BARBERS' CHAIR.—Anthony Abel, New York city.—This invention relates to a new and useful improvement in the mode of raising and lowering the backs of barbers' and other chairs, whereby the adjustment as to hight is made in the most gentle and perfect manner.

ROCKING-HORSE.—Jesse A. Crandall, Brooklyn, N. Y.—This invention relates to a new rocking-horse, which is operated by means of springs concealed within the body, and by levers connecting the said springs with the pivoted supporting standards, or legs.

SAW GRINDING MACHINE.—George Walker, Middletown, N. Y.—This invention relates to improvements in machines for grinding long saws, and consists in an improved arrangement of apparatus for holding the saws while grinding, from springing under the action of the stone and the pusher or feeder. It also consists in an improved arrangement of the presser, for adjusting the plates to grind thinner towards the back; and it also consists in an improved automatic belt shifting apparatus.

CHURNS.—Floyd Hamblin, Madrid Springs, N. Y.—This invention relates to improvements in churns, and consists in the arrangement on a horizontal shaft, within a suitable case, of two or more rows of scoops or cup-shaped paddles in spiral lines in opposite directions around the shaft, and in connection therewith, a series of parallel cream-breaking bars, around the space above the paddles, against which bars the cream taken up by the paddles, will be thrown with sufficient violence to break the small particles, whereby the formation of the butter will be accelerated. The object of the scoop or cup form of the paddles is, besides the advantage of the greater agitation they impart, to force the air into the cream in a greater measure, which is found in practice to be the case. And the object of the arrangement of the spiral lines in opposite directions is to impart a forcible movement of the cream from end to end of the churn, at the same time that the agitation due to the movement in the direction of the rotation is going on.

MILL STONE DRESS.—G. W. Loy, Nacogdoches, Texas.—This invention relates to improvements in mill stone dress, and has for its object to provide an arrangement of the furrows calculated to give greater draft in the bed stone from the center, about one third the distance to the skirt where, in the dress as commonly arranged, it is less than in the remaining portion, in which latter part are arranged the long furrows tangential or nearly so, to the eye of the stone, the direction from the said eye being opposed to the direction of motion of the running stone. The invention also comprises several modifications of the furrows and lands for adaptation to stones of different sizes, and for grinding different kinds of grain; also certain modifications of the furrows adapted for the bed stone when used as the runner. The upper stone is provided with a curved dress possessing some of the characteristics of the dress of the bed stone.

FAUCET.—Francis M. Bachman and Samuel Ricker, Fredericksburgh, Pa.—This invention has for its object to furnish an improved faucet, which shall be so constructed that it will entirely prevent leakage through it, and will enable the cask to be easily and quickly tapped without the loss of any of the liquid however great may be its pressure.

PROCESS FOR BLEACHING PAPER STOCK AND OTHER SIMILAR SUBSTANCES.—J. W. Goodwin, Petersburgh, Va.—The nature of this invention relates to improvements in bleaching paper stock, the object of which is to provide a means for accomplishing the same more quickly, in a better manner, and at less expense than can be done by the means at present in use. It consists in first submitting the substance to be bleached to the action of dilute nitric acid, well heated; second, boiling it in alkali in an open vessel; and finally submitting it to a bath of chloride of lime and sulphuric acid.

FLUE FOR DRY HOUSES.—Wiley B. Hix, Rome, Ga.—This invention has for its object to furnish an improved flue for use in a dry house for drying fruits, vegetables, lumber, and other substances, which shall be simple in construction and effective in operation, allowing the heat to be regulated and controlled at will.

POLE-ASCENDING APPARATUS.—George Fleming, New York city.—This invention relates to improvements in apparatus for ascending telegraph and other poles, and consists in an arrangement of rigging for hoisting masts up by the side of the poles, on the top of which masts are carried pulleys and cords, the latter hanging to the ground by which cords with pulley blocks are swung over the arms of the poles, through which pulley blocks the cords of platform are rove by which a person may be drawn up. The invention also consists in an improved rigging for attaching to the top of the pole for suspending the pulley for the platform for use when the pole has no armat the top over which the cord can be swung.

TIRE UPSETTING MACHINE.—P. G. Ayres, Lindsay, Canada West.—This invention relates to improvements in machines for upsetting tire and metal bars, and has for its object to provide a simple and efficient apparatus, especially adapted for readily applying and removing the tires. The invention comprises a main bed of cast metal with a vertical fixed pillar, a sliding bed with another pillar, a pair of clamping dogs, a pair of supporting links for the pivots of the dogs, and an eccentric operating lever.

FLAT-IRON HEATER.—G. O. Honks, Addison, Vt.—This invention relates to a new and useful improvement in the mode of heating flat or smothing irons for ironing clothes, and consists in a rectangular-shaped box open at the bottom side with apertures for the admission of the flat irons, and with shutters for each arranged in a convenient manner.

CAR COUPLING.—Wm. J. Evans, Homer, Iowa.—This invention relates to new and useful improvements in car couplings, whereby a simple and efficient device may be obtained by which the cars may be coupled self-actingly when the said device has been properly set. The invention consists in the arrangement, with a coupling pin, having a vertical guide, of a hinged setting lever, for holding the pin above the opening for the link and for being tripped by the link to let the pin fall when the link has passed in. Also in an arrangement with the same of a balancing tongue to hold the links in a horizontal position so as to enter the mouth of the drawhead of an approaching car.

CAR WHEELS.—John N. Farrar, Pepperell, Mass.—This invention has for its object to furnish an improved wheel for steam and horse cars, engines, etc., which shall be strong and durable, and, at the same time, so constructed as to avoid the constant jarring and noise now attending railway traveling, and reducing the liability of accidents from breaking of wheels, etc., and also in a great degree preventing the battering of the ends of the rails by constant hammering of the car wheels.

BALANCED WATER ELEVATOR.—William L. Thomas, Wadsworth, Ohio.—This invention relates to a new and useful improvement in apparatus for elevating water, to be operated either by hand or other motive power, by means of which water may be elevated to any required hight, while the action of the working piston will be balanced.

PROGRESS OF AMERICAN INVENTION IN EUROPE.

The following Patents for American Inventions have recently been obtained in England through the Scientific American Patent Agency.

WATER AND GAS METER.—Joshua Mason, Paterson, N. J.—This meter consists of a cylinder provided with a plunger, and having a chamber at one end in which there is a valve chamber, containing a sliding valve, which consists of a rod with two circular disks or heads upon it, and a circular plate at one end. This plate is perforated to open communication between the valve chamber and the small chamber. The valve chamber is open at both ends and provided with three ports, communicating respectively with the supply pipe, the water passage to rear end of the cylinder and the discharge pipe. Two rods, parallel with each other, are attached to the plunger, and pass loosely through flanges or bent ends of two plates connected by a pin or pivot to one end of a rod which passes loosely through the valve, and has a head on its outer end. A toothed segment is suspended within the cylinder and gears into a pinion, through which motion is transmitted to a registering apparatus. When the inlet part is open the water passes alternately into the rear end of the cylinder, and behind the plunger, as the valve is changed by the action of a spring.

MANUFACTURE OF BAR IRON, AND MACHINERY FOR ROLLING THE SAME INTO VARIOUS FORMS.—James Montgomery, New York city.—The material is prepared for drawing down by composing the uppper or inner side of the bar of any good quality and any required thickness of homogeneous iron, to give strength and to admit punching of the nail holes of horseshoes. For the lower or entire portion of the bar a hard quality of iron is used, to render horseshoes more durable. This quality of iron is produced by arresting the process of puddling at that stage which leaves the product of a hard, granular character. A bar of this hard iron and one of tough quality are piled together, heated and welded by rolling. These bars are then drawn out and formed into blanks for horseshoes by suitable machinery. Faggots for axles are formed by placing in contact the ends of bars of iron and steel, around mandrels, and supporting their central portions at some distance asunder by means of I-shaped bars. One end may then be heated and rolled, or both ends may be heated simultaneously and completed in a single rolling. The rolling mill has an engine at each end, with a fly wheel having a hollow shaft through which air is forced to keep the journals cool, and otherwise of peculiar construction. Rotation is imparted to the rolls from the fly-wheel shafts by belts and pulleys, one of which is fixed to the fly-wheel shaft, and the other to one of the rolls. The rolls are geared together as usual. At each end of the mill a driving belt passes loosely around the pulleys, and only communicates motion when tightened by a steam piston tightening device. One engine may be employed to drive the rolls one way, and the other to give them reverse motion. The dies employed are removable and adjustable so that they may be made of any suitable shape to point or head spikes, etc., and so that they may be readily reshaped and repaired. Suitably formed dies produce railway or other spikes at one operation.

FAN BLOWER.—Patrick Clark and J. R. Shotwell, Rahway, N. J.—This invention is fully described and illustrated in another column of this issue.

JOINT FOR RAILROAD RAIL.—Joseph Adams, Fairhaven, Vt.—In the neck of the ordinary T-rail a tongued or grooved joint is formed, and this joint extends extends entirely through the neck. A stay of any desired length is made to fit into the neck of the rail, and a supplementary rail is added to the other side, the lower portion of which fits into the neck of the rail like the former, but its upper portion extends up and around the outside of the rail, and its upper edge is sufficiently elevated, to take the tread of the wheels of the locomotive, cars, or trucks so that the ends of the rails will be, in a measure, relieved from pressure, and the wear and disagreeable jolt occasioned by the striking of the ends of the wheels against the the ends of the rails will be avoided. The stay and the short rail are firmly bolted to the rail by bolts which pass through slots so as to allow for the expansion and contraction of the rail.

ESCAPE VALVE FOR STEAM BOILERS.—Jas. C. Cochrane, Rochester, N. Y.—This invention consists of a hollow metal cylinder, with a valve seat in the head thereof, communicating with a tube extending to the bottom of the boiler. A valve is placed in this cylinder, and consists of a metal spindle and piston—preferably made hollow—and on the spindle above the piston is a projecting bulb or cone. The lower end of the spindle is made to fit easily into the tube, so as not to prevent the flow of water or steam. When the cylinder extends above the boiler, a cap is placed over it and firmly fixed to the head of the boiler. In the top of this cap is an aperture to match the bulb of the spindle, so that when the piston is pressed up, the bulb will enter and fill the aperture, and the valve is then closed. The head of the cylinder is made tight with packing, so that no steam can pass except through the tube. The lower part of this tube is made funnel-shaped, and pierced with holes up to low-water mark. This tube may be made shorter so as only to reach down to low-water mark, and then no holes would be pierced in the sides of the tube. When the water in the boiler is above low-water mark the pressure of the steam will cause the water to rise into the valve chamber and close the valve, and *vice versa*. A whistle may be used if desired.

LEVER ESCAPMENT FOR WATCHES.—Julius Hietel, John W. Hietel, and John L. Geissler, Philadelphia, Pa.—This invention consists in constructing the lever of a watch escapment of two arms, which are connected at their outer ends by a spring, and fitting it around the staff, which has a groove formed in it for the reception of the short arm. The application and arrangement of this self-regulating spring lever will, when the watch is shaken, allow the ruby pin to pass, and will therefore permit the balance to turn freely under the influence of such shock or motion so as to prevent the breaking of the ruby pin or pivots, frequent in ordinary lever escapements, and at the same time it avoids the complication of the chronometer escapement.

PUDDLING IRON.—Charles Hewitt, Trenton, N. J., assignor to A. S. Hewitt, New York city.—This process consists in mixing cast iron divided into coarse granules, varying from one fifth of an inch in bulk, with oxide of iron, then melting, stirring, and boiling them together. The process is completed by boiling the iron, thus obtained in a puddling furnace.

LIQUID METER.—James P. Smith, Cleveland, Ohio.—This invention consists in the combination of a conical and needle valve, and their adaptation to the ingress and egress pipes of a liquid meter. The liquid enters the body of the meter through a pipe projecting into the body of the meter, larger than the egress pipe, so that the body of the meter is kept full of liquid under pressure. A cone is placed in the inner end of the ingress pipe, the stem of which passes through guides to secure vertical motion. To this valve is attached an arm carrying a needle valve, slightly tapered, which enters a small pipe, so that however much or little the inner end of the ingress pipe may be opened by the inward pressure of the water, the mouth of the small pipe will be opened in exactly the same ratio; and the amount of water entering the ingress pipe is exactly proportional to the amount escaping from the mouth of the small pipe. By measuring the latter, the amount discharged by the former is determined.

REVERSIBLE PARASOL.—Joseph E. Banks, New York city.—This invention consists in so arranging the ribs, stretchers, and cover of a parasol that when spread the ribs will project at right angles from the stalk, forming a flat top with central conical extension above or below the flat part. The stretchers and ribs are connected with two runners, by either of which the frame may be spread, one being connected to the stalk near the top, and the other below. The lower one is most convenient for this purpose, the upper one being fixed by a spring or other device. The frame, or parachute may be closed by moving the runners in either direction on the stalk. The spring catches are arranged to facilitate the movements of the runners over them in either direction. The frame, with its runners, is reversible, so that the central conical projection of the cover which was upwards will be downwards when the parasol is opened.

DRILLING APPARATUS.—Samuel Lewis and William McFarland, Brooklyn, N. Y.—This invention is fully described and illustrated on page 385, Vol. XX., of the SCIENTIFIC AMERICAN.

ACTUATING SHIPS' PUMPS.—Almon Koff, Southport, Conn.—This invention was fully described and illustrated on page 20, Vol. XXI, of the SCIENTIFIC AMERICAN.

GUN LOCKS.—Randal D. Hay and James M. Hill, Crooked Creek, N. C.—A hollow case or guard is hinged to the side of the lock, so that when closed up against the side of the lock, the top will project over the nipple. This guard is moved out of the way of the hammer, in discharging the gun, by a lever, bell-crank, and link, actuated by the trigger, so as to throw the guard out of the way of the trigger. Springs throw the guard back again after the hammer is raised, and the gun is thus prevented from being accidentally discharged.

FRICTION MATCHES, AND MATCH BOXES FOR HOLDING THE SAME.—Wm. H. Rogers, New York city.—These matches are made by combining any of the ordinary friction match compositions with gutta percha, or caoutchouc, which makes a flexible match cord. The second part of the invention is a metallic case like a pencil case, to contain the flexible match, out of which it is slid as wanted. This case is also provided with a cap to extinguish the match, when it is no longer wished to keep it ignited.

Official List of Patents.

Issued by the United States Patent Office.

FOR THE WEEK ENDING March 8, 1870.

Reported Officially for the Scientific American.

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100,487.—BARBER'S CHAIR.—Anthony Abel (assignor to himself and Adam Schwab), New York city.
100,488.—TIRE-UPSETTING MACHINE.—P. J. Ayres, Lydon, N. Y.
100,489.—FAUCET.—F. M. Bachman and Samuel Ricker, Fredericksburg, Pa.
100,490.—BOOT-LASTER.—Lewis Barnett (assignor to himself and J. D. Boal), Leechburg, Pa.
100,491.—BED BOTTOM.—Wm. Bowen, Dayton, Mich. Antedated March 1, 1870.
100,492.—COFFEE-CLEANING MACHINE.—J. W. Brady (assignor to M. W. Brady), Catonsville, Md.
100,493.—COFFEE-CLEANING MACHINE.—J. W. Brady (assignor to M. W. Brady), Baltimore, Md.
100,494.—PRINTING PRESS.—James M. Brownson, Brooklyn, N. Y.
100,495.—CORN PLANTER.—S. B. Buck, Elyria, Ohio.
100,496.—FRUIT JAR.—Ira Buckman, Jr., Williamsburgh, N. Y.
100,497.—DESULPHURIZING ORES.—Elizabeth A. Burns, Meadow Lake, Cal.
100,498.—CRIMPING MACHINE.—Wm. Butterfield (assignor to himself and T. E. Roberts), Boston, Mass.
100,499.—CULTIVATOR.—Horace Carr, Wooster, Ohio.
100,500.—CULTIVATOR.—Horace Carr, Wooster, Ohio.
100,501.—CULTIVATOR.—Horace Carr, Wooster, Ohio.
100,502.—MORTISING MACHINE.—F. G. Chapman, Chicago, Ill.
100,503.—MACHINE FOR POLISHING WOOD.—F. G. Chapman (assignor to Dennis Beach), Chicago, Ill.
100,504.—BRACELET.—D. D. Codding, North Attleborough, Mass.
100,505.—SASH BOLT.—J. C. Cooke, Bridgeport, assignor to De Witt C. Sage, Middletown, Conn.
100,506.—PAPER CUTTING MACHINE.—A. W. Currier, Grand Rapids, Mich.
100,507.—SLATE FRAME.—Charles B. Dickinson, New York city.
100,508.—SCHOOL DESK AND SEAT.—J. D. Diffenderfer, Lewisburg, Pa.
100,509.—STOP FOR BILLIARD WIRES.—E. O. Dow, Chicago, Ill.
100,510.—RATCHET AND PAWL.—J. H. Durran, Aurora, Ill., assignor to himself and Wm. Lombard, Brooklyn, N. Y. Antedated Feb. 26, 1870.
100,511.—WATCH REGULATOR.—Julius Elson, Boston, Mass.
100,512.—STEAM AND WATER SEPARATOR FOR STEAM ENGINES.—C. E. Emery, Brooklyn, N. Y. Antedated Feb. 18, 1870.
100,513.—WASHING MACHINE.—F. M. English, Evansville, Ind.
100,514.—GUN CARRIAGE.—John Ericsson, New York city.
100,515.—RAILWAY CAR COUPLING.—W. J. Evans (assignor to himself and Charles Warner), Homer, Iowa.
100,516.—MEDICAL COMPOUND OR OINTMENT.—G. D. Field, New Orleans, La.
100,517.—WINE AND CIDER MILLS.—W. K. Foltz and W. A. McCool, Ashland, Ohio.
100,518.—HORSE HAY FORK.—R. S. Frame, Washington, Ohio. Antedated Dec. 31, 1869.
100,519.—HIDE MILL.—J. P. Friend, Peabody, and B. R. Annable, Salem, Mass.
100,520.—TANNING.—A. D. Fullmer, Buffalo, N. Y.
100,521.—DIE FOR FORMING SHOVELS.—H. O. Ganyard (assignor to Ami Hills), Rochester, N. Y.
100,522.—HANDLE OF FOLDING UMBRELLA.—Louis Gehlen, New York city.
100,523.—PROCESS OF PULPING AND BLEACHING PAPER STOCK.—J. W. Goodwin, Petersburg, Va. Antedated Feb. 26, 1870.
100,524.—BEEHIVE.—Henry Grems, Westmoreland, N. Y.
100,525.—SADIRON HEATER.—Gordon O. Honks, Addison, Vt.
100,526.—COTTON SEED PLANTER AND FERTILIZER DISTRIBUTER.—H. C. Harris, Fort Valley, Ga.
100,527.—ICE CHAMBER FOR REFRIGERATOR.—J. W. Hazlett, New York city.
100,528.—EVAPORATING SALT BRINES AND OTHER LIQUIDS.—Jacob Heim, New York city.
100,529.—STUMP EXTRACTOR.—Johnson Higgins, Friendship, N. Y.
100,530.—FLUE FOR DRY-HOUSE.—W. B. Hix, Rome, Ga. Antedated March 2, 1870.
100,531.—STEAM GENERATOR.—G. P. Hunt, United States Navy.
100,532.—GRAIN AND STRAW-CARRYING ATTACHMENT FOR SEPARATORS.—Byron Jackson and B. F. Jackson, Woodland, Cal.
100,533.—LAMP SHADE.—W. H. Johnson, Springfield, Mass.
100,534.—CARBURETING AIR.—Charles Lawrence, Cincinnati, Ohio.
100,535.—CORRUGATIONS OF BOOT AND SHOE UPPERS.—Wm. Lee, New Haven, Conn. Antedated Feb. 26, 1870.
100,536.—STOVE GRATE.—Erastus C. Loud, Springfield, Mass.
100,537.—MILLSTONE DRESS.—G. W. Loy, Nacogdoches, Texas.
100,538.—WIND-WHEEL.—Charles Mahler, San Francisco, Cal.
100,539.—BASE BURNING FIREPLACE HEATER.—John Martino, Philadelphia, Pa.
100,540.—COMPOUND FOR THE MANUFACTURE OF WAX FLOWERS.—Mary Jane McColl, Chicago, Ill.
100,541.—BEVEL-JAWED VISE.—Austin Z. Mason (assignor to R. B. Robins), Adrian, Mich.
100,542.—INSTRUMENT FOR COUPLING RAILWAY CARS.—Abner McOmber and Mina Ward, Schenectady, N. Y.
100,543.—RAILROAD CAR HEATER.—William Meller (assignor to himself and Joseph Sutton), McKeesport, Pa.
100,544.—COFFEEPOT.—Sante Mento, Alliance, Ohio.
100,545.—MEAT-POUNDER BLOCK AND CHOPPING BOWL.—G. B. Mill, Buffalo, N. Y.
100,546.—PRESS FOR HAY, COTTON, ETC.—Samuel Miller, Mount Union, Pa.
100,547.—REVOLVING HARROW.—H. H. Monroe, Thomaston, Me.
100,548.—PREPARING BUTTON-HOLE TWIST.—Robert Morrison, Yonkers, N. Y.
100,549.—LIGHTNING ROD.—David Munson, Indianapolis, Ind.
100,550.—DAMPER ACTION FOR UPRIGHT PIANO-FORTES.—G. W. Neill (assignor to Chickering & Sons), Boston, Mass.
100,551.—SCROLL SAW.—Governeur M. Nickason, Ellenville, N. Y.
100,552.—FANNING MILL AND GRAIN SEPARATOR.—Harrison Ogborn, Richmond, Ind.