DEVICE FOR ATTACHING HOOKS, ETC., TO STRAPS.—HERMAN D. DETERT, Faribault, Minn. The device consists of a box casing designed to receive a strap having a longitudinal slot down the center of one side and several holes in the center of the other. A metal tongue with pegs on it a proper distance apart is placed beside the strap with its pegs through the holes in the latter, and the tongue and strap are then slipped into the receiving box. The tongue is grooved on the sides in order to be held firmly on the slotted side of the box, and its pegs project through into the holes on the opposite side, thus holding the strap securely. A hook is fastened to the box piece so as to fasten it to the breast collar.

PENHOLDER.—WILLIAM THURMAN, Denton, Tex. The penholder consists of a hollow barrel with a telescopic upper end formed of two telescopic sections, the larger one of which contains a spring placed between the end of the smaller section and the end of a plunger movable in the main barrel and carrying the pen in its lower end. By this arrangement freedom of movement to the thumb and fingers is secured, and cramping of the hand is avoided.

NAIL.—BERNHARD SCHNITZLER, 10 to 14 Bleecker Street, New York, N. Y. The invention is a T-shaped lath nail, in which the head of the T is about half the length of the shank and slightly curved, so that if the nail is driven in at an angle, there will be no sharp corners of the head projecting.

FISH-SCREEN FOR ARTIFICIAL WATERWAYS.—GEORGE D. BIRD, Gunnison, Col. A cylinder covered with wire gauze is placed across the flume and is turned by a paddle wheel to which it is connected by a chain. A board is fastened to the bottom of the flume with its upper edge fitting tightly against the cylinder, so that fish are stopped from going any farther, while leaves or debris are carried over by the revolving cylinder.

PNEUMATIC PROPULSION MEANS.—JAMES C. WALKER, White Cliff Springs, Tenn. The propeller shaft is made hollow to be used as an air tube. The jet of air passes through the propeller shaft, and the air thus discharged will fill any space which may be created directly at the rear of the propeller blades.

STORAGE BATTERY.—CHARLES and HARRY LINDENBERGER and WILLIAM B. TEAL, care Lindenberger, Teal & Co., 354 Century Building, St. Louis, Mo. The invention consists of an improved battery cell or box made of hard rubber. A perforated partition is placed inside the cell, which is a low, flat box, and a small space is left between the partition and walls of the cell in which to place the electrolyte. The active material is placed inside the center space in the form of blocks which are pressed into contact with lead plates extending along the top and bottom of the cell. The blocks which form the positive and negative plates are separated by a layer of charcoal wrapped in asbestos paper. The ease with which these blocks can be renewed constitutes the main feature of the battery.

THREAD CUTTER.—BERT NEWSOME, Minonk, Ill. This device consists of a circular spring ring to slip over the finger. Pivoted in trunnions on one end of the ring is a short cutter blade which is sprung outward by a slight pressure of the finger in order to be used for cutting thread.

Designs.

DESIGN FOR A SAW-BLADE.—DOUGALD MCEACHERN, Erie, Canada. The teeth of the blade are very nearly the shape of a boot with a sloping leg portion, and the alternate teeth are tapered on their opposite sides, gradually becoming thinner near their rear ends.

DESIGN FOR A BUFFER-SPRING.—ZERAH H. TATE, Erlanger, Ky. The shape of the spring resembles somewhat a pair of tongs, one prong being bent outward and then parallel with the other and having a rectangular plate fastened to it at the end and the other being slightly curved and having a hole near its outer end.

DESIGN FOR A TICKET BLANK.—FERDINAND KRONENBERGER, 1147 Tinton Avenue, New York, N. Y. The design consists of a rectangular blank having perforated lines extending diagonally across its four corners. The four rows of perforations practically form a square, and arranged within this square is an outline rectangular panel, in the center of which is a circular row of perforations.

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(7709) P. H. L. writes: A trolley car is running on wire notches and the overhead wire becomes he negative and the track positive; what result to the car or motors? I claim the car will run ahead as before. The other gentleman claims it will reverse and run backward. By deciding this argument you will greatly oblige. A. Reversing the current on the line has no effect on the motor. To reverse the motor, the current must be reversed either in the armature or in the field magnet, but not in both. The motorman does this when he backs the car.

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