RECENTLY PATENTED INVENTIONS. Electrical Devices

METAL POST OR COLUMN .- S. H. TYSON, Zanesville, Ohio. The invention is an improvement in skeleton iron or steel posts or col- ble shade adapted for use in connection with umns, particularly such as are intended and lamps or lights of all kinds, and to so conadapted for use as poles and supports for struct the device that the curtains carried telegraph wires. The post is strong and rigid, thereby are removable from their supports and the concrete base forms a practically in- and can be quickly and conveniently partially destructible foundation.

Of Interest to Farmers.

PLANT-PROTECTOR.-F. C. ELLIOT, Tallahassee, Fla. The object of the invention is to provide a partial shade for growing plants, such as tobacco, pineapples, etc., the protector being so arranged that the plants are subjected to alternate bars of sunlight and shadow, the bars extending north and south, so that during the apparent motion of the sun from east to west the bars of sunshine and shadow will travel from west to east, thus subjecting each part of the plant to alternate bars of sunshine and shadow.

BEE-FENDER.-W. L. JOHNSON, Killbuck, The improvement is in the fenders, Ohio. which are constructed and adapted to be secured to the outer sides of hives, the same consisting of a small tin or other receptacle for saccharine matter and provided with open-ings in the side next the hive through which the bees may pass freely in order to obtain access to the feed in the receptacle.

Of General Interest.

LOOSE-LEAF BINDER .- F. H. CRUMP, LOS The object here is to provide Angeles, Cal. means for binding loose leaves having perforations in their edges, instead of the usual slotted openings, and for holding the binders in proper spaced relation in respect to each other and for permitting the removal of either of the binders without disturbing the other, the leaves being inserted by moving longitudinally on the posts instead of perpendicularly thereto.

MANIFOLDING SALES - CHECK. - F. THOMAS, New York, N. Y. The invention has in view the provision of a sales check for hotel and restaurant use by which it will be impossible, without the same being detected, for the waiter to render the patron a bill for any other amount than that specified by the other slip or slips turned in to the checker or cashier, also to keep the check in a clean and sanitary condition.

LIF'TING-JACK .--- J. S. HEARN, Jett, Ky. The object of the invention is to provide details of construction for a device compact in arrangement and adapt the device for manual operation in different positions, enable the raising and lowering of a heavy load and afford a very powerful jack at a moderate cost.

SACK-FASTENER.-E. C. FAWCETT and A. MCKILLOP, Lake City, Colo. The fastener is especially adapted for bags containing granular or pulverulent materials, and the bag being filled, the strain on the sides of the bag will tend to move the sections of the fastener outward, and since they overlap, this outward movement will be toward each other, thus moving the hooks into closer engagement with the cross bars.

JOINT FOR SCREENS AND OTHER FRAMES .- F. W. VAN FLEET, Mount Blanchard, Ohio. The invention has reference to improvements in joints for screens and other frames and has for its object the provision of a joint which shall be simple, cheap and effi-cient and one which renders a frame rigid

this case the invention is an improved means upright position, thereby preventing it from

search-light may be recharged from a 110-volt or pulley as convenient, and draw the paper improvement provides an ordinary pair of search-light may be recharged from a known of pulley as convenient, and draw the pulley, overlapping as tightly as possible to the pulley, overlapping as many folds as may be required. By a little management and moistening of the paper, it management and moistening of the paper, it Full hints to correspondents were printed at pliers, comprising handles having jaws adaptthe head of this column in the issue of Novemed to grasp the stud of the mount, with a ber 14 or will be sent by mail on request. third member composed of a handle having a while I have the 110-volt circuit to draw from, where the minimum amount of current charged will bind very hard on pulley when dry, and will not come off or get loose until it is worn jaw and supported upon one side of the pliers (11023) C. L. W. asks: The writer to move in a plane at approximately right erved to-night, no doubt in common with for is not being consumed. A. A small pocket angles to the plane of movement of the plier out. Use strong hardware wrapping paper others, what he had never before seen, though dry battery is not worth recharging. They are handles and jaws, the third member being he has observed the moon closely at various times for many years. A bright elongation (11032) L. A. S. asks: 1. What per thrown away when exhausted. To reduce a reversely curved so that both its handle and 110-volt current to 4 or 5 volts for this purcent of electricity, going out through the troliaw pass to the opposite side of the pliers on the upper right-hand edge (that furthest pose would be very wasteful. A pocket search- ley wire, gets back to the dynamo through the from the point of its support. away from the earth) the earth being in the direction that the arrow points. The elongalight is a luxury which those who carry must rails or ground? A. All the current returns be willing to pay for. The battery is never to the dynamo in one way or another. Heating and Lighting. tion was probably a mountain, projecting high, durable, and soon gives out whether used or Would it be possible under existing conditions STEAM-TRAP.-L. HAND, Amsterdam, N.Y. and strongly illuminated by the sun, but it not. It is usually overrated. 2. What re- of insulation, to send the current out through The invention relates more particularly to water-level regulators such as are adapted to was so different from the irregularities ususistance in the way of 16-candle-power lamps the rails and back to the dynamo through the ally observed in the edge away from the sun, should be used in a 110-volt direct-current cir-cuit to enable it to be used for electro-plating? efficiency be the same? A. The trolley wire be connected to boilers, tanks, or the like, for was so large and so strongly illuminated, that maintaining a constant water level in the the writer thought it would be at first a very What should the voltage and amperage be? A. is made plus, not as you seem to think, besame and preventing the level from exceeding The voltage for electroplating varies with the cause the current might not go out properly if large and bright star just on the edge of the a predetermined height. metal to be deposited. It is from 0.5 volt sent out by the rails, but to protect metals, moon. He first observed it at 9:45 P. M. and it had not changed its position at 11:00 to 7 volts. The amperes depend upon the area water and gas pipes, etc., from corrosion as Household Utilities. Household Utilities. COMBINED MOSQUITO-BAR AND TABLE edge of the moon showed no particular irof surface to be plated. The data are to be much as possible. It makes no difference to found in such books as Langbein's, which we the electrical efficiency which wire is attached ATTACHMENT FOR BEDSTEADS.—MARY E. C. COWDREY, Early County, Ga. The invenregularity, this large protuberance standing out send for \$4, and Watt's, which we send for to the trolley, the plus or the minus. \$4.50. 3. I have an ammeter whose limit is however, the current flows from the trolley in bold relief. Is it possible that it is anything of scientific interest? It was no optical 20 amperes. How many lamps in series or wire to the ground on its way back to the station provides, by a simple economical conillusion. A. If the object you saw on the struction, a mosquito bar for bedsteads, cots, parallel should be connected in the 110-volt tion, it will not act by electrolysis so much terminator of the moon was a lunar mountain, and cribs, which may be easily and quickly circuit to obtain a reading on the ammeter? upon the metal which it traverses, as if it you will be able to see it at the next luna-What is the resistance of a 16-candle-power flowed in the opposite direction. Iron and lead attached and detached, and adjusted higher or lower and in other ways as required by tion in the same phase. The moon presents | lamp? A. If your ammeter does not register are positive, and tend to attach themselves to conditions; further, that the main parts may the same side to us at the same time each till 20 amperes are flowing, you will require the negative pole of the circuit. If then the

be detached from each other and packed compactly for storage or transportation.

SHADE .--- L. VERCOUTERE, Lebanon, Mo. One struct the device that the curtains carried or completely folded or partially or entirely spread out upon said supports.

Machines and Mechanical Devices.

PRINTING-PRESS ATTACHMENT. - C. MERZ, Fort Lee, N. J., and F. LEBART, New York, N. Y. In the present patent the invention has reference to platen or job printing presses, and its object is the provision of a from surrounding substance or air. Best of all new and improved attachment whereby the is a partial vacuum, if it can be managed; type is uniformly inked and double rolling is if your sealed bottle were put inside a larger entirely prevented.

VIBRATOR.-F. R. MUENZENBERGER, New York, N. Y. The invention relates to improvements in hand-operated devices for giving vibratory massage, and relates more particularly to that type of device in which there are provided a vibratory arm having engagement with a cam, the cam being rotated by the aid of a series of gears, and the motion being rendered more uniform by a fly wheel or balance wheel rotatable with the cam.

MECHANICAL MOVEMENT.-J. H. FLOW-ERS, Enterprise, Ore. This invention relates to mechanical movements, and is particularly useful in connection with washing machines, churns, and devices of similar character in which an alternating rotary movement of cer- The powder form doesn't seem to. A. The obtain parts is desired, or in which certain parts jects are not covered with graphite, which is are to be reciprocally rotated in one direction and then another.

Prime Movers and Their Accessories.

VALVE .- F. L. ORR, Thurman, Iowa. The device is designed for use with starting means of gas or gasoline engines, of the internal combustion type, and the particular form of starting means employing air or gas, stored under pressure adapted in use for starting the engine in operation, by means similar in form to means disclosed in two Letters Patent formerly granted to Mr. Orr.

Railways and Their Accessories.

TIE-ROD FOR RAILROAD-RAILS.-H. HERDEN, Wellsboro, Pa. The purpose of the invention is to provide a tie rod having novel features, which adapt it for quick application or removal, as occasion may require, and that will, when employed in sufficient number, se cure track rails upon cross ties, clamp the tie plates thereon, and prevent the track rails from shifting laterally.

Pertaining to Vehicles.

HUB, SPINDLE, AND AXLE-ARM .-- W. E. BAXTER, Frankfort, Ky. The inventor provides a wheel and spindle in which inner and outer cups are held to turn with the spindles and fit over tubular portions of the hub, which tubular portions fit over but turn freely around the axle spindle, and do not contact there-with so that the load is borne by the cups bearing upon the tubular portion of the hub.

WAGON-BRAKE.-R. C. PRYOR, Wolfsville, Md. The purpose of the inventor is to provide a brake for vehicles which can be automatically applied by the backing of the team, and wherein the automatic brake mechanism can be rendered inactive at the will of the driver. The

HEFFEN HIMSEN Notes and Queries.

lunar month. A particularly clear night may forty lamps to make it indicate any current. have enabled you to see what had previously escaped your notice. No reports have reached us that any change has taken place upon the

moon (11024) A. H. W. asks: Given a bottle, sealed airtight, the air within which is ties about my own eyes being able to see ob-at 50 deg. above zero F., what fabric can I jects a second time, after looking away from wrap the bottle in to insulate it against a surrounding heat of 120 deg.? Of course, I know that insulation cannot be complete, and insulation in this connection only means to retard the encroachment of heat. A. Loose wool, goose feathers, carded cotton wool, and hair felt are the best common materials (in that order) in which to wrap a hot or a cold body to prevent its radiating or absorbing heat exhausted of air, there would be no appreciable change of the temperature in the inner bottle for many hours.

(11025) J. S. C. says: 1. Will you please give me specific directions for electroplating with copper leaves, flowers, insects, etc., similarly to the rosebud hat pins, so often seen now? A. Specific directions for preparing flowers, insects, etc., and plating them with copper, may be found in Watt's "Electro-Plating," which we send for \$4.50. We must be excused from copying several pages from a book, when it can be had by buying the book. 2. If the objects are to be covered with graphite, how shall it be made to stick on? too coarse and cannot be made to adhere by any simple method. Silver is employed, and

it is precipitated by phosphorus upon the leaves. 3. What voltage and amperage is necessary for good results? I can use six large bicromate cells or four Edison caustic soda cells or both. A. Silver plating requires about 1 volt; the amperes vary with the number of objects to be plated at once. Your Edison cells can be used for the purpose. 4. Can you recommend three or four good books dealing with the above and amateur electroplating in general? A. Watt's book will be quite enough, as it is authoritative on this subject. You will need no other book.

(11026) L. H. R. asks: 1. Does a static electric machine depend for its volume the mercury together. As a last resort cool of electricity on the superficial size of plate the bulb in a freezing mixture, and contract or velocity and will a sufficient series of plates the mercury till it is all in the bulb at the at a greater speed give off very much electric-bottom of the tube. When the instrument ity at a high speed on one large disk, at 200 warms again, the thread of mercury will be or 300 revolutions? Please answer an old continuous. The break in the column of merreader in query column next issue, to satisfy cury is caused by minute air bubbles in the a difference of opinion. A. The discharge of a static machine depends upon several conditions. size of plate, swiftness of rotation, dryness of bulb, and so the column becomes continuous plates, absence of dust, etc. The spark cannot much exceed the radius of the plates in length, since it will find the distance less between the combs if the balls are separated more than half the diameter of the plates, and will pass between the combs, taking the axle of the ma-chine on its way across. This is the reason for using as large plates as convenient. Glass is the best substance for the plates. Since there is a limit to the safe speed for glass, hard rubber is now used a great deal. This can be run at any speed desired, and a very strong spark can be produced. It is better to use several smaller plates than one large one, because of compactness and neatness of ap pearance. A well-made machine with two 18inch plates of hard rubber, driven by a quarter sparks at 1,800 revolutions per minute. could be had at a moderate cost.

is for any purpose open. venient to obtain, to a quart of thick glue; me how a small dry battery for a pocket stir quickly while hot and apply to the paper TOOL.-F. E. GORDON, Lincoln, Maine. The

The resistance of an incandescent lamp when hot is about 220 ohms.

(11028) C. B. H. asks: Is it possible for the human eye to possess any of the features of a camera? I have noticed peculiarithe object looked at, especially if in the shadow. The force of this lasts several seconds, being of greater strength with certain colors, etc. Will you have the kindness to answer this query, without reciting it in the columns of your paper? . A. It is not a peculiar experience that you can still see an object before the eye after you have gazed intently at it for a brief time. Everybody can do the same. If you look at a colored object, say a bright blue, the object seen afterward will be a yellow. We call these objects seen after the object has disappeared, after-images, and the color presented by one of these is the complementary of the color presented by the object itself. Such an after-image will drift before the eye in a very curious fashion along a dimly-lighted wall, larger than the object if the wall be farther away from the eye than the object was, and smaller if the wall be nearer. This proves that the image is in the eye and is simply projected against the wall in the line of sight. You will find these matters discussed in books of physics under the name Accidental or After-Images. As you send no post-office address, but only your name, we can only reach you by publication of the information in our columns. We think too that the matter is of general interest, so as to justify its publication. Quacks often prey upon the fears of the nervous by means of these after-images.

(11029) C. L. K. asks: Will you please advise me through your query column how to get the various broken parts of the mercury column in a thermometer together after they have been separated in shipping? A. To reunite the parts of a broken mercury column in a thermometer, first try jarring it by taking it in the hand and striking the arm suddenly downward as if to give a blow with a hammer. being careful that there is nothing in the way of the arm which the thermometer can hit. If this does not accomplish the object, tie a sufficiently strong cord to the thermometer, and whirl it rapidly around the head. In this way centrifugal force and momentum may bring mercury and on the glass. These are pushed down by the mercury as it contracts into the when the mercury expands from the bulb cistern, thus accomplishing the same object as if the bulb is cooled.

(11030) C. D. R. asks: Can you give me a receipt for transparent etching ground, for retouching? Silicate of soda is transparent, but leaves a ragged edge in the lines. Is there anything I could add to it for the purpose that would not destroy its transparency? A. Retouching varnish, sandarac 1 ounce, castor oil 80 grains, alcohol 6 ounces.

(11031) F. C. asks: How can I cover mechanism is positive in action. a pulley with paper or leather? Pulley is of NOTE .- Copies of any of these patents will and permits of making frames of various sizes. horse-power motor, gives a steady stream of be furnished by Munn & Co. for ten cents each. cast iron 9 inches by 8 inches with an extra It smooth face. A. Scratch the face of the pulley Please state the name of the patentee, title of Hardware. may also be driven by hand, though no one with a rough file thoroughly, so that there are the invention, and date of this paper. SUPPORT FOR TRUNK-LIDS OR THE can maintain that speed very long. 2. Are no bright or smooth places. Then swab the LIKE .-- J. A. I. CLAUDON, MEXICO, MEXICO. In mica plates superior to glass? A. Mica differs surface with a solution of nitric acid 1 part, very little from glass in its inductive capacity, water 4 parts, for 15 minutes; then wash for supporting the lid of trunks or the like. and would serve equally well for the plates of with boiling hot water. Having prepared a designed to maintain the lid, when open, in an a static machine, if pieces of sufficient size pot of the best tough glue that you can get, stir into the glue a half ounce of a strong solution falling forward or backward when the trunk of tannic acid, oak bark or gall nuts, as con-(11027) F. A. V. asks: Please inform