

other agent which has good qualities but it is rather dangerous to use indiscriminately. Quicksilver possesses the quality of imparting a smooth, greasy gloss to the roughest bearings. We have seen badly cut shafts very much improved by the use of quicksilver; so that although the ruts still remained they were silvered over, and the bearing was as good as new. On brass boxes, however, this substance should be used with great circumspection, for it forms an amalgam, or combines, so that the brass is rendered softer at the surface, and is quickly worn away. Steamers that race sometimes use mercury freely in their bearings, though the bad effects that follow are not apparent until some time after.

A shaft that is too slack in its box will heat; this may occur from the violent and sudden contact of the two parts which causes the metals to come in contact without the intervention of oil. It very often happens that all adjustment is in vain; that all the doctoring and cold water that can be applied are useless. In such cases it is advisable to change the composition of the brass box, by substituting a harder or softer one as the case may be.

The heating of a brass or bearing is a sure sign that there is some defect which ought to be remedied. Unequal expansion of the engine framing causes it, as well as being keyed too tightly. Experiments made by a French engineer proved that up to 6000 pounds on the square inch no heating took place provided the bearing was well oiled and in line. The number of square inches in a large bearing give a very great sum total in pounds on the whole surface and when heating occurs it detracts seriously from the power of the engine.

INVENTION PERPETUAL.

There is a moral grandeur in the progress of invention which strikes a reflecting person forcibly. The spectacle of the weekly departure of models from this office, to be forwarded to Washington, is one of great interest. It is not merely the presence of a hundred or more inanimate machines, mere ingenious combinations, which causes these sensations; but the fact that through them the material interests of society are very greatly enhanced.

It would be puerile to represent every inventor solely as a public benefactor, with no thought beyond the welfare of mankind in general. Invention with most persons is a calling through which they get food and raiment; but those who originate and carry out useful improvements are accessories after the fact, in legal phrase, and as much entitled to public respect and remembrance as the greatest philanthropist.

It is related that a clown once stood beside a rapid stream, patiently waiting until the water had run out, so that he might pass over dry shod. If this traditional personage should visit this office in the flesh he might stand agape with wonder and wait in vain until the shelves were bare of inventions; he might linger tediously while the expressmen bore in their parcels, in the hope that they would come no more; he might shuffle from one foot to the other, in the vain expectation that ere long these inventors would cease bothering his sight with the long train of their ideas in tangible forms. So long as the river runs will the inventions come forth. So long as man is man his mind will be busy, and there will be no stop or check in the improvements he devises.

In the summer time, or in harvest, with the falling of the leaf or the budding of it, all is the same, and instead of growing less there is an appreciable increase in the number of applications for patents. It is well that this is the fact, for by the exertions of the class in question hundreds have been added to our army, to our navy, to the field, the factory and the store.

DRY PRINTING.

We mentioned last week, in our editorial correspondence from Washington, that some eighty hydrostatic presses are employed in printing the fractional currency. On the 19th inst. there was a discussion on the subject in the House of Representatives, when Mr. Garfield made the following remarks:

"In regard to the dry-plate printing, to which the gentleman has referred, the committee did report that the machinery was very heavy and expensive, that

the experiment had not yet been completed, and that they could not recommend the system on the score of economy. It seemed to us to be an expensive experiment and one of doubtful success. But since that time the experiment has proved highly successful. I think there can scarcely be found an instance of so marked a success in any branch of mechanical ingenuity as this experiment in dry-plate printing. If the gentleman will visit the Treasury Department he will find that printing is there executed far faster by this method than by the old method; and not only faster, but far better. The printing is executed in such a way as to afford almost an absolute security against counterfeiting. Within the past few months one of the most accomplished engineers of England has visited the printing establishment of the Treasury Department, and he declares the printing machinery now in use there to be a master-piece of skill in mechanics. And I am informed to-day by a gentleman on this floor that Professor Agassiz, who has witnessed the operation of that machinery within the past week, pronounces it one of the wonders of the age—one of the marvels of mechanical science."

In ordinary copper or steel plate printing the paper is moistened in order to soften it before it is laid on the plate. This renders necessary a drying and pressing process after the printing. The object of printing the paper dry is to save all subsequent manipulation, but to print it dry, very powerful pressure is required, and this is furnished by the hydraulic press.



ISSUED FROM THE UNITED STATES PATENT-OFFICE
FOR THE WEEK ENDING JANUARY 24, 1865.
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Pamphlets containing the Patent Laws and full particulars of the mode of applying for Letters Patent, 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.

45,962.—Hoisting Machines.—Charles Abel, New York City:

I claim the construction and use of the worm wheel, D, with its connected wheel, E, and the worm screw, C, in combination with the pulley, A, substantially as and for the purpose described.

45,963.—Shutter Bolts.—Edward Andrews, Palo Alto, Pa.:

I claim the combination and arrangement of the bolt, B, the latch, D, lever, F, and spring, E and J, when used for the purpose herein fully described.

45,964.—Tapping Water Pipe.—Phineas Ball, Worcester, Mass.:

I claim, first, The combination of the clamping irons, H H, with the pipe, A, tap holder, D, and tap, C, substantially as and for the purpose described.

Second, The combination of the clamping iron, H, with tap holder, D, and tap, C, substantially as and for the purposes described.

Third, The combination of the packing, I, with pipe, A, tap holder, D, and tap, C, substantially as and for the purposes described.

45,965.—Horse-power Elevator and Excavator.—Stephen T. Bishop and Andrew Stevely, Fond du Lac, Wis.:

We claim, first, The combination of a tread horse-power, with an endless chain excavator and elevator, substantially as set forth.

Second, We claim the adjustable frame, E, or its equivalent, in combination with the tread horse-power frame, substantially as specified.

Third, We also claim the machine, constructed and arranged substantially as described.

45,966.—Horse-power Elevators and Excavators.—Stephen T. Bishop and Andrew Stevely, Fond du Lac, Wis.:

We claim, first, So constructing and arranging a horse-power elevator and excavator as to render the machine movable with the horse upon the same, substantially in the manner and for the purposes set forth.

Second, We also claim the above-described arrangement of the wheels, U and V, in combination with the two sets of wheels, R and S, substantially as specified.

45,967.—Horse-power Elevator and Excavator.—Stephen T. Bishop and Andrew Stevely, Fond du Lac, Wis.:

We claim, first, The combination of the hook, L, with the bars, I, and the endless chain, substantially as set forth.

Second, We claim the use of the bar, I, for attaching the hooks or buckets, or both, to the endless chain, substantially as described.

Third, We claim the arrangement of hooks upon one part of the bar, I, and at the same time putting a bucket or buckets upon the other part or end of the bar, substantially as described.

Fourth, We also claim the arrangement of the hooks and buckets alternately, upon successive bars, J, substantially in the manner and for the purpose set forth.

45,968.—Horse-power Elevator and Excavator.—Stephen T. Bishop and Andrew Stevely, Fond du Lac, Wis.:

We claim the adjustable frame, C, in combination with the horse power, substantially as set forth.

Second, We claim the arrangement of the ratchet wheels as

shown in Figs. 1 and 3, in combination with the crank, N, and frame E, substantially in the manner and for the purposes set forth.

Third, We claim the combination of the ratchet wheels and crank, N, with the ratchet bar, Fig. 2, substantially in the manner and for the purposes described.

45,969.—Looms.—Wm. Breitenstein, New York City:

First, I claim the arrangement and construction of the sliding bars, C C', provided with suitable arms at their ends forming the shuttle holders, and operated in the manner and for the purpose substantially as set forth and described.

Second, I claim the construction of the shuttle holders, and the arrangement of the arm, m, operated by a spring, o, and acted upon by the lever, G or G', in the manner and for the purpose described.

Third, I claim the arrangement and combination with a shuttle holder of the shield plate, F, in the manner and for the purpose set forth.

Fourth, I claim the sliding bar, H, in combination with the levers, G G' G', constructed and operated in the manner and for the purpose specified.

Fifth, I claim the arrangement of the hook levers, N N', with their springs, r r', attached to sliding bar, H, in combination with springs, s s', attached to the breast beam, B, and acted upon by the arms, p p', of the sliding bar, C C', for the purpose of operating said sliding bar, H, in the manner substantially as set forth and described.

45,970.—Stone Gatherer.—P. S. Brewster and C. M. Hines, Lime Hill, Pa.:

We claim the pivoted bar, C, provided with gathering fingers, c, and operated by means of the bail, H, levers, F, and rods, E G, substantially in the manner herein described.

Second, We claim the platform, E, in combination with the lock bar, A' a', spring, a2, and plate, D', when the whole are employed in conjunction with the gatherers, C c, in the manner and for the purposes explained.

Third, In combination with the gatherer, C c, we claim the rollers, B B, extending across the machine to raise the fingers over stones too large to be lifted by them, substantially as set forth.

45,971.—Corn Planter.—George Bunch, Grand River Township, Mo., and James A. Price, Breckenridge, Mo.:

I claim the sliding handle, I, and sliding bar, H, connected together and applied to the frame, A, and shaft, D, substantially as and for the purpose herein set forth.

[This invention relates to a new and improved corn planter, of that class in which the seed-dropping mechanism is operated manually by the driver while walking behind the machine and guiding the same.]

45,972.—Sewing Machines.—Caleb Cadwell, Waukegan, Ill.:

First, I claim the slide, E', having a groove, e', to actuate the pin, f, on the thread catcher, F f, which guides the thread around the shuttle, substantially as described.

Second, I claim the pivoted bar, P, for taking up the slack thread, when operating in combination with the flipper, P', and projection, E', in the manner herein set forth.

Third, I claim the tension device, Q2 Q4 Q5, and the pin, Q2, for the spring, all mounted upon the spindle, Q3, on the arm, D, so that they may be removed and replaced at will.

Fourth, I claim the adjustable block, h3, and circular block, H2, in combination with the notched aperture for imparting a variable movement to the feed surface, H, the whole being operated by means substantially as herein described.

Fifth, I claim the combination of the circular blocks, H7 H8, the former, H7, being moved vertically by turning on the lat r, H8, so as to raise and lower the feed surface, in the manner and for the purpose set forth.

Sixth, I claim the thread-winding apparatus, R R1 R2 R3 r, operating in connection with a spring, S, whereby it is held down to work in connection with the driving wheel, B, or retained out of contact therewith, as stated.

45,973.—Means of Working Ship's Pumps.—Ansel Cain, Holyoke, Mass.:

I claim operating the pumping apparatus of a ship or vessel by means of an oscillating weight, in combination with the mechanism described, the whole arranged substantially as set forth.

45,974.—Duster for Brick Machines.—Cyrus Chambers, Jr., Philadelphia, Pa.:

First, I claim applying sand or dust to the surface of undried bricks, in a chamber in which these materials, or either of them, are kept in suspension by mechanical means.

Second, Passing bricks as they come from a brick machine through a box or chamber in which sand or dust are kept in suspension by mechanical means, substantially in the manner and for the purpose described.

Third, The use in a dusting apparatus of the cones, P, constructed and operated substantially as described for giving direction to currents of sand or dust, for the purpose specified.

45,975.—Railroad Car Brakes.—J. H. Champlin, Essex, Conn.:

I claim a friction block for railroad car brakes, formed from stone or its equivalent, combined with and made adjustable by means of the screws, a a, in the case, D, and arranged to operate substantially in the manner and for the purpose specified.

45,976.—Combined Seed and Potato Planter.—Otis N. Chace, Boston, Mass. Ante-dated January 8, 1865:

First, I claim the combination and arrangement of the toggle lever, d, and the frames, A and C, with one or more plows, substantially as described.

Second, I claim the projections represented by the knives or hooks, f f, etc., in combination with the stripping slot, i, or its equivalent, substantially as described, for the purpose set forth.

Third, I claim the combination and arrangement of the springs, j j, inclined plane, g, and seed box, H, with the projections, as represented by the knives or hooks, f f, etc., substantially as described, for the purpose set forth.

45,977.—Material for the Manufacture of Buttons, Handles for Knives, and other purposes.—Lucius E. Chittenden, Washington, D. C.:

I claim the manufacture of the articles above named, and the use in whole or in part for such manufacture, of the interior or necros portion of the shells of the fresh-water molluscous animals of the United States and North and South America, substantially in the manner above described, or in any other, substantially the same, which will produce the internal result or effect.

45,978.—Leather-channeling Tool.—Elliott H. Crane, Jonesville, Mich.:

I claim the combination of the adjustable gate, G, with the shank, A, substantially in the manner herein shown and described.

I also claim the combination of the block, C, and cutter, B, with the shank, A, substantially as herein shown and described.

I also claim the combination of the cutter, F, with the cutter, B, block, C, and shank, A, substantially as herein shown and described.

I also claim the combination of the gate, G, with the block, C, cutters, B F, and shank, A, substantially in the manner herein shown and described.

[The object of this invention is to facilitate the cutting of V-shaped channels upon the edges of harness straps, boot and shoe soles, and upon all kinds of leather articles where channeling is required. The inventor calls it the "Improved Universal Channeler," because it can be readily adjusted so as to cut channels on different lines. It is a good improvement.]

45,979.—Hooks and Eyes.—John P. Culver, New York City:

I claim a hook and eye, combining the widening, e, of the bill of the hook with the narrower opening, b, of the eye, substantially as and for the purpose herein specified.

45,980.—Method of Attaching Handles to Cross-cut Saws.—Charles Disston, Philadelphia, Pa.:

First, The handle, A, its ferul, c, and strips, b, the key, F, and self-adjusting plate, D, the whole being constructed and arranged for attachment to the end of the saw, substantially as described.

Second, The self-adjusting plate, D, hung to the strips, b, and having projections, e e, adapted to notches in the edge of the saw, all as set forth.

45,981.—Scroll Saws.—Wm. H. Doane, Cincinnati, Ohio:

First, I claim the combination of the devices A B C a b, the saw