Scientific American.

NEW YORK, MARCH 31, 1855.

Ice Ships. When the surface of the earth is uncovered on Manhattan Island, but especially on Long Island, we behold innumerable loose rocks, of every size, from the small cobble of a few pounds to the large block of many tuns weight. Some of these are much waterworn, while others are rough and jagged .-They are also of great variety with regard to their composition. Some are of white granite, like that of the Sing Sing quarries, others like the dark grey granite of Staten Island; and others, again, are of the schistose class. These rocks grew not where they are found, and no human hands carried them thither. Whence came they, and how have they been deposited, far and wide, over such an extent of country, like huge hail stones dropped by successive showers? The only plausable theory for their presence is, that those places where they are now found, were once the bed of the sea, over which icebergs floated from an arctic ocean, with these stones attached to their sides and base, and were dissolved by warm currents of water, and thus relieved of their stony cargoes. In the northern seas, the ice forms to a great depth and grasps with its strong cold hand large and small rocks, at the sea bottom and on the shore. When spring comes, these are lifted up by the powerful thaw and water swell, and are floated off into the ocean, with their cargoes of rough stones wrenched from the rocky shore, and water worn boulders lifted from the sea bottom and beach. Carried out on the cold ocean currents setting from the north to the south, these icebergs at last disappear, by dissolution in the warm currents of the tropics, and, as a consequence, their rocky freights are strewn over the bottom of the sea. In the spring of 1838, a block of granite, estimated to weigh 1,000,000 pounds, is stated by Prof. Von Baer, of St. Petersburgh, to have been carried by ice from Finland to the Island of Hoagland; and it is well known that huge blocks of granite are carried down by the ice every season from Finland, and deposited along the bottom of Copenhagen Bay. This is the manner, no doubt, by which all Long Island, and much of the eastern coast of our continent came to be covered with boulders.

What powerful influences must have been at work, by which parts of our country now dry land, were once covered with the beating surges of ocean; then the wild waves repelled again, and the hills and valleys arising out of and above them. To conceive of a period in the history of our country when tall icebergs floated over the place where the city of New York now stands, seems to be a draft upon the imagination as heavy, as to believe in Aladdin's "Wonderful Lamp." But, if this "iceberg boulder theory" is correct, we must believe it; there is no other help for us.

Physical Geography of the Sea.

A new science, which has received the above name from Baron Humboldt, has come into existence within a very few years, and the credit of its authorship belongs to a Lieutenant of the American navy-M. F. Maury. L. L. D. The first distinct work on the subject, for public sale, has just been issued by Harper & Brothers, and we find that it i dedicated in a gentle spirit by Lieut. Maury to George Manning, of this city, who has done so much to disseminate information on the subject. The physical geography of the sea relates to its winds, currents, temperature, character of its waters, its depths and shoals. By charts, it presents the different tracks of vessels on the ocean, and then exhibits the winds and currents which they meet at different seasons of the year. These charts are made from the logs of numerous navigators, and have proved of immense benefit to the nautical world. Before the commencement of publishing these charts, the average passage from New York to Califor nia was 183 days; it is now reduced to 135

average time of going, without these charts, was 124 days, and the coming about the same time. The outward passage is now reduced to 75 days. The saving to the United States trade with California and Australia, by shortening the voyages, amounts to more than \$2,250,000 per annum. Nearly all the nations of the world are now unitedly engaged in advancing and perfecting this science.-A conference was held in Brussels in August, 1853, at the suggestion of the United States, consisting of representatives from France, England, Belgium, Russia, Sweden, Holland, Denmark, Portugal, and the United States, which recommended a plan of observations to be followed on board of vessels of all friendly nations. In peace and in war, these observations are to be carried on, and in case any of the vessels on board of which they are conducted may be captured, the logs of them are to be held sacred. "This," says Lieut. Maury, [%] is a sublime spectacle presented to the scientific world : all nations agreeing to unite and co-operate in carrying out one system of philosophic research, with regard to the sea. Though they may be enemies in all else, here they are friends. Every ship that navigates the high seas, with charts and blank abstract logs for observations, may henceforth be regarded as a floating temple of science." This eloquen' passage must thrill the heart of every lover of science. It is greatly to be regretted that all these nations are not as friendly in the pursuit of national and commercial objects, as they are in the "science of the sea."

Although a great deal has been done in a few years, principally by American sailors, in collecting information for the preparation of the "wind and current charts;" much yet remains to be accomplished. A vast amount of the great ocean spaces between Europe and the East Indies is almost unknown. In an outward voyage to India, the Atlantic has generally been crossed three times by navigators instead of only once, owing to one captain following in the route of another, so as to get such winds as were stated to prevail, for wafting their ships to the desired havens. Great activities are now at work to discover new and favorable routes, and thus make shorter voyages; these we have no doubt will be crowned with complete success.

Fencing Railways.

The State of Illinois is the first which has adopted measures to fence in all railroads, in order to prevent cattle straying on the track. This we recommended years ago. We hope every State in our Union will soon follow in the footsteps of Illinois. The law passed by the Legislature of that State provides that every railway now in operation, or which shall be hereafter placed in operation, shall erect and maintain good and sufficient fences on the sides of their roads, with openings and gates at the farm crossings, sufficient to prevent cattle from getting on the road.-And when such fences and guards are not erected and in good repair, the Company shatl be liable for damages done by them to cattle which may get on the track, but if the fences and guards are erected and in good repair, they shall not be held liable unless the damage was wilfully done. Said fences need not be built through unoccupied lands lying at a greater distance than five miles from any settlement. Any person who shall lead, or ride, or drive any stock upon such road, except at the crossings, or tear down the fences or guard thereof, shall be liable to a fine of not more than \$100, and for all damages sustained thereby.

days. Between England and Australia, the cepting the placing of it among irritant po's ons, because Orfila had done so. Common salt is also set down by Orfila as an irritant poison when excessively used. The critic in the Examiner tells Dr. Alcott that he forgot to mention that one-half of the children that die under five years of age never tasted bread nor saleratus. He asserts that "if the ill consequences resulting from careless cooking were properly estimated, it would be found that much disease might be traced to sour and badly fermented bread." Saleratus, he asserts, will produce no injurious effects from constant use in such small quantities as are required for making bread. How true these views make the old saying, 'doctors do differ."

Patent Tea and Coffee Pot.



The annexed engraving is a side elevation, partly in section, representing an improvement in the construction of coffee pots, for which a patent was granted to James Mac-Gregor, Jr., No. 117, Beekman street, this city, on the 11th of April last year.

The nature of the improvements, consists, first, in surrounding the bottom (or bottom and sides as far as may be desired,) of the tea or coffee pot, with an outer case, which may or may not be attached to the tea or coffee pot, leaving a space for water between the two cases, below the bottom of the tca pot, while the tea or coffee is being prepared,there is no loss from evaporation, and the coffee or tea may be steeped somewhat longer to advantage than in the common mode.

Second, in having a mouth-piece to the outer case, for the purpose of pouring water between the two cases, and for the escape of steam made between the two cases ; while the pot is on the heating apparatus this mouthpiece is always to be kept open. When it is removed from the heating apparatus, this mouth-piece may be covered to retain heat. The space between the cases should not be filled more than three-fourths full, thereby allowing free escape to the steam made between the two cases, and by that means preventing the water in the pot from rising much above boiling heat. The inner case or pot, where the tea or coffee is put, is generally made as much smaller below where the outer case is to join as is desired for water space. Thus leaving the outside of a uniform appearance. The handle is put on the side half way between the spout and mouthpiece, they being exactly opposite to each other.

Third, in having an air-tight cover to the Amendment of the Patent Lnws. spout and top of the pot, of sufficient weight and adhesion to cause pressure sufficient to prevent the tea or coffee from boiling while ing drawn or prepared. The not and all parts are generally made of tin. examiners, four assistant examiners, and the A is a small ball valve in the spout; B is power to employ two other principal, and the cover of the pot; C is the space for tea two assistant examiners, if required. This or coffee. D is the space for water between amendment to the patent law confirms regu lations heretofore adopted by the Commisthe two cases. e is the mouth-piece attached to the outer case, for the admission of water, sioner.

ing apparatus, or stove, to let the steam off. and to be closed when it is taken off, to retain the heat. The water between the two cases. while the pot is on the heating apparatus, should boil, but not vehemently. Tea will seldom require to have the water in the outer case boil more than ten minutes, and coffee fifteen to twenty minutes; then the pot can be taken off the heating apparatus; the cover on the mouth-piece should be closed and the pot left (if time is not pressing,) for tea about ten minutes, and for coffee about twenty minutes-more time does no harm. It may stand for hours without injury. The coffee roasted in the usual mode is ready for use without grinding, thereby preventing all sediment from the coffee. If the above time is taken, no loss is sustained by not grinding.

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By the use of one of these pots, a much superior tea and coffee liquid is obtained than by common pots, and with less tea and coffee. This we have proved to our satisfaction; the improvement is a most excellent and economical one, and will effect a considerable saving in every family in which it is used.

These pots are manufactured and sold by Mr. MacGregor, at the above named place.

Railroad Signals,

The Railroad Advocate, in the above question, is like an eel that has tied itself into a knot so tight that it cannot get loose. It made a voluntary wrong statement, and it wriggles and wiggles in itsown mudto hide it: but all won't do. In the last number, it flies for consolation to that reviler of everything . American-the London Mechanic's Magazine. It is welcome to such company ; as distinguished for its profound ignorance, as it is for its vapid conceit.

The Railroad Advocate characterizes the Mechanic's Magazine as "one of the ablest and most respectable journals of the kind in the world," thus evincing its practical ignorance of that publication. This is only a chip under which it attempts to hide its own slender proportions; a mere attempt to throw dust into its readers' eyes.

To show the power and force of its English authority, it is only necessary to state, that after more than a generation of years (according to a statement recently published in the Tribune,) its stamped issue amounts to about three hundred copies. "Full many a flower is born to blush unseen."

The fact is, the Mechanic's Magazine, like the Railroad Advocate, is able and respectable only for its insignificance to do good or evil; all else is purely imaginary; and the affiliation between the two is appropriate and consoling.

Engravers Advancing.

Samuel Cousins, the distinguished London engraver, has been elected a full Royal Academician. He is the first engraver who has been admitted to such an honor. Bartolozi was elected, not as an engraver, but as a designer. There is a talk of admitting another engraver a full Royal Academician, making the number of academicians fortytwo instead of forty; but certain schoolboy conditions will, it is said, have to be complied with, which the most eminent engravers are unwilling to fulfill.

An amendment was made by our late Congress, at the request of the Commissioner of Patents, providing for four new principal

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Medicinal Effects of Saleratus.

A writer in the Medical Examiner, criticises the paper of Dr. Alcott, originally published in the Boston Medical and Surgical Journal, on the injurious effects of saleratus as used in domestic cookery, and especially in attributing the great mortality among children under five years of age in our country, to such use of it. No less than threefiths of the deaths of children were attributed to its use, without any attempt to substantiate such a bold assertion by facts, ex-

and the exit of steam by a channel, E.

DIRECTIONS FOR USING-Put the necessary amount of tea or coffee into the pot to make the desired quantity; then fill the pot with boiling water, sufficient to give the required amount, and carefully put the cover on ; fill the space between the two cases (by pouring in at the mouth-piece at the handle,) twothirds full. The cover to this mouth-piece is to be left open, while the pot is on the heat- live, owing to severe injuries.

Coal Pit Explosion.

A severe explosion, by which 35 miners ost their lives, took place in the Midlothian Mine, near Richmond, Va., on Monday last week. It was caused by breaking into an old shaft which was filled with fire damp. There were fifty in the pit at the time ; those not instantly killed it is supposed will not



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[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS Issued from the United States Patent Office.

FOR THE WEEK ENDING MARCH 21, 1855.

FOLDING LIFE HOATS-E. L. Berthon, of Fareham, Eng. Patented in Kingland June 12, 1551 : I claim hinging longi tudinal risk of the two sides to the stem and the stern post, in such manner that those ribs shall be capable of being folded down, and shall lie parallel with the keel when the boat is collapsed, as described.

SWIVEL FOR WATCH CHAINS-Elihu Bliss, of Newark, . J. : I claim the specific arrangement of the joint of the wivel in the manner and for the purpose substantially as set forth.

WAGON BRAKE-J. E. Blodgett, of Haunibal, N. Y. : I do ot claim the originating of the idea of wagon brakes, or beir invention, claiming only certain in provenents in the onstruction and applecation of wagon brakes, as described, endering them perfectly effect usland applicable to alkinds i loading their invention.

I claim the application of wagon brakes to the forward I claim the application of wagon brakes to the forward wheels of wigors by using the hounds, sway bar, block toigue, or other appendages running back from and firmly attached to the irout axle, as the irame for the support and stendying of such trakes; also the const uction of a brake so light and simple as to admit of being supported by such frame, such brake having a main bar of sufficient length to receive both pads, said main bar furning upon its lastening at or near its center with the pad for one wheel firmly at-tached to one end, and the pad for the other wheel is a tached to the otherend of the main barrs to turn on such attachnent, or histening such turning pad to be of such for and to bear main the such turning pad to be of such form as to bear harder on being turned lurther, and at the same time by crowing back that end of the main barr to which it is attached 40 throw the other end with its pad sensus the other wheel, as described.

K NOS FOR FASTERING CURTAINS AND FOR OTHER LIKE PURPORES-W. Z. W. AJ. W. Chapman, of New YORKUIY: Ne claim the combination of the eyelet mentioned, or its equivalent, with a shank or kuob of metal or other material that is covered, capped, encircled, or so connected with in ... dis inducer, or the equivalent thereof, thatday its elastic na-ture the said cyclet may be secured to it as and for the pur-poses fully set forth.

SELF-VERTLATION FON RAILROAD CARS-V. P. Corbett, of Corbettsville, N. Y.: I claim forming a series of a ventila-ting holes, C U C C, in the sides of the car between the cel-ing and windows, B B B B, and providing in said holes ver-tical ventilating fains, D D D D, which are arranged so as to be caused to revolve by the rapid moving of the car through the atmosphere, and thus made to exhaust the impute air from the inside of the car.

[A notice of this invention may befoundon another page.]

DEVICE FOR AIR CHAMBER OF PUMPS-John B. Cowing, f Seneca Falls, N. Y.: I claim the combination and ar DEVICE FOR AIR CHAMBER OF POMPS—John B. Gowing, of Seneca Falls, N. Y.: 1 claim the combination and ar rangement with the air chamber or vessel, F, of the pump, having its delivery spout or outlet below, or at or near the bottom of said chamber, substantially as shown and de-scribed, of a hand air valve or perforated nut, J, at or near the top of the air vessel, for the conversion by hand with la-clifty and despatch, of the close air vessel into an open water reservoir, or vice versa, above the discharge outlet or spout of the pinnp, unidwhereby the tises of the continon well or lift panelity and essist forth.

[See a description of this invention on another page of this paper.]

MACHINE FOR CUTTING BARREL HEADS—A. H. Crozier, of Uswego, N. Y.: I claim the described machine for cut-ting ont and forming the heads of barrels and other similar articles, first, in arranging and operating two rotating cut-ters so as to cut scores in the opposite sides of the to the heading at the same time, one cutter being arranged and operated so har in advance of the other that the latter cutter may cut so far nuts the heading and nut of he score made by the former without interfering with it (the first cutter) as to sever the superfluous potions of the heading from the head, at the same mue that they cut it circular, and bevel or form the edge to fit the croze in the cask, substantially as descri-bed.

Second, traversing or vibrating the clamp edgewise, after Second, iraversify or vibrating the clamp edgewise, after the neading is placed in it to bring the heading in contact with the cutters, and to remove the head from the cuttersal-ter is is formed so as to take it out ot the clamp and insert naterial to form another bead, and bring it into contact with the cutters without stopping them (the cutters) during the operation or time occupied in making the change, Thind, the revolving clamp in combination will the rota-ting cutters, arranged and operated substantially as describ-ed and for the purposes set forth.

PUMP-C. G. Curis, of Springfield, Mass.: I am aware that induction and eduction valve chambers and valves, with their case, have been arranged on the side of a horizon-tal pump barrel, midway between its two ends, the barrel being made to communicate with the valve case by two pipes leading from the said case respectively into the two ends of such barrel. Law alow aware that valves and their chambers have been

ends of such barrel. I am also awaie that valves and their chambers have been placed at the lower end of a vertical pump barrel, and a teading the used to connect the valve case with the upper part of the pump barrel, the first of these arrangements only requires the removal of a cover plate to obtain access to the valves (such cover plate in aving in oconnection with or form-ing part of the cover plate of the end of the barrel) while there cover place of the end of the barrel) while mg part of the cover place of the end of the barrel,) while thesecoud of these arrangements rendered in necessary to raise from the valve case the whole pump barrel and cap plate of the valve case, in order to obtain access to the valves. I therefore do not claim enther of such arrange-ments, my invention having reference to an upright pump barrel.

1 claim arranging the eduction and induction valve cham-bers concentrically around the tunner and the tunner. I chang arranging the eduction and indiction valve cham-ber sconcentrically around the typer end of the pump bar-fel, and with respect to use another, substantially as speci-fied, they being provided with valves and pas-vages connect-ing them together, and with the two ends of the pump bar-rel, as described, the said arrangement admitting one tag plate to be employed both for the valve cases and the pump barnel, and at the upper end of said pump barrel, as a the pump

SHOT CARTRIDGE-Abbot R. Davis, of East Cambridge SHOT (LARTENGE-Abbot R, Davis, of East Cambridge, Mass. : f an nware that a shot cartridge has been with a woven wire frame filled with shot and loose sand, and cov-ered by paper pasted around it, I thereforedo not claimsuch a mode of naking a cartridge. But I claim an improved shot cartridge made by mixing the shot in a plastic material or compound, of the elaracter described sub-sequently reducing the mass to the shape re-quired lor the cartridge and covering its external sufface with fibers of wool or other material, lelied or appliedthere-to, situsiancially as specified.

of the fanger being removed from J, the cartridge is firmly griped by I, and carried forward toward the chamber by the action of K and J, pushing before it also he next preceding cartridgeready to be deposited in the chamber upon the raising of the breech piece; which operation being repeated after each discharge in connection with raising the breech piece, secures a measured supply of charges from the maga-zine in the stock to the chamber to an extent. and with a facility not heretofore attained in breech-loading fire arms. I claim also the forming of the breech piece of a segment of a circle, having the concave space, o, for the bottom of the chamber with its central point of depression in the line of the axis of the barrel. I claim also the forming the lower end of the breech piece into two cutters, one front the other back, with the rounded swell between, operating as well to hold the cartridge in its place, as to cut off the and and remove the parts thus cut off, as described.

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EXTENSION TABLES—Joel Haines, of West Middlebury, Obio; I claim the construction and arrangement of the top so as to wind up in the case, substantially as described; it being understood that I do not claim in general the deviced the chain of slats to wind up, as that has aircady been used in window blinds and shutters, but could the previous for which it is applied to the table top, as set forth.

VALVE FOR HYDRAULIC RAM-Thomas Hanson, of Nev York Uity : I claim the mode substantially as specified, o forming the connection between the driving chambers an air vessel of water rams, the tube, and flexible cup place within it, substantially as and for the purpose specified.

LAMI'S-Elbridge Harris, of Boston, Mass. : I claim using winning tasts lamps of any form, reservoirs of metal which irreprovided with the usual tubes for burning common oils, bradapiedby means of protectors to burn any fluid com-nustible.

bustible. I also claim the mode of ornamenting such reservoirs, contained within glass, by means of paper with metal or or namental surfaces.

SHIP AUGERS, 'dc.-I. W. Hoagland, of Jersey City: N. J.: I do not claim 'paking the cutting portion of the auger detached from the screw portion irrespective of the precise modeol attachment shown. I claim attachment shown. I claim attachment shown and described, viz., by means of the dovetail notch formed by the shoulder, b, and inclined end, d, dowel, f, f, and screw, e.

[A description of this invention may be found on page 316 Vol. 9, SCL AM.]

RAILROAD CAR BRAKES—Gideon Holchkiss, of Windsor, N. Y. : I do not claim the mere application of the brake to the top of the wheels; nor do I intend to contine my claim to the application of the brake, by the means described, to the top of the wheel only, because by a slight modification and change, the principle and means claumed as oi inal may be applied so as to press the brake to other parts of the wheel and accomplish or tend to accomplish the same ob-iect.

The set of the set of

for wide gauge roads having axless with inside bearings, but it will be obvious that they are applicable to tucks having axles with outside bearings, and also to cars withouttucks, and I therefore claim my improvements when applied to axles with outside or insidebearings, and also to cars with-out trucks.

HAND PRESS FOR PRINTING-Chas. Keniston, of Boston, Mass. : I claim the arrangement and construction of the press described.

SEED PLANTERS—Ebenezer Morse, of Walpole, N H.: I claim the scrapers, J J, the cam, n, and slicing back board, B, as arranged, combined, and operating conjointly with theseed box, A, for the purpose of depositing seed in hills, covering it with earth, and pressing the earth upon the

seed. Also the oscillating motion of the horizontal handle con-nected to the front and back part of the seed box by a binge j int at each end of the hamile, substantially in the manner described.

FIRE ARMS-Fiederick Newbury, of Albany, N.Y.: I claim the ratchet plate with its ratchet indentations and its claim are related by have with its ratchet indentitions and its slot, in contribution with the pin by which it connects with the cylinder. Also the two scoplevers below the cylinder to regulate add secure the connection between the chambers of the cylinder and the barrel, substantially as set forth.

of the cylinder and the barrel, substantially as set forth. I claum the arrangement and combination of the tumbler with the lummer and cocking sprug, to enable the hammer to act independently of the tumbler in the act of bring. Al-so the arrangement of the hammer to lie within the stock and to act in such line of direction upon the inppers as to press and hold the cylinder bringly against the barrel in the act of hring : the whole substantially as set forth. I claim the arrangement of the exploratus for disengaging and adaching the barrel with the cylinder to the stocks, viza, the thinnib councering plate or detent with the spring to hold it in place and the notch in the mondrel to receive the detent, substantially as set forth.

CARTRIDES—A. N. Newton, of Richmond, Ind. : I claim the arrangement of the percussion priming with a metallic rod, in the manner specified, whereby said priming is igni-ted within the chamber of the gun between the ends of two metallic rods, assettorth.

SEED PLANTERS-D. H. Phillips, of Greenville, III.: I do notclaimopening the seeddelivering shids by a cog or pro-jection on the carrying wheel or roller, striking against a lever to open ate the slide; neither do I claim closing the seed slide after theroller has ceased to operate it by the ac-tion of the apring.

Second, providing both ends of the carrying and leveling rolet when operates the sevend side back of the secretary of the second to the second side of the sevend side of the sevend side of the sevend side after the discharge has used in the revolving wheel or roller, asspectified, the same lever by its elasticity closes the side after the discharge has used number of the revolving wheel or roller, asspectified, the same lever by its elasticity closes the side after the discharge has used number as set forth. Second, providing both ends of the carrying and leveling roller which operates the seed slide lever with cogs or pro-jections so arranged that by reversing the roller as described asloweror quicket movement is, iven to the ideliveringslide according to the description of grain to be planted.

OCT DATE OF BRICKS-L. E. RANSOM, of Havana, O.: I make no claim to any portion of the processes of man-ulacturing bricks set torth in the French patents of Cap-gias & chanon, June 21st, 1843, and Charles Henry Mari-gret, May 27, 1840. But I claim the manufacture of bricks substantial

guas a Comon, June 21st, 1843, and Charle's Henry Mari-gret, May 22, 1840. But I claim the manufacture of bricks, substantially as described; that is to say by finit spreading the tempered mortar or clay at once upon the ground where the bricks will be left to dry, and in beds of certain desired length, width, and thickness, and then while the mortar is in a soit-state, or before it shall crack by too much drying, producing therein lines of weakening or separation defining the dimen-sions of the bricks, without regard to their smoothness or fluxi linish, and after the bricks in drying shallhave separa-ted from each other along the lines this formet turning the described thickness of the same by utbbing over them the metallic tool, P, or otherwise, substantially as setforth ; the described thickness of the lead being produced by means of guidebars or molds and scraper or fluxe, substantially as specified, whereb I am enabled to dispense with of otherar-ers and oherwise to simplify the manufacture d bricks. Mowing Machines Fisk Russell, of Boston, Mass, : I claim maranging the secondary supporting wheel and the guide transment ont of the driving shalt, when driving shalt use the driving wheen are stranged, and connected by

in the manner set forth for the purpose of depositing seed in the prepared soil without the objection of an open furrow.

---e prepared son without the objection of an open furrow. SELF-LOADING CART-J. A. Spragne and Bernard O'Con-nor, of Duyton, Ohio: We do not claim the combination of a large scoop or scraper, undivided, with the ordinary cart by suppension, in such a manner that the scoop or scraper may be raised or lowered by a windlass or lever, forthis has been done before; neither do ve claim dividing the scoop transversely near the middle, as such a device has been known and applied in dredging machines. We claim, first, the combination of a large divided scoop constructed as described, with an ordinary cart in the mun-ner and for the purpose substantially as specified and set forth. Second, the angle irons. J. on the underside of the cort

Second, the angle irons, J, on the under side of the carl shafts near tha forward ends, for the purpose specified and

MORTISING AND TENONING MACHINE—Elihu Street, of Montville, Coun.: I claim the improvement ou a machine formortising, tenoning, sawing, audismothing by combin-ing certain tools together, used by carpenters in the manu-facture of doors, sashaad blinds, as described.

[acture of doors, sash and blinds; as described. VALVE GEARING FOR STEAM ENGINES-H. Uhry & H. A. Luttgens, of Paterson, N. J.: We do not desire to confine our claim to any precise manner of construction or applica-tion of the improvement, as from its capability of being ap-plied to steam engines of different designs and purposes, its adaptation muy, as alwedy stated, call formodifications of parts connected to the improvement. But we claim the differential rocker, G, operated sub-stantially as described, in connection with the stationary or shifting link motion for the purposes of increasing the open-ing of the steam ports, at the higher grades of expansion, and retarding and varying the time of exhaust, without in-curring enrly compression, attending increase of inside lap on an ordinary valve. We also claim the duplicate valve seats, B'' and B', being partaged parallel to each other, provided with steam Dorts.

arranged parallel to each other, provided with steam ports f^2e_1 , i^2_2 , and an exhaust port, h^2 , the two steam ports, g and e_1 , towards the front of the cylinder, joining in one passinge, J^2 , lead the steam to that end of the cylinder; the other two steamports, i^2 and f^2 . leading the steam to that end of the cylinder is the steam to the steam ports. er two steamports, i' and f', leading the steamintoone parsage, K', towards the back end of the cylinder.

Looks-Lewis Van Riper, of Spring Valley, N. Y. : I claim, frat, intertwining the wurp threads in the manufac-ture of gause fabrics by the employment of needles having a compound motion, substantially as described. Second, constructing the needles for working the warps with flat or thin and crooked ends, substantially as de-scribed.

Third, the arrangement of the needles in two series and

Third, the arrangement of the needles in two series and giving to one or both series a compound lateral and longitu-dinal motion, to intertwist the threads which the two car-ry, and at thesame time open a sheed for the insertion of the weft thread, substantially as described. Fourth, the metbod described of working the needles so as to cause them to raise and lower, and intertwine the warps, alternately, with simply raising and lowering them to adapt them to weaving gauze and plain fabrics alternate-ly. ly. Fifth, the combination of the needles and heddles opera-

Fifth, the combination of the needles and heddles opera-ting automatically, substantially as described, so as to form a web of reticulated bars or strips of plain labric with the spaces between the bars or strips filled with gauze. Sixth, the combination of the yielding reed, 3, the lever, with the pin, 5, on its longer end, the pin, y, on the sword of the lay, the ratchet lever, X, with its double inclined planes, x, for the pins to as a strips and the ratchet wheel, W, with seventh, the combination of the mechanism for winding up the woven cloud of the mechanism for winding the variable can be defined as a strip.



devices for the variable Eighth, th the cam, T, for the purpose of changing the needles, as set forth, to adapt them to ad-gauze fabric, alternately set forth.

the operation of the needles, as set to the weaving plan ind-gauze fabric, alternately set forth. PUMPS-Wm. T. Vose, of Newtonville, Mass.: What I PUMPS-Wm. T. Vose, of Newtonville, Mass.: What I chaim conside in connecting the two pump barrels at two ad-jacent ends, as described, in combination with not only ar-ranging the valves of their respective pistons, so that one of them shall be applied to one or the upper side of one pis-ton, while the other is applied to the opposite or lower side of the other piston, as stated, but applying the eduction and induction pares, respectively to the disconnected ends of the barrels, substan inly as specified.

PRINTING PRESS-L. T. Wells, of Cincinnati, Ohio : I claim the platen, U, hinged or proted to viorating arms, V_i in combination with the stationary pin or puns, u_i and retracting springs, X, or equivalent devices for the purposes explained.

explained. CENTRIFUGAL WATER WHEEL-O, Willis, of Dizardville, N.C. : 16 not chaim a curved bucket; nor do I claim bevel-ing the nut and rim individually; nor do I claim hem when combined in such a formas to facilitate, the ercape of the water only, as this has beendone by Fontaine Jouval and others previously. But I claim, first, the peculiar double curved buckets in conubination with the beveled rim and hub, or nut, in the nammer and for the purposes set forth. Second, I also claim, ranging in advance of the radial line, substantially as and for the purposes specified. Third, I also claim forming the annula: water space on the upper side of the wheel, substantially as and for the purpose

upper side c es specified.

GRAIN AND GRASS HARVESTERS-W. A. Wood, of Hoosick Fails, N. Y: 1 am aware that a conical track clearer separate and independent of the bearing wheel has been used in mowing machines; this 1 do not claim. But I claim tracking the inner face of the supporting wheel conical, for the purpose of clearing the track for the next or teturn swath of the machine, as described. I do not claim a reserved space in general on the platform between the end of the cutting point and the frame. But I claim the forming of a quadrangular space on the platform between the end of the cutting point and the frame of the machine sufficient to hold as much grain as will make a budle or sheaf, before it is raked from the machine, as described.

described. CULTIVATORS-G. W. N. Yost, of Port Gibson, Miss. : I am aware that cultivators and scrapers have been used which were laterally and perpendicularly adjustable, therefore I do not claim such devices. But I claim the combination of the adjustable scraper, E, with the bar point, &c., D, as described, for the purpose of taring off the row and rapping up the unddle, also for scrap-ing off the row, and rolling the scrapings over into the fur-row opened by the plow, substantially as set forth.

ARRANCEMENT OF WHEELS AXLES, AND FRICTION ROLL ERS-G. A. Prentuss, of Cheshire County, N. H.: I cia.m. the combination, substant ully in the manner described, of the following elements, viz., a load axle with a baster sec-cured thereto, a securing gakle concentric therewith or near-ing applied to a pair of wheels, substantially in the manner and for the purposes specified.

SEWING MACHINES-Geo. W. Stedman, of Vienna, N. J. : I claim feeding the cloth along by means of the needle acting as a lever against it over a fulcrum, t the needle contrictle-ing driven for the purpose with a crank motion or its equiv-alent, substantially as set forth. In connection with the above motion of the needle, I also claum regulating the length of stitch by the combined ac-tion of the slot, 1, of adjustable length, and the slight spring, J, or its equivalent, for throwing the needle away from the tulerum when disengaged from the cloth, substan-tially as described. I also claim the construction of the finger, M, with a thin pointed beak, in, for entering the loop, with a wedge-slipped SEWING MACHINES-Geo. W. Stedman, of Vienna, N. J. I claim feeding the cloth along by means of the needle acting

taper hole, a, made through the handle and tube, and a me-tallic band. C, placed around the tube, B, and turning loose-ly thereon, said band having slots, c, d, madethrough it, a part of the slot, d, being of taper form. The shank of the auger being placed in the hole, a, and through the slots, c d, in the band and secured in the handle by turning said band and causing the edges of the taper portion of the slot, d, to pass in the notches or recesses, ft, in the shank, as shown and described.

[A brief description of this invention maybe found on nother page.]

ORE SEPARATORS-Reuben Shaler, of Madison, Conn. : I

ORE SUPARATORS—Reuben Shaler, of Madison, Conn. : I disclaim the use of the screen, m, except when used in com-bunation with the two sets of shelves, 3, 3, and the blower, a, which produces two blasts of unequal force. I disclaim also the use of two sets of shelves when used in combination with a blower of common construction. I claim the described combination of mechanism which separates the fine e.rth and small particles of gold from the coarse, and exposes the finer portion of impurities and gold to a moderate blast, and the coarser portion to a more pow-erful blast. The said combination embraces the blower, a, which produces two blasts of unequal force, the two sets of shelves or inclined planes, 3, and the screen, m, or its equivalent. This combination I claim when the several parts are used substantially as specified.

SEWING MACHINES-T. J. W. Robertson of N.Y. City: I do not claim in itself as new. the arrangement of the feeding dog and spring clamp separately operating upon the cloth on its one or outside surface, as such has before been done by the alternate action of these devices. Neither do I claim of itself a separate and constant spring pressure applied to the outside surface of the cloth when the feeding bar or dog is otherwise arranged to operate in con-nection with the spring clamp. or hold, as specified.

nection with the spring clamp, or hold, as specified. But I claim the combination of the spring clamp, D, with the feeding bar or dog; f, constructed, aranged, and opera-ting together against the cloth on its cue side or surface, substantially as set forth.

CASTERS FOR FURNITURE-G. L. Bailey (assignor to G. L. Bailey and Mighill Nutting,) of Portland, Me. : I claim the pin, B. or oval guide puttbrough or applied io the spin-dle, A, in any manner, or its equivalent, and attiched to a straight truck frame, G, with a socket hole, E, larger than the spindle, A, in the manner and for the purpose substan-tially as described.

DESIGNS. TABLE FORKS-J. W. Gardner, of Shelburne Falls, Mass.

COOKING STOVES-Jacob Beesley and Edward J. Delany, of Philadelphia, Pa.

French Railways.

The number of main lines of railroad in France, independent of branch lines and pro-

longations, is set down at sixteen, and as giving on the 31st of December last a total length of 1169 French leagues. Of this distance the four great lines of Orleans, Strasbourg, Lyons, and the North, comprise of themselves three fourths. The total receipts of these sixteen main lines amounted for the past year to 196,534,813 francs, showing an increase of about thirty millions of francs over the receipts of the previous year, which latter had also exhibited about the same progressive movement over 1852. The report is defective, however, in one principal ingredient in such documents, inaemuch as it fails in giving the nature of the trafficthe number of travelers and weight of goods, that is, which has produced the above results.

Size of London.

London extends over an area of 78.029 acres or 122 square miles, and the number of its inhabitants, rapidly increasing, was some 2,362,239 on the day of the last census. A conception of this vast mass of people may be formed by the fact that, if the metropolis were surrounded by a wall, having a north gate, a south gate, an east gate, and a west gate, and each of the four gates was of sufficient width to allow a column of persons to pass out freely four abreast, and a peremptory necessity required the immediate evacuation of the city, it could not be accomplished under four-and-twenty hours, by the expiration of which time the head of each of the four columns would have advanced a no less distance than seventy-five miles from their respective gates, all the people being in close file, four deep.

A New Boiler.

A new form of boiler has recently been tried in its application to locomotives, in England, with great economy in fuel, and time -it is said-in getting up steam. The improvement consists in piercing the sides and top of the fire-box, and the crown plate of the boiler flue, with a number of holes about three inches diameter, into each of which, projecting into the water space, is rivetted a malleable cast iron cup, from four to six inches deep, those on the sides being cylindrical, while those on the crown plate are spherical. These cups are, of course, covered in every direction by the water in the boiler, and the inside being exposed to the heat of the fire and concentrating the temperature, present so much additional heating surface, that the boiler is enabled to get up steam in a vast deal less time, with a diminished quantity of fuel. Several stationary horizontal boilers of this description, have been in use in London for the past twelve months with success, which, being worked by gas coke, have avoided the smoke nuisance.

FEEDING FUEL TO FURNACES—Howard Delano, of Syra-cuse, N. Y. : I claim the contained use of the feed box and grate bars or cut-off tor feeding in the lint of the under part of the burning mass, in the me box, or their mechanical equivalents, as described.

equivalents, as described. I also claim the combination of the crank shaft, I, slotted piece, G, lever, F, and trgger, H, or ther mechanical equiv-alents for sliding the feed tox and grate or cnt-off, and for raising and lowering the bottom of the feed box, substantial-ly as described.

RAKES AND ELEVATORS—A. H. Gaston and Jos. Smith, of Sundury, O. : We claim the endless belts, D D, rakes, L, in combination with the rollers, x, revolving forks, Y P, for the purpose of raking and loading hay, as set forth.

BRECH-LOADING FIRE ARRS-A. T. Watson, of Castle-ton, N. Y.: I claim the mechanical combination and ar-rangement of the cylinder, G, the bent lever, H, and the forked standard, j J, acted upon by the rost, J, and spiral pring, K, also the spring, i by which d, being diawn back, the cartridge constructed and arranged is described, is released from the pressure of I, and the cylinder is made to pass over the next succeeding cartridge, and the pressure and the pressure of L and the cylinder is made

cutter frame in font of the driving shaft, whensuch driving shaft and the driving wheel are arranged and connected by gears as specified, the same serving to less the side draft or pressure on the horses or draft snimms in comparison to what it would be, were the secondary wheel and the cutter frame disposed back of the driving shalt, when arranged with respect to the driving wheel, as specified. I also claim the combination of two knives so that they shall project in opposite directions from one center plate or bar, in order that either of the knivešinay be used in connec-tion with the guard teeth, and either be made to serve as a lever to the other whenever circumstancesmay require.

Polisium of the other whenever incluminances may require. Polisium of Daguerscorrye Platts-David Shive, of Philadelphia, Pa.: I do not cisim effecting a gyratory mo-tion of the pad tor polishing the surfaces of daguerreotype plates, or other like surfaces, by means of machinery, as such has been so effected before tor similar purposes. But I claim the blatt, E, with its sime, Y, cranks, G, the pieces, C and D, or their equivalents, and the eccentric, H, with its spur whitel, I, in combination with the united spur wheels, M and M, and the spur wheel, K, when constructed and arranged substantially, and for the jurposes de-scil.ed.

SEED FLANTERS-B. M. Snell, of Hancock, Md. : I do not wish it to be considered that I claim novelty in the devices of my plow when c-uskdered separately. But I claim the construction of a plow wherein a double share, D, is used to open the soil, in combination with a seeding tube, H, hopper, G, striker, a, wheel, K, operating

I also claim the construction of the nuger, m, while a thin pointed beak, m, lor entering the loop open to receive the needle shoulder, m, for spreading the loop open to receive the needle in turn, and with a spring, p, for retarding the motion of the loop, an anged and operating in combination with the needle, substantially in the manuer and for the purposes set torth

torth. PRESS FOR MAKINE CYLINDRO-CONICAL HOLLOW PRO-JECTILES BY PRESSURE-W. M. B. Hartley, of New York City: 1 do not claim the manner of operating the dis sec-tions. But I do claim the collar, R, in combination with the sec-tional parts of the die, constructed, arranged, and operating substantially as and for the purposes set torth. I also claim the arrangement relative to the punches, P P' of the die, A, with a norizontal motion of sufficient any statistical to admit of the successive action of the punches, sub-stantially as and for the purposes set forth. I further claim chapming the ball while inits die, and while held firmly at its base, by a pauch, which, on the opening of the sections. will, by a subsequent or continuous mo-tion discharge the ball, capped and ready for use. Arraceuro, Augresz O HANUES-C W. Cotton of Shell.

ATTACHING AUGERS TO HANDLES-C. W. Cotton, of Shel-burne Falls, Mass. : I claim attaching or securing augers to burne Falls, Mass. : I claim attaching or securing augers to handles by having a metallic tube, B, placed around the center of the handle, and having a transverse rectangular

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