Recent American and Foreign Patents.

Improved Ash Sifter.

Levi Marsh, South Adams, Mass.—This invention is an improved ash sifter so constructed that the coal may be sifted without the escape of the fine ashes through the room. The box is provided with a close cover supported upon legs, so that an ashpail may be placed beneath to receive the ashes, which are allowed to escape through a hole in the bottom by drawing out a slide. In one end of the box is a spout through which the coal may be allowed to escape by drawing up another slide. In using the sifter, the ashes and coal to be sifted are poured into a sieve within the box, and the handle of a shaking rod is moved back and forth quickly. When the ashes have been all shaken out, the rod is turned slightly, causing the forward end of the sieve to drop, so that a fastening on a door comes in contact with the inner end of the spout. The door thus becomes unfastened, allowing the coal to escape through the spout into the receptacle placed beneath. As soon as the coal has been discharged, the slide is inserted, and the sifter allowed to stand until the ashes have all settled. The slide is then withdrawn and the ashes allowed to escape into the receptacle placed beneath the sifter. The door is then refastened, and the sifter is again ready for use.

Improved Hemmer for Sewing Machines.

William Lee Apthorp, Tallahassee, Fla.—This invention consists of a hem-turning scroll for the edge of the cloth, permanently attached to the ends of a piece of wire, which constitutes the frame by which said scroll is supported and attached to the machine. On this a scroll guide for the fold of the cloth is fixed so as to slide toward and from the edge-turning scroll to suit the width of hem required.

Improved Method of Burning Brick.

Tobias Billesbach, Kearney Junction, Neb.—This invention is a method of burning layers of bricks in a kiln by plastering up successive portions of the sides of the kiln, beginning at the bottom, and continuing it at intervals toward the top as the burning advances. If the kiln is continued to a considerable length, the burning of one part will be completed, the bricks removed, and a new kiln commenced while another part is being finished, thus making the operation continuous.

Improved Adjustable Scaffold.

John Dillon, 424 Fourth avenue, New York city.—The two parts of the extension truss are hinged together near the top so as to fold up and be easily detachable, as necessary in the application of the parts. The tops of the halves are united by laterally connecting boards and a hinged board, which fits over the recess formed at the adjoining top ends of the parts. The recess is lined with metal plates, and serves to hold a vertical cross board, passed through the same, which projects at both sides of the truss, and supports the boards connecting with the next truss. Strong bolts are inserted through the top boards for retaining the longitudinal pieces, on which the framework or platform connecting the trusses is laid. The front and rear parts are inclined toward each other, so as to brace the top, and both parts may be extended to and adjusted at different hights. When the truss is folded up, the boards connecting the trusses may be secured between the steps of the front part, serving thereby as support for paint pots and other implements. In similar manner, either half may be used as a suspended platform for painters, for painting the outside of houses, while the detached front part may be applied as an extension ladder. In its common form it is also used as a step ladder.

Improved Guano and Seed Distributer.

James H. Boyd, Plain, S. C.—A tubular plow stock extends downward from the beam in the ordinary way. Said beam is mounted on a wheel and carries a hopper for the seed, said hopper being mounted in front of the handles, and sufficiently above the beam to admit the shaking and distributing shoe under it. This shoe is arranged to discharge into the stock at the top, and is actuated by a rattle staff and pins on the side of the wheel. The furrow can be made any required depth, so that cotton seed may be planted in the furrow above the fertilizers deposited at the bottoms.

Improved Clock Escapement.

Aloys Platt, New York city.—There is a spring-pressed swinging bar that engages the scape wheels, provided with a side stud, operated by an arm which disengages a pallet for the scape wheels. The bar which carries the arm is pivoted to the frame connected to the pendulum through a slot, and carries a pallet at its lower end, which receives the impulse of the escapement wheel, and transmits it to the pendulum. Immediately after the pallet has received the impulse of the scape wheel, the latter is arrested by the first pallet, and the pendulum bar swings back to the right, the pallet passing over the teeth of the wheel, which are held while the wheel stands, so that they do not cross the path of the pallet. The arm has a pin, going through a vertical slot in the bar, to hold it at the right position for striking the stud, and limiting its rise when it escapes from said stud, which it does by swinging upward, the point being thrown up by the inclined face of the stud upon which it strikes. The hight at which the point of the arm will strike the stud and from which it will escape to regulate the action may be varied.

Improved Cultivator Plow.

William Bagnall, Otsego, Ohio.—To the foot, a little in the rear of its middle point, is secured, or upon it is formed, the lower end of the forward standard, the upper end of which is secured to the beam. In the upper side of the forward part of the foot is formed a shoulder for the forward end of the plow plate to abut against. From the shoulder the upper side of the foot curves slightly upward, said curve being continued upon the lower part of the standard to form a seat for a smaller or weed-cutting plow. The standard is made with an offset to form a seat for the upper part of the larger or dirt-throwing plow, the lower end of said plow fitting and resting against the shoulder of the foot. The plows are secured to their seats upon standards. One plow is thus low, so as to pass beneath the soil, cutting off the weeds and grass, but leaving the surface of the ground almost entirely undisturbed, and throwing no soil around the plants. The other plow, from the greater hight of its rear end and the greater flare of its wings, throws the soil around the plants. By this construction, the plows being made wide, a single plow is enabled to do the work of two or more small plows.

Improved Locomotive Smoke Stack.

John V. Bishop, Atlanta, Ga.—The ordinary funnel-shaped stack is reenforced in the upper portion with a lining to sustain the wear of the hard particles of coal which are projected against it in being deflected from the direct escape. It is made removable. The cover has the ordinary short discharge tube extending below to conduct the smoke from the interior to the holes in its sides, with which are arranged short tubes to receive the cinders bounding off from the top of the stack toward the discharge passages, and prevent them from being carried through the holes with the currents of smoke and steam. By this means the holes may be made much larger than they otherwise could be, and the escape of the cinders is prevented. In the space between the top and the upper end of pipe are vertical curved tangential plates for imparting a spiral motion to the escaping vapors, which tends to increase the draft by preventing them from being thrown directly against the wall of the stack, by which they are abruptly stopped.

Improved Railway Joint Stiffener.

Horace Harding, Tuscaloosa, Ala.—This invention relates to means whereby the rails may be held down securely at the ends, and consists in a bar held to the tie that supports rail joint, parallel to the rail and at same distance from it. It is cheap, easily applied, and thoroughly effective for the purpose intended.

Improved Fiber Disintegrator.

A. Berthet and P. Laberie, New Orleans, La.—This invention consists of a platform having two horizontal rollers, arranged one obliquely above the other and each carrying upon its surface oblique sectional blades. A double grooved wheel of perpendicular axis presents its periphery close to the point of contact of the wheels at each end. A belt passing around both wheels has intermediate regulating pulleys. The plant is fed into the groove and held by the band, then drawn by the roller blades, and finally dropped on the side of the wheel opposite the feeder.

Improved Stuff Regulator for Paper Machines.

David Hamel, Holyoke, Mass.—This invention consists of a tank, a float, and valves or gates, so contrived that, by passing the stuff of which paper is made through it, as said stuff goes from the main holding tank or reservoir to the moving screen upon which it is spread for forming it into sheets, the flow will be regulated according to the proportion of pulp to water, so that the sheets will be uniform in thickness throughout their length. As the stream thrown by the pump is constantly the same, the variations in the hight of the float are caused by the variations in the thickness or consistency of the stuff; and said float being connected to the valves the latter self-actingly regulates the quantity spread upon the screen with great uniformity. They are used to shut off all the flow to the apron, and cause it all to go back to the tank, or to shut off the return to the tank entirely and cause it all to flow to the apron. For allowing the stuff to flow both ways, they are adjusted on the half stroke.

Improved Automatic Lubricator for Car Axle Journals.

Joseph G. Johnson, Elkton, Md.—This invention consists in an open ended oiler frame arranged to slide and be supported on shelves in axle box and over an oil reservoir forming part of axle box. The oiler can thus be examined and supplied easily with wick without removing the reservoir.

Improved Automatic Water Meter.

Francisco De Paula Bellido, New York city.—The body of the meter is divided into two compartments, the upper being the smaller. The water enters the latter division; and to the valve plug of the pipe is connected a faucet, the handle of which communicates with a float. By this construction, as the water rises in the chamber, it raises the float, and this closes the faucet, stopping the inflow of water. A fine wire gauze screen shuts off a part of the chamber, in the bottom of which is formed the discharge orifice through which the liquid escapes from the chamber and flows into the lower compartment. The bucket that receives the water has its ends made in the form of isosceles triangles, with the third sides longer than the others. The side edges of the bottom plate of the bucket are bent upward a little, and to the outer sides of the flanges thus formed are attached small boxes into which water is admitted from the bucket through slots. The bucket is divided into two compartments, and to the bottom is attached a shaft, the ends of which work in bearings in the lower ends of bars. The bucket is provided with supports; so that when either compartment is turned downward, the bucket will remain in that position until the upper compartment has been filled with water, the weight of which will tilt the bucket and discharge the said water into the compartment. By suitable construction, by adjusting the set screws, the amount of water required to tilt the bucket may be regulated with the greatest accuracy. The inflow of water into the boxes insures the prompt tilting of the bucket when the exact amount of water has been received. To one end of the bucket, a little at one side of its pivoting point, is pivoted the lower end of a connecting rod, the upper end of which is connected with the operating mechanism of an ordinary register, attached so that it can be conveniently seen; and it is covered with a case, so that it cannot be tampered with. By this arrangement each movement of the bucket, and, consequently, the exact amount of water passing through the meter, will be accurately measured and registered. When the water in the lower chamber has reached the depth for which a float therein has been adjusted, the said float rises, which forces the plug into a connecting pipe, preventing the flow of any more water from the upper into the lower chamber until the water has been drawn out of the latter.

Improved Pantaloons Stretcher.

John D. Ryan, New York city.—This invention has for its object to furnish a device for stretching pantaloons to remove the bagging at the knees and the wrinkles in the other parts caused by wear, so that the pantaloons may be made perfectly smooth. There are two rods, of a length about equal to the length of the legs of the pantaloons to be operated upon, the upper ends of which are secured to the ends of two lower arms of a three-armed block. Spring rings are passed through slots in the lower part of the rods, several slots being formed in said rods, so that the rings may be adjusted according to the length of the legs of the pantaloons. The rings are held in place by spring catches, similar to the spring catch of an umbrella runner. In the upper arm of the three-armed block is formed a screw hole to receive the screw, which is made with a cross head for convenience in operating it, and the upper end of which is swivelled to a nut which receives the lower end of a rod, which carries an open spring ring, which is made of such a size as to fit the waist of the pantaloons. The rings are designed to be covered with cloth, so that the bottoms of the pantaloon legs and the waistband may be conveniently pinned to them; then, by turning out the swiveled screw, the pantaloons may be stretched.

Improved Loom Shuttle.

Nathan D. Chapman, Rollingsford, N. H., assignor to himself and Horatio H. Warren, of same place.—This invention relates to split shuttle spindles; and it consists of a twist of about half a turn in the two parts to the left near the point, by which the pressure of the cap on said parts along the middle portion swells them out at the twist, so as to bind the cap at the point to effectually prevent it from being thrown off by the shocks to which it is subject in the loom. When the point of the cap has been woven off, the reaction of the two parts of the spindle along the middle is sufficient to hold the remaining portion.

Improved Apparatus for Burning Hydrocarbons.

Charles H. Cushing, Tidioute, Pa.—A heavy circular iron pan has a raised outer rim, and a less raised inner rim, around a small central orifice through which the steam or air blast is admitted from a suitable conduit pipe. The oil or other fluid is admitted through an orifice in the outer rim, and its supply regulated by means of a stopcock of the oil conducting pipe. The oil will flow from the orifice over the pan and fill the same to the hight of the inner rim over which the surplus will flow, to be thence carried up by the steam or air blast coming through the orifice. The fluid is thereby divided into fine particles and thrown, intermixed with steam or air, against the top and bottom of the boiler, ready for almost instantaneous combustion.

Combined Carpet Bag Looper and Button Hole Cutter.

George W. Morris and William Lenhart, Corry, Pa.—This invention relates to the manufacture of rag carpets, clothing, etc., and consists of a device for looping the strips of rags together in the process of preparing the rags for the loom, and for cutting button holes. The knife is pointed and double edged at the top, and an adjusting bar is jointed thereto near the upper end. An arm is attached to and extends laterally from the blade, curved to correspond with the arc of a circle, and having a series of holes therein. By a pin which enters these holes, the bar may be adjusted and confined near to or at a distance from the blade. The operator (with a strip of rag in each hand) laps the end of the left hand rag over the end of the right hand rag, and then forces the looper through them. He next puts the back end of the under or right hand rag through the eye. The rags are then detached from the looper with the left hand, and with the right hand he pulls the end of the under or right hand rag through the slits made, which completes the operation.

Improved Beer and Ale Faucet.

John Deasey, Fall River, Mass.—A tube has a screw thread on one end to screw into the tap hole in the barrel, and also a packing cap on the other end, and a cock attached to one side near the end having the cap. A wooden rod in said tube extends from the inner end through the cap. A collar on this rod bears against a ring of packing to prevent leaking at the hole in the cap. A spring inside of the tube bears against the inner end of the collar to press it against the packing. To apply this faucet, the plug with which the tap hole is closed is first driven by a rod and hammer about as far as it can be without letting the beer escape. The faucet is then screwed in up to the plug, and the plug is driven entirely in by a blow on the projection of the rod, and the faucet is screwed up tight.

Improved Manufacture of Sulphuric Acid.

Joseph Saunders, Brooklyn, N. Y.—This invention consists of hollow glass balls, of about 6 inches diameter, for sulphuric acid condensing towers, known as "Gay-Lussac's towers," to be used in substitution of the coke, earthen balls, and other like substances, which are objectionable, because they become disintegrated and crumble to pieces in a short time, whereas glass is indestructible by the acid.

Improved Churn.

George G. Buchanan, Cotton Plant, Miss.—The upper end of the dasher shaft is secured to the lower end of a short metallic tube, into the upper end of which is detachably secured a metallic shaft which revolves in bearings in a cross bar attached to the middle horizontal bars of the churn frame. The shaft is supported by a collar which rests upon the upper side of the bar. The upper end of the shaft revolves in bearings. A small gear wheel is attached to this part of the shaft, and engages with a large gear wheel, to which is attached a horizontal shaft which is rotated by a hand crank attached to a cross bar secured to the frame, and to its outer end is secured the crank by means of which the apparatus is operated.

Improved Sash Fastener.

Orvellas H. Gilbert, Darien, Wis.—The lock consists of an inner and an outer plate, which inclose the operating parts, the bolt being shot through openings in the front and back edges. A spring is confined between the plates of the lock, the outer end of which enters a slot in the bolt. The finger piece is pivoted in the lock. Its long arm extends through the edge, and its short arm enters a recess in the lower edge of the bolt. A spring pawl enters a recess in the bolt and prevents its back motion. When the sash is locked, the bolt is shot into a recess of the casing, in which position it will remain until the pawl is raised out of the recess. To raise the pawl, a key is used, so that the bolt can be withdrawn by a down pressure on the long arm of the finger piece. When the bolt is withdrawn, the sash may be raised to any recess in the casing which will receive the bolt. Any upper recess will be so constructed that the bolt will not throw a full stroke, and consequently will not lock, as it is unnecessary to lock the sash, except when it is down or very near down. It may be locked so as to leave an opening to admit air but exclude burglars.

Improved Fire Escape for Safe.

Charles Morgan, Philadelphia, Pa., assignor to himself and Frank Manning, of same place.—This invention is a device by means of which a safe may be automatically made to descend into a well upon the breaking out of a fire in any store of the building. The safe is placed between two or more guide posts between which it slides up and down, which posts lead down through the various stories of the building to a well in the ground below all draft. To the sides of the posts in the story where the safe is to be located, are attached ratchet bars, and to the sides of the safe are pivoted spring pawls in such positions that their engaging ends may take hold of the teeth of the ratchet bars and support the safe. Spring hammers are attached to the sides of the safe in such positions that when released they may strike against the free ends of the pawls and withdraw their engaging ends from the ratchet bars. Lever catches are also arranged in connection with buttons, which may be turned down upon them and thus prevent the hammers from being accidentally released. Connected with the catch levers is a yoke to which is attached a cord, which passes over guide pulleys attached to the ceiling, and passes through the various stories of the building to the lower one, where its end is secured. If, now, a fire should break out in any story through which the cord passes, the said cord will be quickly burned off, releasing the catches and hammers which strike the pawls, withdrawing the engaging ends of said pawls from the ratchet bars, and allowing the safe to drop. The safe may be provided with a fire brick cover which, when the safe has dropped to a place beneath the draft, will protect it from any fire even should the said safe be made of wood.

Improved Shank Laster.

William Hamilton Hanna, Chico, Cal.—This invention consists of a pair of nipper jaws, a screw-threaded shank, nut-bearing piece, and a strap, all so combined and arranged that, the bearing piece being placed against the sides of the last, the jaws engaged with the edge of the upper, and the strap wound partly round the shank and fastened at the center of the heel or thereabout, the shank of the upper can be stretched up very powerfully to the last by turning the nut. The nut has a crank for the purpose, and the jaws can be shifted along the upper, and from side to side readily to stretch the upper in all parts without disconnecting the strap from the last.

Improved Testing Plug.

John Allin, Philadelphia, Pa.—The object of this invention is to furnish to coopers and others an improved plug for testing barrels and other air-tight cooper work or packages, by which the compressed air is automatically retained in the barrels, leaving both hands of the operator free to handle the barrel, examine it closely, and stop the leaks without allowing the air to escape. The invention consists of a conical tester, with a central hole provided with a check valve, by which the air remains compressed in the barrel until all the leaks are plugged. The valve seat is screwed to the end of the plug, and admits the free passage of the air to the barrel. The blowing of the air into the barrel is rendered less fatiguing by the immediate closing of the valve.

Improved Hasp for Butter Tubs, etc.

Henry C. Carter, New York city.—The ordinary fastenings of hasps consist of a stick or wire passed through a fixed staple, and such fastenings, in the process of transportation, become unlocked. This improvement is claimed to overcome this difficulty, as the weight of the metal in the staple below the pivot constantly tends to keep the staple in the locked position. As a further security against the unlocking of the hasp, the plate of the latter is made with a slight convexity, so that it will form a spring, and thus tend to press outward against the contiguous surface of the staple, and prevent the latter from displacement. The hasp plate has also a slight recess, and the lower extremity of the pivoted staple has a projection which falls into the depression when the staple is turned into the locked position.

Improved Car Coupling.

William A. Cochran, Flat Rock, Ind., assignor to himself and James T. Burch, same place.—The coupling pins are pivoted in mortises in the draw-heads so that they can turn to a position parallel with the latter, but hang vertically when in their normal position. The link is of the common old-fashioned kind, and passes into the drawheads in recesses, which are at right angles with the mortises, but also parallel with the drawheads. The draft of the link is on the pivots and against the ends of the mortises. A block, of either wood or metal, is made to fit into the mortises, and to fill the space between the pin and the end of the mortise and hold the pin in a vertical position. A notch in the block, which receives the end of the link serves to hold the link in a horizontal position in the drawhead, which is at rest, so that it will readily enter the approaching drawhead. In coupling, the end of the link strikes the loose pin, and pushes it back to nearly a horizontal position, when it drops into the link by its own gravity, and the cars are coupled.

Improved Billiard Table.

Samuel H. Waldie, Belmont, Tex.—The object of this invention is to construct a billiard table, in combination with a Jenny Lind table, so that either game may be played thereon, to the great convenience of parties in smaller places, without additional expense. It consists in providing the billiard tables with a false bar at one end, which covers the apertures for the balls used in the so called Jenny Lind table, which bar can be taken up and arranged as the head board, having the requisite numbers painted on the under side.

Improved Combined Picture Frame and Exhibiter.

Benjamin Anyan, Fitchville, Ohio.—The object of this invention is to construct a picture frame in such a manner that a series of pictures may be combined and exhibited consecutively therein, to be used as a cheap and convenient method of framing lithographs, photographs, etc., which combines the advantages of a picture frame with a photograph album or other collection. The invention consists in providing the back of the frame with brackets, between which rollers are supported, on which the pictures mounted and stitched in the shape of a long strip, are rolled up and carried by suitable guide rollers along the glass of the frame for exhibition, by turning the cranks of the picture rollers.

Improved Railroad Switch.

Charles W. Spayd, Wilkesbarre, Pa.—In this case, the lantern-carrying rod, which is arranged between two parallel rods or bars that form the switch lever and revolves on its own axis, has an arm or finger for holding it in a position to exhibit the signal. The signal cannot be displayed if the switch rails are not in proper position, which tends to prevent accidents. The invention also consists in the use of a locking key with the two-part switch lever for locking it in the vertical or inclined position and preventing rotation of the signal rod except when the lever is moved.