

## RECENTLY PATENTED INVENTIONS.

## Railway Appliances.

**CAR COUPLING.**—Albert E. Jones and Thomas F. Fagan, Duquesne, Pa. This invention relates to arrow head and jaw couplers, of simple construction and with few parts, designed to be safe and easily operated. The coupling jaws are centrally pivoted in a box-like receptacle, their heads beveled at their forward ends and springs bearing on the outer faces of the heads, while a spring bears on the inner faces of the rear portions of the jaws, links being connected with the rear ends of the jaws and a lever connected with the links. The arrangement is such that the lever will rest either to one side of the car or vertically, and to uncouple the lever is simply reversed, drawing the rear ends of the jaws together, separating the jaw heads and releasing the arrow head.

**CAB WINDOW DUST GUARD.**—Frank C. Bond, Port Jervis, N. Y. A protecting window for locomotive cabs, one which will not become frosted or clouded from the heat in the cab when it is cold outside, and will protect the engineer and fireman from cinders and the weather when looking forward, is provided for by this patent. The invention consists in arranging forward and rear windows with an arm rest at the side of the latter, the guard window being outside of and independent of these windows and hinged at one edge to the cab side; it opens at a right angle, and when open bears against the arm rest, while securing devices are provided by which it may be held in open and closed positions.

## Mechanical Appliances.

**SAWMILL DOG.**—William H. Mitchell, Smith's Cross Roads, Ky. A sleeve sliding on a post has a projecting bracket holding an adjustable lower dog, while there is an adjusting bar sliding in the sleeve bracket and a socket on the bar to retain an upper dog, an adjusting lever being pivoted on the bracket and connected by a link with the adjusting bar. The device is designed to efficiently engage the upper and lower surfaces of round or quartered logs, and permits of the log or quarter being moved downward over the point of the head block and retained in its proper relation to the saw, while it may also be used as an overdog.

**PRINTING PRESS FEED.**—Mark Jacobs, New York City. This is a feed attachment for use in connection with the printing of tapes or ribbons, the spacing of the printed matter on the ribbon being automatically performed. It is secured to the platen, and consists of a shaft having a friction wheel and a drum, a spring-pressed shaft above the drum and adjustable friction wheels on the shaft, while a stationary segment with a friction surface engages the driving friction wheel and a pawl or detent limits the movement of the drum to one direction. When the device has been once set, the printing may be carried on continuously and the spacing between each impression will be evenly accomplished.

**TROWEL HANDLE.**—Richard J. Cooper, Duluth, Minn. This handle has a longitudinal recess in one end of which a measuring rule is hinged, adapted to fold into the recess, its back being of the shape of the rest of the handle. The device is designed to be a great convenience to and facilitate the work of the bricklayer, especially where projecting courses or panel work occur, enabling him to take the necessary measures with his towel as he holds it in his hand in the usual way.

**YARN WINDER.**—John D. Whyte, Manchester, England. This is a machine for winding yarn into cop form on bare spindles, without pirus, spools, tubes or cups. The invention consists of a cop-building device comprising a thread guide to which a swinging motion is given by a revolving cam wheel, a nut traveling on a revolving screw rod carrying the cam wheel and thread guide pivot.

## Agricultural.

**CORN CRIB.**—John Z. Benson, Lawn Hill, Iowa. This invention relates to doors for cribs and granaries, and is also adapted for use on vehicles. In the sides of the door frame are inclined grooves open from end to end, in which the grain cannot lodge, slides having shoulders to limit this inward movement fitting in the grooves. By this invention the door may be adjusted to afford such degree of ventilation as may be required, and the grain may be easily removed in small quantities if desired.

## Miscellaneous.

**GAME BOARD.**—William G. Bullen, Milwaukee, Wis. This invention provides for a game to be played in imitation of a naval battle, the board having raised partitions at each end to represent fortified harbors in which the ships of each side are located, while centrally on the board are batteries and holes with gauze pockets marked "sunk." The ships are formed of rings of different colors to represent two contestants, there being also other distinctions for ordinary ships and flag ships. The ships or rings are moved about the board by blowing upon them through tapering tubes, the object of each player being to propel his ships so that they will pass the holes and batteries and enter the fortified harbor of his opponent. The ships of an opponent are sunk by propelling them into the gauze pockets, the game being counted by allowing a certain number of points for the different degrees of success.

**MOLE TRAP.**—George Ricardo, Hackensack, N. J. Combined with a main supporting frame is a vertically movable frame carrying the impaling rods, in connection with a trigger mechanism, while a spiral spring exterior to both frames is removably connected to them at its ends to exert a downward pull on the impaling frame when the trigger is released. The construction is very strong and simple, and the trap is readily placed in position and set so that the animal will have no chance to escape.

**STEM-WINDING WATCH.**—Raymond A. Lucas and Casper F. Phelps, Kohala, Hawaii. This is

an attachment by which the winding gear will be disengaged when the spring is wound. Attached to the winding wheel is a bevel wheel engaged by a pinion on a threaded spindle, an internally threaded pinion on the spindle engaging a wide-faced pinion journaled in a mortise in the front plate of the movement, while a bevel wheel secured to the spring barrel engages a pinion on one end of an arbor whose opposite end has a bevel wheel engaging the wide-faced pinion. With this improvement there is no strain from overwinding, whether the watch be wound when only partially or when fully run down.

**ANNUNCIATOR.**—William C. Dillman, Brooklyn, N. Y. Speaking tubes being usually arranged in a building to center at a common point, this invention provides an annunciator to be operated from the upper end of a tube to clearly indicate which tube is to be used. A swinging leaf is supported beneath the mouth of each tube, to normally close it, the leaf being connected with one pole of a battery, while a contact bar is arranged in its rear beneath which swings a bent arm secured to the leaf, there being pivoted to the lower end of the bent arm a contact block to strike the contact bar, and an electric bell being included in the circuit. The mechanism may be operated by simply blowing in the tube at its upper end, or electrical means may be employed for depressing each leaf.

**VENDING MACHINE.**—David E. Durie and Alexander Begg, Seattle, Washington. Two patents have been granted these inventors on machines adapted to deliver newspapers or other publications by mechanism operated by coins dropped in a slot of the machine, the papers to be delivered on the insertion of a single coin or a number of coins, as may be most conveniently used for papers sold at different prices. In one of the machines, the paper called for by setting the mechanism in operation by the deposit of coin is projected by one edge through an opening in the case, when the purchaser takes hold of the paper and pulls it out. In the other machine a door is opened and the paper is delivered upon a tray, the door closing until the next time the mechanism is operated. The main case is designed to rest on the ground or floor, and be suited for use in various public places.

**STAMP OR LABEL AFFIXER.**—William B. Shafer, Somerset, Pa. This is a neat and inexpensive device affording means of moistening an envelope or other surface, and with a receptacle for stamps or labels, which may be affixed by the manipulation of the device, those not used being kept back in a separate and cleanly condition. The body of the instrument has transverse grooves and flanges at its lower end, with a stamp box open at both ends, the stamps being supported by flanges, in connection with a moistening device, the lowermost stamp being affixed by pressing down the body. The device may be utilized to facilitate the sealing of large numbers of envelopes, which can be effected with it without using the fingers therefor.

**HYDRANT.**—Penton A. Hardwick, Colorado City, Col. A simple and durable form of hydrant is provided by this invention, which may be set to discharge the water in the discharge pipe above the water main to prevent freezing in cold weather, or may be set for use in summer to permit the water to remain in the discharge pipe after disconnecting the latter from the water main. In connection with the head connected with the water main is a waste port leading to a sink hole or sewer connection, a half turn of the main valve plug opening communication with this port, whereby water remaining in the vertical portion of the discharge pipe may flow out.

**BARREL STAND.**—James J. Van Kersen, Kalamazoo, Mich. This is an attachment for barrels containing crackers or similar goods, for supporting the barrel in an inverted position and delivering the goods a part at a time as may be desired, in such a way as to be conveniently handled by the salesman. It consists of a box having lids on opposite sides and an opening in its top to receive the end of a barrel, there being cross bars below the opening to support the barrel, a partition projecting from the bottom of the box, and a cover resting on the partition and against either of the cross bars, according as the crackers are to be discharged to one side or the other.

**DUMPING WAGON.**—Raymond A. Lucas and John T. Murray, Kohala, Hawaii. The driver can easily dump the contents of this wagon without leaving his seat, while the construction is strong and simple. A transverse shaft having gear wheels is mounted in the wagon bed, on which slides a body having racks engaging the gear wheels, a longitudinal shaft on the bed having one end geared to the transverse shaft, while a vertical crank shaft, extending to within convenient reach of the driver, is geared to the longitudinal shaft.

**VAGINAL SYRINGE.**—Loren E. Hendrickson, Paulding, Ohio. This invention provides an attachment applicable to old and new syringes, for dilating the walls of the vagina after the syringe has been inserted, to insure more thorough washing and cleansing.

**HAIR CLIPPER.**—Walter S. Bonham, St. Paul, Minn. This is a clipper with graded cutters located at opposite ends, and with a reversible handle, whereby a No. 1 and a No. 0 clipper are combined in a single implement; the handle may also be conveniently attached to or detached from the implement. The bottom plate has guard teeth or fingers of different thicknesses at opposite ends, over which are two independent cutters pressed by springs in opposite directions, one member of the handle being fixed and the other movable, the movable member having a finger to engage with either of the cutters and move it against the action of its spring.

**LEVER CARPET FASTENER.**—Benjamin Irvine, Beef Slough, Wis. This invention provides a simple form of lever carpet tack, designed to be pivoted in recesses in the floor near the wall, the tacks taking the place of the ordinary carpet tacks, and intended to be used in such a way as to facilitate the laying or taking up of a carpet almost entirely without the use of a hammer.

**KEROSENE BURNER.**—Alphonse M. P. Hervy, Aix-sur-Vienne, France. This burner is designed to insure complete combustion and permit of easily increasing or diminishing the flame without causing smell and smoke. It has an inner part, secured to the fount of the lamp, and an outer part held movably on the inner part to regulate the flame. The device has no wheels or similar mechanism to raise and lower the wick, which is closed to all exterior openings to avoid leakage of the fuel. The several parts can be conveniently removed for the purpose of cleaning, and the lamp can be refilled without removal of the parts.

**NURSING BOTTLE HOLDER.**—Peter Zimmerman, Jr., New York City. This is a device adapted to be held in position by means of a clamp attached to a support adjacent to where an infant is lying or sitting, and has a holder formed of loops of spring metal into which a bottle may be easily thrust and securely held, the loops adjusting themselves to different sizes of bottles. The device is readily adjustable to bring the bottle into convenient position, where it will be so held that it cannot be easily broken.

**SAFETY VALVE.**—Frederick W. Fisher, Walton, Liverpool, England. This valve is especially applicable to kitchen boilers which have a continuous circulation, and is also suitable for other boilers supplied by water under pressure. It has a case with an inlet on one side, above which is an escape port, and an outlet in the lower end, a main weight being held to slide in the case and a supplemental sliding weight arranged above the main weight, valves secured to the lower end of the main weight successively closing the inlet and opening the escape port. This valve may also be arranged to operate as a reducing valve.

**INSECTICIDE.**—Pietro Leonardi, Pietro Zen, and Giuseppe Sardi, Venice, Italy. This is an article which, while destructive to insects, is harmless to human beings or to textile fabrics. It is formed, after a manner described, of chrysanthemum flowers, liquid ammonia, and other ingredients, in certain proportions. The sprinkling of the liquid in places infested by insects effectually disperses and destroys them, while improving the air of the room in which it is used.

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(3367) L. M. T. says: Would you kindly inform a constant reader how to successfully kiln dry oak lumber and not have it warp? We use 12 feet even length best quality Wisconsin red oak. In piling we have six sticks even thickness 2 feet apart, foundations of piles perfectly level, but the lumber is not straight. With exhaust in day we have 130 degrees, live steam at night 160 to 180 degrees of heat. Sometimes in the middle of drying we allow the kiln to cool down entirely, for instance, stopping Saturday night, and not starting it again till Monday morning. Does that affect it? Is an even temperature necessary? What is the right temperature for drying red oak when hot air is not used? How is lumber dried with hot air? What degree of heat and what size of blower? How can I figure the pressure of force of any sized blower? A. Try turning steam into the drying room at the same time it is turned upon the coils. Keep the room moist in this way until the lumber gets heated to 130° or 150°. Then shut off steam from the room and continue the heat with very little ventilation. This will dry the lumber evenly and make it less liable to warp. It is better to have an even heat, and the drying should be finished within the week. It is better for drying oak to heat to 200° if possible. This you can do with live steam by closing drying room nearly tight during the last of the process. Ventilating blowers give about 2 ounces pressure per square inch. The pressure depends upon the speed. Address Buffalo Forge Company, Buffalo, N. Y., for their blower circular, which gives size, velocity, and pressure, and also in regard to forced hot air drying.

(3368) A. G. G. asks (1) for the sizes of wire and the amount necessary for the primary and secondary parts of an induction coil made three times larger than the drawings of the one described in SCIENTIFIC AMERICAN SUPPLEMENT, No. 160, of January 25, 1879, and the number of feet of tin foil required for the same. Would double cotton-covered copper wire do in place of naked wire? A. Use wire of the same size given in the article referred to, and double the size of the condenser. Double covered copper wire will answer. 2. What is the voltage and amperage of the hand power dynamo described in SUPPLEMENT, No. 161, of February 1, 1879? A. The machine yields a current of 4 or 5 amperes with an E.M.F. of 12 volts. 3. What is meant by alternate polarity in the field magnets of alternating dynamos? A. It means that the north and south poles of the field magnet are arranged in alternation. 4. Is the alternating principle patented? A. No.

(3369) W. A. writes: I send a sample of solder I purchased from a street corner man. It will stick to tin without a soldering iron or acid simply by holding a candle under the tin till it becomes heated. Will you say what it is made from? A. The sample of solder is nothing but common soft solder made of equal parts of tin and lead. You should apply a flux of resin or of zinc chloride before touching the solder to the surface, and the surface must be clean. The zinc