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### LIST OF PATENT CLAIMS

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**HEMP BRAKES**—By L. S. Chichester, of Williamsburgh, N. Y.: I claim making two or more breaking and cleaning cylinders, with fixed rods at or near their peripheries, and radial plates, made to slide radially, (or some of them fixed), operated substantially as described, in the spaces between the rods, substantially as described, the two or more cylinders being geared together, so as to turn with equal velocities, and so placed, that in their rotation the rods and plates of one cylinder shall come opposite to those of the other cylinder, for the purpose and in the manner substantially as set forth.

And I also claim the combination of springs, substantially as described, with the sliding plates of the cylinder or cylinders, operated substantially as described, for the purpose of rendering the plates self-adapting to the material introduced, and insure its being properly gripped, and held so as to admit of slipping without undue strain on the fibres, as described.

**GRASS BURNERS**—By Jno. A. Craig, of Columbia, Ark.: I claim the application to the surface of the ground, flame, for agricultural purposes, using, for that purpose the described machine, or any other substantially the same, which will, by heat, produce the intended effect.

**FEEDERS FOR PLANING MACHINES**—By Jno. Cumberland, of Mobile, Ala.: I claim the described combination of a bed-piece with the spring lever, connecting rod, arm, tumbler, and clicks, and its grooves, guides, and rack, with a movable platform, with the adjusting levers and ratchets, for the production of a lateral traverse and lost motion, with its adjustable table, adjusted by springs, weights, screws, or other known means, with its hand-wheels, rollers, vertical ratchets, and balance clicks, and of a frame with its pulley and half wheel, for the purpose of delivering or receiving material hereon, the whole being constructed, combined, and operating as set forth.

**STREET SEWERS**—By Willard Day, of Brooklyn, N. Y.: I claim the combination of the basin placed at the bottom of the inclined drain and at the side of the sewer, with a single man-hole, so placed as to give access to the basin and sewer.

**DOOR SPRING**—By Henry Hochstrasser & Abram Masson, of Philadelphia Pa.: We do not claim the straight piece of steel for a spring, as new; neither do we claim having the spring act most powerful when the door is closed. But we claim the application and mechanical arrangement of a curve in connection and combination with a spring and rollers, for the purpose of a door spring, whose power will be exerted more strongly when the door is closed, or about closed, than when open entirely, or partially, as described.

**GAS PURIFYING APPARATUS**—By Abram Longbottom, of New York City: I claim purifying the gas by passing it through a mixture of equal measures of quick-lime and of animal charcoal, in the same retort in which the gas is generated, but at a temperature so regulated that at the lowest point, or where the gas enters the composition, the mass is at a lowered heat, and at the top, or where it leaves the composition, the heat is below redness, substantially as set forth.

**METHOD OF KEEPING THE VALVES OF OSCILLATING ENGINES UPON THEIR SEATS**—By Ephraim Morris, of New York City: I claim the pressure of plugs, or their equivalents, acting against the caps or their equivalents, in combination with the steam chest, valve, and valve seat, vibrating with the steam cylinder: said plugs operating to keep the valve or valves on to the seat or seats of the same, as described.

**AXLE-TREE ARMS**—David Philips, of Sharon, Pa.: I claim constructing metallic arms for axle-trees, with sockets and ribs, as set forth, so that the arm can be attached to the wooden stock or body of the axle-tree, without the employment of the hoops, clips, and screw bolts heretofore employed, even when the stock is as small or of less diameter than the arm.

**CONCENTRATED BEER MATERIAL**—By Franz G. Rietsch, of Rudolfs, Austria: I claim the new and useful preparation of matter described, termed Zeilthoid.

**SHIPS' BLOCKS**—By Wm. & S. G. Coleman, of Providence, R. I.: We claim the method of making ship's blocks, by placing the metal straps edgewise, that is, with its greatest breadth in the direction of the plane of the axle of the sheaves, and extending from the sides of the sheave to the outside of the cheeks, substantially as specified, when this is combined with the attachment of the cheeks, in segments, to the wide faces of the straps, substantially as specified.

And we also claim making the cheeks of ships' blocks, in segments of a ring, substantially as specified, whereby the elongated form is obtained, by simply turning in a common lathe, whilst apertures are left each side of the straps, to give admission for cleaning and oiling, and for checking or stopping the sheave, as set forth.

**RUNNING GEAR OF RAILROAD CARS**—By Henry Davis Taylor, of Newark, N. J.: I do not claim the grooved inclined wheels fitting to the rails; but I claim the lower truck or frame supported upon the rails, and prevented from rising by grooved inclined wheels fitting to the edge of the rails, and connected to the trucks and body of the car, by series of links and rods, substantially as described, and operating for the purpose set forth.

And I also claim the forked guards, provided with elastic bands, and attached to the lower truck, so as to move up and down freely, but formed so as to take a firm bearing, or rest, on the front axle, or any stationary part of the front truck, when brought into contact with any obstruction, substantially as set forth.

**RUNNING GEAR OF CARRIAGES**—By Chas. F. Verleger, of Baltimore, Md.: I claim the combination of the segment plate and the perch sliding thereon, and connected with the axle, as described, with the segment plate, forming a part of the perch, and the plate attached to the perch block of the body, and sliding on the plate, in connection with the rods, by which the other parts are regulated and governed in

their action, constituting an arrangement of running gear, constructed substantially in the manner set forth.

**STEERING APPARATUS**—By N. W. Wheeler, of Buffalo, N. Y.: I claim the combination of fast and moving circular racks of different diameter, with corresponding planet wheels or pinions, connected together and actuated by the hand wheel, as set forth.

**BRIDGES**—By Ammi White, of Boston, Mass.: I do not claim, separately, as new, the mode of constructing the stringers, by splicing and securing planks, in the manner set forth; nor yet do I claim, separately, the use of diagonal planking, crossed in layers, as described; nor yet again do I claim, by itself, increasing the width of the roadway and other parts of the bridge at the ends: neither the mere employment of side guards or braces—as all these, or similar devices, or applications belong to common carpentry, or ordinary bridge building—they, however, are necessary details, or certain principles, essential to the construction of my bridge, involving a combination having the effects and advantages specified. But I claim, first, the combination of parts, constructed and arranged as described, in formation of a wooden tubular suspension bridge—that is, the several suspension stringers, D D, of catenary form, and constructed and united in pieces, as explained (the outer ends of the extreme stringers being locked as in the back stays) the stringers, H H and I, for construction thereto, or thereon, of the inclined roof, made of diagonal planking; the roadway stringers, connected by suspension rods to D D and H H, the direct arch united by suspension rods and further direct arch, N, bearing under the upper stringers, together with the transverse floor timbers and roadway; the bridge thus constituted, being formed—that is, its stringers, arches and coverings, of short pieces of wood united, and having their fibres running in appropriate directions, as shown, and the bridge being, in form, wider at its extremities, gradually narrowing towards the centres by which combination and arrangement of parts the tensile strength of the wood, in the suspension stringers, is fully employed, vertical, and lateral vibration are reduced, the roof more than assists towards the support of its own weight, and the bridge may be extended over a considerable space.

Second, the continuous angular side guards, formed by fender-rafts, inclined rafters diagonal plank covering, and extensions of the transverse roadway timbers, the said side guards projecting most and being of greatest extent at the extremities of the bridge, gradually diminishing towards the centre, and the specified side guards, serving not only as braces to reduce the lateral motion, but as a covered roadway, and to break the effect of wind upon the structure.

[See engraving of this Bridge in No. 3, present Vol. Sci. Am.]

#### DESIGNS.

**MANTLE, GRATE-FRAME AND SUMMER-PIECE**—By J. L. Jackson of New York City.

**GRATE-FRAME AND SUMMER-PIECE**—By James L. Jackson, of New York City.

**GRATE-FRAMES**—By James L. Jackson, of New York City: two designs.

**HAIR COMBS**—By James Shields, of Fishkill, N. Y.

[For the Scientific American.]

#### Houses in Towns.

I cannot look around me, in any town through which I may happen to pass, without being struck with the heterogeneous masses of brick and wood which disgrace its appearance,—here is a brick house struggling into respectability of exterior; there a row of marble fronts, giving the splendor of a palace to a few square yards of front walls, while the rear ones are rough, ragged, and tottering. In another part are to be seen wooden tenements of respectable appearance, but ready to be ignited by every wandering spark, and among all these, like rooks among doves, are to be seen hovels, occupied by those whose means are limited, and by their dwellings afford evidence of poverty and suffering. I think we can do better than this; can every man have a house of his own? Yes, say both the philosopher and the selfish man, though facts and common sense are against them. Can every man build a suitable, healthy, and well ventilated tenement, fit for the moral and intellectual man to live in? Yes, say all, in the teeth of the absurdity. Practical life disproves both of these expectations, yet the world hopes to accomplish what I may call a natural impossibility. It has always struck me, that, as we want two things—solidity and beauty—solidity for its manifold advantages of warmth in winter and coolness of summer; and beauty as a moral principle for elevating the mind—the residences of many should be constructed in a different manner and on different principles. Looking at some of the miserable cages in which I see vast numbers huddled together, one cannot but be humiliated at the idea of their near approach to the condition of the mere animal. In some places in Europe there is a nearer approach to the proper system, though it is not carried out as it ought to be: a large "Hotel,"—a palace in appearance and extent, will contain apartments for twenty, thirty, or a hundred families, and these of all classes. The poorest person who enters its magnificent portal, may find that he resides in a palace, although his room or rooms may occupy but a very small portion of it. I see no reason for not improving on this system.

Yesterday, as I surveyed our noble Patent Office, I fancied I saw in its mode of construction and form, something that might be fol-

lowed out in the construction of edifices for the dwellings of all classes. The system appears to me to be more republican, and would be more commodious to both rich and poor than the general system of isolated houses. Such a building might be fire-proof,—heated on a general scale in winter, well ventilated, and have a magnificent entrance, like that of the Patent Office; or a central hall, as in some square buildings, and which should be a public one for meetings, soirees, &c. This public hall might be splendidly decorated, fitted with galleries, and the floor inlaid with wood of various colors. As a specimen, I would mention that of the Reform Club, in London. The intelligent architects of this country, employed by associations for building edifices worthy of the people, would soon devise a thousand beautiful and different plans. I merely throw out the suggestion, because buildings, elegant in form and architecture, solid in construction, commodious and well ventilated, would not only be an ornament to our cities, but a blessing to the people. Associations could get them up economically, taking all things into consideration. The money now spent in constructing a hundred houses of every size, inconvenience, and ugliness, might rear a gorgeous pile—a pleasure to those within and a picture to those without. To those of limited means, a comfortable residence at a cheap rate, in an apartment warmed in winter, at a charge borne by the general rent, would be inestimable. How many gentle people, born and bred amid luxuries, and unable, by the greatest energy, to turn the tide of fortune, are driven to perish in the vilest haunts, paying dearly even there for a lodging. There are philosophical as well as economical considerations in the suggestions which I have thrown out. Our present system of building houses, in general, is a selfish error, and costs us dear in purse, health, and morals. I do not suggest that all the world should be forced to live together in edifices of a uniform character. I propose profitable, convenient, sociable, and picturesque styles of residence for rich and poor—one worthy of imitation in the Model Republic, and conducive to public health, wealth, and morals.

C. L. A.

Washington, D. C.

#### Anchor Ice.

**MESSRS. EDITORS**—Your correspondent's remarks about anchor ice being found only in swift shallow places of water, is clearly a mistake, as I should be able to show him if he were at this place; it is quite common, in drawing my fish in the morning, after their being sunk in twenty feet water, and that too where it does not move at the rate of half a mile an hour, to find them almost a solid mass of anchor or bed ice, and sometimes other fish are found encrusted and fastened in the mass, which leads me to the conclusion that it forms in almost any depth of water and at a very rapid rate, the cause of which, to my mind, has never been satisfactorily explained. The rising or rather the letting go of the bottom, is equally rapid; I have known it to be a foot thick all over the bed of the river, or as far as we could ascertain, and from some cause yet unknown, would entirely disappear in less than an hour.

B. M. DOUGLASS.

East Springfield, Conn.

#### Selling a Patent that is no Patent.

I deem it my duty to inform you how the Patent Laws are disregarded. I made a machine for loading logs on a wagon, by placing timbers lengthwise of the wagon and the bolsters, and to be even with the top of the wheels. I placed a windlass on the side by a slide meshing through the side timbers. A rope passed around the barrel of the windlass, over the log and back to the wagon. Azra Lyman came to me and got an assignment to try and obtain a patent. He made the application and failed. He then went to Indiana and sold rights. The first I knew about it, was the reception of a letter sent to me by a man in Indiana. He stated he had bought a right, and I obtained the certificate he received from Ezra. It is stated in it, that I obtained a patent in September 1849, which is unfounded. The machine is the best I have seen for the purpose, but people should be prevented from imposing on the public.

PHILANDER GILBERT.

Alexandria, Licking Co., O., Jan., 1852.

#### Scientific Memoranda.

**"POCKET STOVES.**—The Milwaukee Advertiser says that a gentleman of that city has invented a spirit stove which, while only a foot square, will warm any ordinary sized room. It weighs less than ten pounds, is convenient for carriages, cars, and even small ones may be carried in one's pocket of a cold day, and producing neither soot, smoke, nor ashes, might be made as ornamental a piece for personal wear as a watch or breast pin."

[We know such portable stoves were employed twenty years ago, and were used by hunters for cooking when in the wilds, chasing the wild deer and driving the roe.

**BURSTING OF A STOVE BOILER.**—The New Orleans Delta gives an account of a young Irish girl, named Nolan, who was employed at the house of Mr. Charles Bridge, at the corner of Prytania and Third streets, Lafayette, and was killed by the accidental explosion of a stove boiler. The boiler was in a kitchen range, under which the girl had made a fire a short time previous to the accident, and either in consequence of too short a supply of water, or improper confinement of the steam which was generated, the explosion took place. A fragment of the broken stove cut off all the front part of the poor girl's head, and death was, of course, the almost immediate result.

**THE QUADRANT SUPERSEDED.**—The San Francisco Pacific states that the Rev. Tyler Thatcher has discovered a new and superior method of determining the latitude and longitude.

"His method of determining the latitude, by a single observation of any heavenly body, seen by night or by day, either on the meridian, or at any angle with the meridian, is perfectly geometrical, and as obvious and certain in its results as any case whatever in spherical trigonometry. He employs the same observations also to fix the longitude. The method by which this is done is partly geometrical and partly arithmetical; but as plain and certain as any demonstration in Euclid's Elements, or any sum in the Rule of Three."

We hope this will prove all that is claimed for it; but we are tardy to believe in such things, for we know that a great many discoveries have been brought forward, claiming the very same things.

**COMPREHENSIVE MINDS.**—The Rev. Henry Ward Beecher recently delivered a lecture in the Tabernacle, this city, on the "Law of Precedents." In respect to mental qualities of races, he adduced the following:—

"In a recent report of English education, it is proved that one nationality is distinguished from another, in the sphere of mind. Men of all nations have been tested. French, Italians, Germans, English, Scotch, and Irish. In each nation men are to be found of equal capacity to do a thing, to execute a plan which they see before them. But no nation can plan like that of the Scotch. They have, above all others, the faculty of comprehension."

**WINE.**—The Western Horticultural Review contains a letter to the Wine-Growers' Association, by N. Longworth. He says there are three kinds of wine, in Ohio, that are extensively made for sale. One is the pure juice of the dry Catawba, fully fermented; another is made from the Isabella grape, to which is added 1½ lbs. of loaf sugar to the gallon, then it undergoes fermentation, and keeps sweet for a number of years. The third is the sparkling Catawba (champaigne) made from the grape of that name, after it has undergone full fermentation, and has a certain quantity of rock candy added to give it sweetness and effervescence. In Madeira, a sweet wine is made by adding one-third of brandy to two-thirds of grape juices, as it comes from the press; it is a pleasant wine, but is not healthy on account of not being fermented. Mr. Longworth says, "we intend, in a few years, to render portions of the Ohio River as celebrated for its wines as the Rhine." After all, it seems that sugar is to the wine-growers what putty is to the glaziers, and those who talk about the pure juice of the grape, and unfermented wines, are very ignorant of the subject.

Louis Napoleon has ordered five-franc pieces to be struck off with his likeness; "Louis Napoleon Bonaparte" are the words which encircle his moustached profile.