



[Reported Officially for the Scientific American.]

**LIST OF PATENT CLAIMS
Issued from the United States Patent Office
FOR THE WEEK ENDING OCT. 16, 1855.**

DUST DEFLECTOR FOR WINDOWS OF RAILROAD CARS—James H. Cook, of Taunton, Mass.: I do not claim the application of a curved deflector on the outside of the window opening of a railway carriage, nor making the same to extend under the window and up one side thereof.

But I claim the rotary deflector or ventilator, constructed and made to operate substantially in the manner and for the purpose specified.

FAUCET—Albert Fuller, of Boston, Mass.: I claim the use of the devices employed for insuring the accurate seating of the valve, when actuated by a crank, or other positive motion, the same consisting of the screw rod, K, traveling in the female screw of the nut or eye formed on the valve stem, and being cut, constructed, and arranged with regard to the screw shaft, L, so as to operate with the same as described, whereby the valve and valve stem, when the plug is drawn upon its seat, are brought into the exact position required for enabling the valve to find its proper seat.

BENCH HOOK—A. Hotchkiss, of Schenectady, N. Y.: I claim the construction of the bench hook as shown and described, viz.: having the catch or stop, C, attached by a joint, b, to a plate, B, said catch or stop being provided with a shank, d, against which a spiral spring, g, acts, and also provided with a segment bar, D, having holes, h, in one side, in which a spring pawl, E, catches, and retains the catch or stop in the desired position.

[Benchhook is the name given by carpenters to the little spur of iron against which they place one end of the stuff they happen to be planing, to prevent the same from slipping. Some carpenters drive in a nail at the head of their benches, and make it serve as a hook; others use a hooked spike. In both cases there is more or less trouble to lift the hook and set it to suit different kinds of work.]

The present improvement consists of a small metallic frame, having in its center a pivoted tongue—like the tongue of a buckle; the frame is let in and fastened flush with the bench. The tongue serves as the hook, and as it may be instantly elevated or depressed by the finger, it manifestly possesses much advantage over the common hooks in point of convenience. The lower side of the tongue is notched, like a rack, and there is a spring pawl to match the same. This part of the contrivance is to hold the tongue firm in any desired position.]

PROJECTILE FOR ORDNANCE—Andrew Hotchkiss, of Sharon, Conn.: I claim, first, constructing a shot or projectile capable of being fired from a cannon having rifled grooves, said shot consisting of three parts, two of which parts are of hard metal, and the other of some flexible expansive material, in the form of a band or ring, attached to one of the hard metal parts, and overlapping the edge of the other, in such a manner that either by the act of loading or of firing, or of both, the said ring shall be expanded and divided, so that it will take the impression of the grooves, and be made to fit the bore, as described.

Second, I claim the tail-piece, for securing the cap to the body of the shot, and as a guide to the cap, on the forward motion, in the manner described.

EXCAVATORS—Benj. Hancock, of Troy, N. Y.: I claim, first, the dumping scoop, constructed, arranged, and operated substantially as described, and for the purposes specified.

Second, in combination with the above, the movable and adjustable frame, as described, for the purposes set forth.

VISES—Jasper Johnson, of Genesee, N. Y.: I disclaim the construction of vises where a distinct adjustment is requisite for grasping the article, previous to the tightening of the jaws by lever power, as in the patented vise of Cove, and the projected vise of Pardee, such constituting no part of my invention.

But I claim the combination of lever, F, f, i, swinging lugs, l, and rack, E, with one jaw, A, fixed, and one, B, movable, in the direction of the rack, arranged and operated as specified, to grasp and tighten by one continuous movement of jaw B, and admitting of change of capacity without adjustment thereof.

WASHBOARD—Jos. Knoch, of Waterloo, N. Y.: I disclaim, expressly, the curving of the corrugation, as patented by Lester Butler in 1852.

But I claim constructing the operating face of washboards of a laterally depressed and centrally elevated corrugated surface, substantially as specified, for increasing the effective operation of the board, in the manner set forth.

SEED PLANTERS—Ebenezer McCormick, of Cambridgeville, Pa.: I claim so arranging the row, B, with its link and guides, and the wheels, A, A, with regard to a sowing and covering apparatus, such as described, as that they shall be guides and markers for directing the dropping of the seed at stated intervals, as set forth.

WHEELS FOR CLOTHES—John McLaughlin, of Scranton, Pa.: I claim the serrated rotary drum, in combination with the ratchet levers, C and E, constructed, arranged, and operated as and for the purposes specified.

SEWING MACHINES—Isaac M. Singer, of New York City: I claim the method, substantially as described, of protecting the needle from all injury by the insertion of a movable shield between the needle and shuttle, which is removed after the needle has descended, to permit the shuttle to pass between the needle and the thread, as set forth.

[This appears to be a very useful invention. Mr. Singer is a most prolific genius in the way of sewing machines. His improvements are generally good and practical.]

GRAIN SEPARATORS—Benj. Wright & John Bean, of Hudson, Mich.: We do not claim the cylinder, concave, and fan separately, for they have been previously used.

But we claim the employment or use of the rotating screen, B, D, and shoe, H, when arranged substantially as shown and described, whereby the straw is carried through the screens and the grain shaken therefrom within the screens, as described.

[This separator is composed of a revolving screen having a flat screen of the common kind extending through its interior, from end to end. The grain and chaff to be separated are fed on the flat screen, which is inclined and made rapidly to vibrate; this vibration causes the straw to pass through, out of the machine, while the grain and finer chaff fall through on to the revolving screen. A blast of air from a fan is sent along through the machine, beneath the flat screen, and the light dust, as fast as it drops, is swept away. The grain rolls on the revolving screen long enough to sift out any remaining impurities, and finally pours out, at one end of the machine, in a clean pile by itself. This is a very simple, cheap, and effective separator.]

CHURNS—Lewis P. Pease, of Mount Carmel, Ill.: I claim the winged dasher, formed by two series of curved paddles, as described, rotating around axes projecting outward and slightly upward, from a vertical shaft, the said paddles of each series forming a cork frustum, receiving with its lower edge parallel to the tub bottom.

BREECH LOADING FIRE ARMS—H. B. Weaver, of South Windham, Conn.: First, I claim combining the hammer with the laterally swinging chamber, for the purpose of effecting the simultaneous opening of the chamber and cocking of the hammer by means of the lever, D, the pin, K, slide, d, and lever arm, c, all operating substantially as described, whether the said slide, d, be a priming slide, or simply employed to connect the chamber, A, with the lever, D.

Second, I claim combining the priming slide, d, with the lever, D, and the hammer, F, by means of a pin, l, attached to the lever, working in a slot, n, in the slide, or a link attached thereto, so that the lever, D, will draw back the hammer before moving the slide far enough to allow the pin, l, or its equivalent, through which the hammer strikes the cap, to move out of the receiving hole in the slide, before the slide is acted upon by the lever, substantially as set forth.

[In this improvement there is a movable chamber at the breech of the gun for receiving the cartridge, the chamber being hinged so as to open up, laterally, like the lid of a snuff box. The opening and closing of the chamber is effected by means of a trigger guard lever located underneath the stock, the same as in most of the breech-loading fire arms.]

There is also a very ingenious self-acting contrivance for putting the percussion caps upon the nipple.

By the act of opening the cartridge chamber the hammer is cocked and a cap placed upon the nipple; all that remains to be done is to slip the charge into the chamber and close the same, when the piece is ready for instant discharge.

The operations of opening the chamber, cocking, capping, &c., are performed with ease and precision. The mechanism occupies but little space, is simple, and cheap. We regard it as an excellent improvement.]

IMPACT WATER WHEEL—Hiram Morris, Elijah K. Gordon, & Edward Saeger, of Crawford County, Pa.: We claim, first, the buckets, so constructed as to be adjusted and movable to open and close the issues as may be desired, by means of the circular grooves in the rims of the wheel and flanges on the buckets, and the studs and bolts passing through the buckets, and the fastenings the buckets in any desired position by means of a latch and catch, in the manner described.

Second, we claim a circular concave packing ring and decking, with the adjusting box, constructed in the manner described.

WASHING MACHINES—Chas. Love, of Peru, Ill.: I make no claim to rollers or brushes, as applied to washing machines, and separately considered.

But I claim the method of revolving the tube and above its bottom, of a rack composed of radial fluted cones, each capable of an independent rotation, arranged and supported as described, and operating as set forth, for facilitating the washing operation.

KNITTING MACHINES—John H. Doolittle, of Waterbury, Conn., assignor to the "American Hosiery Co." of same place: I claim the method of producing the feed motion by means of a feed bar with teeth formed upon it, of proper shape, to engage with, and move or feed the series of needles, substantially as described.

Second, I claim the method of reversing the feed motion by means of the inclined planes, k and l, spring bars, m and n, swinging bar, p, and the cam grooves, h and i, when constructed, d, arranged, connected, and made to operate in the manner substantially as described.

Third, I claim attaching the blocks or inclined planes, l and m, to the needles in such a manner that they will always operate at the end of the course, without reference to the number of needles used, substantially as described.

Fourth, I claim the method of working the counting apparatus, in combination with the method of throwing the machine out of gear, when the parts are arranged, constructed, and made to operate, substantially as described.

SEED PLANTERS—F. G. Wynkoop, (assignor to H. L. Edson), of Corning, N. Y.: I claim the construction and arrangement of the spades, C C, with the tube, L, when attached to and operated upon by the slide, G, for the purposes above described.

INKING APPARATUS FOR CARD PRINTING PRESSES—Danl. K. Windor, of Cincinnati, O.: I claim, first, the double armed rock shaft, S, and outward pressing roller frame, G, or their equivalents, in combination with the platten and the springs actuating the arm, m, of said rock shaft, constructed, arranged, and operated substantially as, and for the purposes specified.

Second, the above mechanism for operating the inking roller, combined with the supply roller, E, actuated by the movement of the platten, substantially as specified.

EXTENSION REACH FOR CARRIAGES—Edwin Wilson, of Prattsburg, N. Y.: I claim connecting the reach, C, to the center piece, E, of the boards, G, by means of the cogged bars, D, D, slide, E, and clamp, I, constructed and arranged substantially as shown and described.

[In common lumber wagons the ends of the reaches overlap, and are secured together by means of a pin; in order to render the length of the reaches changeable, their ends are bored with holes, placed at different distances, through which the pin passes. Reaches thus bored and fastened are weak, and frequently break down.]

The present improvement consists in placing a series of rack teeth on the ends of each reach, so arranged that the teeth of one rack fit into those of the other; when the two racks are united a sliding ring collar is employed to hold them together. In order to change the length of reaches, it is simply requisite to loosen the collar, set the racks as desired, and bind them again with the collar. Reaches thus furnished are not bored, and are therefore much stronger; the coupling is also much more rigid than the old plan. This is a good invention and worthy of extensive introduction.]

CASTING TEAPOT SPOOTS AND HANDLES—Theodore Ackerman (assignor to H. H. Homar, Wm. Mullie, and Theodore Ackerman), of Cincinnati, O.: I claim the use of an inner, non-conducting layer to the metallic interior surface of the cope or sprue gate of a teapot spout mold, or analogous object, in the manner and for the purpose described.

DESIGNS.

COOKING STOVES—James Wager, of Troy, N. Y., two designs.

PARLOR STOVE PLATES—James Wager, of Troy, N. Y.

To Pay Out a Submarine Cable.

MESSRS. EDITORS—As you have become the great medium by which new mechanical thoughts and ideas are communicated to the public mind, I will describe a plan, which, I think, would have prevented the loss of the telegraph submarine cable while being laid down between Newfoundland and Cape Breton. It is this: The cable should be "paid out" at, or near the center, and through the bottom of the ship. The box for working a center-board in a vessel will give the idea of communication through the bottom. With one or more sheaves fixed in the box, the telegraph could be reeled off and out handsomely, either in a smooth or rough sea. The weight and strain would always be where they should be, viz.: at a point in the vessel nearer stationary than any other.

G. B. Jr.

[For the Scientific American.]

On Preserving Fruit.

(Concluded from page 43.)

Atmospheric changes have very great, if not the most powerful of all influences detrimental to the preservation of fruits. First, as regards their calorific effects; second, their hygrometrical. In the former respect, the expansion and condensation occasioned by the rise and fall of temperature, must work a change in the state of the juices, doubtless often at variance with the gradual chemical change which those juices naturally undergo. Hence, those fruits that are most exposed to vicissitudes of temperature, are most apt to fail in attaining their full sugary mellow perfection. Again, when warm weather suddenly succeeds cold, the air in the room is of a higher degree of temperature than the various substances, until such time as the latter acquire from the former an equality of temperature. Fruit, &c., from its coldness, acts as a condenser of the vapor existing in the warmer atmosphere by which it is surrounded. The surface of the fruit consequently becomes covered with a great deposition of moisture, as will be the case with a glass filled with water colder than the atmosphere of the room into which it is brought. It is a known fact that fruits and vegetables possess a temperature higher in winter than that of the air generally by which they are surrounded, this, as well as other causes given, produces chemical action in different degrees. In some substances eremacausis, or decay, is the result. An atmosphere saturated with moisture will cause these to take place in fruit and vegetables. As soon as the action of the air ceases, that is, as soon as deprived of oxygen, the humas suffers no further changes. Substances that contain nitrogen are most prone to putrefaction.

When the decomposition of such substances is effected, with the assistance of water, their nitrogen is invariably liberated in the form of ammonia. Hydrocyanic acid and water when brought into contact with muriatic, are decomposed into formic acid and ammonia. Charcoal has the power of condensing ammonia and formic acid before reaching the freezing point. Chloride of calcium has also the property of absorbing a great quantity of moisture (double its own weight,) and then becomes liquid; in this state it is important to save the liquid, as it may be put in a brass kettle, and placed over the fire, where it will soon evaporate to perfect dryness, and be as good as before. This does not absorb the carbonic acid set free by the fruits—it is important that this be retained in the atmosphere. Light is also found to be injurious to fruits. All men having experience, agree that they keep best in total darkness.—This arises from a specific stimulus being exercised upon the vegetable tissue by this agent.

Light causes evaporation; as soon as it is withdrawn it ceases. Guy Lussac has shown that the atmosphere coming in contact for a short time with fruit, &c., will cause fermentation; this would continue, though not long, exposed to the air. Decay is prevented by cold, dryness, &c., many salts and absorbents. He says, "It is a fixed rule, without exception, whatever may be the cause that produces the decomposition, that every azotized constituent of animal or vegetable organism enters spontaneously into putrefaction when exposed to moisture and a high temperature."

Eremacausis or decay takes place in organic substances in contact with air or oxygen, but these changes do not occur when water is excluded, or when the substances are exposed to the temperature of 32 degs. Liebig says, "the phenomena of animal and vegetable life are peculiar to themselves; they stand in certain relations to each other, and depend on certain causes. Heat alters the original mode of arrangement of the atoms, and consequently the equilibrium of their mutual attraction. No organism, no portion of an animal, vegetable, or plant, is capable, after the extinction of vital energy, of resisting the chemical action which air and humidity exercise upon it."

Preservation of fruits is a subject now demanding thorough investigation; its present and prospective importance, in a commercial point of view, is worthy of serious and immediate attention. Millions of bushels of choice fruit are at present rotting on the ground, and thus large quantities of good nutritious food is

lost to the human family. The keeping of the fruits in winter, and the packing of them for distant markets, are questions that concern deeply the extensive fruit growers in this country. The fruit garden cannot give the results expected from it if we are deprived of its products from February till July, when the earliest fruits begin to ripen. This question concerns producers and consumers, also those who deal in fruits, and who, without proper modes of keeping, are exposed to great losses. How very desirable for all living in large cities that the present surplus fruits be preserved till next spring, so that they might have the comfort of having cheap grapes, pears, apples, pumpkins, &c. All this will yet be accomplished. From what has been collected from various sources, we may conclude that a method of preventing the decomposition of the fruit without the use of any substance which shall injure its flavor, either by the addition of a new flavor or the destruction of the natural one, is what is wanted. Many methods are useful on a small scale, but it appears to me the trouble and expense attending is too much for the quantity preserved. In No. 45, SCIENTIFIC AMERICAN for 1855, the principles and construction of my Preservatory are explained and illustrated; apples and pears should be packed in good oak barrels, resting on their sides in tiers not more than four feet high. If the ice be kept as directed, the temperature will be from 40 degs. to 45 degs. In proportion as the seven following conditions are fulfilled in the fruit room, will the result be satisfactory:—First, that the temperature be 10 degs. above freezing. Second, that it be uniformly equal. Third, that the fruit room be dark. Fourth, that the atmosphere be more dry than humid. Fifth, that the carbonic acid disengaged from the fruit be retained in the room. Sixth, that the air be sweet.—the arrangement of the Preservatory with absorbents or screen will keep it pure and wholesome. Seventh, that the pressure of the fruits so placed is reduced, as far as possible. All these are attained by the Preservatory, and by no other method. Some of the apples, of various perishable kinds, preserved in this way, were given, in June last, to the editors of the *Tribune*, *Times*, *Sun*, and *SCIENTIFIC AMERICAN*, and were spoken of by them, at the time, in the most flattering terms. I hope fruit growers and consumers will thoroughly investigate, and practice the best mode. "Hold fast to that which is good," so that sound fruit, having its aroma retained, not substituted by alcohol or sugar, be plentiful at all seasons of the year. Also dairy products—eggs, meats, &c., &c. All these are kept fresh by using the Preservatory.

W. D. PARKER, Patentee,

No. 201 Washington street, New York.

Hussey's Reaper and Atkins' Automatic Raker.

MESSRS. EDITORS—Your remarks on page 29, this Volume SCIENTIFIC AMERICAN, under the head of "Atkins' Self-Raker in France," is calculated to do me injustice. The term Atkins' Self-Raker will be understood by ninety-nine-hundredths of your readers to mean the whole machine; if not so, it most effectually leaves me out of the question. It is very true that I did not invent one particle of the Automaton Rake of Mr. Atkins'; it is equally true that this Automaton Rake is used on a machine invented by myself. Deprive the machine of Mr. Atkins' invention, and it would still be a "Hussey Reaper." Deprive it of my invention, and it would be no reaper at all. I conveyed to J. S. Wright, of Chicago, by written agreement, several years ago, the privilege of using, for a limited period, my invention, for the purpose of adding the Atkins' Self-Raker to it.

Knowing your love for fair play, you will set this matter right. OBED HUSSEY.

Baltimore, Md., Oct. 16, 1855.

Good Shooting.

A great shooting match, at pigeons, on the wing, took place on the 8th inst., at Cincinnati, Ohio, between W. King, of Georgia, and R. Duncan, of Louisville, Ky. Mr. Duncan was the victor. Each party had seventy-five shots, two pigeons being let out at each shot. Duncan shot 130 birds, and missed 20; King shot 129 birds, and missed 21. The wager was \$10,000, and the money was lost by a single bird only.