RECENTLY PATENTED INVENTIONS. Electrical Devices.

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'This clip belongs to that kind used for suspending wires, cables, and other electric conductors. The invention relates more particularly to the production of a cheap, simple, and efficient clip, which may be placed at any desired angle relatively to the hanger-wires and owing to the locking device may be se-cured in a permanent and reliable manner.

TROLLEY .--- J. H. WALKER, Lexington, Ky. In the present case the invention is an improvement in trolleys, and particularly in the means for supporting the wheel and lubricating it. Means are provided to avoid the formation of arcs which operate to rapidly destroy the wheels in the ordinary construction. There are means for holding the trolley-wheel firmly in line to prevent tilting to either side. Contact is made at the ends of the journal or axle carrying the wheel without extra contactsprings, and the contact is held positively at all times at the ends of the journal.

Mr. Walker has also invented another improvement in trolleys. It has for an object. among others, to provide novel means whereby to support the trolley-wheel, to prevent the wire from dropping immediately alongside the wheel, and for securing a more effective conduction of the current from the wheel and along the pole.

Household Utilities.

HOSE ATTACHMENT.-W. G. MCKAY. Leadville, Col. To prevent water and dirt collecting around a hose and to enable this article to be moved with greater ease, the inventor provides an attachable support, any number of which may be applied to the hose to raise it from the floor or from the ground in case of use on a lawn or the like. The attachment also prevents splinters or the like from injuring the hose and enables the latter to dry more quickly, thus tending to preserve it.

WASHTUB.-G. V. BLACKSTONE, James town, N. Y. The aim of this invention is to provide certain new and useful improvements in washtubs whereby the tub is greatly strengthened and the legs securely held in position on the tub-body to insure a firm standing of the washing-machine on the floor, and at the same time relieving the lower hoop of a portion of the strain incident to the swelling of the bottom of the tub.

FLOUR-SIFTER.-G. W. HANCOCK, Lynchburg. Va. The aim of this inventor is to furnish a manually-operated device adapted to sift flour, meal or other powdered substances faster and with more ease and cleanliness than can be done by the old-style wood or tin rimmed sifters. Means are provided to prevent dirt, bugs, worms, weevils, etc., from being ressed or ground through the meshes of the sieve.

BED-COVER HOLDER.-F. C. BILLINGS, Macon, Mo. This invention relates to clamping devices such as shown in a former patent inches diameter. The Cleveland Distributing Co., granted to Mr. Billings; and the object is to provide a bed-cover holder cheap to manufacture, easily applied and designed for holding the coverings securely in position and to allow convenient opening of the holder for removal of the covering.

Miscellaneous,

DISPLAY-TRAY .-- J. H. SMITH, Brooklyn, N. Y. The present invention refers to store furniture; and its object is to furnish a new and improved display-tray more especially de signed for containing and neatly displaying hosierv and like articles and arranged to hold different sizes of an article of a certain price.

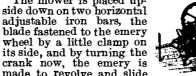
RIFLE-RANGE.-J. DE ST. LEGIER and E. HERBAGE, Hicksville, N. Y. The purpose of this invention is to provide a target-box so constructed that it will be quickly freed from smoke and to so construct the sight tube that the smoke will pass out therefrom almost simultaneously with the explosion, enabling the marksman to plainly read the target immediately after firing. Means are provided to coat, paint or clean the target after each shot, and to illuminate or Carken a bull's-eye.

TRIPOD.-W. F. FOLMER. New York, N. Y. This tripod is especially designed for use with cameras, but it may be employed wherever a tripod is necessary. It is so constructed that

THE IDEAL LAWN MOWER GRINDER. This is an article which is as novel as it

CLIP.-L. STEINBERGER, Brooklyn, N. Y. is useful. It needs no practical specialist. And the sharpening can be done in a frac-

tion of the time formerly required. The mower is placed up-side down on two horizontal adjustable iron bars, the blade fastened to the emery wheel by a little clamp on



made to revolve and slide along the lower shaft from left to right, taking out, in less than a minute per blade, every inaccuracy, making the bevel exactly uniform. The knife bar can be sharpened in the same way. The machine is guaran-teed to do all that is claimed for it as above, and can also be used for grinding chisels, plane bits, etc. Its cost is \$18 and it is manufactured by the Root Bros. Co., Plymouth, Ohio.

Business and Personal Wants.

READ THIS COLUMN CAREFULLY.-You will find inquiries for certain classes of articles numbered in consecutive order. If you manu-facture these goods write us at once and we will send you the name and address of the party desir-ing the information. In every case it is necessend you the name and address of the party desir ing the information. In every case it is neces-sary to give the number of the inquiry. MUNN & CO.

Marine Iron'Works. Chicago. Catalogue free. Inquiry No. 4380.-For contractors to drive con-

AUTOS.-Duryea Power Co., Reading, Pa.

Inquiry No. 4381.—For a small steam turbine for laboratory use. Morgan Emery wheels. Box 517, Stroudsburg, Pa.

Inquiry No. 4352.-For an up-to-date dividing engine. "U. S." Metal Polish. Indianapolis. Samples free

Inquiry No. 4383.—For makers of machinery and factures used in making glass, bottles, etc.

Blowers and exhausters. Exeter Machine Works, Exeter, N. H.

Inquiry No. 4384.—For manufacturers of small brass cannon fired by percussion caps.

Handle & Spoke Mchy. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.

Inquiry No. 4385.—For dealers in novelties, sea shells, beads and rolled plaited wire. Mechanics' Tools and materials. Net price catalogue. Geo. S. Comstock, Mechanicsburg, Pa.

Inquiry No. 4386.-For manufacturers of electric plows.

Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.

Inquiry No. 4387.-For a machine for counting and folding sheets of manila paper.

We make novelties in all kinds of metals. Any quan tities. Metal Stamping Co., Niagara Falls. N. Y.

Inquiry No. 4388.—For manufacturers of fancy wood for inlaying purposes. Let me sell your patent. I have buyers waiting.

Charles A. Scott, Granite Building, Rochester, N. Y. **Jugniry No. 4389.**—For the manufacturers of the Spalding water motor.

Bargain, 300,000 feet seamless steel tubing, 5-16 to 2 Cleveland, O.

Inquiry No. 4390.—For soring motor or cheap notive power for propelling a typesetting machine.

For Machine Tools of every description and for Ex-perimental Work call upon Garvin's, 149 Varick, cor. Spring Streets, N. Y. Jnquiry No. 4391.—For makers of mail order novelties and specialties.

We have a market for all sorts of novelties and use

ful articles. Send circulars and quantity price. Keo-kuk Novelty Co., Keokuk, Ia.

Inquiry No. 4392.—For the makers of the Shortts Duplex High Speed Engine." Crude oil burners for heating and cooking. Simple.

efficient and cheap. Fully guaranteed. C. F. Jenkins .Co., 1103 Harvard Street, Washington. D. C.

Inquiry No. 4393.—For the address of the makers of the Universal Extractors (Messrs. J. G. Lindne & Merz, of Germany). The largest manufacturer in the world of merry-go-

rounds, shooting galleries and hand organs. For prices and terms write to C. W. Parker, Abilene, Kan.

Inquiry No. 4394.—For makers of extracting pparatus for extracting oil from corn. We manufacture anything in metal. Patented arti-

cles, metal stamping, dies, screw mach. work, etc. Metal Novelty Works, 43 Canal Street, Chicago.

Inquiry No. 4395.—For machines for printing and making shipping tags from the roll. The celebrated "Hornsby-Akroyd" Patent Safety Oil

Engine is built by the De La Vergne Refrigerating Machine Company. Foot of East 138th Street, New York. Inquiry No. 4396.—For firms in Chicago. St. Louis. Kansas City or Memphis, dealing in second-hand



HINTS TO CORRESPONDENTS

HINTS TO CORRESPONDENTS. Names and Address must accompany all letters or no attention will be paid thereto. This is for our information and not for publication. References to former articles or answers should give date of paper and page or number of question. Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.

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(9089) M. H. N. asks: If a raceway neasures 2 feet 6 inches deep and 5 feet 8 inches wide, and water flows at the rate of 60 feet per minute, what is the flow per hour, and what is the probable amount of horse power obtainable from a head of 18 feet? A. A flow of water 2 feet 6 inches deep by 5 feet 8 inches wide at the rate of 60 feet per minute, at a head of 18 feet, is, theoretically, equal to 28.9 horse power. About 75 or 80 per cent of this could be utilized commercially by a turbine, if the flow of water and head remain constant.

(9090) J. N. R. says: You will do me quite a favor if you will solve the following problem for me; Supposing we have a vessel with a hole in the bottom into which fits a hollow tube closed at both ends and six inches long. We will say this tube fits the hole so that no water could leak through, yet works with perfect ease. Now say we should put into this vessel four inches of water; what would the result be if the tube weighed onefifth the weight of the water? Would the tube rise, or would it go through, or would it remain stationary? Have submitted this problem to several very "learned" men in this city, but none of them seem to "have time" to work it. They all say they could do it if they just had time. By solving the above for me and explaining why, you will confer a great favor. A. If the hole in the bottom of your vessel is round and smooth, and the hollow tube fits it perfectly and without friction, as you say, the tube will fall through the hole, whether there is water in the vessel or not, and it will take just the same force to hold it up when the vessel is full of water as when it is empty. The reason for this is that water exerts a buoyant effect on bodies which are immersed in it, by causing an upward pressure on the bottom of them. If your tube is so protected by the hole in the bottom of the vessel that the water cannot get underneath, it can have no buoyant effect. If you fill your vessel sufficiently full of water to have the water cover the upper end of the tube, the water will exert a downward pressure on the top of the tube, which should be added to the weight of the tube, in order to get the total force with which it tends to slide through the hole.

INDEX OF INVENTIONS For which Letters Patent of the

United States were Issued for the Week Ending

July 7, 1903,

AND EACH BEARING THAT DATE

See note at end of list about copies of these patents.

ingen Anode mold, tilting, F. A. Thum..... 733,301 733,095

 Coin detector chute, O. Jaeger.
 732,746

 Coke oven operating apparatus, P. B. Hay
 733,036

 Collar pad, horse, J. R. Roach
 732,746

 Collar pad, horse, J. R. Roach
 732,714

 Collar pad, horse, J. R. Roach
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 Collar safety set, C. Cloukey
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 Cotton function boxes, means for equalizing
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 Cotton function boxes, means for equalizing
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 Meyer<

the legs while pivotally connected with the				
head, preferably in a detached manner, can be				
quickly and rapidly spread apart and locked				
to the head, remaining until purposely re-				
leased. The tripod is easily folded or reduced				
in length for storage or transportation.				

SUBCALIBER FIREARM.-G. H. GARRI-SON, Rockford, Ill. The claim of the inventor of this firearm is, that he provides an attachment or auxiliary means adapted to be placed in the breech of standard-gage rifles in order to make the arm available for use in discharg ing cartridges of smaller caliber. An insertible subcaliber device is equipped with means arranged to receive the impact of the centerfire firing-pin of the main rifle and to transmit the force to the rim of a subcaliber cartridge. Means are provided to readily extract exploded shells.

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.

Louis. Kansas City or Memphis, dealing in second-hand boilers, engines, lathes, drill presses and machine shop fittings.

Contract manufacturers of hardware specialties, ma chinery, stampings, dies, tools. etc. Excellent marketing connections. Edmonds-Metzel Mfg. Co., Chicago.

Inquiry No. 4397.-For makers of chemical apparatus for extinguishing fires.

Representatives for Spain.—Hormseches, Elorrisgs & Co., Calle Libertad No. 1. Po. 10., Bilbao, Spain. Offer their services to represent American manufacturers of novelties and new patented inventions. Will handle agencies to entire satisfaction, guaranteeing best service. A 1 references furnished to parties interested.

Inquiry No. 4398.-For parties engaged in making buttons from milk.

Manufacturers of natent articles dies, metal stamp ing, screw machine work, hardware specialties, machine ery and tools. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.

Inquiry No. 4399.-For manufacturers and inventors of vending machines.

Patent 730,717. Permanent fixture. Cleans chimne in two minutes. Simple, no dust, child can operate. Illustrated in SCIENTIFIC AMERICAN July 4. Will sell outright or ferritory. Write for particulars. J. A. Stine, Manistee, Mich.

Atomizer tube polishing machine, C. L.		Dam, R. C. Beardsley	733,123
Turner		Dental jig, W. E. Griswold	
Auger, earth, W. L. Iwan	732,859	Dental securing device, W. E. Griswold	733.320
Autocar brake, A. Govan		Dentists' tapers, composition for, L. C.	
Automobile driving mechanism, E. Thomson		Mandel	733,061
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Ballot box, J. McGaughey		Ditching machine, W. H. Johnston	732,747
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Bank, savings, A. C. Mills, Jr		Door hanger, G. W. Holly	733,041
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