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The Novelty Works, New York City.

THE accompanying engraving presents an interior view of a portion of the celebrated Novelty Iron Works of Stillman, Allen & Co., at the foot of Twelfth street, East river.

The position selected by our artist shows one end of the erecting shop, in which the various parts of engines and other machinery in process of construction, are assembled after having been cast, turned, and finished in the different shops composing this immense establishment. Here the final adjustment, and fitting of the several parts to each other are effected, and each member of the future machine adapted to perform perfectly and harmoniously its appointed function.

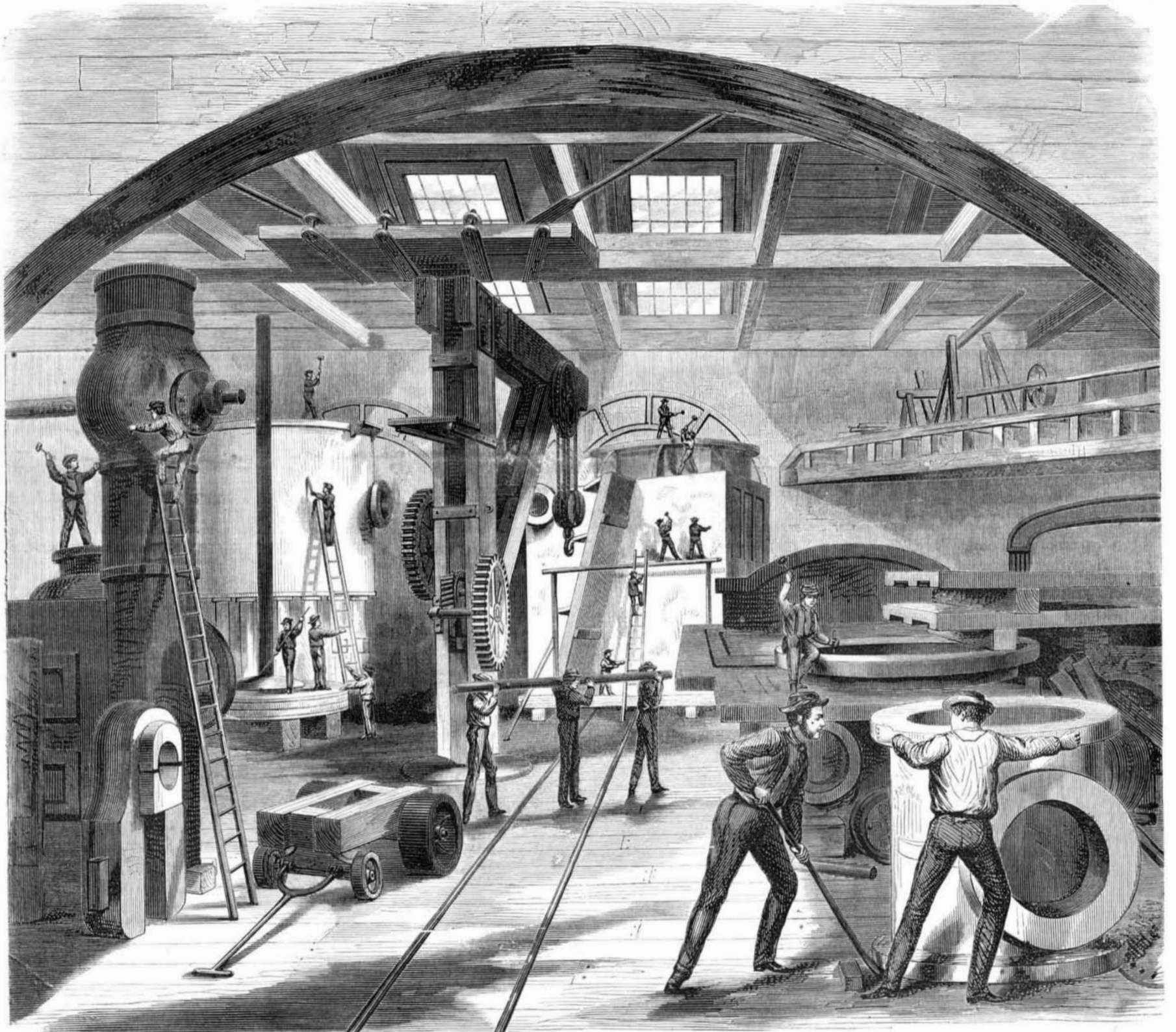
This shaft is to carry the working parts of Mr. Allen's adjustable cut-off now applied by this firm to all their marine engines with the most gratifying success. It is indeed a marvel of ingenuity and must challenge the admiration of all lovers of mechanical beauty and perfection. In front of the side pipe stands the main crank pin strap for the connecting rod. It is 4 ft. 6 inches long and grasps a crank-pin having 14 inches diameter.

Immediately to the right of, and behind the side pipe, are seen the piston and piston-rod, for the same engine. The former is 105 inches in diameter, while the piston-rod is 11 inches diameter and 19 ft. 4 in. long. The rod is firmly seated

mer and chisel. This foundation plate of the whole super-structure weighs 20 tons. To the right, and resting on the bed plate are shown the bed plates for a large 40 ft. lathe. Over these again, in the background, appears a portion of the tool gallery where the hand tools are kept ready for the workman's hand, but out of the way, and in place, when not in use.

The large casting in the foreground, right hand corner, is a jet condenser for a smaller 62 inch engine, and weighs 4 tons.

The shifting and placing in position of these heavy masses are effected by the use of the ponderous crane shown in the



VIEW OF SHOPS FOR THE MANUFACTURE OF LARGE ENGINES.

That the reader may have an intelligent idea of the nature and uses of the objects shown in the engraving, we propose to give some explanatory notes, obtained in a recent visit to the works, through the courtesy of Lyman Hall, Esq., the superintendent.

Most of the parts here shown belong to a large marine engine now building for the Pacific Mail Steamer *America*. She will be the twelfth vessel of this line fitted with machinery from these works, and has the following dimensions: Length 360 ft., beam 50 ft., and depth of hold 32 ft. 6 in., giving a burden of over 4000 tons. She is to be fitted with a single beam engine of 105 inches cylinder, and 12 ft. stroke, with Allen's adjustable cut-off.

In the left foreground, will be seen the front lower steam-chest, and one of the side pipes with the cut off shaft passing through its upper portion.

in the piston by a conical expansion and large nut on the end of the former.

Just behind these may be seen the air pump and reservoir, with a ladder standing against it. This pump has a diameter of 62 inches and 6 feet stroke, the whole casting weighing 9 tons. In the central background and over the tramway stands the condenser, an immense and complicated casting weighing 21 tons. It is of the tubular kind and is to be fitted with Mr. Allen's wooden packing. On its top flange, where the workman is seen with a sledge hammer, the cylinder bottom will rest with a weight of 8 tons. Upon this again comes the main cylinder weighing 19 tons with its cover, weighing 7 tons. These are all supported by the condenser, which in its turn is to be securely fastened on the bed plate which is seen just to the right of the three central figures with a workman seated upon it, engaged with ham-

central part of the engraving, and by immense chains and pulleys to which steam power is applied.

The cylinder which is to form a part of the *America's* engine, is now being excavated from the sand pit in which it was cast, and has yet to go through the boring mill and finishing shop. Of the other parts not appearing in the engraving, the working-beam deserves mention. It weighs 24 tons without its centre pin, which alone weighs 4 tons.

The main shafts are 2 feet in diameter, and are probably the largest ever made entirely of charcoal iron, they having a weight of 24 tons.

Beside the large marine engine, we noticed a stationary engine of beautiful design and improved valve gear, in process of construction. This firm is also manufacturing Stephen son's & Luther's turbines, and Messrs. Stillman, Allen & Co., have recently added to their extensive works an architectural

Department, in which we noticed a building partly completed, of 65 feet front by 58 feet high, for parties at St. Paul, Minnesota.

To the mechanic not already familiar with the building of heavy machinery, no more interesting place can be found for a visit than the Novelty Works. The ease and precision with which the largest work is planned, turned, and bored cannot fail to excite his admiration.

OFFICIAL REPORT OF PATENTS AND CLAIMS

Issued by the United States Patent Office.

FOR THE WEEK ENDING JUNE 9, 1868.

Reported Officially for the Scientific American.

PATENTS ARE GRANTED FOR SEVENTEEN YEARS, the following being a schedule of fees:—

Table with 2 columns: Fee description and Amount. Includes 'On filing each caveat', 'On issuing each original patent', 'On appeal to Commissioner of Patents', etc.

In addition to which there are some small revenue-stamp taxes. Residents of Canada and Nova Scotia pay \$500 on application.

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.

78,637.—LAMP BURNER.—Lewis J. Atwood (assignor to him self and Holmes, Booth & Haydens), Waterbury, Conn.

78,638.—PLOW AND PLANTER.—G. C. Avery, Waldron, Ind.

78,639.—EVAPORATOR.—Pierre J. Badoux, New York city.

78,640.—PROCESS OF TREATING MILK TO OBTAIN USEFUL PRODUCTS.—Anna E. Baldwin, Newark, N. J.

78,641.—POTATO DIGGER.—Edmund Bennett, Nankin, Mich.

78,642.—FOLDING OR IRONING TABLE.—M. G. Briggs, Boston, Mass.

78,643.—CHEESE HOOP.—L. Chapin, Antwerp, N. Y.

78,644.—MAKING HORSESHOE NAILS.—S. E. Chase, Boston, Mass.

78,645.—HOISTING MACHINE.—G. R. Clarke, New York city.

78,646.—ELEVATOR.—George R. Clarke, New York city.

78,647.—BEDSTEAD.—John C. Cline (assignor to himself and Henry C. King), Philadelphia, Pa.

78,648.—COFFEE MILL.—I. Fremont Colby (assignor to himself and Daniel C. Colby), Washington, D. C.

78,649.—FASTENING FOR GLOVES.—Isaac Cole, Brooklyn, N. Y.

78,650.—THRASHER FOR GRAIN, CLOVER, FLAX, ETC.—Lewis Cosler, Yellow Springs, Ohio.

78,651.—CLOTHES PIN.—John O. Couch, Middlefield, Conn.

78,652.—BRACE FOR BIT.—John W. Craig, Knoxville, Ill.

78,653.—MODE OF ATTACHING HANDLES TO CROSS-CUT SAWS.—Patrick Donoghue, Loretto Pa. Antedated May 19 1868.

78,654.—HARVESTER RAKE.—John C. Durborrow, Ellicott's City, Md.

78,655.—PENHOLDER.—H. G. Eastman, Poughkeepsie, N. Y.

78,656.—STEAM ENGINE OSCILLATING VALVE.—John S. Everett and Ossian Cook, Oshkosh, Wis.

78,657.—MACHINE FOR THREADING THIMBLE SKAINS.—W. T. Norton, Dundee, Ill.

2d, The valve case A A, when constructed as described and arranged relatively to the oscillating balance valve H, as herein set forth.

78,657.—MOP WRINGER.—John Filkins, Sandwich, Ill.

78,658.—PETTICOAT PIPE FOR LOCOMOTIVE.—W. G. Freeman, Richmond, Va.

78,659.—BEER COOLER.—Gerhard Fuchs and Jos. Luigart, Logansport, Ind.

78,660.—FULLING MILL.—Ernst Gessner, Aue, Saxony.

78,661.—CLOTHES DRYER.—Amos W. Griffith, Boston, Mass.

78,662.—FRUIT GATHERER.—R. S. Hall, Hamburg, Mich.

78,663.—TACKLE BLOCK.—Jos. F. Harcourt, Cincinnati, O.

78,664.—CORN PLANTER.—Wm. N. Harrison and John J. Harrison, Hornby, N. Y.

78,665.—CORN COVERER.—J. D. Haynie, New Antioch, O.

78,666.—SEED PLANTER.—Asaah Hays, Guy's Mills, Pa.

78,667.—HEEL FOR BOOTS, ETC.—Rudolph Herr, Brooklyn, N. Y.

78,668.—HAT.—Fleury Huot and Constant Baudouin, New York city. Antedated May 23 1868.

78,669.—LATE FOR ARTIFICIAL TEETH.—David S. Hutchinson, San Francisco, Cal.

78,670.—FARM GATE.—T. W. Johnson, Grainger, Ohio.

78,671.—SHEEP SHEARING TABLE.—Wm. C. Jones, Orangeville, Ohio.

78,672.—COMPOSITION FOR TANNING.—Eli Keith, Wabash, Ind., and Alfred A. Elyar, Pontiac, Ill.

78,673.—BOMB LANCE FOR KILLING WHALES.—Zeno Kelley, New Bedford, Mass.

78,674.—ELECTRIC FAN FOR LAMPS.—Charles T. Mason, Sumter, S. C.

78,675.—HOISTING APPARATUS.—J. Vaughan Merrick and Wm. H. Merrick, Philadelphia, Pa.

78,676.—APPARATUS FOR MAKING BOTTLES OF CLAY.—E. H. Merrill and H. E. Merrill, Akron, Ohio.

78,677.—MACHINE FOR GROOVING AND SWAGING SHEET METAL.—Martin Metcalf, Grand Rapids, Mich.

78,678.—DISTILLING APPARATUS.—A. A. Meyendorff, New York city.

78,679.—MANUFACTURE OF SHOVELS.—H. M. Myers, Allegheny City, Pa. Antedated June 5th, 1868.

78,680.—SWITCH FOR CITY RAILROADS.—Thos. Newman, New Orleans, La.

78,681.—MACHINE FOR CUTTING FILES.—W. T. Nicholson (assignor to the Nicholson File Co.), Providence, R. I. Antedated June 5 1868.

78,682.—GRAIN DRILL.—M. L. Nickels, Dunlapville, Ind.

78,683.—SHOE BRUSH.—J. E. Nolan, Chicago, Ill.

78,684.—MACHINE FOR THREADING THIMBLE SKAINS.—W. T. Norton, Dundee, Ill.

of the parts herein specified and shown, all constructed and arranged as described.

78,685.—GRATE AND ASH SIFTER IN COOKING STOVES.—D. E. Paris, Troy, N. Y.

78,686.—WATER RESERVOIR ATTACHMENT TO COOKING STOVE.—D. E. Paris, Troy, N. Y.

78,687.—OVEN OF COOKING STOVE.—D. E. Paris, Troy, N. Y.

78,688.—HOT WATER TANK ON COOKING STOVES.—Daniel E. Paris and Chas. S. Davis, Troy, N. Y., assignors to D. E. Paris, same place, and Clement Oberber, Cincinnati, Ohio.

78,689.—CASTER.—John W. Pugh, Grand Rapids, Mich.

78,690.—COMPOSITION FOR SETTING POSTS, TIMBER, ETC.—Amos D. Furton, Dover, Mass.

78,691.—LUMBER DRYER.—Julio H. Rae, Syracuse, N. Y.

78,692.—STEM WINDING AND SETTING WATCH.—O. P. Rice and J. H. Gerry, Springfield, Mass.

78,693.—TILE CUTTING MACHINE.—John Shellaberger, Shane's Crossings, Ohio.

78,694.—SUGAR EVAPORATOR.—William C. Smith, Warrensburg, Mo.

78,695.—MACHINE FOR CUTTING LEATHER.—Caleb S. Stearns (assignor to himself, Chas. F. Davis and Thomas Corey), Marlboro, Mass.

78,696.—MACHINE FOR SPLITTING AND ROLLING LEATHER.—Caleb S. Stearns (assignor to himself and Thomas Corey), Marlboro, Mass.

78,697.—KNIFE FOR SPLITTING LEATHER.—Arzy E. Van Gieson, Newark, N. J., administrator of the estate of Amzi H. Van Gieson, deceased, assignor to Newark Patent Leather Company.

78,698.—HEAD AND SHOULDER REST.—Abraham V. W. Van Vechten, New York city.