#### Scientific American

the same power. The court was willing to remit the case back to the Exchequer Court, in order to give the patentee an opportunity to show that he had commenced the manufacture of the invention in Canada before the expiration of the first extension, although his counsel had failed to plead it in the lower court, and in the application for the second extension it was admitted that the patentee would be unable to commence the manufacture before the expiration of the first extension. It was held that when suing for infringement it was necessary for the patentee to show that he had commenced the manufacture in Canada within two years of the grant of the patent or before the expiration of a single extension of manufacturing time. In no case is the Commissioner empowered to grant the extension of manufacturing time for more than two years, and the manufacture should therefore be commenced within four years of the grant of the Canadian patent, under the most favorable circumstances. In several early cases it was held that as the declaring of a patent invalid because of nonmanufacture was in the nature of a penalty, it should not be done except when the Canadian public had suffered because of the failure to commence the manufacture in Canada.

The present case holds that under the old law, which was in force when these cases were decided, the Commissioner had final say as to whether this section of the patent law was observed and the courts did not have jurisdiction to overrule the liberal decisions of the Commissioner. Under the law now in force, the question can be reviewed by the higher courts in Canada, and, as has been stated, they require a strict compliance with the statute.

From the above it will be seen that all owners of Canadian patents should use the greatest possible care in future in working their patents in Canada within two years, or in case extension is procured, this extension should be procured for a period of two years instead of one year, as has been hitherto the practice. Those who have already obtained extension of working time in Canada should make special note of the fact that it will be impossible for them to procure a second extension.

#### Brief Notes Concerning Patents.

George Craig, an aged inventor of Lyons, Mich., has invented a scheme by which he says that watchmen in banks and other similar institutions will be entirely dispensed with. His invention consists of a secret chemical compound stored in the door of the vault, which being feloniously opened allows an overpowering stench to fill the room, overcomes the intruder and renders him unconscious, in which condition he remains until he is discovered.

A collapsible lifeboat invented by Valdemar Engelhardt was recently tested by order of the Navy. War. and Treasury departments. The boat is 20 feet long and 6 feet wide. It has collapsible gunwales 21/2 feet high. It is claimed for it that it can be easily handled and stowed away. The sides are composed of canvas braced by stanchions. Around the gunwales is woven a fabric of waterproof material lighter than cork. The inventor claims that his boat is unsinkable.

During the recent shortage of coal the Standard Oil Company decided to make some experiments with the use of oil as fuel. The tests were made at the works at Greenpoint and Hunter's Point, near New York, and the result was so satisfactory that it is extremely probable that the oil burners will be adopted permanently and extended to the company's other works. The device used was the invention of Henry M. Pratt, one of the millionaire directors of the company, who has worked in every capacity in many of the different yards of the company, in order to familiarize himself with the details of the work done at the different plants.

Among the recent pamphlets issued from the Census Office is one entitled "Patent Growth of the Inventive Arts, 1870-1900," which contains a great deal of interesting information about the patent system of this country. It states that the Bell telephone patent was the one which made the greatest amount of money, and the next best record was that of the four-motion feed for sewing machines. The latter is said to have netted its owners \$32,000,000. The patent was first issued in 1850 for the term of fourteen years, and was twice renewed for terms of seven years. 
The authorship of the American patent system is discussed and the credit is allowed to rest between James Madison and William Pinckney. Both offered orders which were allowed to go to the committee, and a clause finally reported and adopted which embodied the ideas of both gentlemen.

An automobile in which there is a total absence of belts, chains, or gearings has been designed by two New Yorkers, C. J. Dorticus and E. W. Schneider. The only noticeable feature of the vehicle is the construction of the wheels, each one of which contains an electric motor in the hub. The current is supplied from a dynamo hidden in the seat of the carriage and driven by an oil engine. One of the advantages of this sys-

tem is said to be that there is almost no occasion for a vehicle becoming stranded on the road. Even if three of the motors should become disabled, which is almost out of the question, except in case of a smashup, the one remaining motor is sufficient to bring the carriage home. The vehicle is steered by shutting off the current to the wheels on one side while it is applied to those of the other.

The Donvig life-saving globe, recently mentioned in the Scientific American, was tested on November 19 in the English Channel, while a stiff easterly gale was blowing. It is stated that the Norwegian inventor's device behaved well. The globe, without its crew, was first towed out to sea between Dover and South Foreland. A strong wind raised terrific seas, but the globe rode over the waves like cork. Capt. Donvig and three men boarded the globe after it had been towed into quieter water. The globe was then taken out to sea, where the force of the wind and seas was given full play. The globe and its occupants was cast off, but showed no inclination to roll over. After tossing about for 10 or 15 minutes, Donvig and one of the sailors emerged from a manhole, and, lashing themselves on the outside of the globe, set a small sail, which they pulled through the manhole after them. The air funnel on the globe was used as a mast. By means of this diminutive sail Capt. Donvig managed to steer the globe in a fairly straight course for several miles back to Dover Harbor.

The lifeboat invented by Mr. J. Mitchell of Manitoba, was recently launched at Dartmouth, N. S., and tested by Capt. Bloomfield Douglas, R. N. R. The boat, which is cigar-shaped was launched from a wharf 14 feet above the level of the water. After showing the easy manner in which the boat could be rowed, the crew made a test for the purpose of proving that the boat was self-righting. With the efforts of a number of men pulling on ropes, attached to both ends, the boat was overturned. Almost instantly, it recovered its proper position. The lifeboat is capable of seating 25 persons comfortably, but can hold more. Since the boat is entirely closed, its occupants cannot perish from exposure. The boat need not be launched from a sinking ship; for it is provided with a suspending rope which runs through its entire length on the interior, through holes at both ends of the boat, and which is attached to the davits. When all the passengers have been received on board the little craft, the rope is cut from the inside, so that the boat drops and is free. A full description has been published in the Scientific American.

# RECENTLY PATENTED INVENTIONS.

### Agricultural Implements.

CORN HARVESTER AND SHOCKER.-L. L. FREEMAN, KEHETEHEL, Minn. An economic construction of harvesting implement is provided by this invention, which is adapted to remove the ears of corn from the standing stalks and convey them to automaticallyoperating husking devices. The husked corn is then conveyed to an elevator which dis- Mich. The cultivator is especially adapted ears into a wagon or other vehicle traveling with the implement.

BAND-CUTTER AND FEEDER.--H. J. FOURTNER, Hazleton, Iowa. This invention positing the beet seed. In this manner the provides an improved band-cutter and feeder, arranged to properly cut the bands of the sheaves, to spread the same after the band cultivator blades or hoes are automatically Is cut, and to feed the grain to the drum of guided at the proper time around the beets, the threshing machine in quantities corresponding to the capacity of the drum, thus preventing over-feeding and consequent bad threshing of the grain.

adapted for compressing corn-shocks at any that it may be economically and readily ap-mechanism for raising or lowering this boom.

QUARRIE, Oak Lake, and T. M. Morgan, J. S. entire apparatus can be readily transported. Canada. Among other things this invention has for its object the provision of a cover adapted to be placed over a stack in such manner as to hinder rain or snow from injuring the material forming the stack and also to pitch the sheaves of grain as high as in ordlnary stacks. The cover is so arranged that the wind cannot enter and blow it off.

used in connection with any separator. The movement. straw will be carried from the hopper to the stacker without injury to the straw, and the action of the racking mechanism will not be effected by any lumps of straw upon which it

cient. Heretofore in devices of this char- periodic or continuous lubrication,

acter the seed condult has been usually located on the convex side of a concavo-convex disk and made in one piece. In the present invention the seed conduit is made in two sections, the upper one being located on the concave side of the disk, and the lower section on the convex side, the two sections communicating through a hollow hub carrying the disk.

CULTIVATOR .- I. L. LEE, Farmington, for the cultivation of beets and is operated by a check wire—the same, for example, which was employed to operate the device dethe beets, is dug up or cultivated and the thus preventing them from touching or in any manner injuring the plants.

HAY-STACKER .-- C. W. NICKELL, Jamesport, Mo. An improved hay-stacker of simple DEVICE FOR COMPRESSING CORN- and durable construction is provided in this SHOCKS.-R. W., R. R. and B. E. Joslin, invention. The implement is so designed that Manchester, Iowa. This device is especially the load can be easily raised and lowered without the necessity of backing up the draft point in the height of the shock, and will hold animal used. The apparatus comprises es-the shock under compression until it can be sentially three parts, to wit, a support or The construction of the device is such mast, a fork-carrying boom, and a power plied and can be operated by one individual. These parts are so designed that they can ADJUSTABLE STACK-PROTECTOR .- A. | be detached one from the other, so that the

### Engineering Improvements.

ROTARY ENGINE .- S. E. CAROTHERS, Conroe, Texas. In the present invention the rotary piston is operated concentrically with effect the saving of labor to the fearmer in that the latter will not be required to lift or which bear against the inner surface of the cylinder. Sliding abutments serve to divide the space between the cylinder and the piston body into chambers which are at the same STRAW-STACKER.-C. H. BRUNGER, Gene- time properly connected with the steam inlet seo. III. The construction of this straw and the exhaust. The abutments are with-stacker is such that it is capable of being drawn to clear the piston blades by a cam

LUBRICANT ATOMIZER.-C. C. BALDWIN, Momence. III. Means are provided in this invention for lubricating the valves and interiors of steam engine cylinders, pump cylin- in ventilating cowls for use on buildings s required to act.

ders, or like portions of other motors using and other places. The device is so arranged live steam, alr. gas, etc., as a motive agent, that the entrance of wind, from whatever di-J. M. COUGHLIN. Liberty, Ind. This inventor is adapted to reliably rection it may blow, is effectually excluded, simple, compact, and cheap machine, which is tion has for its object to provide a grain-distribute oil in an atomized condition to the so that the outside air will not have any especially adapted to the work of cleaning out drill which will be simple, compact and effi- interior parts of the steam motor requiring effect on the draft through the tubular venti-

### Hardware.

SPIRIT-LEVEL .-- L. DESMARAIS, New York, N. Y. In this spirit level the spirit tube is City, Ohio. Mr. Conkle's invention is an imadjustable and easily removed. disposed concentrically to each other, one of form the roll in sections, each section being these sleeves being provided with a spirit capable of an independent yielding movement tube, and means controllable at will for ro- so the different sections may adjust themselv tating one of these sleeves independently of to the varying thickness of the material fed to the other.

CURTAIN-FIXTURE.—C. B. LAKIN, Washington, D. C. The object of the present in- Idaho. This invention relates to machines vention is to provide a novel construction for shoveling and conveying earth, rock and by which a curtain may be raised and lowered, like substances. The shovel travels along a ground between the beets, and quite close to as usual, may be secured with its roller at boom which may be swung to any desired posithe top of the window, or at any lower point, tion and conveys the earth to an endless conand can be readlly operated from one post-veyer. The endless conveyer carries material tion to the other in such manner as to admit up an incline and dumps it from the high end light from the upper or lower portion of the of the conveyer into any suitable receptacle. vindow, or from both upper and lower por-

> vided by this invention. The jaws of this wire from being kinked or nicked.

## Heating, Ventilating and Plumbing,

OIL-BURNER.-W. S. JENKINS, Cleburne, Texas. Mr. Jenkins' invention relates to improvements in oil burners particularly for use with steam boilers. The construction of the burner is such that a very high degree of heat may be produced with a comparatively small amount of hydrocarbon oil, and in which very little steam is required for vaporizing the oii

OIL-BURNER.-C. W. SIEVERT, Los Angeles, Cal. An improved device for burning oils has been invented by Mt. Sievert. The device is adapted more particularly for burning the heavy oils, such as crude petroleum, operation, is more especially designed for light and it comprises certain novel features of work, such as hammering plowshares, plow construction by which the oil is effectively gasified and mixed with alr so as to produce thorough combustion.

VENTILATOR .- G. G. BRITTON. Anniston, Ala. The invention relates to improvements lator stem.

### Mechanical Devices.

YIELDING ROLL.—B. F. CONKLE, Junction The spirit provement in yielding rolls for use on planing level comprises a pair of revoluble sleeves machines and the like, wherein it is desired to the machine.

STEAM-SHOVEL. - F. FRANZ, Wallace,

BOOKBINDING-MACHINE.—W. E. BLAU-VELT. Brooklyn. N. Y. This machine is de-WIRE-STRETCHER.—B. Myers, Groveport, signed to affix the crash, the head bandings and Ohio. A tool which can be conveniently ap- the paper lining to books preparatory to the plied and operated for stretching wire is profinal binding. The machine in addition to the mechanism for performing the above mentioned wire stretcher are so arranged as to grasp functions in the sequence named, has a novel the wire simultaneously the entire length with; and simple device for folding the head bandequal pressure throughout, thus preventing the ings, inserting the cord and cutting the materlal in proper lengths from a roll. After affixing the head bandings the book is transferred by the machine to the device for applying the paper lining, the paper being first drawn through an adhesive and cut to the required length. While the machine is in constant operation, each applying device is performing its particular function on a book and therefore the work is rapidly done. Each applying device comprises two platens which operate on the material with a lateral rubbing and smoothing motion, thus insuring a smooth and well finished product.

> POWER-HAMMER.-H. FELDUS, Hallam, Neb. This power-hammer, which is of a very simple construction and is very effective in work, such as hammering plowshares, plow points and other articles. The arrangement is such as to enable the operator to control the hammer for the latter to strike guick. sharp blows, or slow, light blows, according to the nature of work under treatment.

> DITCHING-MACHINE.—CLEMENTING CHAP-MAN. Dolores, Colo. Among the improvements provided by this invention is the provision of a store them to a good condition for service.

is made for the elevation and discharge of the soil at the sides of the ditch and to open the way for the penetration of the share at the bottom of the ditch.

#### Medical Devices.

APPLICATOR .- W. C. Holt, Oakley, Kan. This applicator is adapted for the application of medicaments to the vagina, cervix, and other uterine organs, the rectum, and also to other internal parts of the human body. The invention provides a device which can be readily cleaned and by means of which a tampon may be quickly and neatly applied by the person receiving treatment. The device also serves to render positive the application of medicines without loss before a full entrance has been effected.

#### Railway Improvements.

CAR-TRUCK .- R. E. Powers, Johnstown, Pa. Mr. Powers' invention is an improvement in truck frames for railroad cars. The side frames for the trucks are cut from an Ibeam and reinforced by binder strips of angle metal. The frame can thus be strongly and at the same time very cheaply made.

#### Vehicles and Their Accessories.

SPEED-VEHICLE .- F. S. STODDARD and F. E. WHITNEY, Syracuse, N. Y. The present invention relates to a vehicle of the type suitable for driving at high speeds. The shafts are fastened to a point lower than the bottom of the vehicle and yet higher than the spindles of the front axles, this point having been found to be most advantageous. If the draw-irons be placed at a point higher than this, the animal will, to some extent, be pulling the vehicle toward the earth, and if placed lower than this, he will be lifting the vehicle somewhat. The fifth wheel is practically as wide as the vehicle body in this construction, thus greatly strengthening the vehicle and at the same time preventing undue rocking movement or an excess of lost motion when the vehicle is strained into different positions.

DRIVING MECHANISM FOR VEHICLES. L. G. NILSON, New York, N. Y. It is a common practice to place the driving gearing for electric automobiles, such as chains or spur gears, directly on the spokes or very close to the drive wheels. The disadvantage of this is that such gearings catch considerable sand or grit which may fall from the wheels, causing the gearing to wear out quickly, and it is practically impossible to encase the gearing. The present invention overcomes the above-mentioned difficulties by so arranging the parts that the driving mechanism is placed between the body-supporting springs and remote from the wheels, where it can be completely encased.

### Miscellaneous Inventions.

FOOT-SHIELD .- W. E. BOSWORTH, Frankfort, Ky. When pulling on a shoe the under part of the stocking engages the insole of the shoe and produces a pulling effect on the ends of the toes which tends to draw and turn under the toes into a cramped and unnatural position. This causes much discomfort and results in the probable formation of corns. To obviate such cramping, Mr. Bosworth has invented an attachment which may be placed over the end of the foot to pre vent all such frictional contact.

DIE FOR COVERING TUBES .- P. H. FRIEL, Kenosha, Wis. The present invention is an improvement upon a former invention patented by Mr. Friel. It consists of a die of such construction as forms the double lock-joint with flush parallel edges, which makes a stronger and more nearly invisible joint than the single lock-joint heretofore used on the die as already patented.

SAD-IRON HOLDER .- K. BARNICKOL, Rome, N. Y. The object of this invention is to provide a holder for heated sad irons which is connectable with an ordinary ironing board, and when in place is adapted to receive a hot sad iron and hold it reliably against lateral displacement.

FASTENER FOR GARMENTS, ETC.—J. L. DINKELSPIEL, New York, N. Y. This invention relates to a device for fastening together the parts of a garment or other structure of cloth, leather or other material. The presthe construction forming the subject-matter of

CISTERN-FILTER .- J. W. CRAINE, Winfield. Kans. Mr. Crane's invention relates to a cistern filter which will purify water as rapidly as the same is removed from the cistern. Provision is made for removing undue pressure from the water upon the interior of the filter and also for permitting the ready entrance and egress of air to and from the filter.

HOSE-COUPLING.-II. T. CRONK, New York, N. Y. Mr. Cronk provides in the present invention an improved hose coupling which relates to a previous invention patented by Mr. Cronk. The ends of the hose are turned back forming a flange, and coupling sections engage these flanges and are held together by

GARMENT-RACK .-- C. DOUBLAT. New York, for use in hotels and other places where & the invention and date of this paper.

Means are provided for cutting roots and the number of garments are to be taken care of, sod at the sides of the ditch, and provision The construction of the rack is such that the wraps and umbrellas and canes of the various guests can be quickly and accurately arranged, classified and returned in good condition to their owners without the liability of mistakes.

> COOLING APPARATUS .- J. E. HAARMANN Omaha, Neb. An apparatus for cooling fluids particularly liquid or semi-liquid substances is provided in this invention. It is especially adapted for use in distilleries, starch and sugar factories, breweries, glucose works, and other manufactories where material is cooked or boiled.

FOLDING CHAIR .- S. R. ROGERS, Mount Airy, Ga. This invention relates to improvements in folding chairs, the object being to provide a chair that may be readily adjusted to any desired position, or folded in compact form so that it may be easily carried or transported from place to place.

BROILER.-R. P. SMITH, New York, N. Y. This improved broiler is especially intended for buffet and other use where the space is limited. Such, for instance, as in the buffet kitchens of parlor cars, apartment houses, or pri vate residences, yachts and the like.

CONVERTIBLE ARTICLE OF FURNI-TURE.—W. M. BOAZMAN, Greenville, S. C. This improved article of convertible furniture may serve as a stationary bed or lounge, also as a rocking lounge, cradle, or chair, a roiling chair, or reclining chair. The changes or adjustment of parts required to adapt it for any one of these articles is effected by a very simple manipulation.

FOLDING LADDER .- H. LABRANCHE and F. THIROT, 114 Avenue de Suffren, Paris, France. The present invention relates to an improved folding ladder of the kind which comprises rigid sides connected together by means of steps, the ends of which are pivoted or jointed to these sides, so that the latter can be brought together, the one against the other, when the ladder is not in use.

particularly intended for use on show-cases on the outside of stores, where they are exposed to the weather and to the view of the passing public. In show-cases of this class it is desirable to provide a lock-hasp which cannot be pried or broken open by thieves, and which at the same time is capable of preventing rain or dust from entering the crevice at the point of application of the hasp. Such a device is provided in the present invention.

TILING FOR FLOORS, WALLS, CEIL-INGS, FIREPLACES, ETC .- F. ALCAN, New York. The object of the invention is to provide an improved tiling arranged to permit of setting the tile blocks in such a manner as to form color patterns, greatly resembling those of oriental rugs, and hence greatly enhancing the artistic merit of the structure on which the improvement is used.

CIGAR HOLDER AND ASH RECEIVER .-J. C. D. Ross, Chicago, III. Mr. Ross's invention relates to improvements in combined cigar holders and ash receivers. It provides a simple and cheap article adapted to hold a cigar in position for the ashes to drop into a receiver, thus preventing the ashes from dropping on and soiling the clothing of the smoker. The holder may be adjusted as the cigar burns away to bring the receiver into proper position for catching the ashes.

BOX-COVER SUPPORT.—S. B. Enid, Okla. Ty. A device for holding the cover or lid of cigar boxes in open position to display the contents of the box to purchasers is provided by Mr. Evans' invention. The device may be cheaply manufactured and easily applied to securely hold the box cover in the desired rearwardly inclined open position. may also be readily removed from an empty box and reused on a new one.

HEAD-GATE. - H. W. ELDER. Dawkins. Colo. This improved head-gate is adapted for use in irrigating ditches and the like, and is arranged to form a portable dam in the ditch to control the water flowing through the ditch upon the land to be irrigated without danger of the water leaking past the gate at the sides. The arrangement also is such as to prevent the bottom of the ditch from unduly washing out at the unstroom side of the

PHOTOGRAPHIC CAMERA.-W. F. FOL-MER, New York, N. Y. The invention relates ent invention provides certain improvements in particularly to reflex cameras, and it provides for automatically setting the shutter while patent previously granted to Carrie P. Parker. depressing the mirror and making the exposure automatically when the mirror is released. Means are provided for automatically opening the diaphragm to a full aperture when setting the mirror and permitting the operator to diaphragm the lens to whatever stop may be de-

### Designs.

POKER-CHIP .- S. A. COHEN, New York, N. The design consists of a representation of a shield bearing on its face the representa-tion of a raging lion in horizontal position and surmounted by a crown having a cross and flanked on both sides by leafy branches, the whole being surrounded by a circle.

Note.-Copies of any of these patents will be furnished by Munn & Co. for ten cents each. N. Y. This garment rack is especially adapted Please state the name of the patentee, title of

## 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 facture toese goods write us at once any we was 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. 3659.—For a machine for cutting light leather into narrow strips about 14 Inch wide. "U. S." Metal Polish. Indianapolis. Samples free.

Inquiry No. 3660.-For makers of tool steel balls Coin-operated machines. Willard, 284 Clarkson St.

Inquiry No. 3661.—For 1892, 1898, 1894 or 1895 make of drop frame ladies' bicycles, weight 35 or 40 pounds. Dies, stampings, specialties, L. B. Baker Mfg. Co.

Inquiry No. 3662.—For machinery for making starch from rice.

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

Inquiry No. 3663.-For manufacturers of mop-wringers.

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

Inquiry No. 3664.—For makers of model castings for steam and electrical machinery.

Want metal novelties of any kind, any quantity Write Metal Stamping Co., Niagara Falls, N. Y.

Inquiry No. 3665.—For dealers in advertising novelties.

Patented articles, principally of cast iron, made and introduced. Atlantic Foundry, Philipsburg, N. J.

Inquiry No. 3666.—For makers of ice and cream

Let me sell your patent. I have buyers waiting Charles A. Scott, Granite Building, Rochester, N. Y.

Inquiry No. 3667.—For manufacturers of fringing machinery.

Special and Automatic Machines built to drawings or contract. The Garvin Machine Co., 149 Varick, cor. Spring Streets., N. Y.

luquiry No. 3668.-For manufacturers of caps. Manufacturers of patent articles, dies. stamping tools, light machinery. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.

Inquiry No. 3669.—For firms who install factories or the production of artificial manures from bodies of for the produc dead animals.

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. 3670.—For makers of electric clock alarm bells for colleges and schools.

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. 3671.—For dealers in small novel

We manufacture anything in metal. Patented arti cles, metal stamping, dies, screw mach. work, etc Metal Novelty Works, 43 Canal Street, Chicago.

Patent No. 634,279, horse ties, for sale outright or on royalty.

J. T. Horris, 299 Lexington Ave., New York.

Inquiry No. 3672.—For parties to make small, magnetic electrodes. 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. 3673.—For the address of parties who make cardboard 3-16 inch thick and one side

Africa advertiser open to represent any business of will purchase for cash notions or novelties. Catalogues

prices and samples to Mr. A. Nickson, 8 Airths Build ings, Smith Street, Durban, Natal, South Africa.

Inquiry No. 3674,-For makers of toy printing presses, also stencil manufacturing sewing machine Gasoline Automobile Batteries. William Roche's

'Autogas" used properly will carry vehicle twice as far as any other battery of same weight. William Roche, inventor and manufacturer, 42 Vesey Street New York, N. Y., U. S. A.

Inquiry No. 3675.—For parties to make telephone brackets to order.

A public exhibition of American and foreign inven tions will be held for two weeks in February at Buffalo.

Object, practically presenting them to manufacturers and capitalists. Modern Invention Exhibit Company 124 Eric Co. Bk., Buffalo, N. Y.

Inquiry No. 3676.—For machinery for making

FOR SALE.-Patent No. 717.281 "Novelty" new article of manufacture, "Cigar Holder and Ash Receiver."
This will surely supply a long-felt want for smokers especially at offices, clubs, homes, etc. Julius C. D Ross, 685 Burling Street, Chicago, Ill.

Inquiry No. 3677.—For an electric motor from 6 to 8 h. p. of the alternating type.

Inventors wishing to sell their patents or to have them manufactured on royalty will find it to their interest to correspond with me.

Mair and Dock Sts., St. Louis, Mo. Inquiry No. 3678.—For machinery for extracting the fiber from Lechuguilla, Maguey or Heniquen.

Inventors and parties desiring to have patented ar lished New England concern, with large experience in manufacturing and marketing specialties of different kinds, desires to obtain control of patented inventions of merit, and would either purchase same outright or manufacture on royalty. All communications will be considered strictly confidential, and we reserve the right to reject any or all inventions submitted.

Address P. O. Box No. 316, Bridgeport, Conn.

Inquiry No. 3679.—For makers of steam turbines.

Inquiry No. 3680.—For makers of small turbine Inquiry No. 3681.—For parties to make a small steamengineto order.

Inquiry No. 3682.—For a motor for runting a sewing machine.

Inquiry No. 3683.—For makers of gasotine engines.

Inquiry No. 3654.—For the makers of the Bunsen burners for cas mantle lamps. Inquiry No. 3685.—For makers of the dry gold washerfor placer mines.

Inquiry No. 3686. For a trolley box or device for delivering mail frem rural routes to houses on the routes.

Inquiry No. 3687.—For a 10 h. p. gasoline engine operate a 150 light dynamo for electric light work; no in which the regulation is as good as a steam en-

Inquiry No. 3688.—For makers of running gear, wheels, axles, tires, motor, etc., for automobiles. Inquiry No. 3689.—For new or second-hand brick-making machinery.

luquiry No. 3690.—For dealers in strip tool or spring steel of special sizes.

Inquiry No. 3691.—For manufacturers of gas Inquiry No. 3692.-For makers of ornamental faucets for fancy coffeepots, etc.

Inquiry No. 3693.—For dealers in electro-plating

Inquiry No. 3694.—For makers of corn broom nachines. Inquiry No. 3695 .- For makers of electric laun-

Inquiry No. 3696.—For makers of strong, durable asoline automobiles for rough country roads.

Inquiry No. 3697.—For makers of machinery for making common pins, hat pins, etc.

Inquiry No. 3698.—For makers of glass jars and labels.

Inquiry No. 3699.—For makers of whiting.
Inquiry No. 3700.—For makers of concrete mix-



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 sbould give date of paper and page or number of question. Inquiries not answered in reasonable time sbould 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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(8786) F. B. asks: How many pounds pressure would I get on a 12-inch pipe, running to a turbine, with a tank of water holding one and one-half million gallons of water, with a ten-foot fall? How many horse power would it give me? How many horse power would I gain with every ten-foot fall through the same pipe? How many horse power will it require to lift a six-inch stream of water 100 feet with the best pump, and will it take twice as much power to lift a 12-inch stream the same height? A. You would have 4 1-3 pounds per square inch pressure at the turbine. It is possible to obtain 5 horse power from the 12-inch pipe, and the same for each additional 10-foot fall. It will require about 12 horse power to fill your 6-inch pipe at full flow, and four times as much power for a 12-inch stream with four times as much

(8787) T. O. C. states: I have made an electro-magnet as follows: The cores are 1 1-16 inches in diameter, 31/4 inches long, wound with No. 22 magnet wire (double cottoncovered) 12 turns on each spool, the spools three inches clear in length; there is nearly pound of wire on each spool. I want to use it on 110-volt current, but if the current is on for a few seconds, the wire on spools gets pretty warm. Can I avoid the heating by changing the dimensions? I would rather do that than put a lamp in the circuit, if it is possible. I want the magnet to overcome 8 or 10 pounds spring pressure. A. The difficulty with your magnet is excessive current. Two pounds of No. 22 wire will not have more than 16.6 ohms resistance. This at 110 volts will allow about 6 amperes to flow, and the wire cannot carry that current. You must either wind on much more wire, probably three times as much, or use some external resistance. the simplest form of which is a bank of lamps, so arranged as to allow the proper amount of current to flow.

(8788) A. W. F. writes: Is not your advice to C. R., Query No. 8725, a little dangerous in spite of your caution'? For instance, if a quantity of guncotton less than a bursting charge were exploded in a strong tube. would not the initial pressure of the liberated gases remain constant until the gases were allowed to escape, less the reduction of pressure caused by cooling to normal temperature? Therefore, would not the danger be great to suddenly liberate this great pressure by unscrewing the confining plug, as per C. R.'s question No. 2? A. Your suggestion is very proper in regard to suddenly liberating the high-pressure gases of combustion of guncotton. In unscrewing a plug that would be used in such an experiment, the high pressure would be wasted by leakage over the thread before the plug could be unscrewed.

(8789) R. J. asks: Can you kindly advise us as to the best means of oxidizing vellow and red brass (in castings or in rolled sheets) copper and bronze? We have several showcases, the metal trimmings of which are backed with wood, rendering it impossible to heat same sufficient to oxidize in the usual manner. A. If the blackening effect is the one desired (and this is what is known as "oxidizing" in the trade) it can be obtained by using a very dilute solution of potasslum sulphide, to which sometimes a little ammo-