

or by the body of the shell so that it cannot be forced backward by the inertia of the balls, G, but may be easily thrown forward by the explosion of the powder in D, substantially as and for the purpose herein set forth.

Second, We also claim the combination of the tube, E, plate B, and fuse plug, K, so arranged that the bullets, C, may be inserted through the mouth of the shell after the tube, E, is in place, and the fuseplug caused to embrace the end thereof, substantially as herein shown.

Third, We also claim an explosive projectile in which the point is cast in one piece with the body with a weak line, G, and with the plate, B, inserted in the cavity thereof, in the manner herein specified.

38,360.—Pump.—Nathan Stedman (assignor to himself and Jos. Miller), Aurora, Ind. : I claim the lever, F, when used in combination and placed in relation with the two valves, D, E, of the pump to operate in the manner and for the purpose herein set forth.

I further claim the piston valve formed of the two annular plates, G, G', connected by vertical rods, h, in combination with the holes, l, in the upper and lower ends of the piston, G, and the tubular piston rod, H, all arranged for joint operation, as set forth.

38,361.—Stove.—P. P. Stewart, Troy, N. Y. : I claim the combination of the outer fire cylinder, c, with the inner fire cylinder, d, in the manner substantially as herein described and set forth.

I also claim the perforated plate, m, and cold-air chamber, k, in combination with the door, w, having therein the cold-air chamber, z, the whole being arranged over the fire chamber and annular hot-air chamber, s, and for the purposes herein described and set forth.

38,362.—Mail Pouch.—Marshall Smith, St. Louis, Mo. : I claim the employment of the mail pouch, A, B, constructed substantially as herein described and represented, having one or more compartments, provided with the securing device, e, f, g, h', or formed with a series of chambers, substantially as herein shown, specified, and represented, for the purposes set forth.

38,363.—Mark-holder for Bales, &c.—Porter Fitch, Brooklyn, N. Y. : I claim, first, The blade, D, as shown in Figs. 1 and 2.

Second, The dart, D, as shown in Figs. 3 and 4. Third, The use of the arms, F, F', in connection with the shaft, E, as shown in Figs. 1 and 2.

Fourth, The use of the blade, D, the wire or chain, I, and the tag, T, in combination with the shaft, E, substantially as shown in Figs. 1 and 2, all substantially as and for the purpose described.

38,364.—Engine Lever.—T. W. Godwin, Portsmouth, Va. : I claim, first, The lower end of the lever having slots, c, c' and e', e', dogs, d, d', d', and hinged joints, f, Figs. 1, 2, 3 and 4, when used as and for the purpose herein described.

Second, The cross bar, h, and the pivot, k, when used as and for the purpose herein described.

Third, The spring, n, and the pins, O, O, or their equivalents, when used as and for the purpose herein described.

Fourth, The eccentric loop, p, the pin, p', and the handle, r, when used as and for the purpose herein described.

Fifth, The lugs, t, t', when used as and for the purpose herein described.

Sixth, The ratchet wheel, s, made of two disks, s', s', between which the lower end of the lever, a, works on a main shaft, b, all constructed substantially and for the purposes specified.

RE-ISSUES.

1,461.—Car Spring.—George Douglas, Scranton, Pa. Patented Dec. 29, 1857 : I claim the combination of elliptically-curved plates, A and B, of different degrees of curvature in the formation of an elliptic or semi-elliptic spring, in such a manner as that, when it is under the influence of weight or pressure, one or more plates, B, of said spring, will rise or separate from the plates, A, and, by limiting their expansion, prevent an undue diminution of their curvature and elasticity, all substantially in the manner and for the purpose herein set forth.

1,462.—Apparatus for Soda Water, Ice, Sirups, &c.—G. D. Dows, Boston, Mass. Patented Dec. 10, 1861 : I claim arranging and combining with a rotating ice-cutter or shaver, an ice-containing receptacle in such a manner that the ice therein held shall move toward the cutter and by the revolutions thereof shall be reduced to a finely-divided state in readiness for use, substantially as described.

Arranging an ice-cutter when made to operate substantially for the purpose described, in combination with a chest containing fluid receptacles, and an ice-containing chamber, in such a manner that the chest and its contents are refrigerated by the ice which is operated upon by the cutter.

I also claim the combination of the cream chest, D, enveloping chest, A, ice chest, C, and sirup vessels, B, all arranged substantially as described.

1,463.—Pipe Molding.—John Firth and John Ingham, Philadelphia, Pa. Patented Dec. 20, 1859 : We claim black-washing pipe molds by causing a stream or volume of the wash to flow through the interior of the mold, the said stream being controlled in the manner described.

1,464.—Apparatus for evaporating Saccharine Juices.—L. P. Harris, Mansfield, Ohio. Patented January 18, 1859 : I claim, first, An evaporating pan which allows of a bottom surface flow of the juice, and stops a top surface flow, substantially as and for the purpose set forth.

Second, A high ledge between the defecator and evaporator, for the purpose set forth.

Third, The application of an adjustable gate in an evaporating and defecating apparatus, substantially as and for the purpose set forth.

Fourth, The application of a strainer to an evaporator, substantially as and for the purpose set forth.

Fifth, The combination of two or more high ledges, each of which is constructed with an under-surface flow space in connection with shallow evaporating pans, substantially as and for the purpose set forth.

Sixth, The application of a gate or a strainer to each additional ledge which has the under-flow passage, substantially as and for the purpose described.

Seventh, The combination of a high ledge and a gate or strainer with that portion of the pan known as the evaporator, substantially as and for the purpose set forth.

1,465.—Apparatus for evaporating Saccharine Juices.—L. P. Harris, Mansfield, Ohio. Patented January 18, 1859 : I claim an evaporating pan which is constructed with one or more longitudinal channels, so as to allow the juice to circulate and in its circulation to be deprived of its feculencies or scum, substantially as set forth.

Second, Short ledges extending out from one or both sides of the pan in combination with long ledges, substantially as and for the purpose set forth.

Third, The combination of one or more high ledges, each having an under-flow passage, one or more adjustable gates, and a system of long and short ledges, substantially as and for the purpose set forth.

Fourth, The combination of one or more strainers, one or more high ledges and a system of long and short ledges, substantially as and for the purpose set forth.

1,466.—Harvester.—Stephen Hull (assignor to himself and Wm. Van Anden), Poughkeepsie, N. Y. Patented Nov. 16, 1858 : I claim, first, Providing a free opening between the rear inner depressed extensions, B, B, of the draft frame and hinging within the same a shoe or support for the cutting apparatus, substantially as and for the purposes set forth.

Second, In combination with a cutting apparatus which is arranged to rise and fall, a governed extent at its outer end, and also be adjusted against the side of the machine, or out of operative position, substantially as described, a small supporting wheel so arranged with respect to the cutting apparatus and the one large supporting wheel that it sustains the cutting apparatus at its inner end when the machine is cutting grain, and also acts in combination with the one large supporting wheel to sustain the inner side of the draft frame when the cutting apparatus is thrown up out of operation, substantially as herein described.

Third, Combining in a single rocking shoe, C, the advantages of controlling the extent of, vibration of the cutting apparatus, when the machine is in operation, and also of securing the cutting apparatus in place when it is thrown up out of action, by means substantially as described.

Fourth, Hinging or pivoting a shoe or support for the cutting apparatus of a harrowing machine directly to the depressed ends of the

transverse beams thereof, substantially in the manner and for the purposes herein described.

Fifth, The small supporting wheel, J, so applied to the extended frame of the machine and with the brace, beam or shoe that it will preserve its perpendicular position, whether the finger bar be on the ground or thrown up against the machine, substantially as herein described.

1,467.—Screw Propeller.—Sidney Shepard (assignee of H. O. Perry), Buffalo, N. Y. Patented Dec. 7, 1858 : I claim making that part of the shank end of the blades of screw propellers which enters the hub and from which the blade derives its main strength in the hub, tapering or conical in connection with a corresponding tapering or conical socket in the hub, with a key so inserted as to draw and hold the shank firmly in its place in the hub, substantially as described.

1,468.—Hinge for Stove Doors.—C. J. Woolson, Cleveland, Ohio. Patented March 16, 1852 : I claim hanging the doors by a double or compound hinge attached to the inside of them and to the outer edge of the front of Franklin stoves and grates, so that all the connecting parts of the hinges are concealed from view when the doors are closed, permitting them to be fully opened and swung away from the front and around to the sides or ends of the stove and there folded compactly into place, again concealing the connecting hinges, as herein set forth.

1,469.—Lock.—Linus Yale, Jr., Shelburne Falls, Mass., formerly of Philadelphia, Pa. Patented May 14, 1861 : I claim, first, a disconnecting contrivance, substantially such as specified, arranged and acting under a mode of operation, substantially as described, to obtain substantially the object herein set forth.

Second, In combination with a disconnecting contrivance, substantially such as is described, I claim an apparatus substantially such as is herein set forth, for imparting to the same an enforced motion when a key handle is moved, the combination being and operating as hereinbefore described.

Third, In combination with a disconnecting contrivance, substantially such as is described, I claim a contrivance which always shoots the bolt back to the same position when the lock is fully unlocked, under a mode of operation substantially as hereinbefore recited.

1,470.—Lock.—Linus Yale, Jr., Shelburne Falls, Mass., formerly of Philadelphia, Pa. Patented May 14, 1861 : I claim, first, The combination of a revolving tumbler with a revolving tooth, the two being relatively arranged so that a revolution of the latter moves the former, only through the angular distance from one of its teeth to the next in succession, the combination being substantially such as described.

Second, In combination with a pack or series of tumblers, set separately and in succession, I claim a vibrating fence and a bolt, and a proper stop against which the fence may abut, the whole being and operating substantially as set forth.

Third, In combination a revolving tooth or pack or series of tumblers, I claim a vibrating fence and a bolt, the whole operating substantially as hereinbefore specified.

DESIGNS.

1,749.—Envelope.—H. C. Berlin, Bloomfield, N. J., and G. H. Jones, New York City.

1,750.—Cover for a Kettle or Stove.—J. L. Hadden, Philadelphia, Pa.

1,751.—Ice Pitcher.—Ernest Kaufmann, Philadelphia, Pa.

1,752.—Spinning Flyer.—Oliver Pearl, Lawrence, Mass.

1,753.—Draught Stand for Soda Water, &c.—Carl Miller, (assignor to John Matthews), New York City.

1,754.—1,755.—1,756.—Carpet Patterns.—E. J. Ney, Lowell, Mass., assignor to the Lowell Manufacturing Company.

EXTENSION.

Sewing Machine.—John Bataholder, Boston, Mass. Patented May 8, 1849 : I claim the combination with the endless cloth-holder of the curved bar or piece of metal, v, for discharging the cloth from its point after being sewed, all as described.

H. W., of N. J.—Animal charcoal is formed by calcining bones, horns, hoofs, &c., in retorts. It is chiefly used in the decoloration of sirups in sugar refineries, and is superior to any other known substance for this purpose. Spanish black is charcoal made from cork.

W. Mc. D., of Pa.—“Mechanical work” means the action of a machine expressed by a definite quantity by multiplying the motion which it produces into the force opposed to it. Thus the amount of work called a horse-power is equal to 33,000 pounds lifted one foot high in one minute. A comparatively new term is now applied to this work and is called “foot-pounds;” thus, either 550 foot-pounds per second, 33,000 foot-pounds per minute, or 1,920,000 foot-pounds per hour, is a horse-power.

Messrs. Payne and Pritchard, of Corning, N. Y., desire the address of W. H. F., of Iowa, mentioned in the “Notes and Queries” of May 2d.

T. R. P., of N. Y.—You do not seem to be aware that the subtle matter in a contagious atmosphere has been obtained and analyzed.

W. B. C., of N. J.—Methylic alcohol is obtained by distilling wood in retorts. It is an inflammable volatile spirit, transparent and possesses a penetrating odor. Its taste is hot and pungent. It dissolves resins like common alcohol and is a powerful antiseptic, very effective in preserving animal substances.

Money Received

At the Scientific American Office, on account of Patent Office business, from Wednesday, April 23, to Wednesday, May 6, 1863 :—

- T. S. D., of N. Y., \$26; I. E., of N. Y., \$20; R. C., of N. Y., \$20; W. B. A., of Ohio, \$20; J. McN., of Pa., \$50; W. N. M., of Ill., \$45; J. B. R., of N. Y., \$166; E. B., of Mo., \$20; R. R. F., of Ill., \$20; R. B. D., of Pa., \$20; E. R., of Mass., \$25; G. R. J., of N. Y., \$43; J. B., of Wis., \$25; F. B. W., of Ill., \$10; W. F., of Iowa, \$20; D. L. M., of N. J., \$25; S. & N., of Ind., \$26; W. F. R., of N. Y., \$26; E. P., of Ill., \$25; C. N. J., of N. Y., \$15; S. B. J., of Conn., \$15; J. S. C., of Mich., \$14; S. R., of O., \$25; S. R. S., of N. Y., \$16; J. F. H., of N. Y., \$66; O. L., of N. Y., \$25; A. W., of N. Y., \$20; E. St. J., of N. Y., \$20; J. B. McC., of Mo., \$20; J. J. D., of N. Y., \$16; T. F. R., of N. Y., \$20; V. D., of N. Y., \$32; H. W. L., of N. Y., \$48; R. T. A., of Conn., \$20; J. C., of Mass., \$100; J. G., of N. Y., \$16; V. W. B., of Vt., \$31; N. & N., of Ill., \$16; P. I. S., of Pa., \$16; F. A., of N. Y., \$25; W. L. R., of Mass., \$25; R. H. S., of Mich., \$25; W. N., of N. Y., \$15; C. P., of Pa., \$16; R. W., of Iowa, \$40; J. A. A., of Conn., \$25; J. A. H., of Pa., \$25; A. A., of N. Y., \$28; E. M., of N. Y., \$20; B. D. S., of N. Y., \$20; J. B., of Ill., \$20; C. T. D., of N. J., \$16; C. O. L., of Vt., \$20; P. R. C., of N. Y., \$16; J. B., of Ind., \$20; H. A., of N. J., \$16; J. I. R., of N. Y., \$20; W. & P., of Mass., \$20; H. & W., of Ohio, \$25; J. D. P., of N. J., \$16; L. R., of N. Y., \$10; I. W. B., of Mich., \$75; J. R. D., of Vt., \$25; D. B., of R. I., \$23; C. W. T., of Wis., \$16; J. S. T., of Ind., \$16; B. L., of Vt., \$16; M. T. W., of Ky., \$10; W. H. O., of Wis., \$25; T. & J. W. W., of Ill., \$15.

Persons having neglected their money will please to examine the above list to see that their initials appear in it, and if they have not received an acknowledgment by mail, and their initials are not to be found in this list, they will please notify us immediately, and inform us the amount, and how it was sent, whether by mail or express.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from Wednesday, April 23, to Wednesday, May 6, 1863 :—

- J. F. H., of N. Y. (2 cases) A. A., of N. Y.; T. S. D., of N. Y.; H. M., of N. Y.; O. L., of N. Y.; V. W. B., of Vt.; S. B. J., of Conn.; M. and B., of Ohio; D. R., of R. I.; W. H. O., of Wis.; S. R., of Ohio; J. A. H., of Pa.; J. A. A., of Conn.; R. H. S., of Mich.; W. F. R., of N. Y.; J. J. R., of N. Y.; E. P., of Ill.; W. L. R., of Mass.; S. and N., of Ind.; H. B. M., of N. Y.; G. S. M., of Ill.; F. A., of N. Y.; I. W. B., of Ill., (3 cases); F. B. W., of Ill.; D. L. M., of N. J.; J. B., of Wis.; T. and T. W. W., of Ill.; M. E., of Germany; J. W. R., of Conn.; J. F. McC., of Pa.

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Models are required to accompany applications for Patent under the new law, the same as formerly, except on design patents when good drawings are all that is required to accompany the petition, specification and oath, except the Government fee.

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E. L., of N. Y.—Address, for the desired information, the Secretary of War at Washington, D. C.

J. M., of Wis.—George W. Blunt, of this city, has, we are informed, a dividing engine of the kind you require. J. Lederer, 412 Pearl street, this city, makes the achromatic lenses.

J. R. V., of N. Y.—You can reduce metallic silver from the chloride of silver by fusing in a crucible and using a flux. First carefully wash the chloride to remove all impurities, then dry and add twice its weight of a mixture of carbonates of potash and soda or of carbonate of soda and of borax, place in a crucible, and apply a bright red heat for about an hour.

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J. M., of C. W.—You say you have lately heard of a new article of manufacture called “papier-mache.” You evidently do not take the papers. The article has been in use for nearly fifteen years. Your instrument can be made from it readily. To make papier-mache take 80 pounds of water, 32 pounds of flour, 9 pounds of alum, 1 pound of coppers and make a paste; mix with it 15 pounds of rosin dissolved by 10 pounds of boiled oil, and add 1 pound of litharge; add to this 60 pounds of rag dust or other suitable material and grind all together.

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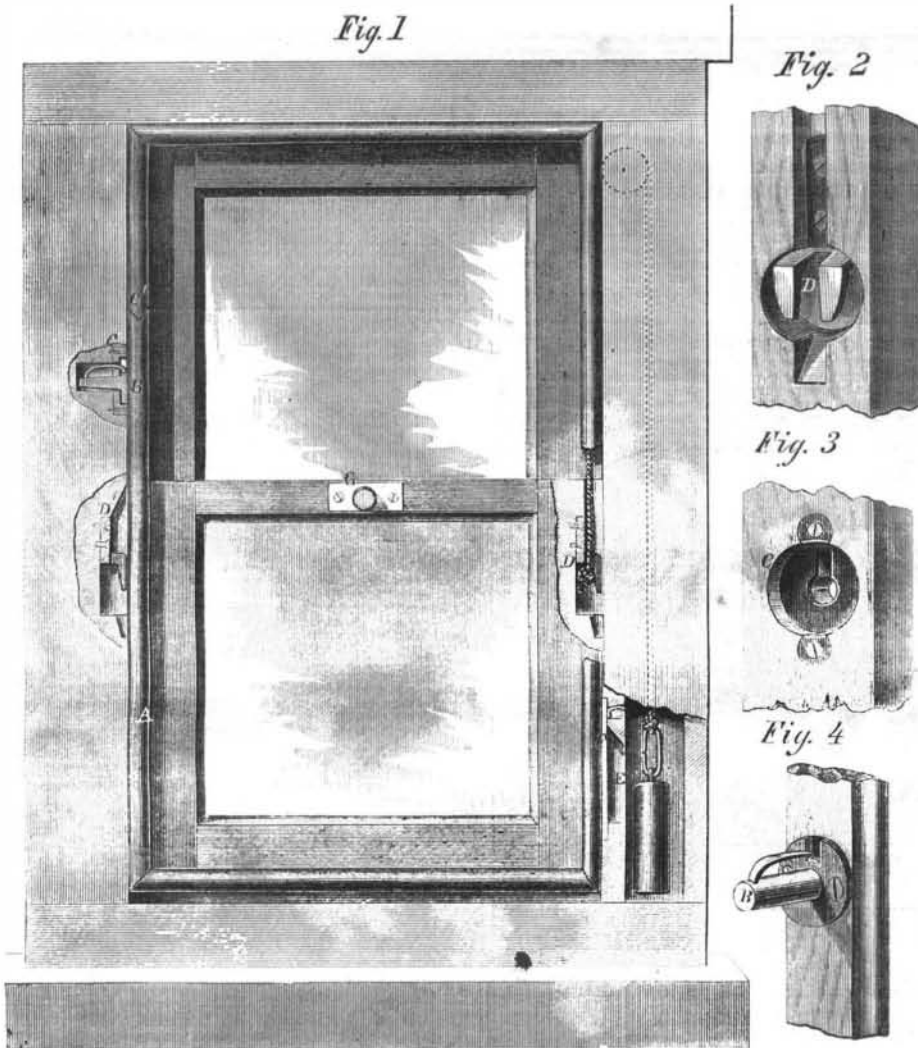
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Perhaps no inconvenience is more universally experienced than that arising from defective window fastenings or an unnecessary complication and rigidity of the several parts which prevent them from being easily detached as required. Nearly all persons have had sufficient experience as housekeepers to recall the trouble which they have had when attempting to remove the sashes for the purpose of cleaning them or having them painted, or to re-adjust the cords which hold the weights. In the old-fashioned arrangement of the window-frame, the molding which secures the sash in place is attached to the frame by nails, and these must be drawn out and driven in each time that the sash is removed. The conse-

the provision made for securing the cord to it which is frayed or broken by use. The passage, E, communicates with the groove in which the sash slides, and when the latter is removed, the small brass plate, F, can be withdrawn, the end of the sash cord drawn out and tied to the link on the weight and the latter hooked in its place, thus saving a great deal of trouble and labor. The sashes are fastened together in the center by the screw, G; a small spiral spring serves to keep the bolt out of contact with its nut when the sashes are raised. The advantages claimed for these arrangements are that all parts are rendered easy of access instantly, and that they are particularly useful when about to be cleaned or painted; the fixtures are durable and strong. The



FORD'S PATENT WINDOW FIXTURES.

quence of this proceeding is that the appearance of the wood-work is much injured, and that after a few removals the nail-holes become so enlarged that they no longer perform their office. This is a nuisance that requires attention, and it has received a due degree of it. Our engraving is an illustration of the improved window-frame; in fact, there are several novelties which we shall proceed to describe. Fig. 1, is an elevation of the window with part of the wood-work removed so as to show the connection between it and the fixtures. The side molding, A, which has to be removed before the sash can be taken out, has a small spring bolt let into it at B. This bolt has a keyhole-shaped metallic socket, C, let into the wood-work around the sash. Shown also in Fig. 3. The beveled edge of the upper end, C', of the side molding, is inserted in its place and the bolt slipped into its socket; at the bottom of the molding there is a stout rib or tongue which fits into a groove in the casement of the window, this secures the molding against lateral motion and the sash slides up and down freely in its place. The inner batten separating the two sashes can also be removed in the same way and the upper sash taken out. Fig. 2, is a representation of the cord-attachment, and the position of it on the sash is shown at D; at D', may be seen a similar fixture to which the cord is secured when the sashes are taken out to be cleaned. At the bottom of the casement we shall see a portion of the wood-work removed, disclosing the balance weight and

sashes will not rattle or vibrate in their cases, and all annoyances arising from this source are avoided. This invention was patented on June 10, 1862, by F. G. Ford (and assigned to T. G. Ford), through the Scientific American Patent Agency; for further information address the inventor, at 173 Bleeker street, New York.

RENEWAL OF THE CHARLESTON SIEGE.—The attack on Charleston by the *Monitors* is evidently not abandoned. A heavy cargo of war materials for the fleet left New York on Friday, the 1st inst., and with it two of the machines called "devils," which are carried in front of the *Monitors* to remove piles and torpedoes from obstructed waters. There are now three of those customers at Port Royal, and the sending of them affords a strong presumption that the iron-clads are to try another experiment upon the Charleston batteries. It was expected that the iron-clad frigate *New Ironsides* would cross the bar in the Charleston harbor on the 2d inst.

The Cambria Iron Company (Pittsburgh) have just turned out of their foundry the rim of the fly-wheel for their new rolling mill. It is cast in one piece, and is twenty feet in diameter and weighs twenty-three tons! Larger castings of this character are seldom made. The engine for which this wheel is intended is on the ground, and being rapidly put into place. From the size of the fly-wheel some idea can be formed of the power of the engine.

FORGERY OF GREENBACKS.—Two engravers and lithographers have been arrested in Sheffield, England, for forging United States Treasury notes. It is ascertained that large amounts have been issued in five, ten and twenty-dollar notes. We hope the rascals will be brought to speedy punishment. We are abundantly able to print all the greenbacks needed without assistance from European forgers.

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