RECENTLY PATENTED INVENTIONS.

Engineering.

BLOWER.—Charles Rumley, Helena, Mont. This is a blower of durable and inexpensive construction, adapted to pump air into mines and other places, or for exhausting foul air and gases therefrom. A crank shaft is mounted in a case having inlet ports in its ends and a discharge port in one side, while a cylindrical piston on the crank of the shaft is adapted to close the inlet ports, and a valve, having one end pivoted to the case and the other to the piston, is adapted to swing across and close the discharge ports. There are but few parts to this blower, and it is not likely to get out of order.

SHIP.—Alberte Foerste, Berlin, Germany. This inventor designs to give such shape to the hulls of vessels that great velocity can be obtained on a shallow draught, with the minimum of frictional resistance, permitting also of the use of strong armor plates without considerable increase of the draught. The hull, below the water line, has a reduced and tapering portion, provided with air boxes projecting downward on opposite sides, and forming longitudinal passages narrower at the bow than at the stern, rendering the capsizing of the vessel an impossibility, and protecting the paddle wheels from projectiles.

ROPE LAYING FOR LOG PULLING.—Edmund M. Ivens, New Orleans, La. This invention relates to another patented invention of the same inventor for an apparatus adapted to pull heavy cypress logs from swamp lands or brush, where the winding drums receive a mile or more of large wire cable, with which is connected a mile or more of messenger or loop section. The apparatus provides independently operated winding drums, with suitably arranged rope laying or leading devices, whereby the drums may be instantly reversed as desired.

Railway Appliances.

SWITCH OPERATING DEVICE.—Harry H. McKee, Brooklyn, N. Y. This is an improvement on a formerly patented invention of the same inventor, rendering the application of the device more positive and simplifying the construction. The device is especially designed for use in connection with street railway cars, and provides for so locating the operating arms, or that portion which must appear at the surface of the roadbed, that these portions will be adequately protected, and the boxing need not rise appreciably above the roadbed.

REFRIGERATOR CAR.—Ferdinand E. Canda, New York City. This invention provides improved means for securing the insulating material in the walls of a car, to prevent it from becoming crumpled or being jarred from its fastenings. The car walls are also made light, thin and inexpensive. The insulating frames or panels have on one of their sides a marginally protruding layer or facing of insulating material, the panels being clamped between the posts, braces, or sills of the car frame. A reliable tight joint is made between the insulating material and the car frame.

CAR SEAL.—Benjamin J. Sturtevant, St. Paul, Minn. This invention consists of a tag made of breakable material, and formed with a recess into which opens a slot, a spring hook being adapted to be drawn into the recess and having at one end an extension to fill the slot. The device effectually prevents unauthorized persons from tampering with the hook in the hollow tag to open the seal.

Mechanical.

LIFTING MACHINE. — David Nelson, Reno, Nev. This is a machine which may be employed as a jack or otherwise, having great purchasing power, with simplicity and quickness of operation. It is designed to facilitate the lifting of a bar or other object in the direction of either end through applied eccentrics and loose dogs, the gripping dogs engaging equally on opposite sides.

Agricultural.

DISK HARROW.—John C. Bauer and John P. Feyereisen, Remsen, Iowa. These inventors have made an improvement in machines employing gangs of rotary disks running on the ground and breaking up the clods, employing therefor a set of small disks with suitable supports to hold them against the larger disks to scour and clean the latter of the adhering earth. The action of the pulverizing disks is thus made more effective and the draught of the team lightened.

PLANTER.—Caleb E. P. Hobart, Cherokee, Iowa. This is a machine especially adapted for planting corn, combining in one implement a planter and a drill. The machine obviates the necessity for cross markers or measuring chains, the seed droppers being located in such manner that they will themselves enable a field, whether large or small, to be planted in perfect squares.

PEACH SCREEN. — John P. Wilson, Hamburg, N. J. For sorting and screening peaches and accurately grading them in various sizes, this inventor has devised a cheap and simple apparatus, which may also be applied for other purposes It consists of an inclined bed with transverse slots and laterally inclined spouts, there being removable rails in detachable sections above the bed, and removable partitions above the meeting ends of the rail section.

Miscellaneous.

MEASURING FORCE OF PROJECTILES.—Heinrich Brunswig, Troisdorf, Germany. To accurately measure the penetrative force of projectiles this inventor provides an apparatus consisting of a tank holding water, with a head formed of a jelly or soft glutinous substance, to retain the water and at the same time permit the projectile to readily pass into the tank. Within the tank is a tray with perforated bottom and transverse partitions forming compartments in which the projectiles drop.

COAL, GRAVEL, AND ORE SCREEN.—George W. Cross, Pittston, Pa. This is an improvement on a formerly patented invention of the same inventor, and consists of a metal screen having an integral web portion with rectangular interstices, the two parallel sides of one interstice being the one concave and the other convex with relation to the working face, and the interstices of one row being opposite to the connecting bars or webs of the adjacent rows.

PREVENTING CREASING OF FABRICS.—Albert Hox, Crefeld, Germany. To prevent creases in heavy plushes and velvets this inventor has devised a box in which the opposite sides have fabric-engaging cramps or arms, the two ends of the box being hinged to fold down, whereby the fabric will be held under a slight tension to prevent sagging and imposing weight on the folds beneath, thereby preventing creasing and preserving the perfect condition of the fabric.

SHOE FASTENING.—Chaskel C. Eisenberg, Stettin, Germany. This fastening consists of a draught band having a series of clips movable on suitable guides along the edges of the parts to be fastened, the clips varying from each other and the band having devices corresponding to the clips for engaging each its corresponding clip, the devices successively moving the clips in one direction for fastening the parts, and collecting them when moved in the opposite direction. The invention is also applicable to various other articles of dress and personal wear.

LACE FASTENER. — Edwin A. Pumyea, Jersey City, N. J. This is a novel and simple attachment for a shoe or glove, to retain the end portions of lacing cords, and permit their quick and easy release. It consists of two perforated sheet metal pieces, each having one convex face, one piece having coniform projections at its corners and a depending tang at each end, while a securing shank is passed through the perforations of both pieces and through the article on which the device is applied.

NOTE.—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention, and date of this paper.

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Notes & Queries

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters, or no attention will be paid thereto. This is for our information and not for publication.
References to former articles or answers should give date of paper and page or number of question.
Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.
Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same.
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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.

(6176) R. J. L. asks how to make peach ratafia. A. Ratafia, for flavoring, is by no means difficult to make when the peach is in season. The following is a simple recipe: Blanch 2 ounces of peach or apricot kernels; bruise them well; put them into a bottle, and fill it nearly up with good brandy; dissolve in a cup of cold water ½ pound of white sugar candy, and add it to the brandy after it has stood for a month on the kernels; strain off the kernels before you add the sugar; then filter through paper, and bottle off in small bottles for use. Another rather more expensive method of making it is to take 50 bruised peach kernels, ¼ pound of bitter almonds, 1 pound of white sugar candy, and mix thoroughly with 1½ pint of 90 per cent alcohol, then add 3 quarts of water and 1½ gallons of malt spirits.

(6177) W. B. W. says: I have a tent that is made from ordinary canvas that I wish to render waterproof; kindly inform me what preparation I shall use. A. The following is a simple and cheap process for coating canvas for wagon tops, tents, awnings, etc. It renders it impermeable to moisture, without making it stiff and likely to break. Soft soap is dissolved in hot water, and a solution of iron sulphate added. The sulphuric acid combines with the potash of the soap, and the iron oxide is precipitated with the fatty acid as insoluble iron soap. This is washed and dried, and mixed with linseed oil. The soap prevents the oil from getting hard and cracking, and at the same time water has no effect on it.

(6178) W. R. says: A man can walk 33 miles in a day and be very much fatigued at night. The same man, if he be an expert, can on a bicycle run 100 miles in same time. Where does the extra power come from which increases his speed three times? In the last case he carries his own weight and the additional weight of the bicycle. A. The ways and means of converting power into speed through mechanical devices do not show that extra power is developed through such contrivances. In fact, there is probably far greater muscular power expended in running a bicycle 100 miles in 10 hours than in walking 33 miles in the same time. The method of applying power for any special purpose is a form of conservation of force for the best results, and when applied for speed alone is wonderfully illustrated in the various ways of attaining it in animals designed for speed and in the flight of birds. Man was not built in nature for speed, but by his genius converts his strength into speed on the best mechanical principles.

(6179) F. E. L. asks how to make a good paste for mounting photographs.

A. Best Bermuda arrowroot ..... 1¾ oz.
Sheet gelatine or best Russian glue ..... 80 grn.
Water ..... 15 oz.
Methylated spirit ..... 1 oz.

Put the arrowroot into a small pan, add 1 ounce water and mix it thoroughly up with a spoon, or the ordinary mounting brush, until it is like thick cream, then add 14 ounces water and the gelatine broken into small fragments. Boil for four or five minutes, set it aside until partially cold, then add the methylated spirit and six drops of pure carbolic acid. Be very particular to add the spirit in a gentle stream, stirring rapidly all the time. Keep it in a corked stock bottle and take out as much as may be required for the time and work it up nicely with the brush. A number of additional formulas will be found in "The Scientific American Cyclopedia of Receipts, Notes and Queries," from which the above formula was taken.

(6180) C. E. W. says: 1. Will you please suggest some way to kill or stop the red and black ants from entering our pantry? A. Put borax around the cracks of the floors, shelves, etc. 2. Will you please give me the formula used by botanists to preserve the color of flowers to be mounted in an herbarium? A. Dust salicylic acid on the plants as they lie in the press, and remove it again with a brush when the flowers are dry. 3. A way to color a piece of hardened steel blue otherwise than by heat. A. Blue finish without heat.—Clean every part carefully, and apply nitric acid 1 part diluted with 10 parts of water until a blue film is produced on the surface. Then wash with warm water, dry, and wipe with linseed oil.

(6181) Reader says: Our village has a system of waterworks on the gravity system. It is a tank holding 1,400 barrels, 14 feet high, staves, and built on posts 50 feet high. The tank is built on a hill 25 feet high, which gives an elevation altogether of 90 feet when the tank is full; 1000 feet from the tank at the bottom of the hill a water gauge shows a pressure of 45 pounds when the water is not running. Now, what we would like to know is this? How long will it take to empty the tank through a one inch nozzle 1,000 feet from the tank at the bottom of the hill, where the pressure is 45 pounds (still pressure)? A. In the absence of detailed statement as to size of pipe and its windings in the village distribution to any nozzle, which we assume to be fire nozzle of good form, we can only approximate the time of emptying the tank to be four and a half hours.

(6182) G. W. M. says: Will you please inform a reader of the SCIENTIFIC AMERICAN through query column of same of a substance to remove yellow stains from linen caused by iron rust? A. By adding 2 parts cream of tartar to 1 part oxalic acid ground fine and kept dry in a bottle you will find, by applying a little of the powder to rust stains while the article is wet, that the result is much quicker and better. Wash out in clear warm water to prevent injury to the goods.

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July 31, 1894,

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