scientific merican.

THE ADVOCATE OF INDUSTRY, AND JOURNAL OF SCIENTIFIC, MECHANICAL, AND OTHER IMPROVEMENTS.

VOLUME XI.

Scientific American, PUBLISHED WEEKLY At 128 Fulton Street N. Y. (Sun Buildings.) BY MUNN & COMPANY.

THE

MUNE S. H. WALES A. E. BEACH.

Agents derhen & Co., Beston. Dexter & Bro., New York Winch, Philadelphia. E. & Fuller, Halifax, N S. G. Courtenay, Charleston. S. W. Pease, Cincinnati, O Responsible Agents may also be found in all the princi pal cities and towns in the United States. Single copies of the paper are on sale at all the periodi cal stores in this city, Brooklyn, and Jersey City.

TERMS-32 a-year,-81 in advance and the remain der in six months

Steam Floating Batteries and Gun Boats.

On the 23d of last month the grandest navalreview ever witnessed was held near Portsmouth, England. The fleetextended in double line for a distance of twelve miles, and numbered more than 200 steam vessels of all sizes huge line-of-battle ships, frigates, gun-boats, and floating batteries. Our government might learn a useful lesson regarding the construction of some floating batteries at the review, viz., to let out all its ship and engine building by contract to able and responsible private companies, as we have more than once advised. We learn by one or our London exchanges that three of these steam floating batteries were contracted for only on the 1st of January last, and were to be finished complete by the 15th of April-a little over three months-under a penalty of \$5000 for every days' delay afterwards. At the time specified they were all completed, according to the specifications, and one of them sailed a distance of 500 miles to be present at the review, eight days after the date of contract expired. Each vessel is 2,000 tuns burden, 186 feet long, 50 wide, and 16 deep. The outside planking is 4-inch wrought iron plate, which is lined with teak plank, 6 inches thick. The decks and sides are considered shell and bullet proof. The engines are 200-horse power, high pressure, and work rotary blowers to ventilate between the decks. They are all armed with large cannon and mortars.

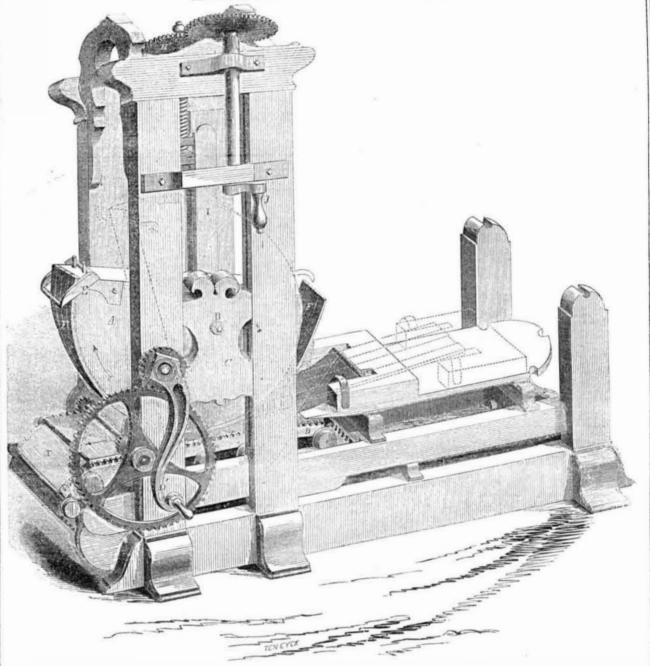
Our floating battery at Hoboken has been under construction for more than ten years, and is not yet finished. There are parties in our country, who, no doubt, would contract for, and complete any government job, as well and as speedily as any parties the government works of the British, or any other government. It is mortifying thus to be receiving such lessons from other countries. Let us wake up to a sense of our duty and responsibilities in order that we may sustain our already well earned reputation of an enterprising and active people without a peer.

Among the objects that attracted general attention at the naval review alluded to, were more than 100 steam gun boats, varying from 400 up to 1,400 tuns burden. They have all come into existence in the course of two years, and are novelties in modern warfare. They are considered to be a great improvement, and fulfil the same offices in a navy that singular that Jefferson, when President, had a operation, is fit for use. strong predilection for gun boats, and had It is claimed for the invention now under rods, I, with the slides, C. The latter, as we examine them thoroughly, to destroy caterquite a number of them built during his administration. These were afterwards condemned by our government naval authorities; and yet we find that his views are now adopted by England as being wise and sagacious, respecting the efficiency of such vessels. It is true, his gun boats were sailing vessels, while the new ones of England are propelled by steam engines; but the question of their efficiency in a navy is the same in both cases.

The sulphuret of carbon is proposed as a solvent for scouring wool and making soaps, wheels. The bending is done by attaching as a substitute for caustic alkali.

NEW-YORK, MAY 31, 1856.





Wood Bending Machine.

The invention illustrated in our engraving is adapted to the bending of all descriptions of wood, from plow handles up to ship timbers; but the particular machine which we represent is used for forming fellies for wagon wheels.

One of the principal objections to the use of many of the more ordinary bending machines, is the havoc which they occasion by breaking the wood during the process. We are told that it is quite common to estimate the loss screw, so that it can be regulated with the utof stuff, from this cause, at twenty-five to most nicety. It is to this excellent manner of thirty-three per cent. That is to say, the pressing the wood that the success of the mamanufacturer finds that only two-thirds of chine, in bending without breaking, is due. flying artillery do in an army. It is rather his stock, after it has passed through the H is the screw, having a pinion, H', at its top, this period of the season, those who have

> its attention. Let us see how the machine is constructed.

A is the former or pattern block, which determines the form that the wood is to receive. its center, B, to the slides, C, of which there are two, one on each side of the frame. D is an endless revolving bed or apron, put in motion by means of the crank, D', and cog one end of the stuff to the former, A, by means only being required for fellies, and such like

direction of the arrow. The stuff to be bent bend ten sets of fellies per hour. Each of is pressed tightly between the former, A, and these sets is afterwards divided into eight bed, D, so that when the latter is moved the pieces, so that the product is cighty sections wood is drawn in between.

position of the stuff, and also of former, A, at for \$150, but their cost of manufacture is much th commencement of the operation, are indi- less. cated by the dotted lines.

er, A, and bed, D, is obtained by means of the information. Patented April 8, 1856.

its lower end being connected, by means of trained grape vines in their gardens, should discussion that it saves all this loss, besides have before stated, carry the bearings of formdoing the work in a superior manner. If this cr, A. When, therefore, the slides, C, are is so it is an important improvement and mer- moved up or down, the former, A, rises or is depressed accordingly. J is the crank of a shaft having a pinion upon its upper end, which gears with pinion H' on the screw, H. The former, A, is raised and lowered by turn-A is shaped like a half moon, and pivoted in | ing J; the convenience and accuracy of this mode of adjusting former A must be obvious. The wood, almost at the moment of bending, being firmly pressed between A and D, its fibers cannot separate, but come out whole.

This machine is easily worked, hand power

of a clamp, E, and then moving the bed, D, in articles. By its use one man and a boy can of fellies, or eight hundred per diem of ten In the cut, F is the board, partly bent. The hours. Machines like that here shown sell

NUMBER 38.

Mr Edward J. Updegraff, York, Pa., is the The pressure of the stuff between the form- | inventor, and will be happy to give further

Grape Vines in Cardens.

Grape Vines delight in being well manured, and will not give the best satisfaction without a dry bottom and abundance of rich soil. At pillar worms while they are small. One may now be found in almost every bud, rolled up in a pellet of fine wool. All the labor thus spent will pay for itself. During warm dry weather, the surface of the ground around the roots of vines, should be covered with litter to protect the tender rootlets, that spread out so near the surface.

There are eighteen establishments for manufacturing steel in our country; these have a capacity for making 14,000 tuns per ann 1m. We have the best ores in the world for making steel

Scientific American.



1290

298

[Reported Officially for the Scientific American.] LIST OF PATENT CLAIMS Issued from the United States Patent Office

FOR THE WEEK ENDING MAY 20, 1856.

CUTTING MEAT-G. V. Brecht, of St. Louis, Mo. 1 do not claim to be the mventor of a meat cutter. Such claim the roller, as constructed, of a series of cir-cular plates, having teeth or hok, on their peripheries, when said plates are put on a twisted square shaft, thus haking rows of teeth of the edges of the several plates, add by the twist of the shaft, giving them a spiral form.

WATER CLOSETS-Edward Bookhout and Chas. Hew lett, of New York City: We do not claim a movable bowl, for a movable bowl is used in what is termed the let

bowl, for a movine how to accur in the pan haslong been swing urial. A veisner do we claim the pan for the pan haslong been in u, en w what is known as the pan coset (the bowl is stationary); the pan is also an old device. Luis we claim, irrst, a bowl inaving the forward and tackward molons, by means of the said bowl and waste working on a shat, or arms, or their equivalent, substanworking on a shall tially as described

S. cond. we claim the use of the pan in combination with a movable bowl, as set forth.

BOAT FRAMER-Jas Beetle, of New Bedford, Mass. 1 claim the descrited boat trainer, as composed of the sets (, adjustance and extension bars, a b c d e f, and connect-log contrivances, viz. the keetrests, m m, bars, n o, and their screws, substandally as set forth, the whole being arranged cogelere, essentially in manner and for the ob-ject of ph. pose as specified. je

Jet. of Julpide as specified. PLL M terms ess-H. E. Chapman, of Albany, N.Y., I can note feeding cyunder, of the knife, K, the grooved bed prece. N, and the web grooved cyunders, B B, having there surface, d uven at different rates of speed, all sub-standary as dearth ed, for the purposes set forth.

standary as deacrified, for the purposesset forth. FIRE ARMS—Samuel Colt, of flartford, Conn. Pat-ented in tenglanet, Match 13, 553; i do not claim the method of rituing the many chamiered breech in fre-man, by a driving prior bot operated by the cock or some partor the ock moying in unison with the cock, antisming in a son-cost groot section in the periphery of the totaling use colling the part connected with it, which groots are so formed that in the act of ming the driving part of the rituing the art of control in the section with the rituing the act of arting the driving protect inter any noting the particular chamter in the wreque barred, and in the act of cocking, pass into and and an inter breech in line with the tartel preparatory to any the charter and implements which is thave made there-had a new aloo e stated my invehicion consists in or re-lates to certain improvements which is thave made there-in common heat the with the driving rine act from and the constant match which is the set of re-lates to certain improvements which is the very site that the set of re-ting the morphiling with the driving rine act from the driving morphiling with the driving rine act and there the drive constant act and the driving rine act and the set of the driving morphiling with the driving rine act and the set of the driving morphiling with the driving rine act and the set of the driving morphiling the driving rine act and the set of the driving morphiling the driving rine act and the set of the driving morphiling the driving rine act and the set of the driving morphiling the driving rine act and the set of the driving morphiling the driving rine act and the set of the driving morphiling the driving rine act and the set of the driving morphiling the driving rine act and the set of the driving morphiling the driving rine act and the set of the driving morphiling the driving rine act and the set of the driving morphiling the driving rine act act act and the set of the driving more

Lets, to certain inprovements which introvemate inter-in. A claim combining with the driving pin or bolt and with dresseries of diagonal and fongitudinal grooves for rowship dresseries of diagonal and fongitudinal grooves for rowship dresseries of the diagonal dresseries of short rowship dresseries and the diagonal dresseries of reach, so that the minimer can rest on the solid metal between two chambers instead of the mpple, substantial-by a described or dresseries of nog longitudinal and diag-onal grooves, the actral grooves of inclined and driving char grooves, the actral grooves of inclined before the hard when the famimer can the furning the breach by hard when the famimer can that constructions the breach by hard when the famimer is a that cock, as set forth.

Valves for High Pressure Steam Biotroini Richard Colburn and L. W. Hanson, of Norwich, Conn. We cann the seri acting valves. K. A. connected together as ast or h. for the jurpose of receing the cylinder of wat er and of tack steam, in the manner substantially as de version. scrited.

seried.
Printing MACHINE—J. H. Cooper, of Philadelphia, Past i am aware that a ype wheel, having upon it ver-tractifyee, and moving to the paper to give the inpression, has been used, miss id not cain.
A change in the combination with a type wheel having its type, radius, yac, anged therean, and operated as descri-bed, the presset bar, 0, for carrying the paper to the type of receive the impression, substantially as described.
A substantial was described, and the printed as described, the presset bar, 0, for carrying the paper to the type of receive the impression, substantially as described.
A substantial was described.

ANNEALING PURNACE_J. J. Eagleton, of New York City, 1 c.ann churging and discharging an anneriung tur-nace in curk, by means described, and substantially in the man...er and for the purposos specified.

SAW MILL BLOCKS-Bela Gardner, of Florence, Mass. cta.m operating or adjusting the Llocks of saw mill can A stain operating or adjusting the thocks of saw mill car-riages by means of the screw, F, endiess chain J, and Shint, J, in connection with the pintons, (SM, and clutch es, it N, arranged substantially as shown and described

CENTER TABLE_W. O. George, of Richmond, Va.: I CENTER TABLE-W. U. George, of Richmond, Va.: 1 claim the said table, called the oracular wheelor unique centor table, in combination with the game called "equal-ity," together with the checks: the said table game and checks sound at the cartered and shown, with the ex-ception that do not chaim those parts which, as taken, are well Kinswil, and these winch are common to the usu-at round center table for do 1 claim that checks are new and of my own in-

and their application in this particular way, and for this this particular purpose, and the interiod of arrangement or them, in componition with the table and game, by which particular effects are produced, or certain results a travertin, substantiarly as represented and set forth.

ARTIFICIAL DECOLORING COMPOUNDS-Francis Ge-rau of New York City: 1 claim the use of phosphate of ran, of new sork City, i claim the use of phosphate of inne, precipitated ou of a solution in muriatic acid as an ingrestential a compound of materials for the manufac-ture or a decooraning coar which other materials may be varied according to circumstances

Swing BOLT FOR FASTENING SHUTTERS-John Gun her, Jr., of New York Oity : I claim the use of the bold ner, jr., of New York City : I chain the use of the bolt lever, A, and hub, c, constructed and operating as de-scritted, in connection with the catch plate, b, when the same is cast with the channet, is, the whole being em-ployed it die manner and for the purpose set forth,

GAS RETORT FASTENINGS John G. Hock of New Not a sector restriction of the call to the rest of the theorem of the call to the restort or other house, by means of the house headed holds, β B, constructed and appined, and operating substantially as described.

SHINGLE MACHINE-Edward Hedley, of Shelby, N. T. I claim the formation and invention of the endless feed-inglest or bevered slots, so us to give the required taper to the shingle, as it passes themean the knives of the re-vo-ving class, substantially as set 10rth.

lionse Since-John Henderson, of Elmira, N. Y.: I claun arransing a special i caring surface adapted to the rin of the noo. and terminating in ines conversing from the outer t. the inner edge of the shee, upon the bars, c c, wi h a g adam denection of the heel, beginning at the converging innes, A' A', and extending to the rear parts of the slice $u_{i,D}$ is a set forth.

FEATHERING PADDLE WHEELS_Harvey Lull, of Ho-boken, N. J.; 1 claim imparting to the paddles of paddle wheels a rotary motion on their axis, substantially such as described, whisis revolving about the axis of the pad-die wheel, iy means of an eccentric cog wheel combined with and engasting the cogs of the pinions on the shafts of the paddless. the form of which pinions is generated as specified, for the purpose set forth.

TELEGRAPHS-D. E. Hughes, of Louisville, Ky.: I do not claim any feature of any existing printing or marking telegraph, as any part of my invention, nor do I desire to interfere in the least with any heretoire invented. Con-ceiving that 1 have made important improvements intel-egraphs, 1 desire protectiononly for that which is novel and of my own invention. I claim, first, the holding in place of the attractive power of electro or natural magnetism. as applied to the

po wer of electro or natural magnetism, as applied to the telegraphic purposes, whether the same be applied in the manner described, or in any similar manner, producing

telegraphic purposes and the second state of the per-manuer described, or in any similar manner, producing like results. Second, particularly I claim combining with the per-manent magnet, an adjustable spring almost sufficient to sever it from its contact with the soft iron of the electro magnet, and a lever, or its equivalent, which, after the permanent magnet has been separated from the iron ty the action of a current, shall iring it back again into re-newed contact by the action of the power which has been called into action by the retreat of the magnet. Third, I claim the employment of two cog wheels or circuit breakers at each station, so arranged that one shall be in connection with the electro magnet at the same sta-tion, and the other in connection with the transmitting cy-linder at that station, the whole being arranged so that the connection neutrates at each station is or every letter between the electro magnet and the transmitting cylin

the connection alternates at each station for every letter between this electro mignet and the transmitting cylin-der at that station, in stick a manner that the through con-nection is always simultaneously through the transmitting cylinder of one station, and the electro magnet of the other station, wherevy the machine at each station can, at the same time, be transmitting a message and receiving a message i being understood, however, that i do not

art the same time, be transmitting a message and receiving a message, it being understood, however, that ido not claim, in general, the use of a single wire for the simul-taneous transmission of different messages by means of ra-and clanges of concection, which is not new, but only the peculiar manner as claumed, in which 1 have a spined it n connection with my machine. Fourth, so are anging a uolt und operating the same by a cam, or itsequivalent, that itshalt act upon a wheel at tached to the shart of the type, so as to preclude the in-telligence from one stations to the growth it row which it 1, desared to withhold the communication. Fifth, 1 claim the employment of a vibrating spring properly weighted at its extremity, if necessary, and so arranged by aseries of mechanism as to govern and reg-ulate (the movement of the type wheel, printing which it the is use to its connection with electro magnetism. Sixth, 1 claim the arrangement of a cylinder with pins pirally arranged thereon to operate by contact with pins sprintly arranged thereon to operate by contact with inteatine points to clase and break the circuit, when this is combined, for the purposes set orth with the systems of feys and tackness, so arranged that any desired point may be thrown into a position, where it will be retained unit, it is struct by store, so orth any discussion of the system of the arrangement of a cylinder with pins sprintly arranged there on the predict with when the systems of they and tackness, so arranged that any desired point may be thrown into a position, where it will be retained unit, it is struck by its corresponding pin.

WINDMILLS-M. S. Johnson, of Palatine, Ill. : I claim the particular mechanical devices, so arranged for the purpose of housing the sails, as and for the purposes sec torth.

PRINTING MACHINE-John M. Jones, of Palmyra, N. Y, 1 claim the manner of attaching the lever, μ , μ the wheel, A, so that the same may curtisaid wheel, while its uncrum resist upon a trixed piate, N, should below the revolving wheel, A, allowing at the same time a revolv-

The volving wheel, A, allowing at the same time a revolv-ing motion, and a motion in the direction of its axis to the wheel, A, and i lever, D, being connected with the inte-chanism by the rod, s, passing through the holiow shaft of the wheel. U, substantially as described. "The arrangement and use of the lever, G, for the pur-pose of pressing down the type on the paper, when an an-pression is to be made, and at the same time insure an-ways the right position of the type and wheel. A, h the mininer specified. I claim the swinging wheel, G, attached to a hollow shaft having projecties to its periphery corresponding number and directions to the type or of the purpuse of mov-ing the cearrange. L, with the taper attached the exact described.

described

described. WATER METER-N. B. Marsh, of Cincinnati, Ohio : I an aware tilat elastic diaphragms have been used for va-riouspurposes ; this, therefore, Idonotciain. Dut i casim the maner or putching the diaphragm be-tween the panes, rg, so as to perfectly and is at i times pack the joint between the chambers, which it divides, viz., by means or the projecting franges on each, lapping pasteach other, and the nuts to heid them together as scrubed, viz., the two solid cylindricat valves, r s, having therspindles connected by a rocking heam, and playing within tubes, tu, communicating at their ends with the supprisented. Second, the double reversing valve movement, as de-scrubed, viz., the two solid cylindricat valves, r s, having therspindles connected by a rocking heam, and playing within tubes, tu, communicating at their ends with the supprised discharge respectively, and with the respec-tive compartments of the measuring cylinder, by means of apertures in their sides.

HYDRAULIC ENGINE-Augustin Miller, of Grafto do not claim the invention of hydraulic engines, as

Leen used before have Leen used before. But 1 craim the combination of the cut-off motion with the relief pipes, c c, as descrited, for the purpose of cut-ting off the stroke at any desired stage, without seing com-pended to waste the power by working the piston against atmospheric pressure, as set forth.

SURFACE CONDENSERS FOR STEAM ENGINES_J.M. Miller, of New York City: I claim passing the water of condensation in or upon the main body of the condensing surfaces on its way to the boiler under the pressure of the steam and the cond external water on the other portion of the surface, as set forth.

GAS GENERATORS-Max Pettenkofer and Chas. Eu-land, of Munich, Eavaria. Patented in Bavaria Feb. 24, 1851 : We claim the construction and arrangementof the many chamtered regenerators for making gas from wood or vegetable fiber, as set forth, whereby the primitive va-pors of destructive distillation of wood or vegetable fiber are progressively heated up beyond the heat in the re-tort, as set forth.

SETTING ARTIFICIAL TEETH-W. G. Oliver and Thos. Harrison, of buffalo, N. Y.: We claim making the teeth with grooves in their cheeks and attaching them to the pate by usible metal cast into said grooves, as set forth. We also claim making the plate and attaching the teeth at one operation by casting, as described.

ELEVATOR FOR COTTON, SUGAR CANE, So.-E. Price, of Water Proof, La., I claim the arrangementor the ta-ble, I, with the carrier apparatus, as described and rep-resented, tor purposes mentioned.

resented, for purposes mentioned. FLOATING DRAWBRIDGE_Mappleon B. Froctor, of Burlington, Vt.: I claim the construction of a floating drawbridge by erecting a whari or dock on each side of, or pardy or wholy within rivers or other waters, over or across which such toridge may be required, with a slip in one of said docks or wharves of a suitable size, for the re-ception of a boat of proper dimensions, viz. nearly as wide as the slip and about twice the length of the open space between the decks or wharves (through which housen space vessels may pass and re-pass) which hoat by steam or other power, can be readily worked forward from the slip to the opposite dock or whari, and thus form a con-nection therewith and back again into the slip, leaving a space or chainel open for the passage and re-passage of vessels, substantiality in the manner and for the purposes described.

described. HANGING RECIPROCATING SAWS-John Robingson, of New Brighton, Pa.: I do not claim merely attaching the lower end of the saw to the pitman, tor that has been previously done in cases where the saw has been placed massh or frame. But I claim attaching the upper end of the saw, J, to the pendant or arm, G, which is connected to the upper frame, E, and the lower end of the saw to the pitman, H, just above the point of connection of said pitman with the lower frame, E, substantally as shown and described, for the purpose specified.

Music RACK-Thomas Ward, of Birmingham, Pa. : I claim the jointed or adjustable bar, G, and the bar, F, provided with the blade, L, and attached to the sliding bars. E E, by the sliding springs, e e, the bar. G, having a plate, J, attached to it. provided with a spring, k, the above parts being fitted in a frame. B, which is allewed to jold or be turned in a vertical or horizontal position, the above parts being arranged as shown for the purpose specified

EXTRACTING STUMPS-George W. Zeigler, of Tiffin, O. and Manasseh Grover, of Sandusky. O.: We claim utilizing the weight of tree, while falling, for extracting its stump Ly the combination of chains and hooks and ad-uster substantially as set forth.

CARRIAGE SHAFT COUPLING-James D. Larven, of Columbia, Tenn.: I am aware that the ball and socket or universal joint coupling is old, and that a journal with a spherical enlargement in the center is old, and there-fore I do not claim either the one or the other. If ut I claim the improvement upon couplings for car-flage shafts or tongues, which consist in enlarging the journal of the short iron in the center so as to form a globular, ellipsoidal or double conical bearing surface, and clamping the same between the clip irons counter sunk as described, by means of screws, or other equiva-larged surface, and all lateral play and rattling of the clip irons are prevented. I also claim in comtination therewith the leath er packing, as described, for the purpose of retaining the lubricating material.

Intricating material. SURFACE CONDENSERS FOR STEAM ENGINES-NA-than Thompson, of Williamsburgh, N. Y. I claim, first, an elastic junction of a tube with a tube sheet coraposed of a thimble on a tube sheet and a short piece of elastic tubing applied thereto, and to a tube end or a collar on a set of tubes, substantially in the manner and for the pur-poses specified. "Second, I claim uniting firmly several small tubes into a collar, which latter is statched to a tube sheet by means of a slip or elastic joint, whereby several tubes require only a single stuffing; box or elastic junction in order to compensate for their expansion and contraction, substau-tially as set forth. And lastly, I claim in conjunction with an elastic junction or their equivalenis, applied substantially in the manner and for the purposes specified. Excavating Scoors.-John Taggart, of Roxbury.

Excavating Scoops. John Taggart, of Roxbury, Mass. : I claim applying one or two discharges within a pair of scoops, sustantially as specified, aid so as to op-erate therewith, or Le operated thereby, in the manner and for the purpose essentially as explained.

LINING METAL PIPES-A. D. Puffer, of Somerville, Mass. : I claim the method described of initgmetallic pipes with guita percha, the pipe being drawn down up-on the lining in the manner set forth.

As LEACHING APPARATUS-Philip Perday and Alexander W. Brinkerhoff, of Sycamore, O. We claim the mechanical arrangement and combination of the metallic per and reservoir with the tube and wooden screw for the purposes set forth, and all else we dis-claim.

GAS RETORT CLEANERS-Samuel H. and Matthew C. Walker, of Lancaster, Pa.: We claim providing the re-tort with a receptacle, D, below its bottom, and applying in connection therewith a scraper, F, arranged and op-erating substantially as described, to scrape the residuum from the bottom of the retort into the said receptacle, withoutsuspending the operation of the retort.

SAW SET-Edward S. Watson, of Chenango Falls, N. Y.: 1 claim the arrangement of the side set screws un-der the ted for the saw place, and the central adjusting screw for giving to the bed and the saw blade the in-clined position, and thus allowing the tooth of the saw to have given to it the curved or twisted lace, as set forth.

WORKING IN SHEET METAL.J. B. Holmes, of Cin-chunati, O.: I claim the use of corrugated plates, 2 and 3, constructed as described, and operating in connection with the eccentric bending and gauging shafts, 4 4, in the manner and far the purposes for forth.

WEIGHING CART-James W. Martin, (assignor to Lewis Hotherwell and James W. Martin, afore-aid.) o. Burnington, N. J., i claim the levers, E E F H. con-nected with the scale beam, G, in combination with the Lors, I and J, arranged and applied to the cart as shown for the purpose specified.

VENTILATING REGISTERS AND DAMPERS FOR STOVES —John Magee, of Lawrence, Mass., assignor to himself and williani J. Towne of Newton, Mass., I layno claim to the invention of having an air passace leading lift the downward draft flue, and provided with a door opening outward.

outward. Nor do I claim the principle of applying a damper so that it may be common to two or more openings or fues.

situes. The processing of contraint to two or more openings or fitues. Just I claim combining with or arranging in the flue pipe, I, when the stope is constructed substantially as de scribed (viz., with two discharge pipes, H I, arranged as specified) a rectangular box or chamber, b, formed with an opening, c, and so as to receive within it and permit to o₁ erate in manner as described a rectangular valve or damper, d.

MAKING ROPE AND CORDAGE—Wm. R. Dutcher, (as-signor to Harvey Church) of Troy N. Y.: I do not claim the wheels, 7 and 8, and other gearing for giving a larger or smaller amount of twist to the strands, neither do 1 claim rubbing down or sizing the yarn. I do not caim regulating the tension of warps or strands

Claim republing down or sizing the yarn. I do not caim regulating the tension of warps or strands by means of a wire or c rd in a grooved disk. Neither do l claim a belt or strap running around bobbins as they stand in a circular range for the purpose of rotating such hobbins.

stand in a circular range for the purpose of rotating such bobbins. Neither do I claim arevolving tube passing the strands, nor a plate or lay-up block through which the strands pass. But I am not aware that a pipe has ever before osen fitted above each lay-up block in such a manner as to regulate the tension of the yarn by adjusting said pipe nearer to er i urther from the said lay-up block. I do not claim the grooved cone, t, as this has been used in ropewalks and machinery, also a tube has been used in connection with such cone, therefore I do not claim the same, but limit my claim, as hereafter specified, to the peculiar construction of the parts. I do not claim leading the yarn or signer of to one side of the enclosing can; but where bobbins are made use of there must Lesufficient distance between the bobbin and the hole through which the yarn passes to allow said

there mist be sufficient distance between the bobbin and the hole through which the yarn passes to allow said yarn to pass offireely, hence in c-wes where the yarn is red towards the center of the circular range of bobbins, that range has to be so large to provide for the above re-quirement that the machines become heavy and cumber-seme; therefore I lead off the yarns to the opposite side of the range to where the bobbin stands, which provides sufficient distance to cause the yarn to run off with a uni-torm tension from the top and bottom of the bobbins, and thereby said bobbins can be brought into less space. The holes in the arms thus do not become regulators of the tension by their size, but provide for the yarn being drawn ottin such a manner as not to be varied in itsten-bobbin. Set the arms represented of the yarn wheals he holes in the strengengengen of the yarn wheals. bobbi

sion by any varying angle of the yarn in passing off the bobbin. I claim, first, the arrangement of the gear wheels, h and i, pinions, 13 and 14, plate, k, and ring, 12, for sus-taining and revolving the creel sharts, b, as specified. Second I claim the adjustable friction wire our cord passing around in the disks of the circular ranges of bob-bins, thereby simultaneously regulating all the yarns in each range to precisely the same tension, substantially as specified. Third, I claim the adjustable tube, IS, over the center of the lay-up block q, for the purpose of regulating, by its proximity to said lay-up block, the tension of the vari-ous yarns composing the strands, as specified. Fourth, I claim the construction of the lay-up cap, s, on the end of the shaft, c, fitted to receive the movable cone, t, and adjustable tube, 24, in the manner specified, so that the tube and cone can be conveniently changed to adapt the parts to laying up different sized rope or cordage.

Fifth, I claim leading the yarn off from the bobbins to

a noise or guide on the arms, 43, or their equivalents, on the oppositeside or nearly so of the circular ranges of bobbinsin the creel, for the purposes and substantially as specified.

TURNING IRREGULAR FORMS-Milton Roberts, (as signor to himself, Isaac Roberts, and Isaac N. Felch.) o Belfäst, Me. : Iclaim the automatic lathe attachment fo turning figured wood work, substantially a transverse and longitudinal movement produced by cranks, G G and inclined planes, E E, or their equivalents, and tooth rack, D.

LOCOMOTIVE AND R. R. LAMPS-John Stuber, (as-signor to John Carton.) of Utica, N. Y., I do not claim as new the torcing of the oil from the oil chamber into the burner by means of the spiral spring and valve, nor the opegating of the valve by means of the ratchet bar and key as described, as these devices have heretofore been used.

and Key as described, as these devices active services and been used. But I claim the tubed structure, A', as combined with the burner to regulate the flow of the air to the exterior of the flame of the lamp as described. I also claim the arrangement of the fleeding cup, t, and the tule, u, provided with the regulating spirally grooved fillet. A, in the manner described and for the purposes specified, arranged and combined substantially in the manner and for the purposes set forth.

DESIGNS. STOVES-Samuel W. Gibbs, (assignor to W. and T-Treadwell, Perry & Norton.) of Allany, N. Y. PARLOR STOVES-David Hathaway, (assignor to Cox, Richardson & Boynton,) of New York City. COOKING STOVES-Thomas A. Berrick. of East Bridge-vater, Mass., (assignor to Lemuel M. Leonard, of launon. Mass.

> -----Romance of the Steam Engine.

Viewing one of those gigantic engines to be seen in some of our steamers, who will deny that there is something awfully grand in the contemplation of it? Stand amidst its ponderous beams and bars, its wheels and cylinders, and watch their unceasing play, how regular, yet how wonderful! A lady's Geneva watch is not more nicely adjusted,-the rush of the waterfall is not more awful in its strength. Old Gothic cathedrals and ruined abbeys, are solemn places, teaching solemn lessons touching solemn things, but to the contemplative mind, a steam engine can preach a solemn lesson, too: it can tell him of usind wielding matter at its will; it can tell him of intellect battling with the elements; it can tell him of genius to invent, skill to fashion, and perseverance to finish. No man knows the powers of his own mind until they have been exercised. Thousands have sunk into an obscure grave, in whose soul the living fire of poetry, or the bright sparks of genius lay hidden and lost, which merely wanted education to cause them to shed a luster over their race. And in some retired spot, may remain themortal tenement, from which the soul of an Arkwright, a Scott, a Davy, a Watt, or a Webster may have fled, which merely wanted education and opportunities for this developement. And ought it not to be a lesson to those who laugh at novelties, and put no faith in invention to think that the mighty steam enginethe triumph of art and skill, was once the laughing-stock of jeering thousands, and once the waking notion of a boy's mind, as he sat, and in seeming idleness, mused upon a small column of steam spouting from a teakettle.

Prevention of Steam Beiler Explosions.

In spite of the great amount of information that has been published on exp osions, it pains us to hear of so many continually taking place. It appears to us that many of these are caused by ignorance on the part of those having charge of steam boilers. It will be an act of humanity on the part of our brethren of the Press to publish the following instructions to engineers and firemen, as by so doing many steam boiler explosions may thereby be prevented :-

Every steam boiler should have a good water gauge on it; also a steam pressure gauge. These must be watched constantly. There should also be three try-cocks on each boiler, and these should be tried often. The water should never be allowed to fall below the second cock. The safety valve should also be tried often, to see that it is free, as it sometimes sticks in its seat. If by priming, or any other cause, the water should fall below the bottom of the gauge glass, draw the fires at once: but if the plates should have become red hot before this has been noticed. and the fires cannot be drawn with safety, close the dampers at once, and on no account let water into the boiler. If the engine is not at work in such a case, it must not be started, nor must the safety valve, nor any other, be opened. The boiler, in such cases. should be left undisturbed until it has gradually cooled down.

Georgia Factories.

The manufactories in Georgia which started full handed, and were based on sufficient capal, have uniformly succeeded; and even dur ing the terrible pressure of 1850 and '51 there was no failure among them. The mauufacturing establishments in that State have multiplied largely within a very few years, and they number now some sixty in the full tide of success. The returns show that the yield on the stock paid in is from fifteen to thirty per cent.

It requires capital to sustain a factory after it is set in operation for at least two years. The beautiful cotton factory at Graniteville, S. C., under the charge of J. Montgomery, Esq., we understand, is doing a very profitable business.

6 CARV