

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 on another page:—

**Reciprocating Pump.**—This invention consists in the employment of a compound piston or one provided with two valves opening in opposite directions in a right line and used in connection with a water-tight partition or abutment placed within the pump cylinder, and in such relation with the two piston valves, the suction or discharge opening, and a water passage communicating with the pump cylinder, that by a simple reciprocating movement of the piston, each valve will alternately propel the stream in the same direction through the pump. Each valve, during its reverse movement, allows the streams to pass freely through it, thereby operating with a moderate expenditure of power, admitting of a rapid movement with but little wear and tear of the working parts, and raising and forcing a large volume of water in a given time. The inventor is Wm. D. Andrews, of New York city.

**Feed Regulator for Steam Boilers.**—This invention relates to that class of boiler feed regulators which effect the movement necessary to set the feed pump in operation or produce the suspension of its operation by means of the expansion and contraction of a pipe, which is arranged at the intended water level of the boiler. This pipe receives from the boiler either steam or water, according as the water therein is above or below a certain level. It consists, first, in a novel system of levers for connecting the said expanding and contracting pipe with the belt shipper or other device for bringing the feed pump into or out of operation, whereby a small movement of the pipe is made to produce a considerable movement of one of the levers, and the necessity for making the expanding and contracting pipe of great length is obviated. It also consists in a novel contrivance for producing a copious flow of cool water into the expanding and contracting pipe, when the water in the boiler rises to a certain level, and so providing for the rapid contraction of the said pipe and stoppage of the operation of the feed pump. The inventor is Charles H. Brown, of Fitchburg, Mass.

**Revolving Firearm.**—This invention relates to cylinder revolvers having their cylinder frames made in two pieces to open at the lower front corner by a movement on a hinge joint at the upper rear corner, for the purpose of introducing the cartridges into the chambers from the rear of the cylinder, and it consists in a downward continuation of the upper part of such frame to pass over the rear of the cylinder at the point where the hammer strikes the cartridge, in such a manner as to form a recoil shield which is nearly or wholly independent of the breech piece or usual recoil plate, and of the lower part of the cylinder frame, thereby relieving the said piece or plate and the hinge joint of the strain of the recoil. The inventor is L. W. Pond, of Worcester, Mass.

**Revolving Firearm.**—This invention consists in the employment, in a revolving firearm, of a continuous frame rigidly attached to the barrel, inclosing the cylinder lengthwise, and pivoted to the stock in such manner as to enable the rear part to fold into the breech piece and to form a recoil plate independent of the breech piece, for relieving the breech piece of the strain of the recoil. This frame allows the cylinder and breech piece to be separated for the introduction of the cartridges into the chambers at the rear thereof. It further consists in so applying the cylinder axis pin, in combination with such continuous frame, that it passes through the said frame and cylinder, from front to rear thereof, and enters a hole in the breech piece in such a manner as to secure or assist in securing the said frame in proper connection with the breech piece. The inventor is J. H. Vickers, of Worcester, Mass.

**Railroad Car Brake.**—This invention relates to an improved car brake by which the brakes of a series of connected cars may be simultaneously operated from the locomotive, either by steam or by friction, from one of the driving wheels thereof, or each individual car be operated by a brakeman, as in the ordinary brakes in common use. Its object is to obtain a simple and efficient brake capable of being operated as specified, and one which will admit of all the

wheels of a series of cars comprising a train, being subjected to a uniform pressure so as to prevent any of the working parts of the brake being subjected to any undue strain, torsion or pressure and breakage and all unnecessary wear and tear consequently avoided. A. J. Ambler, of Milwaukee, Wis., is the inventor.

**Surgical Splint.**—This invention is chiefly designed for the treatment of fractures and other diseases of the long bone of the thigh and leg, and in certain cases of the arm also. Its principal peculiarity consists in applying the permanent dressing to the sound instead of to the diseased limb, and making the counter extension upon the splint instead of by direct contact with the body. The diseased limb can thus be examined at any time by removing the bandages without disturbing the splint. The extension bandage is applied to the foot independently of the foot-board. A register is employed to indicate the degree of extending force applied, and to show if any change occur in the resistance of the limb. The invention also affords an accurate means of ascertaining the relative length of a healed and an uninjured limb, effectually preventing fraud by voluntary contraction by the patient. This apparatus is the invention of Dr. M. M. Latta, of Goshen, Indiana.

**Weaving Shuttlles.**—It is well known that the shuttles of common construction are liable to be rendered entirely useless by a lateral blow upon the metal tip splitting the end of the wood. This invention consists in applying an annular ferrule beneath the surface of the wood in such a manner as to effectually prevent the splitting of the shuttle while in use or with any violence to which it is subject and this is accomplished without impairing the smooth surface necessary toward the point. The invention is likewise applicable to the repair of shuttles of common construction which may have been split, so that shuttles otherwise entirely useless may be made as good as if no accident had occurred. C. L. Frink, of Rockville, Conn., is the inventor of this invention.

**Attachment to Lamp Chimneys.**—This invention consists in the arrangement of a receiver in combination with the chimney of a kerosene or other flame, in such a manner that water or other liquid poured into said receiver can be heated by the action of the flame in an easy and convenient manner; it consists further in the arrangement of a window in the lower part of the metal chimney, in such a manner that the flame can be observed from the outside, and that sufficient light is allowed to pass out into the room to render this device available for a nurse lamp. W. L. Fish, of Newark, N. J., is the patentee of this invention.

**Stump Extractor.**—The object of this invention is to obtain a stump extractor of simple construction which may be readily drawn from place to place where required for use, and be capable of being operated by one or two horses, as circumstances may require. To this end the invention consists in applying to a shaft, on which the lifting chain is wound, a wheel toothed at its inner periphery to receive, at opposite points, the pinions of two drum shafts on which ropes are wound in the same directions, the horses being attached to said ropes, and all arranged in such a manner as to effect the desired end. The inventor is Charles W. Rawson, Little Prairie Ronde, Mich.

**PATENT SERMON EXTINGUISHER.**—A sufferer from long sermons suggests to the *London Times* that after half an hour's preaching the bottom of the pulpit should be contrived to come out, on the principle of an *oubliette*, and project the clerical transgressor into the gulf below. Another proposes that a sounding board or cover, in the shape of an extinguisher made exactly to fit the pulpit, be suspended above it, and that at the expiration of twenty-five minutes from the delivery of the text it should begin to descend so as exactly at the half hour to "shut up" the lengthy preacher.

**UTAH COTTON.**—The *Deseret News* states that a cotton mill has been built at Parowan, in that Territory, and some of the machinery has been put in and is now running. A considerable quantity of cotton is raised in southern Utah, and it is for its manufacture into cloth that this new factory has been constructed.

An extensive new lode of cinnabar has lately been discovered in the Nevada Territory. Specimens of the ore contain about sixty per cent of quicksilver.



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\* \* 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.

35,576.—W. V. Adams, of New York City, for Improvement in Shackles or Hand Cuffs:

I claim the combination of the hasp, B, with the sections, A and B, for the purpose of allowing to each one of a pair of shackles a motion independent of the other when in use, as described.

35,577.—W. D. Andrews, of New York City, for Improved Reciprocating Pump:

I claim the compound piston, or one formed of two parts, D, D', each provided with a valve, E, in combination with the partition or abutment, B, in the pump cylinder, A, the water passage, F, and the induction and eduction openings, H G, when arranged to operate as and for the purpose set forth.

35,578.—S. L. Avery, of Norwich, N. Y., for Improvement in Water Elevators:

I claim the annular outer flange, a, and the interior ratchet wheel, b, which respectively project from the outer face of the metallic head, E, of the windlass shaft, when the said parts have substantially the proportions, and are used in the manner and for the purpose set forth. I also claim the joining of the branched crank lever, F, with the movable head, D, when the said head is combined with the rigidly secured head, E, of the windlass shaft, in such a manner that the ratchet tooth, c, on the branch arm, k, of said crank lever, can be made to operate in conjunction either with the ratchet wheel, b, or the annular flange, a, of the aforesaid head, in the manner set forth.

I also claim the arrangement of the forked holder, g, the spring, h, and the branch arm, j, of the jointed crank lever, F, with each other, and the annular ratchet wheel, b, and the annular groove near the end of the windlass shaft, substantially in the manner and for the purpose set forth.

I also claim the arrangement of the hook headed pall, n, with the metallic head, D, when the said head is joined to the branched crank lever, F, and when these said parts are combined with the head, E, of the windlass shaft, substantially in the manner set forth.

35,579.—Henry Behn, of New York City, for Improvement in Coal-Oil Lamp:

I claim the arrangement of the gas chamber, d, between the upper and lower wick tubes, n and b, in combination with the tubes or pipes, m, m, in the manner and for the purpose substantially as described.

Secondly, I claim the construction of the upper end of the gas chamber, d, forming the upper wick tube, n, provided with a wedge, p, or its equivalent, in the manner and for the purpose specified.

35,580.—Ebenezer Bickford, of Ogden, N. Y., for Improvement in Apparatus in Smoking Meats:

I claim, in combination with the smoke house, A, the conducting and distributing pipe, L, provided with an opening, d, or its equivalent, extending along its whole length, when the same is used to convey and distribute the smoke from an outer stove or generator, substantially as described.

35,581.—Jacob Bickhart, of Harlan, Ind., for Improvement in Portable Fences:

I claim the arrangement of the wedge, d, gib, e, and hooked cross brace, D, in combination with the braces, C C', and notches, a, a', in the upper ends of posts, B B', all constructed and operated substantially in the manner and for the purpose shown and described.

[This invention consists in the arrangement of braces with shaped edges, catching into corresponding notches in the edges of the posts near to those upper ends, in combination with a crossbrace, the ends of which form hooks and catch over the lower edges of said cross-braces, and with a wedge and semicircular gib, in such a manner that by the action of the crossbrace or the lower ends of the braces the upper ends of the posts are held together, and by the action of the semicircular gib and wedge, which forces the crossbrace down, the lower ends of the posts are prevented spreading.]

35,582.—S. J. Reeves, of Philadelphia, Pa., for Improvement in the Construction of Columns, Shafts, Braces, &c.:

I claim uniting together, three or more pieces of wrought iron made with flanges at their length, so that they shall form a column or shaft to be used as posts and also as braces or compression chords, in the construction of buildings, bridges, piers or other structures.

35,583.—Henry Bogel, of Watertown, Wis., for Improvement in Velocipede Vehicle:

I claim, first, The arrangement and combination of the treadles, N, N, levers and handles, O O Q Q, and crank axles, A B, in connection with the semicircular rack bar, F, and wheel, G, all arranged for joint operation as and for the purpose set forth.

Second, The clamps or levers, S S, and spring, T, in connection with the bar, R, on the shaft, H, arranged substantially as shown, to prevent the casual turning of the front axle, A, as specified.

Third, The hollow, B, provided with the whistle, V, when used in combination with the treadles, N N, and levers, Q Q, and operated by the crank axle, B, substantially as and for the purpose set forth.

35,584.—C. H. Brown, of Fitchburg, Mass., for Improvement in Feed Regulators for Steam Boilers:

I claim, first, Having both of the levers, E F, joined separately to the expanding pipe, A, said joints being arranged upon opposite sides of said pipes, in combination with the fulcrum, D, and the link, G, as and for the purpose shown and described.

Second, The employment of the cold water reservoir, I, in combination with the expanding pipe, A, and lever, F, substantially as and for the purpose shown and described.

35,585.—A. Buckwalter, H. Buckwalter and J. H. Buckwalter, of Kimberton, Pa., for Improvement in Brick Machines:

We claim, first, The feeding bar, G, provided with the rack, i, and having the weight, M, attached, in combination with the pinion, H and toggle, K, all arranged as and for the purpose specified.

Second, The drops, V, arranged as shown, to yield or give to obstructions in the molds as the latter are forced out from underneath the box or hopper, as described.

Third, The reciprocating plunger, Z, provided with the adjustable plates or scrapers, b' b', to operate as set forth.

Fourth, In combination with the plates, b' b', the cleaners, A' A', arranged as shown to operate as and for the purpose specified.

Fifth, The water tank, E', and trough, H', the former being connected with the latter by an elastic tube, G', and the trough, H', provided with pipes, K', all arranged as shown, to operate in connection with the reciprocating plunger, Z, for the purpose set forth.

[This invention seemingly possesses many advantages over the ordinary brick machines in use. It operates rapidly and performs its work in the most efficient manner.]

35,586.—C. B. Cogswell, of Essex, Mass., for Improvement in Horse Rakes:

I claim the arrangement and combination of the journal slides, C C,