

## RECENTLY PATENTED INVENTIONS.

## Apparatus for Special Purposes.

**APPARATUS FOR MAKING STEEL, ETC.**—E. C. WILLS, Altoona, Pa. By his invention Mr. Wills seeks to provide a rocking table or base on which the converter may be supported and to and from which the base of the converter may be adjusted in connection with means for rocking the table, so the metal in the converter may be caused to flow above or below the twyer-entrance in order that the air may be introduced above or below the surface of the metal.

## Electrical Devices.

**ELECTRIC FIRE-ALARM.**—G. B. MARTIN, Zanesville, Ohio. In the present patent the invention has reference to electric fire-alarms, and more particularly to the production of a cheap and efficient form of fire-alarm suitable for use in houses, hotels, restaurants, etc. In case of fire the wax which holds up a weight is melted, permitting the latter to drop into a pan on the end of a lever. The lever thereupon turns on its pivots, making an electric contact which causes a bell to ring.

## Engineering Improvements.

**ORE-DUMPING APPARATUS.**—N. A. H. SALOMONSON, Norway, Mich. In ore-dumping apparatus as usually constructed the ore hoisted from a shaft is delivered into a car, which is then run out on the trestle to a chute and pocket into which it is to be discharged. It is the object of this invention to discharge ore directly from the car into the chute and pocket intended for it without requiring that the car shall be run out on the trestle, whereby time and labor are saved in the dumping operation.

**AIR AND STEAM FEEDING ATTACHMENT FOR BOILER-FURNACES.**—G. MARLOW, Sr., Spokane, Wash. The invention is embodied in an improved apparatus whereby mingled air and steam are introduced into the fire-box of the boiler or other furnace to effect a more perfect combustion, and especially to consume the carbon particles and such gaseous products of combustion as ordinarily escape into the air and are lost.

**INTERNAL-COMBUSTION ENGINE.**—C. A. WILKINSON, Worcester, Mass. The present invention relates to an internal-combustion engine in which a relatively heavy or non-volatile oil may be used for fuel, this oil being heated from the cylinder of the engine and a current of air under pressure being ejected through it, so as to carburet the air, which is then passed into the cylinder to be compressed and exploded.

**ROCK-DRILL.**—C. MEAD, Murray, Idaho. Mr. Mead's invention refers to improvements in rock-drills of that class which are actuated by striking the drill forcibly with a sledge in the hands of a hammerman, and an object he has in view is the provision of a compact machine which may be easily set up or adjusted to work in any desired position for the purpose of drilling a hole in the floor, wall, roof, or any other surface in a mine or other place.

## Household Utilities.

**FLY-TRAP.**—E. F. DAVISON, Marysville, Wash. In this case the invention has reference to fly-traps adapted to door and window-screens. The improvement consists in a new and novel trap especially designed to form a part or the whole of the upper panel of a screen-door. It is also adapted to be used in connection with window-screens.

**SAD-IRON.**—C. W. JOHNSTON, Meeteetse, Wyo. The purpose of the improvement is to so construct the handle and the body of the iron that one can be quickly and conveniently separated from the other and the two parts are readily connected, and to provide such a locking engagement between the handle and the body that there will be no side motion of the handle at any time while the parts are in locking engagement.

**HAT RACK OR HANGER.**—J. G. WHITE, Meriden, Conn. The principal object of the improvement is the provision of an ordinary rack with simplified and effective devices or means whereby a hat or similar article may be held thereon without liability to accidental displacement, as frequently happens with hangers in use, and also to provide a device of this kind which is simple in the construction and the organization of the parts.

**KITCHEN-CABINET.**—L. HOCKMAN, Marion, Ind. The object claimed in this case is the provision of details of construction for a cabinet which render it very convenient for holding utensils and cooking material, and, furthermore, to provide doors, drawer fronts, and sides, and other parts made of laminated material to prevent warping, twisting, and undue expansion and contraction when subjected to changes in humidity and temperature.

## Of Interest to Farmers.

**FRUIT-PICKER.**—M. AKSILA, Worcester, Mass. In carrying out this improvement the inventor has in contemplation an improved fruit-picker, which may be extended to a considerable height to enable the fruit to be removed from the highest branches of fruit trees while the operator is standing on the ground, but when the device is out of use it may be collapsed into compact form, whereby it may be stored in a very small space.

**FOLDABLE FRUIT-LADDER.**—S. S. WARD, Napa, Cal. This improvement relates to a class of step-ladders particularly well adapted for use in picking fruit from trees in orchards, and has for its object the provision of novel details of construction for a foldable ladder, which afford a light, strong, portable device, that has a very wide base and is therefore rendered stable in service, will not tip sidewise while occupied, and that will sustain a heavy weight without penetrating the soil deeply.

**KNIFE-HEAD FOR MOWERS.**—L. B. MITCHELL, Hart, Mich. This improvement provides for raising the pitman above the danger line of obstructions and away from the heavy swath of grass; furnishes a bearing easily kept oiled and all wear taken up; provides spring cushions for the knife stroke running free the intermediate space, eliminates vertical knife motion in the guards, and insures perfect shear cut of knife sections; provides for detaching the knife from the knife-head and removing the knife from the cutter bar with the bar in any position; and overcomes noises, reduces friction, and avoids breakages in pitman, knife-heads, and knife-bars.

**FOUNDATION-FASTENER FOR HIVE-FRAMES.**—O. O. BORDSON, Black Earth, Wis. The purpose of this invention is to provide a device adapted to secure a foundation-comb in a frame placed in a hive so that bees may build up honey-cells from the foundation and to so construct the device that it will comprise but few parts and wherein the parts may be operated to securely place the foundation-comb in the frame, and so that all parts of the device may be kept clean. This device is light, yet durable, and readily carried from place to place.

## Railways and Their Accessories.

**RAILWAY-SWITCH.**—F. W. ALEY, El Paso, Texas. The principal object of this invention is to overcome the disadvantages and inconveniences common to many similar devices, and to provide a device of this kind which is not liable to get out of order and which is simple in the construction and organization of the parts thereof, besides possessing the capacity for long and repeated service. Reliability and safety are distinguishing factors in this railway-switch.

## Miscellaneous.

**ARM-REST FOR CRUTCHES.**—H. S. COLE, Newtonville, Ohio. In this case the improvement has reference more particularly to heads or arm-rests for crutches, and the principal object of the invention is the provision of a device of its kind which may be readily attached to or detached from the upper ends of the uprights or standards of a crutch and also to provide means whereby a comfortable yielding action is derived therefrom in the use of the crutch.

**RAIL-EAR FOR VESSELS.**—J. F. VOGT, St. Louis, Mo. The principal object of this invention is to provide a headed package, as a keg or similar vessel, with a ball and attaching-ear therefor, whereby on removal of the head thereof the keg or vessel may be converted into a bucket or similar structure, and also to provide an attaching-ear for the balls of vessels which is durable and possesses the capacity for long and continued service.

**LACE-FASTENER.**—J. H. O'BRIEN, Iilon, N. Y. This fastener is adapted for use in connection with shoes or boots, although the article is capable of wide application where desirable to securely hold a lacing or cord. The object in view is to produce an article or contrivance which makes provision for taking up a length of a lace or cord and operates sufficiently to secure the lace or cord against displacement or unfastening under the strain or pull thereon.

**FLUE-SCRAPER.**—P. F. VOGT, Dayton, Ohio. This inventor claims as the object of his improvement a flue-scraper which is simple and durable in construction, very effective in operation, not liable to easily get out of order, and arranged to readily yield for automatic adjustment in the flue and to scrape the flue both on the inward and outward movement of the scraper in the flue.

**ARTIFICIAL HAND.**—H. PATTON, Cripple-creek, Col. In this case the improvement has reference to a device intended to be fastened to the stump of an amputated arm by which tools of various sorts may be grasped, thus enabling the wearer to do manual labor. The device comprises a peculiarly-constructed gripper and also a novel device for enabling the jaws to be opened with one hand.

**NECK-YOKE COUNTER-STOP FOR ARTILLERY-CARRIAGES.**—F. WENKE, San Antonio, Texas. This counter-stop and its accompanying parts are inserted within a ferrule, and a plug and its cap are then secured in position. In placing the neck-yoke ring over the end of the pole, the counter-stop is pushed inward against the tension of a double-acting spring and the ring is slipped up against a neck-yoke stop. The counter-stop is then released and is pressed back by the spring into its protruding position, and the ring, held between a downwardly-depending tongue and the stop, is prevented from slipping forward over the end of the pole.

**DESIGN FOR A BELT-BUCKLE.**—L. L. PRAHAR, New York, N. Y. This design comprises two overlapping pointed ellipses in the center of which is placed a narrow clasp-

shield, the whole presenting a neat, graceful, and ornamental buckle. Mr. Prahar has also secured a design of another belt-buckle comprising two tilted overlapping pointed ellipses, extending from the sides of which are the ends of two other ellipses. In the center of these is a narrow clasp-shield. The buckle is very neat and ornamental.

**BOTTLE-STOPPER.**—E. A. NUGENT, Unionville, N. Y. This stopper is for milk-bottles designed to be filled with milk through the operation of a milking-machine, such as shown by Mr. Nugent in a former application for patent, the object of the improvement being to provide means for sealing the bottles from which air is exhausted before removing the bottles from the machine, thus preventing the entrance of impurities from the air in the stable and preserving the milk a greater length of time.

**POWDER-PUFF.**—J. F. ROWLAND and G. D. HULL, Asheville, N. C. The intention of this improvement is to furnish a puff especially designed to contain talcum powder, and to so construct the puff that the material may be placed in large quantities in the puff and held distributed and in such manner that the puff may be manipulated to cover large or small surfaces, and so that all the working surfaces of the article may be utilized at all times and adapted to all parts of the human form.

**LIFE-BOAT.**—A. LASSERRE, Buenos Aires, Argentina. The present invention relates to improvements in life-boats; and the objects Mr. Lasserre has in view are the provision of a simple and strong construction of boat which cannot be submerged in heavy weather at sea, is not liable to capsize or overturn from the force of wind and waves, and is capable of discharging any water that may be shipped during a storm.

**WORSTED-BOX.**—GRACE M. WOOSTER, New York, N. Y. An object in this case is the provision of a device in which a toy is placed and hidden from view, but which may be disclosed by dismembering the box after the end of the worsted shall have been reached, thus affording amusement to a child having possession of the box and inducing diligence in crocheting to reach the end and reveal the hidden toy or wonder.

**FOLDING CASE.**—J. J. O'BRIEN, San José, Cal. The purpose of this invention is to provide a case which may be conveniently folded into a compact form without in any way detracting from the durability and neatness of appearance of the article and without materially increasing the cost thereof. The improvement is especially designed for application to telescopic valves, although it may be used in other connections.

**PORT-LIGHT.**—C. F. PETERSEN, Wilmington, Del. This invention refers to an improved construction for closing the port-lights in the sides of marine vessels, and it embodies in its general form a glass and a glass-frame connected to the body of the device by a gimbal-ring and which is hinged to the body and provided at its free side with a releasable clamp for holding it in place, and an opaque or metallic cover, which parts may be used concurrently with or independent of the glass, and by means of which the light may be hermetically closed.

**REAR-VIEW HAT-MIRROR.**—L. D. MERRICK, New York, N. Y. The purpose in this case is to provide a small mirror and frame and means for attaching the frame to a hat or cap and for adjusting the mirror in its frame, the attachment to be made to the under face of the brim of a hat or to the visor of a cap at one side of its front center, whereby the wearer without turning his head may see the reflection of any objects in the road, street, room, or space behind him.

**FOLDING BOX.**—M. HIRSCH, New York, N. Y. This box is bent from a one-piece blank of peculiar form, which not only secures a desirable interlocking of the side and end flaps, but also provides a double bottom and double sides, having the plies or layers interlocked to overcome the possibility of displacement, whereby the stability of the box is increased without appreciable cost in the manufacture and without an increase in the time and labor to bend or fold the blank to the condition required to complete the box.

**BENZIN-PAN.**—C. E. HOWARD and J. C. M. UNGEHEUER, Jersey City, N. J. The purpose of these inventors is to provide a pan adapted to contain benzin or like material and to so construct the receptacle that it will be provided with a cover having a tight but yielding connection with the upper marginal portion of the pan, so as to prevent ignited material being accidentally brought into contact with the contents and to so mount the cover that it may be pressed down by means of a brush to enable the brush to take up material for effective application to the face of type to wash same, for example.

**DOOR OPENER AND HOLDER.**—J. D. GENDRON, Gently, Minn. In this patent the inventor has for his object the provision of means for the opening of a door, and more particularly for the raising of a horizontal trap-door into a vertical position after it has been manually released by a slight upward pull, a further object being to adapt the improved door-opener for the retention of the door either in open or in closed adjustment, until it is started upward by slight manual effort.

**NOTE.**—Copies of any of these patents will be furnished by Munn & Co. for ten cents each. Please state the name of the patentee, title of the invention, and date of this paper.

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## NEW BOOKS, ETC.

**MECHANICAL REFRIGERATION.** By Hal Williams. London: Whittaker & Co. New York: The Macmillan Company. 1903. 16mo. Pp. 406, plates. Price, \$2.25.

This is a practical introduction to the study of cold storage, ice-making and other purposes to which refrigeration is being applied. It impresses the reader as being a thoroughly practical book, dealing in a lucid manner with the various problems which are constantly confronting the refrigerating engineer. It is only in recent years that ice has been used to any extent in England for table purposes. A demand, however, has sprung up in that country for hygienic ice, therefore the present book is very timely. It will be valuable to American readers as well.

**SMITH'S SCRAP BOOK OF THE BIBLE.** By William Preston Smith. Providence. 1903. 16mo. Pp. 551.

Quotations from the Bible arranged in alphabetical order, the same as a dictionary or concordance. It will prove very useful, especially to ministers.

**CARNIVAL NUMBER OF THE TIMES.** Hamilton, Canada.

We have received the special Carnival number of this enterprising Canadian journal of August 15, and note that it is filled with excellent illustrations, beautifully printed, of Canada's industrial center, the city of Hamilton, together with numerous portraits of the people prominent in building up the city.