RECENTLY PATENTED INVENTIONS.

Electrical Devices.

APPARATUS FOR LAYING ELECTRIC CONDUCTORS.—S. P. Hatfield, New York, N. Y. The object of the invention is to provide an apparatus for laying and burying electric conductors on land and under water simply and inexpensively to prevent the conductors from being fouled by the anchors of marine vessels and to prevent the conductors from being easily detected or grappled and cut in time of war.

WIRELESS TELEPHONY.—A. F. Collins, New York, N. Y. The invention relates to the art of transmitting and receiving articulate speech between two or more stations without connecting-wires, but employing the earth or other medium as a means of propagation; and it relates more particularly to transmission of impulses into the earth or other medium by means of a direct or alternating current having a higher voltage and greater amperage than it has been found possible to employ heretofore and the reception of these impulses and their amplification and intensifications at the receiving-station.

Of Interest to Farmers.

LAWN-MOWER.—H. P. Terry, Elizabeth, N. J. A supporting frame or yoke is provided for the structure, in which is supported a shaft for the main driving-wheels of the structure and combined with which is a rigid or stationary cutter or knife, together with a reciprocating cutter or knife, special means being employed between the aforesaid shaft and cutter or knife by which the latter is operated in the ordinary propulsion of the machine over a lawn or other surface.

BROOM-CORN-CUTTING MACHINE—C. R. Huckleberry, Paris, Ill. The design in this case is to provide a machine which may be drawn across a field by a team to rapidly cut the broom-corn, and the machine is so constructed and arranged as to even the varying lengths of the cut-off brush ends and trim off the superfluous butt-ends of the stalks of the longer brush ends, so as to bring them all to the same length before being delivered to the binder, which binds them in bundles.

RAKE.—W. W. Irwin, Juneau, Alaska. The invention pertains to rakes, and particularly to those mounted upon wheels for operation by draft-animals. Its principal objects are to provide a strong and simple apparatus in which the teeth may be readily operated to release the accumulated material and in which said teeth may be raised bodily to clear the windrows and not drag down the piles when bunching.

Of General Interest.

SHOW DEVICE.—C. E. Isacke, New York, N. Y. The device is intended to be constructed of paper or cardboard and to be used for advertising and display purposes, the object being to provide a cheap means of representing a box or package of merchandise to be advertised and for furnishing adjacent thereto or as a part thereof a card or surface on which the advertised matter may be produced.

APPARATUS FOR TREATING TEXTILE FABRICS.—O. Obermaier, Lambrecht, Germany. This invention refers to an apparatus for treating textile fabrics, as in dyeing, extraction of grease, bleaching, washing, etc., by means of circulating liquids. It produces not only a pressure, but also a powerful vacuum, in such a manner that during passage of liquid through the receptacle for effecting the treatment the vacuum acts by pulling on one side, while on the other side the pressure acts by pushing upon the liquids.

DRILL.—L. W. Baney, F. E. Baney, and J. Osterholt, Platteville, Wis. With this improvement the turning of the drill to the right causes an outward movement of the debris, the stroke of the drill assisting this movement, each lug moving the debris outward to a sufficient extent that it may be engaged by the succeeding lug on the next stroke. In its broadest sense the invention comprises a drill-shank having a series of projecting lugs spirally arranged on the shank.

STAYING DEVICE FOR SLIDING DOORS.—F. Dahlund, Esmond, N. D. The object of the improvement is to provide a device more especially designed for use on heavy sliding-doors, freight-car doors, and the like—and arranged to insure an easy sliding of the door, to prevent rubbing of the door on the wall or door-casing, and to prevent snow or ice from locking or holding the door against movement.

SHOT-FEED FOR DRILLS.—K. Brooks, New York, N. Y. Automatically feeding shot or grinding material to drills and similar tools is accomplished by this simple and economic device, and it is particularly adapted for feeding shot to rotary drills employed in boring wells. It is automatic in its action and means for regulating the quantity of material delivered by the device, the feed being constant while the invention is in operation.

CORNET.—Z. A. Meredith, Tahlequah, Ind. Ter. This invention is an improvement in cornets and similar valved instruments, and has for an object to provide construction and arrangement of the tubing and air-passages whereby to avoid short bends or angles; also, to dispense with the usual second slide and introduce in lieu thereof a second bell through which the tone is emitted in all instances when the second valve is depressed.

Machines and Mechanical Devices.

ROTARY CUTTING DEVICE.—T. B. Williams, Orange, Mass. The invention has reference more especially to hand-operated devices—such, for instance, as ordinarily employed for dressing or resurfacing the seats of valves, faucets, and the like. The principal object is to provide an extensible bearing-support for a rotatable spindle, located exteriorly to the structure and capable of being lengthened or shortened in proportion to the different longitudinal adjustments of the spindle found necessary to be made under varying conditions of use of the structure

MOLDING-MACHINE.—C. Reed, Portland, Ind. This inventor provides efficient and rapid adjustment of the machine's working parts; provides for pressing the molding materials from two opposite directions, so as to make the article solid and material completely fill corners and spaces around the cores; provides an entirely automatic arrangement, so that neither product nor any part of the machine will have to be lifted before molded article is completed; provides for delivery of article to a truck by which it can be taken away from the machine, and provides for making all kinds of articles movable by machinery and especially all kinds of building-blocks.

PIANO-ACTION.—F. B. Long, Los Angeles, Cal. The object of the invention is to provide such new and useful improvements in piano-actions whereby the flanges for the hammers, dampers, or other parts of the action are not liable to become loose and rattle on playing the instrument or by reason of the climatic changes.

PULLING-MACHINE FOR STEAMBOATS, ETC.—F. W. Hayes and C. A. Billings, Wendling, Cal. The invention is an attachment for steamboats and other water-craft for use as an aid or accessory for propelling them up swift streams or rapids, where the usual means of propulsion are insufficient. The invention is also adapted for use as the sole means of propulsion of boats or scows in canals or sluggish and shallow streams.

STAMP-AFFIXING DEVICE.—M. R. Burrowes, Sarnia, Canada. The object in this invention is to produce a device which will operate to moisten the parts and apply the stamp with great rapidity and in a certain sense automatically. It comprises a magazine in which stamps or labels are contained and beneath which the envelop or other article may be thrust. As the envelop passes beneath the stamp-magazine it is moistened automatically by the moistening device, and the mechanism is then operated to affix a stamp in required position.

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. 7994.—Wanted, mantled alcohol lamps for lighting

"U. S." Metal Polish. Indianapolis. Samples free.

Inquiry No. 7995.—Wanted, the name and address of the maker of "Gardner's Army and Navy Liniment."

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

Inquiry No. 7996.—Wanted, the name and adress of the manufacturer of the glass tombstone or monument.

Manufacturers' Agent is open for a few good lines. Highest references. E. H. Peace, Vancouver, B. C.

Inquiry No. 7997.—Wanted, galvanized tanks to stand 125 pounds test, cold water, with manhole on side 11 x 7 inches; oval, 25 inches long, by 16 inches.

I sell patents. To buy, or having one to sell, write Chas. A. Scott, 719 Mutual Life Building, Buffalo, N. Y.

Inquiry No. 7998.—Wanted, electrical novelties run by dry batteries, such as electric railway locomotives, dynamos, motors and tops.

Fine Lithographed Letter Heads, Bill Heads, Envelopes and Checks, gives standing. Stilwell, 709 Pine St. St. Louis.

Inquiry No. 7999.—Wanted, makers of malleable iron thumb screws, with ball and cap ends.

The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Machine Company. Foot of East 138th Street, New York.

Inquiry No. 8000.—Wanted, apparatus for removing the overburden or covering when from 5 to 35 feet in thickness, overlaying a mineral deposit.

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. 8001.—Wanted, makers of balloons, kites, aerial toys, machines and aerial novelties of utility.

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. 8002.—Wanted, the makers of the Butchet motor.

Inquiry No. 8003.—Wanted, manufacturers of water stills and compressed air apparatus for aerating water.

Inquiry No. 8004.—Wanted, makers of automatic cam cutting machines for cutting large cams up to 20 inches in diameter.

Inquiry No. 8005.—Wanted, manufacturers of pillow ventilators.

The Development of House Painting.

The art of painting for decorative purposes is as old as civilization. In the fragments of Babylonian, Assyrian, and Egyptian literature that have come down to us there are frequent allusions to this form of decorative art, and the writings of Theophrastus, Pliny, Vitruvius, and others contain many interesting details regarding the nature of the colors so employed. In the ancient Egyptian monuments we still find the remnants of decorative coloring, especially on mummy cases which have been preserved from the air. There are remnants of flat color on the friezes of the Pantheon, etc.; buried statues from the antique world show traces of tinting, and the walls of the exhumed buildings at Pompeii are notably rich in wall paintings.

These colors have been examined by several chemists, notably Sir Humphry Davy, and the results lead to the conclusion that the pigments at the command of the ancient artists and artisans were chiefly natural products, such as gypsum, chalk, bitumen, ochers, siennas, iron oxides, carbon blacks, manganese oxide, lead oxides, arsenic and mercury sulphides, the copper carbonates and silicates, etc., with a few simple animal and vegetable dye colors.

It is remarkable that while both Pliny and Vitruvius describe the production and use of white lead, no trace of such use has been found in these analyses, though red lead (which occurs as a natural color) has been encountered frequently.

During the first sixteen or seventeen centuries of the Christian era also the use of paint was predominantly for decorative and artistic purposes, and the development of the technical side of paint and color making up to the eighteenth century was largely along these lines. Part of the stock in trade of the great painters, even down to the days of Sir Joshua Reynolds, Vandyck, Rubens, Velasquez, and the rest was their secret formulas and processes for preparing colors, oils, and varnishes.

The reason for the slow emergence of the idea that paint could be used for protective as well as for decorative purposes is not far to seek: Mediæval, Renaissance, and in England, even, Georgian architecture was the art of designing and construction in stone or its equivalent, bricks and mortar. In early times every man's house was literally his castle—his stronghold—and he whose position in life would not maintain a defensible stronghold was not a man but a villain, subject to the commands and dependent for protection upon his more fortunate lord.

The houses of the better classes were therefore stone fortresses; those of the lower classes, flimsy hovels, huts, or cabins. The castle needed no paint; the peasant's shelter was not worth it.

With the rise of the common people into the stature and privileges of human beings, however, wood became gradually a recognized building material, the preservation as well as the decoration of the wooden house became important, and the demand rapidly stimulated the development of paint, making it a commercial industry.

The earlier industrial paint makers naturally looked to the artists for their knowledge of paint; consequently we find the original house paints to be merely adaptations of artists' colors, gradually modified to permit of production on a commercial scale. Thus, the early process for producing white lead, for example—the old Dutch process—was merely an expansion of the artists' method of making "flake-white," a trench in the earth, charged with manure, being substituted for the hole in the artist's back yard. So, also, the older paint chemists—Scheele, Diesbach, Chaptal, Davy, Girardin, Vauquelin, and others—concerned themselves largely with investigation of the pigments then in use and the simplification of the methods and materials used in producing them. This fact can be verified by a glance at the pages of a comprehensive book published less than fifty years ago—the celebrated "Practical Treatise on the Manufacture of Colors for Painting" by the French authorities, Riffault, Vergnand, and Toussaint. Large space is given therein to the production of Prussian blue from animal offal, of lakes from vegetable dyes, of Turner's yellow, orpiment yellow, and uranium yellow, of quicksilver vermilion, of the arsenical and copper greens, etc. The chromate yellows and greens were then comparatively new pigments, as was French process zinc; much space is devoted to weird processes for making white lead, which have long passed out of memory; the coal-tar pigments and lakes were still far in the future; there was no American process zinc, no sublimed lead, no "zinc-lead," no "quick-process lead." And this book was the latest word on the subject by the leading European authorities at about the close of our civil war.

It is not overstating the facts to say that the introduction of ready-prepared paint making as a separate industry marked the first real impetus in the technical study of paints and the popularization of paint-using for protective as well as for decorative purposes. It began in this country about 1860, and has since developed so rapidly that a competent authority has estimated the consumption in 1900 at 60,000,000 gallons. A natural sequence of the American tendency to simplify, to systematize and to economize time and labor, it placed protective and decorative paints within the reach of all and made this country pre-eminently the paint-using country of the world.

There are now in this country something like two hundred and fifty paint-manufacturing concerns, properly so called, ranging in size from a small plant with an output of a few thousand gallons per year to single concerns operating a dozen or more plants, with their annual output running into the millions.

The demands of these factories have stimulated the production and diversification of pigments, until the list is almost endless; and the study of the paint chemists employed by them has thrown a flood of light upon the properties of paints undreamed of by the older color chemists. The result has been a rapid diversification and specialization of products, until at the present time we can obtain from any paint factory, ready for use, a paint for almost any purpose; exterior and interior tints and colors, floor paints, roof paints, barn paints, porch paints, carriage and wagon paints, enamel paints, car paints, locomotive paints, bridge paints, etc., in limitless variety.

Every manufacturer is constantly pushed by each of his competitors to produce something better and cheaper, and the result is that to-day's formula is displaced by to-morrow's discovery. In the pigments used there is much diversity and constant improvement; but after temporary experiments along other lines the entire trade has apparently come to an agreement that for the present, at least, there is no satisfactory substitute for pure linseed oil; consequently, he who examines these paints of the better grades will find, outside of the volatile thinners and the liquid "dryers" used, practically the entire liquid contents to be simply linseed oil.

Columns could be devoted to this unique vegetable oil; but it is enough to say that the United States annually consumes about 20,000,000 bushels of flaxseed in producing it, and that nothing has yet been discovered that so satisfactorily fulfills the requirements of house painting.

A great deal has been said and written against prepared paints—chiefly in the interests of painters, who cling to their ancient tradition and perquisites of hand mixing, or by those who cater to this trade; but the incontrovertible fact remains that the consumption of these products after a half century's experience is increasing steadily. This fact alone is sufficient answer to all objectors; nothing