WHITING, Stamford, Conn., and WILLIAM A. LAWRENCE, Waterville, N. Y. In the separation of air from the hydrocarbons known as the "lighter products of petroleum," while they are in a vaporous state, valuable products are lost by mixture with air. The inventor of the present process prevents this loss by employing a series of cooling-tanks and vapor-collectors by means of which the loss of the volatile products is prevented. These products, it is said, are recovered not only without detriment to the previous operation of evaporation and condensation, but assistance is rendered to the previous operations by removing from them all back pressure of this vapor.

CLOTHES-PIN.—MELVIN E. THOMSON, Clermont, Penn. By means of the clothes-pin devised by this inventor, it is possible to secure the clothes without fastening them directly upon the line. A wire structure is employed having at its top a hook, and at its bottom clamping devices by which to engage and removably hold the clothes.

WATER-FILTER.—SAMUEL M. SUMAN, Riverside, Cal. The water filter comprises a series of filter-beds, each having an inlet at the bottom and an overflow at the top. Between adjacent filter-beds, charcoal-receptacles are arranged to receive the water from one filter-bed and to deliver it to the inlet of the next following filter-bed, each charcoal-receptacle being provided with a top portion over which the water flows. The filter is designed to be used in dwellings, hotels, soldiers' barracks, and miners' camps.

FIREPROOF STRUCTURE.—GEORGE SPRICKERHOFF, Manhattan, New York city. The present invention provides a fireproof structure such as a floor or ceiling, which structure is light, yet strong. The structure consists of beams to which stirrups are attached. Supporting-strips are sustained by opposite stirrups; and tie-rods are extended through openings in the strips. To the tie-rods a netting is secured which forms a support for a fireproof cement or concrete, filling the space between the netting and the top of the beams. The structure, besides being strong and light, has the merit of being readily put in place.

SUSPENDER-BUCKLE.—MAX RUBIN, Manhattan, New York city. The buckle comprises two U-shaped sections pivoted together to form a loop, the other ends of the sections overlapping each other. Each of these

ends is formed with a jaw. A spring engages the sections to hold the jaws in clamping position. The jaws hold the suspender-tips and are capable of being separated by a pressure upon the body of the buckle, and of being automatically restored to locking position by the spring.

WIND-WHEEL.—OREN RUBARTS, Newport, Ore. This wind-wheel is provided with a turn-table from which arms extend in opposite directions. A vane is mounted on one of the arms, and a shaft is mounted in bearings on the other of the arms. To the outer end of the shaft a hub is fixed, on which blades move axially. On the shaft a governor-disk connected with the blades is mounted to slide. A governor-rod has connection with the disk and is mounted to slide on the arm supporting the shaft. On the turn-table a pulley is supported, over which a chain extends, connecting with the rod forward of the pulley. Another chain extends over the pulley and connects with the rod rearward of the pulley. A balancing weight is adapted for connection with either of the chains. By increasing or decreasing the weight, the speed or power transmitted can be increased or decreased.

CLARINET.—GUSTAV L. PENZEL and EDWARD MÜLLER, Manhattan, New York city. The G-sharp key in this clarinet consists of a pivoted finger-piece formed with a rearward extension and a key proper having a connection with the finger-piece whereby it will open when the finger-piece is depressed, but will move independently of the finger-piece when the latter is depressed. A trilling-lever actuated from the key F-sharp is arranged to engage with the key G-sharp proper in order to trill that key when the finger-piece is depressed. Keys B-natural and C-sharp provided with finger-pieces, lie over the rearward extension of the finger-piece of the key G-sharp, whereby the key G-sharp may be trilled when either of the B-natural or C-sharp finger-pieces is depressed.

BREAST-SHIELD.—EBENZER MURRAY, Deadwood, S. D. The breast-shield comprises two cup-shaped breast-covers having diametrically opposite, horizontal tabs in line with their centers. A cap is hinged to each cover at the side of the aperture. A body-strap connects the outer tabs; and shoulder-straps connect the body-band with the breast-covers.

FURNACE-ATTACHMENT.—GEORGE M. LINDSAY and GEORGE SAUNDERS, Andover, Mass. The object of this invention is to provide a simple attachment by the use of which all cold air will be drawn from the hot air flue by the furnace-draft, the same draft serving to force the hot air through the flue, thus distributing the hot air uniformly. Connected with the hot air flue leading upwardly from the furnace, is a tube communicating with the interior of the flue on the lower side of a horizontally-disposed portion of the flue, and also with the furnace near the bottom.

VEHICLE-WHEEL.—WILLIAM W. KITCHEN, Rochester, N. Y. The wheel devised by this inventor com-

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