sections adapted to fold toward each other to also form a screen top or roof for the bed.

Machines and Mechanical Devices.

COPYING-PRESS .- A. L. SNEED, Clarks, La. The object in view of this inventor is to pro dace a simple and compact structure wherein provision is made for the application of powerful pressure through a platen upon the work, the construction being such that very tittle effort is required on the part of the operator and the adjustment of the platen may be secured very quickly. It is more especially designed for press-copying letters, manuscripts, and the like.

HONEY-EXTRACTOR. C. W. METCALF, provements in machines for separating honey from the comb by centrifugal action, an object of simple construction and having a novel means for limiting the outward swing of the honey carrying baskets.

FRICTION-BRAKE, G. A. ENSIGN, Defi ance, Ohio. In this patent the object of the invention is the provision of a new and improved friction brake for use on shafts and other driven parts, to bring the said parts automatically and quickly to a stands ill at the desired time. It is a division of the application for Letters Patent of the United States for a mortising machine, formerly filed by Mr. Ensign.

COTTON GIN. -- E. R. BYEBER, Valdosta, Ga. This invention relates to a gin in which the seed cotton is fed to a rotating drum having peculiarly constructed teeth serving to take up the cotton and pass it to a rapidly-rotating beater, by which the seeds are removed, after which the gin passes it to specially-arranged rocking rollers having cards thereon, the cards of one soller acting to remove the lint cotton from the drum and the cards of the other acting to remove the cotton from the first roller and to discharge the cotton from the machine.

ROCK-DRILLA- F. L. WHITEHEAD, Butte, Mont. The invention has reference to improvements in drills of the type in which the drill is moved in its operating direction by hammerblows; and one of the objects is to so construct the device as to utilize a portion of the driving force of the hammer to turn the drill and keep the cutting edge at a certain disfance from the bottom of the hole.

THEATRICAL APPLIANCE, BELLE LA VERDE, New York, N. Y. The object of this invention is to provide a new and improved theatrical appliance for heightening the attractiveness of theatrical performances and which is designed for use on parts of the scenery on the stage, moving objects, etc., more especially, however, on the costumes of actors, dancers, and other persons appearing m spectacular plays.

ELEVATOR. E. C. Northrip, San Jose, Cal. In this case the translation refers par ticularly to improvements in devices for elevat ing boxes of oranges or other truit and dumping the fruit into a chute leading to a grader. an object being to provide an elevator so arranged as to be practically automatic in its operation of dumping the fruit and carrying off the empty boxes.

BORING-MACHINE. F. C. ZEEK, Muncie, Ind. The invention specifically appertains to a mechanism designed especially for use in boring holes in the joists of ceilings or floors for the passage of concealed electric wires. In carrying out the present invention Mr. Zeek has in view the provision of a mechanism embodying the essential features of durability and convenience, especially the latter, inasbore quickly and properly a plurality of open-

GLARD BOARD. J. L. GALLIGIEZ, Deferiet, Teturn disk valves with the float. N. Y. In this potent the formal or has reeuce to a guard board for the couch-rolls of a paper making machine. The object of the improvement is to provide a guard board which may be made to engage the couch roll more of their travel act against inclined sarfaces reflormly than heretofore without however, on the case, giving turbine action, the outward subjecting the roll to immecessatily destructive thrust against the inclines serving by force pressure.

MACHIN FOR PRODUCING COLUMN OR CORRUGATED METAL STRIPS. W. P. piston values, and when valves reach farmeso GRAFTON, 82 Elliscombe road. Old Charlton. projection beyond periphery of the body of pis-Kent, England. The mechanism closes to gether corrugations of a corrugated sheet or strip to bring the strip to the desired crimoed form, the machine comprising pairs of roots for consisting, pairs of coloring roots for eld ing the corrugations made by the corrugating rolls, pairs of propelment-rolls for forcing the strip against retarding rolls, pairs of accelerating rolls for opening out previously closed. S. C. corrugations to extent required in final product, provenent in automatic car discharge valves takers-off for the strip in passage, means for intended and adapted especially for use in entting strips into narrower strips before en-, train signaling apparatus, and particularly in tering corrugating rolls, and means for automatically severing portions of uniform length caused to sound by a slight reduction of presfrom final product as it passes from the ma-sure in the train-line.

and the delivery of crushed rock and earth, and the improvement enables the transfer of material to be accomplished very expeditiously.

COFFEE DRIER .-- E. PENAGOS, Bucaramanga, Colombia. This invention appertains particularly to an apparatus designed for dryng coffee beans and the like. In this instance Mr. Penages has particularly in view as an object the provision of an apparatus through which the coffee may be passed continuously and subjected to a number of heatings, thus insuring a thorough drying or curing of the beans.

ADDING-MACHINE. -R. CORBIN, Platts burg, N. Y. The invention relates to a construction of machine capable of being held in Business and Personal Wants. one hand and conveniently and readily operated by pencil or styles held in the other to add a San Diego, Cal. This invention relates to im- column of figures and show correct aggregate or to effect reversal of mechanism, thereby, for example, the various dials quickly and being to provide a machine for this purpose accurately to normal positions, at which time the zero on each of the dials will be presented to properly-disposed openings in the casing of the device, at which openings the numerals are likewise presented which indicate the sum

Pertaining to Vehicles.

RUNNER ATTACHMENT FOR VEHICLE WHEELS, -- G. F. MEYER, Green Island, N. Y. In this instance the object is to produce a thoroughly practical device which is adapted for ready application to vehicle wheels of different widths, which will not mar the wheel when applied thereto, and which is provided with means for securing it in position upon the wheel in such a way as to prevent any ratwheels of the type in which a runner attach ment is designed for application to each wheel $t \bullet \ convert \ the \ vehicle \ int \bullet \ a \ sleigh.$

SAFETY DEVICE FOR ELECTRICALLY-PROPELLED VEHICLES J. H. Spencer, New York, N. Y. The object in view $\bullet f$ the inventor is to provide an improved safety de- Chagrin Falls, O. cars, and the like, whereby the motor and the from Indian corn. source of electricity are instantly disconnected in case of an accident to bring the motor, and Company, Fall River, Mass. consequently the vehicle, to a stop and insure the safety of the occupants.

SLED. C. E. BURNHAM, Dekalb Junction, N. Y. Mr. Burnham's invention is an improvement in sleds, and particularly in that class of sleds ordinarily known as "bob sleds." The opposite runners work entirely independently, and the beam may support the load on a level as desired. The construction is simple, can be cheaply made, easily applied, will be durable when applied, and can be repaired at slight cost if necessary.

HORSEL RELEASING DEVICE .-- W. Bolsta, Ortonville, Minn. This invention re fers to a device for releasing horses or other draft-animals from vehicles or the like, and is designed to be capable of rapid and easy operation for the purpose of preventing accidents. An additional brake may be used and it can be applied to any vehicle. The handlewhen in normal position, will be a convenient rest for reins.

Prime Movers and Their Accessories,

Germany. Mr. Flohr's invention relates to improvements described in United States Patent No. 669,110; and the objects are, first, to replace the single-acting pump referred to in the patent by a double acting pump serving as a gas-compressor; second, to replace the means mentioned therein for locking and releasing the saction valve cone by one or two rocking much as his machine may be placed so as to return disk valves placed in a separate channel which connects the two cylinder ends of the ings or holes in joists spaced apart at varying double-acting pump, and thard, to provide means for contrecting the one or two rocking

> ROTARY MOTOR, M. M. CONGER, Linneus. Mo. This improved motor embodies a totary piston provided with valves which are pressed ontward by the steam and daring a portion of reaction to move the piston forward. Direct action of metive agent is utilized against the tou steam is admitted to their outer faces to work to be done by motive agent in forcing the hour, shokes and runs. valves inward.

Railways and Their Accessories.

AUTOMATIC CAR DISCHARGE VALVE. W. A. HARRIS and B. S. H. HARRIS, Greenville, In this patent the invention is an im-Ignating apparatus wherein the signal is

SPARK ARRESTER FOR LOCOMOTIVE OR ELEVATOR APPARATUS J. B. HONOR, OTHER BOILDERS, J. C. Bewring, Sydney, New Orleans, Lat. In this case the invention | New South Wales, Australia This invention has reference to apparatus for elevating and affords greater facilities for preventing escape transfering various materials. A being more of sparks and five cinders from locomotives particularly applicable to the coaling of vessels and other chimneys and provides arrangements

whereby the draft may be controlled to suit the requirements of any class of fuel or work, the apparatus occupying but a small pertion of space in the smoke box or "combustion chamber" and easily removable for cleaning tubes, etc., and canable of adjustment so that the portion designated the "spark-cage" may be located to suit the needs of any boiler or class of fuel.

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.

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 description for the party description for the party of the party description. ing the information. In every case it is necessary to give the number of the inquiry. MUNN & CO.

Marine Iren Werks, Chicago. Catalogue free. Inquiry No. 5921 .- For manufacturers of sand

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

Inquiry No. 5922.—For manufacturers of solid celluloid for enameling purposes (to put on wood).

"C. S." Metal Pelish. Indianapelis. Samples free, Inquiry No. 5923. For the address of the Fisher Inquiry No. 5925. Hydraniic Press (o. for cement building bloc the address of "Normandin" hand tamp system

For hoisting engines. J. S. Mundy, Newark, N. J.

Inquiry No. 5924.—Wanted, to purchase steam turbine outflishike those used on locomotives for head lighting purposes.

Any metal, sheet, band, red, bar, wire; cut, bent, tling of the attachment upon the wheel. The crimped, punched, stamped, shaped, embessed, letter-invention relates to runner attachments for ed. Dies made. Metal Stamping Co., Niagara Falls, N.Y. Inquiry No. 5925. For manufacturers of amateur printing presses.

Perferated Metals, Harrington & King Perferating Co., Chicago.

Inquiry No. 5926.-For manufacturers of armor bullet-proof cloth.

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

If it is a paper tube we can supply it. Textile Tube

Inquiry No. 5928.—For firm handling a machine or apparatus to scrub and clean large floors,

WANTED .- Addresses of importers and consumers of

bamboo. D, F. Mitchell, Jacksonville, Fla. Inquiry No. 5929.—For parties who manufacture r handle machinery for separating the fiber and pulp f the Agava plant.

Sawmill machinery and outfits manufactured by the

Lane Mfg. Co., Box 13, Montpelier, Vt.

Inquiry No. 5930.—For good, practical dry sterage battery to take the place of $\frac{1}{2}$ h. p. 120 voit motor (ither direct or alternating current. American inventions negotiated in Europe. Wenzel

& Hamburger, Equitable Building, Berlin, Germany.

Inquiry No. 5931.—For some one handling experimental apparatus for wireless telegraph, such as is used for lecture purposes. The celebrated "Hernsby-Akreyd" Patent Safety Oil

Engine is built by the De La Vergne Machine Company Foot of East 138th Street, New York.

Inquiry No. 5932.—For an apparatus by means of which floors may be cleaned and variable d, instead of using manual labor. Patented inventions of brass, bronze, composition or

Inquiry No. 5933. For dealers in necktie makes' supplies.

Manufacturers of patent articles, dies, metal stamp GAS-COMPRESSOR. -- C. FLOHR, Berlin, ing, screw machine work, hardware specialties, machine ery and tools. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.

Inquiry No. 5931. For parties who deal in album clasps and trimmings, and walking canes and umbrella meuntings.

Two patents for sale. Supply tanks for water service No. 195,662. Valve, a cut-off, for supply tanks, No. 33,941. Can furnish some valves, cut-off, in working order. P. J. Lotthauser, Clarendon, Texas.

Inquiry No. 5935.—For manufacturers of gasome buses, freight and delivery wagens.

English and European Market for American Manutactures. -W. & R. Leggett, Limited, East Parade, Bradford. England, is in remarkably good posttion for handlmg any article connected with builting trade, and will be glad to act as agent for American firms. Please

Inquiry No. 5936. For manufacturers or sellers

factory No. 5939. For parties manufacturing ration atte tape bending toachines for bending long pipe as well as short return bends.

Inquiry No. 5910.- For a machine that will pulvetize charcoal,

Inquiry No. 5942.- For the address of J. Baum Safe and Lock Co. Inquiry No. 5913.-For manufacturers of woven wire fence.

Inquiry No. 5944. For a parties analogaturing colling, goard proof and on per H5 malon, as and seen in characters and Subject seen in characters and Subject seen in the room.

Inquiry No. 5915.—For manufacturers of automatic ventilators and oil healers.

Inquiry No. 5917.- For manufacturers of earn buskers.

Inquiry No. 5950 For manufacturers of ma-chinery for hulling cocomuts to extract the oil and work the fiber of same.



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.

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.

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.

(9447) W. J. M. asks: 1. Is it safe to run two double covered annunciator wires in the partitions of a house along with the is pipes, for electric gas lighting? A. Elec trical wires should not be run side by side in contact for any purpose. Insulation is liable to be impaired and current lost even if the current is not •f a character to set tire. Espe cially is this true if the wires are held by staples. Two wires should never be put under the same staple. 2. Is there any danger of short-circuiting and thus setting fire to the house? A. Not with wires carrying current from a low voltage battery. If the current is that of a lighting circuit the rules of the Fire Underwriters forbid including two wires in the same fastening, and specify the distance by which they must be separated. 3. How large a coil would be required for lighting one burner at a time? A. A spark coil for gas lighting may be made by taking iron wires 10 inches $l \bullet ng$ and forming them into a bundle 1 inch in diameter, first straightening them very care fully. Fit a spool head of hard wood on each end to hold the copper wire of the coil, and cover the iron core by two or three layers of brown paper to insulate the core from the coil. Two or three pounds of No. 16 or No. 14 cotton covered copper magnet wire may now be wound on the core. The ends of this should be brought out through holes in the head of the speed, and the coil is finished. A covering of pasteboard may be put over the outside as a protection and a finish. 4. What veltage and amperage would the same require and would two gravity cells answer the purpose? A. Three or four dry cells will be sufficient for gas lighting. Three LeClanché cells may be used if more convicut. 5. Is a constant current required when you simply turn on the gas and it lights as with the Advance burners? A. A constant current battery is not used for gas lighting, but an open circuit cell is to be preferred. 6. What is the best way to connect coil, burner, and battery for the best results? A. The coil, burner, and battery are to be connected in series; it matters not about the order. The only important aluminum construction placed on market. Write to American Brass Foundry Co., Hyde Park, Mass. the battery in series, since as high a voltage as pessibly shand be had.

(9448) R. R. S. asks: 1. Are there any electric lamps that use an alternating current, and if so, how is it worked? A. The alternating current is now in more general use for lighting than is the direct current. same incandescent lamp can be used on either current, if the required voltage is the same for both currents. The afternating current is, however, usually at 52 or 104 volts, while the direct curent is ordinarily at 110 or thereabout. An arc lamp is especially constructed for the alternating current. Its two carbons consume at the same rate, while the carbons in a direct current arc lamp consume at different rates, the positive carbon wasting about twice as rapidly as the negative carbon. 2. Would there be any danger from lightning with a mast such as would be used in wireless telegraph experiments? A. There would be the same Inquiry No. 5937.—For firms who manufacture risk from lightning with a tall mast for wire-sen mechanics and preparing state for less telegraphy as for any other purpose. Such Inquiry No. 5928. For firms manufacturing machinery for the extraction of coconnuctil.

The apparatus should be protected by a lightning rod.

The apparatus should be conducted by the conducted vided with lightning arresters

(9449) A. J. G. says: 1. What commercial metal will radiate heat the most rapidly? A. Cast from with a dark surface is the most radiant of heat of the simple metals. 2. Can an alloy be made that will be more efficient? A. There is no alloy known that is more efficient in radiating power than iron. Is there any chemical composition that can be lowered in temperature by agitation? A. We know of no chemical compounds that become colder by agitation alone. Agitation that produces chemical changes may lower temperatime. 4. How long will it continue to so do Inquiry No. 5946.—For machinery for making 2 x before it will be necessary to renew it? A. Time 4 x 8 inch concrete brick (sand and cement). enknown. 5. Will it attack metals? If so, what metals? A. Not known. 6. Can you give me the formula for a hard copper plat-Inquiry No. 5948. For address of agent or manufacturers of a connivance for conveying rural mailing bath same as used on leaded glass winfrom route to residence.

dows to strengthen them:

A. Use a saturdows to strengthen them? A. I'se a satur-Inquiry No. 5919. For manufacturers of car-a(ed solution of sulphate of copper and deposit bone anhydride reingerating machinery.

| by battery, 7. In order to mille the exhaust by battery. 7. In order to maille the exhaust of a gasoline engine what is necessary, to

(Continued on page 168.)