

RECENT AMERICAN INVENTIONS.

The following are some of the most important improvements for which Letters Patent were issued from the United States Patent Office last week. The claims may be found in the official list.

Uniform Scale.—The object of this invention is an improvement on that class of scales for which Letters Patent were granted to the same party on May 24, 1859, and the invention consists in the employment of bell-crank levers in combination with and connected to each other and to double knife-edged pendent levers and to a graduated scale beam, in such a manner that, by the action of said bell-crank levers the oscillating motion of the pendent levers is transmitted to the scale beam perfectly correct and by means which are cheap and easily put up, and which, when put up, are durable, not liable to get out of order and work with as little friction as possible either up or down, rendering these scales equally applicable for weighing railroad cars, &c., and also for weigh locks. Elnathan Sampson, of Waterford Junction, N. Y., is the inventor of this improvement, and he has assigned his full right to the Sampson & Tibbet Scale Company, 15 Dey street, New York city.

Projectile for Ordnance.—This invention relates to projectiles which are intended to be fired from a gun having a bore of larger diameter than their own, for the purpose of concentrating, within the smaller transverse sectional area of the projectile, all the force obtained by the pressure of the gases of the gunpowder on the larger transverse sectional area of the bore; and it consists in a jacket or case of a novel character applied to and combined with such a projectile in such a manner as to center it in the bore of the gun, to leave the gun with it, and to remain attached to it during its flight, and only to be detached by the act of the projectile striking and after having added its momentum to the impact of the projectile. The inventor of this projectile is W. H. Smith, of Birmingham, Conn.

Combination of Melodeon and Pianoforte.—The object of this invention is to combine a reed musical instrument, such as is known as a melodeon or harmonium, with a pianoforte, in the same case, with a separate and distinct set of keys for each, so that each can be played separately or the one as an accompaniment to the other by a different player, without making the said case much larger or very perceptibly altering its appearance in any way; to this end it consists in the arrangement of the reed-board within one end of the case in an upright position, and the arrangement of the key-board to swing back into the case with the keys nearly close to the reed-board when it is not desired to play upon the reeds; also in a novel arrangement of the action in combination with such arrangement of the reeds and the key-board. R. W. Carpenter, of Brooklyn, N. Y., is the inventor of this device.

Rules to be Observed while Skating.

The following excellent advice, taken from *Hall's Journal of Health*, will doubtless be appreciated, if not followed, by many of our readers at this season:—

Skating is one of the most exhilarating of all pastimes, whether on the ice, or over our parlors or hall floors, with roller skates. In the days of "Queen Bess," some three hundred years ago, it was a favorite amusement with the Londoners, whose facilities for the same were limited to pieces of bone attached to the shoes. As lives have been lost in connection with skating, the following suggestions are made:—

1. Avoid skates which are strapped on the feet, as they prevent the circulation, and the foot becomes frozen before the skater is aware of it, because the tight strapping benumbs the foot and deprives it of feeling. A young lady at Boston lost a foot in this way; another in New York her life, by endeavoring to thaw her feet in warm water, after taking off her skates. The safest kind are those which receive the fore part of the foot in a kind of toe, and stout leather around the heel, buckling in front of the ankle only, thus keeping the heel in place without spikes or screws, and aiding greatly in supporting the ankle.

2. It is not the object so much to skate fast as to skate gracefully; and this is sooner and more easily

learned by skating with deliberation; while it prevents overheating, and diminishes the chances of taking cold by cooling off too soon afterward.

3. If the wind is blowing, a veil should be worn over the face, at least of ladies and children; otherwise, fatal inflammation of the lungs, "pneumonia," may take place.

4. Do not sit down to rest a single half minute; nor stand still, if there is any wind; nor stop a moment after the skates are taken off; but walk about, so as to restore the circulation about the feet and toes, and to prevent being chilled.

5. It is safer to walk home than to ride; the latter is almost certain to give a cold.

7. Never carry anything in the mouth while skating, nor any hard substance in the hand; nor throw anything on the ice; none but a careless, reckless ignoramus, would thus endanger a fellow-skater a fall.

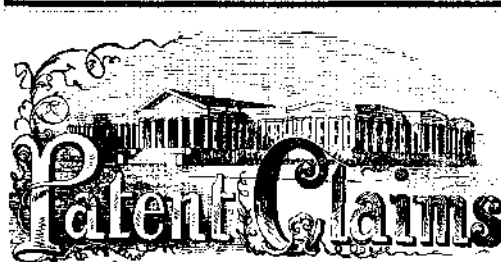
7. If the thermometer is below thirty, and the wind is blowing, no lady or child should be skating.

8. Always keep your eyes about you, looking ahead and upward, not on the ice, that you may not run against some lady, child, or learner.

9. Arrange to have an extra garment, thick and heavy, to throw over your shoulders, the moment you cease skating, and then walk home, or at least half a mile, with your mouth closed, so that the lungs may not be quickly chilled, by the cold air dashing upon them, through the open mouth; if it passes through the nose and head, it is warmed before it gets to the lungs.

10. It would be a safe rule for no lady or child to be on skates more than an hour at a time.

11. The grace, exercise, and healthfulness of skating on the ice can be had, without any of its dangers, by the use of skates with rollers attached, on common floors; better, however, if the latter are covered with oil-cloth.



ISSUED FROM THE UNITED STATES PATENT OFFICE

FOR THE WEEK ENDING DECEMBER 23, 1862.

Reported Officially for the Scientific American.

* * Pamphlets giving full particulars of the mode of applying for patents, under the new law which went into force March 2, 1861, specifying size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

37,209.—Lock.—John Adt, Waterbury, Conn.:

I claim the catch, C, when used in combination with the bolt, B, and the double-pronged bit, q, all arranged as herein set forth.

[This invention relates to an improvement in that class of locks which are constructed and arranged in such a manner as to admit of being readily inserted in an auger-hole made in a door, without the trouble of mortising. The object of this invention is to render the class of locks more compact and simple than any hitherto devised.]

37,210.—Bed Bottom.—Hiram Barber, Juneau, Wis.:

I claim the combination and arrangement of the springs, A, cross-bars, O, slats, G and F, and sheath, E, with or without the devices for raising and lowering the slats, F, substantially as and for the purpose specified.

37,211.—Metallic and Wooden Roof.—E. U. Benedict, Chicago, Ill.:

I claim the combination of gutters made of metal and substantially as described, with the joints and enlarged grooves of the board roof, the gutters being capable of being withdrawn, and the boards capable of shrinking or swelling independent of the gutters, all substantially as and for the purposes set forth.

37,212.—Lamp Insulator.—Alfred Bliss, New Rochelle, N. Y.:

I claim an insulating collar of gutta-percha or india-rubber, constructed with an internal thread, b, to receive the burner, A, and an external thread, a', to screw into the socket, B, substantially as herein shown and described, and adapted to entirely prevent contact between the metallic surfaces of the lamp top and socket, as explained.

[This improved form of insulator is adapted to entirely prevent contact between the burner and the reservoir, and may be applied by any one to lamps in common use.]

37,213.—Valve for Water Closets.—J. E. Boyle, Brooklyn, N. Y., assignor to James Stevenson, New York City:

I claim the hollow valve stem with its lateral induction and education water-ways, substantially as described, in combination with the induction valve, sliding piston and cylinder, provided with a small aperture or leak, to control the closing of the valve, and the diaphragm or the equivalent thereof, for closing the valve by the pressure of the water alone, substantially as and for the purpose specified.

37,214.—Churn.—Jacob Brinkerhoff, Auburn, N. Y.:

I claim, first, The hollow stud shaft, c', short metal shaft, b', key, d', and fly or balance wheel, D, when combined and arranged to operate in the manner and for the purpose specified.

Second, The series of longitudinally-grooved blades, H, in combination with the horizontal shaft, C, on which they are arranged in spiral lines, to operate in the manner and for the purpose set forth.

[The nature of this invention consists in a peculiar manner of hanging a balance wheel, whereby its entire weight is supported indepen-

dently of the driving shaft on which it acts, relieving the latter of all strain except what is required to rotate the wheel, thereby lessening the tendency of the churn to leak by the bearing nearest the wheel wearing away more than the other. It also consists in a peculiar construction of the dasher, whereby it is made more effective in its operation both in the formation and gathering of the butter.]

37,215.—Elevator Bucket.—J. E. Brooks, Rochester, N. Y.:

I claim the employment of a shield or facing of steel, or its equivalent, in any hardened metal, to elevate buckets, as and for the purposes described.

I also claim, in combination with the above, the mode of putting the iron band around the back and ends while they are flat, and fastening it to the steel facing, as and for the purposes shown and described.

37,216.—Cartridge Box.—Francis Bush, Boston, Mass.:

I claim, first, The adjustable inner box or boxes, B, in combination with the box or case, A, in the manner and for the purpose specified. Second, In combination with the boxes, A, and B, the employment of a stop, substantially as and for the purpose described.

37,217.—Combination of Reed Instruments with the Pianoforte.—R. W. Carpenter, Brooklyn, N. Y.:

I claim, first, The arrangement of the reed-board, C, and the key-board, D, in combination with each other and with the extended portion, B, of the case, A, B, substantially as and for the purposes herein described.

Second, In combination with such arrangement of the reed-board and key-board within the case, I claim the combination of the reeds and keys by means of jacks, G, G, applied substantially as herein specified, to permit the closing-up of the key-board.

37,218.—Bucket for Chain Pumps.—J. D. Clark, Leicester, Mass.:

I claim a grooved bucket in combination with an elastic packing ring, as herein described, and for the purpose set forth.

37,219.—Cultivator.—Josephus Danner, of Milton, Ill.:

I claim the combination and arrangement of the draught pole, A, the adjustable beams, B, the standards, C, and shares, G, the supports, D, and the bar, E, and the strap, F, or its equivalent, all arranged and constructed substantially as and for the purposes delineated and set forth.

37,220.—Coal-oil Burner for Lamps.—Joseph Dodin, Brooklyn, N. Y.:

I claim, first, The particular shape of the plate, Fig. 4, with its slots, a, a, substantially as described. Second, The circular plate, Fig. 5, with its slot, M, in combination with the moveable tube, Fig. 3.

37,221.—Can or Bottle Stopper.—Jacob Dunton, Philadelphia, Pa.:

I claim a bottle or can stopper consisting of the socket, A, formed with a screw thread, a, and internal shoulder, a', the neck, D, formed with an external lip, G, internal screw thread, d, and annular flange, E, and the imperforate cylindrical cock or plug, C, all constructed, combined and arranged in the manner and for the purposes shown and described.

[This improved stopper has been extensively introduced in the army and is found well adapted for medical and other uses.]

37,222.—Bayonet Scabbard and Guard.—John G. Ernst, York, Pa.:

I claim, first, The ring, D, adapted and employed to operate in combination with the scabbard, C, and guard or scabbard, A, in the manner and for the purposes specified.

Second, The combination of the guard ball, E, with scabbard, A, to constitute a combined scabbard and guard, as explained.

[A description of this invention will be found on page 200, Vol. VII (new series) of the SCIENTIFIC AMERICAN.]

37,223.—Loom.—John F. Fosdick, Lowell, Mass.:

I claim my improved application and arrangement, as described, of the guide, a, the take-up roller, b, the beam or roller, c, and its guides, d, d, with respect to the lay and the breast beam of the loom.

37,224.—Churn.—Herman Gardner, New York City:

I claim, first, The secondary chamber, C, at the bottom of the churn, closed as described, having the apertures for the ingress and egress of the milk, E, for regulating the agitation and permeating process is produced, separate from the milk in the body of the churn.

Second, The combination and arrangement of the chamber, C, the cylinders or tubes, D E E', around the dasher, operating so as to maintain, when the dasher is in motion, a circulation and agitation of the milk and air, as described.

Third, The use and application of the combined gauze cylinder, E, and sliding cylinder, E', for regulating the circulation of the milk while the process of churning is going on.

Fourth, The combination and arrangement of the inner tube, D, and outer tubes, E E', so as to form the hollow space or chamber through which space the milk is drawn downward to the bottom of the churn into the chamber, C.

37,225.—Attaching Handles to Cutlery.—J. W. Gardner, Shelburne Falls, Mass.:

I claim forming handles for cutlery and implements pertaining or analogous thereto, by means of the parts, C C, secured to a flat tang, B, by means of ferrules, D D, fitted and compressed in recesses, a b, made respectively in said parts and the tang, substantially as herein set forth.

[This invention consists in having the implement provided with a flat tang, and the handle formed of two parts placed one at each side of the tang and secured thereto by means of ferrules.]

37,226.—Washing Machine.—M. L. Grover, Duplainville, Wis.:

I claim the combination of the clothes receptacle, B, and rubber, E, constructed and arranged as shown, and used in connection with the suds-box, A, for the purpose specified.

[This invention relates to an improvement in that class of clothes-machines in which a rotary or a reciprocating partially-rotating clothes-cylinder is employed and fitted within a suitable suds-box.

The invention consists in the employment or use of a cylindrical clothes receptacle formed of staves or slats with open spaces between them to admit the suds, said staves or slats being grooved or fluted at their inner surfaces, and the clothes-receptacle having a rubber suspended within it, constructed and arranged in a novel way.]

37,227.—Hold-back for Carriages.—H. A. Harris, Battle Creek, Mich.:

I claim the use of a graduated bar in combination with a moveable stirrup or ring and a spring, for the purpose and substantially as set forth.

37,228.—Heater.—J. C. Henderson, Albany, N. Y.:

I claim, first, The range of vertical hot-air pipes, h, h, within the cylinder, d, in combination with the cone, k, that deflects the products of combustion against the base of said pipes and cylinder for the purposes and as specified.

Second, I claim the conical chamber, k, in combination with the cylinder, d, and air pipes, m, m, as and for the purposes specified.

37,229.—Adjustable Link.—Jonas Hinkley, Norwalk, Ohio:

I claim having the sides of the two links pivoted together as shown, with an opening in each link just in front of the pivot, all as herein set forth.

[The object of this invention is to obtain a link of simple construction which may, in the case of the breaking or parting of a chain serve as a means to cement the same and be capable of being very readily adjusted in proper position, and also capable of being detached with facility, and, at the same time, not be liable to become casually detached. The invention is more especially designed for a temporary fastening to be carried by teamsters and others, for the purpose of connecting a broken chain until it can be properly repaired by a smith.]

37,230.—Governor.—J. S. Howell, Portsmouth, N. H.:

I claim the friction strap or box, k, on the nut, f, in combination