

RECENTLY PATENTED INVENTIONS.

Electrical Devices.

ELECTRIC CLOTH-CUTTER.—J. B. REPLEGUE, Chicago, Ill. This invention has for its more particular object the production of a power-driven cutter operated, preferably, by electricity. When the device is used for cutting comparatively thin layers of cloth only the lower baffle-plate is called into use. When a large number of layers are to be cut simultaneously, the machine is fed directly against the edge of the "stack," the several baffle-plates finding their way between the layers, each consecutive pair of plates preventing undue movement of such layers lying therebetween.

ELECTRIC TELPHER POSTAL SYSTEM.—R. T. PISCICELLI, Corso Umberto I. No. 23, Naples, Italy. The inventor's object is to provide devices, acting for the most part automatically, by means of which correspondence introduced in the posting-boxes in a postal district is rapidly collected and carried to the central office. This collection is effected by means of small vehicles driven by electric motors running over special aerial lines used exclusively for this purpose and made of insulated metallic wires or cables, which act as guides to the vehicles and conductors of the current.

TELEGRAPH - TRANSMITTER. — H. O. PUTT, Millbury, Ohio. As its principal object the improvement provides a device which can be mounted under the frame of an ordinary type-writing machine and operated thereby without in any way altering the machine, and which will accurately transmit the characters of the Morse or any other alphabet automatically and rapidly, and do away with many complications in transmitting characters by telegraph by the operation of a keyboard.

Of Interest to Farmers.

GATE-FASTENER.—J. HOLLOPETER, inventor, and P. R. GILES, assignee, Elsmere, Neb. The fastener is especially adapted for use on gates such as are formed in wire fences and which are not as frequently opened as ordinary gates. It refers to such gates as are formed without frames and which are maintained in position by a horizontal tension in the longitudinal members of the gate. It prevents the actuation of the fastener by cattle.

PLOW ATTACHMENT.—J. SPODEN, Clyde, Wash. This attachment is devised for pressing down or flattening wheat-straw stubble or grass on the furrow-slice as turned by the plow. To this end a ribbed roller is provided which is held rotatably on a swinging arm journaled on the plow-beam, the roller being adapted to work at such angle and in such proximity to the moldboard that it acts on the furrow-slice at its turning-point, so as to break, press down, or flatten the straw, stubble, or grass in such manner that it is buried in the furrow beneath the slice.

Of General Interest.

CORNER - FASTENING. — L. B. PRAHAR, New York, N. Y. The purpose of the invention is to provide means for connecting the members at the corners of a frame and in producing such result forming an opening at the junction of the corner members for the passage of a pin, rivet, or other required article.

COLLAPSIBLE MOLD.—C. W. OVERTURE, Dumont, Iowa. The broad idea characterizing the improvement is a peculiar mold adapted for use in the construction of plastic passages, the same being constructed collapsible, whereby to facilitate its removal when the plastic is sufficiently set. It relates to molds for forming concrete or other plastic composition pipes, culverts, etc.

WELL-RIG.—S. S. STROTMAN, Haynie, Pa. This rig comprises means for bracing a structure in the direction from whence proceeds the driving force for the movable operative parts of the structure, means being also employed for controlling the reel upon and from which is caused to be wound and unwound the line or cable for the bail or other well-tool. The parts of the structure are easy of access, adjustable, and smooth running in operation.

CHARGING APPARATUS.—T. F. WITHERBEE and J. G. WITHERBEE, Port Henry, N. Y. The invention refers to a charging device for blast-furnaces and the like. The requirements of a charging apparatus at present are that it shall be capable of varying the manner of distributing the charge at will and that it shall be adapted to mechanical filling. The principal object is to attain these results. It is an improvement on the former patent issued to Mr. T. F. Witherbee, in 1884.

DAM.—G. E. LADSHAW, Spartanburg, S. C. This improved dam is a unitary structure comprising piers provided with buttresses and connected by arches springing from the piers upon the opposite sides from the buttresses. While the dam may be composed of a plurality of arches supported at their abutting ends by buttressed piers, it may be composed of a single arch with ends directly supported by abutments.

PAD FOR HORSE-COLLARS.—D. S. BROWN, Watertown, N. Y. Pads for use in collars and various similar places have been usually constructed by forming a sort of bag or by securing two sheets of fabric or similar material together at the edges and forcing curled hair

or other cushion material into the same through an opening in the end or side. This results in making wads at certain places, and therefore produces irregularities in the softness of the pads. This invention overcomes these irregularities.

METHOD FOR TREATING ASBESTOS.—A. H. HIPPLE, Omaha, Neb. This is a process for treating asbestos so as to vulcanize the same. It is an improvement on a former patent granted to Mr. Hipple. In this case he takes asbestos fiber, powdered sulphur, and water and works the same into a pulp of the consistency used for making asbestos paper or millboard. The pulp being formed, pressure squeezes out a part of the water, and the mass is next dried. Oil is added and absorbed readily.

POLISHING-MITTEN.—R. E. HILLS and V. E. BREVOORT, Delaware, Ohio. The invention is an improvement in mittens intended and adapted for use in polishing shoes and other articles, the same being provided with two thumbs arranged contiguously so that a mitten may be worn on either hand and either palm serve as the polishing surface.

DIE-STOCK.—H. J. CARMODY, New York, N. Y. This invention relates to die-stocks—such, for instance, as are used in cutting threads upon rods, tubes, pipes, etc. Practical and convenient operating means are provided for threading a pipe located in some comparatively inaccessible position; also for cutting a thread upon a cylindrical bar which is more readily accessible; and also means if at any stage of cutting the device is desired to be operated backward.

TELEPHONE DIRECTORY.—D. F. WHITCOMB, Cleveland, Ohio. Being in place upon the mouthpiece the directory in use is rotated thereon until the desired letter is at the right side. By means of an ear the plate may be partially withdrawn from the frame, thus bringing the subscribers' names under that index letter to view. Since the inner edge of each of the plates conforms to the arc of a definite circle, an outward pull on the ear belonging to that plate will have but slight tendency to move adjacent plates, since there will be more or less friction between the inner edges thereof and the sleeve.

Hardware.

NUT-LOCK.—L. W. LAYE, J. H. PHILLIPS, and J. BEVAN, Havre De Grace, Md. The patentees provide for the locking of the nut by slotting the end of the bolt and also forming a slot in the nut crossing the bore thereof. They pivot a hook latch on the nut at one side which may be swung into the slots of the nut and bolt and engage the side of the nut opposite the pivot.

KEY.—J. H. P. IBBOTT and W. R. YEARWOOD, New Amsterdam, Berbice, British Guiana. The invention relates to keys for locks, and has for its principal objects the provision of such a device which is normally incapable of performing its functions, but which may be readily manipulated or set by one familiar with its operation, so that it may be used in the customary manner.

Household Utilities.

COMBINED CHAIR AND STEP-LADDER.—A. M. WHITELEY and W. H. WHITELEY, New York, N. Y. The chair has a back suspended from which is an outwardly-swinging frame forming a brace for the back in outward position of the frame, the back and the rear supporting-legs constituting the ladder member capable of being tilted or carried. Back and rear legs are rigid with each other, but pivotally applied to the frame of the chair bottom, so that when the swinging frame is carried forwardly of the bottom the ladder member tilts for cooperation of the two. Means secure the swinging frame and ladder member to the bottom of the chair in each position thereof, and when the frame is carried to a vertical position the ladder member moves to corresponding position, the two becoming automatically locked.

COOKING APPARATUS.—W. E. BAXTER, Frankfort, Ky. In the present patent, the invention is an improvement in portable cooking apparatus, especially such as is intended for use in camping out, campaigning, and the like and which can be conveniently and compactly packed in shape for storage and carrying.

Machines and Mechanical Devices.

CHUCK.—L. A. WELLINGTON, Keene, N. H. The chuck comprises a body, jaws having recesses and which are mounted to slide with relation to the body, levers fulcrumed upon the latter and engaging the recesses, a ring movable upon the chuck-body provided with openings, and removable portions fixed in the openings and furnishing inclined faces for contact with the levers.

PITMAN.—A. M. AKIN, Spokane, Wash. The invention relates to pitmen, and especially to those designed for use in connection with agriculture-machines, such as headers and reapers, but may be employed wherever a connecting element of this character is desired. Its principal objects are to provide a device which may be readily adjusted to compensate for wear and effectively lubricated.

FIBER-CLEANING MACHINE.—F. S. MACY, Boston, Mass. This is an improved

machine for treating fibrous plants—such as Manila hemp, ramie, maguey, sisal, and piña—for separating the fibers from the pulpy and gummy portions; and a special object the inventor has in view is the production of a machine distinguished for economy of construction and efficiency in work and operation.

MEANS FOR HARVESTING ICE IN THE FIELD.—F. E. LOSEE, Newton, N. J. An endless traveling cable is employed, together with suitable guides therefor, carried by supports erected at desired places of the field, means being used in connection with the cable by which the blocks of ice may be conveyed from the field directly to the shore. It is practically a conveying apparatus for the blocks of ice, and requires but few operatives in the field.

ANIMAL-RELEASING DEVICE.—W. A. IRWIN, Taunton, Mass. One purpose in this case is to simultaneously release all the animals in a line of stalls and at the same time turn on an individual spray on each to force them to leave the stalls and inclosure, the delivery mechanism for the spray being so arranged that in action the spray will reach the head and shoulders of each one, whether standing or lying down. The device serves to hold the hitching-straps in position for use, but when the water is turned on the straps will be simultaneously released.

PEANUT-STEMMING MACHINE.—P. D. GWALTNEY, Smithfield, Va. The roots or stems adhering to peanuts as dug from the ground require to be removed preliminary to storage, transportation, or preparation for the market, and this is ordinarily done by hand, which is slow, laborious and expensive. This simple machine performs such work effectively, quickly, and cheaply, without injury to the peanuts.

Prime Movers and Their Accessories.

TORSION-INDICATOR.—H. FÖTTINGER, No. 4 Prutz street, Stettin, Prussia, Germany. This improvement refers to an apparatus adapted to determine the rotary movements of power-driven shafts from their torsion in running and transmitting energy, the apparatus being based on the fact that in all qualities of malleable iron or steel the angle or arc of torsion is proportional to the actual rotary moment.

Pertaining to Vehicles.

TIRE-COVER.—W. A. ALLEN, New York, N. Y. One purpose of this inventor is to provide an effective cover for the tires of automobiles and other vehicles using rubber tires, which cover will fit snugly to the tire and conform to all parts thereof, the cover being so constructed that rain, snow, or hail will not beat in, but will be shed therefrom as soon as received.

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.

Business and Personal Wants.

READ THIS COLUMN CAREFULLY.—You will find inquiries for certain classes of articles numbered in consecutive order. If you manufacture these goods write us at once and we will send you the name and address of the party desiring the information. In every case it is necessary to give the number of the inquiry.

MUNN & CO.

- Marine Iron Works. Chicago. Catalogue free.
- Inquiry No. 8313.**—Wanted, second-hand wire-working machinery.
- Forming engines. J. S. Mundy, Newark, N. J.
- Inquiry No. 8314.**—For makers of ornamental iron sign brackets or holders.
- "U. S." Metal Polish. Indianapolis. Samples free.
- Inquiry No. 8315.**—Wanted, armature core punchings of different sizes.
- See our Ad. on back page. Star Expansion Bolt Co.
- Inquiry No. 8316.**—For makers of hot-air and steam furnaces, combined.
- Handle & Spoke Mch. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.
- Inquiry No. 8317.**—For manufacturers of glass tubes about 12 inches long, 1/2 inch outside diameter and 5-16 inch inside diameter.
- Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.
- Inquiry No. 8318.**—For manufacturers of Swan Boats, such as used in parks.
- I sell patents. To buy, or having one to sell, write Chas. A. Scott, 719 Mutual Life Building, Buffalo, N. Y.
- Inquiry No. 8319.**—For manufacturers of or dealers in leather pulp.
- Metal Novelty Works Co., manufacturers of all kinds of light Metal Goods, Dies and Metal Stampings our Specialty. 43-47 S. Canal Street, Chicago.
- Inquiry No. 8320.**—For makers of telescope pipes for use on blowers for ensilage cutters.
- The celebrated "Hornsby-Akroyd" safety oil engine. Koerting gas engine and producer. Ice machines. Built by De La Vergne Mch. Co., Ft. E. 138th St., N. Y. C.
- Inquiry No. 8321.**—Wanted, makers of "Instantaneous" ice cream freezers.
- Manufacturers of patent articles, dies, metal stamping, screw machine work, hardware specialties, machinery tools, and wood fiber products. Quadriga Manufacturing Company, 18 South Canal St., Chicago.
- Inquiry No. 8322.**—Wanted, electric massage or vibration machines.
- Inquiry No. 8323.**—Wanted, parties to make an attachment, in quantities, in the line of hasps and strap hinges.



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. Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same. Special Written Information on matters of personal rather than general interest cannot be expected without remuneration. Scientific American Supplements referred to may be had at the office. Price 10 cents each. Books referred to promptly supplied on receipt of price. Minerals sent for examination should be distinctly marked or labeled.

(10098) W. B. H. writes: I was given a question in a recent examination that the examiner stated was proved in a copy of your magazine; but he could not state the date the example appeared nor prove it himself. The problem read: "Do the amperes or volts increase when the electricity passes through an ordinary spark coil for gas lighting?" I said volts, yet my examiner says the answer is amperes, which I doubt. A. The volts are raised in the action of the ordinary spark coil in gas lighting. This coil has but one winding, no secondary. It is not an induction coil in the usual sense. The spark is produced by the self-induction of the current in the turns of the primary upon itself. This produces a higher E. M. F., which causes a considerable spark. There can be no more amperes in the circuit than the generator can produce.

(10099) J. K. asks: Please inform me why two telegraphic instruments will not work when set up in series. One of the instruments is a 4-ohm, and the other I think is larger. The larger one can be heard from another room, while the small one can hardly be heard at all. A. The smaller of the two instruments does not get current enough to work the magnet. In order to work together, they should have nearly the same resistance.

(10100) E. B. asks: 1. Have you any SUPPLEMENTS containing articles relating to the care and maintenance of the sal ammoniac battery used in telephone work? A. Cooper's "Primary Batteries" gives considerable space to the sal ammoniac battery. Price \$4.00 by mail. 2. Can you recommend a book suitable for one who has to look after the repair of a telephone line? A. Hopkins's "Telephone Lines and Their Properties," price \$1.50 by mail.

(10101) J. S. T. writes: I have been fitted with glasses to correct astigmatism. Without glasses the rays of an ordinary street lamp appear extended perpendicularly; with the glasses they appear longer the opposite way. If glasses were properly ground, should not the rays radiating from light appear of uniform length? A. If your astigmatism were perfectly corrected by the glasses, objects would be seen in their correct outlines.

(10102) W. A. P. asks: 1. Should an amperemeter be placed in the positive or negative terminal of a direct-current 110-volt dynamo? A. The ammeter may be placed at any point whatever in an electric circuit, since the same current flows through every part of a circuit. This is just like the flow of water through a pipe. If you had a pipe 1,000 feet long from a reservoir to your house, the same water and just as much would flow through every foot of the pipe, and a meter might be put into the pipe at any point in its length and the quantity of water flowing through the meter to be measured. 2. How much more would it register in the former than in the latter? A. It would register the same in either side of the circuit. It makes no difference where the ammeter is placed.

(10103) B. A. T. asks: 1. How many pounds of wire are used to wind the armature of the electric motor described in the issues of the SCIENTIFIC AMERICAN for December 8 and 15, 1900? Also the field magnet? A. About a half-pound for the armature and the same for the field. 2. How many watts are necessary to run it at its utmost power? A. We do not know. Somewhere from 12 to 24. Four cells of 2-volt battery, put two on series, should run it. 3. Cannot other journal boxes than the brass balls mentioned be used, such as a block of iron smoothly bored? A. Yes, of course; any kind of bearings can be used.

(10104) A. E. S. says: May I ask you to kindly inform what chemical changes take place during the setting of Portland cement, plaster of Paris, and similar substances. A. Mortar, which is made of slaked lime and sand, when exposed to the air, slowly changes into carbonate of calcium, and the entire mass becomes extremely hard. The water contained in the mortar soon passes off. When limestones that contain magnesium carbonate and aluminium silicate in considerable quantities are heated for the preparation of lime, the product does not act with water as calcium oxide does, and this lime is not adapted to the preparation of ordinary mortar. On the other hand, it gradually becomes solid, in con-