No. 23,748. Vehicle Spring. (*Ressort de Voiture.*)

Thomas J. Magner, Job King and George W. Rockwell, Buffalo, N.Y., U.S., 5th April, 1886; 5 years.

Claim.—1st. The double coil and torsion spring consisting of isometric branches, having opposite coils formed upon vertical axis, and having their inner and outer arms parallel and extending in the same vertical plane in opposite directions, substantially as specified. 2nd. The double torsion and coil spring consisting of two single coil branches, having their upper and lower portions extended to form parallel arms, which are firmly clipped together to brace each other, substantially as specified. 3rd. An isometric double torsion and coil spring consisting of the coil branches, having their upper arms extending inward and parallel for attachment to the body, and their lower arms extending outward and parallel, and turned upward in their outer portions for shackle connection to the running gear, substantially as specified. 4th. An isometric double torsion spring, consisting of two vertically coiled branches having their upper ends securely braced together for connection to the body, and their lower ends firmly braced together and extended outward for the shackle connection, substantially as specified. 4th. A vehicle-spring consisting of single laterally-opposite coils, having parallel attachment and extending in opposite directions from the higher and lower portions of said single coils, substantially as specified.

No. 23,749. Construction of Staterooms for Railway Cars, Steamboats, etc. (*Construction des Cabines de Chars et de Bateaux à Vapeur, etc.*)

Mann's Boudoir Company, (assignee William D. Mann,) New York, N.Y., U.S., 5th April, 1886; 5 years.

Claim.—A sliding panel constructed with guiding tongues for a small portion of its length, and with a thin or bevelled edge for the remainder thereof, in combination with a frame or jamb having guiding grooves into which said tongues and edges project, substantially as and for the purpose specified.

No. 23,750. Method of Producing Moulded Articles from Substances Containing Ligneous Fibres. (*Mode de Production d'Articles Moulés avec des Substances Contenant des Fibres Ligneuses.*)

Sally G. Cohnfeld, Dresden, (assignee of Ferdinand Thiemen, Bischofswerda,) Germany, 5th April, 1886, 5 years.

Claim—1st. The process of producing moulded articles from sawdust, wood shavings, wood pulp, dry leaves, straw, hay and other ligneous materials, by treatment with chloride of zinc and basic chloride of magnesium, compression into moulds and drying, substantially as and for the purpose described. 2nd. As an article of manufacture, the material obtained from saw-dust, wood shavings, wood pulp, dry leaves, straw, hay and other ligneous substances, by treatment with chloride of zinc and basic chloride of magnesium, compression into moulds and drying, substantially as and for the purpose specified.

No. 23,751. Bee-Hive. (*Ruche.*)

The D. A. Jones Company, Beeton, Ont., (assignee of James Heldon, Dowagiac, Mich., U.S., 5th April, 1886; 5 years.

Claim.—1st. In a bee-hive, a case consisting of a frame one of the sides of which is provided with thumb-screws extending through said side, and the opposite of which is provided at the corners with narrow cleats facing said thumb-screws, substantially as and for the purpose set forth. 2nd. The combination of the bee-hive, the bottom stand having end-pieces of less height than the side pieces, and the detachable bottom-board, the ends of which are provided with downwardly extending cleats resting upon the end-pieces of the bottom stand and the upper side, and rear edges of which are provided with cleats adapted to support the lower case of the bee-hive and afford admission space for bees, substantially as and for the purposes set forth. 3rd. In a honey-board for bee-hives, the combination, with a frame, of a number of slats secured to the bottom side thereof, at a bee-space distance apart, said frame being even with the bottoms of the said slats and projecting a bee-space above them, substantially as and for the purpose set forth. 4th. In a bee-hive of the described class, the combination, with the brood chamber of a hive, the tops of the frames of which are a bee-space below the top edges of the hive, and a case for surplus honey, the bottom of the frames of which are even with the bottom of the case in which they are secured, said frames for surplus honey hanging parallel with, and directly above the frames of the brood-chamber, of a honey-board consisting of slats secured to a frame, said frame being even with the bottoms of said slats and projecting a bee-space above them, said slats being so arranged that the spaces between them will be between the tops of the frames in the brood-chamber below, and the bottoms of the frames in the case above, and the slats themselves will be parallel with the frames and between the spaces between the said frames, substantially as and for the purpose set forth. 5th. In a bee-hive, a brood-chamber consisting of a series of reversible and interchangable cases, each of said cases being provided with thumb-screws extending through one side, and with cleats at the corners of the other side and facing said thumb-screws, and of a number of reversible frames rigidly secured therein between the said thumb-screws and cleats, and a stand and cover, substantially as and for the purpose set forth.

No. 23,752. Process of Preparing Iron Ore for Smelting. (*Procédé de Préparation du Minerai de Fer pour la Fonte.*)

William Boll, New York, (assignee of Michael R. Conley, Brooklyn,) N.Y., U.S., 5th April, 1886; 5 years.

Claim.—1st. The process of preparing finely divided ores for reduction, consisting in mixing about ninety-five per cent. by weight of said ores, with about five per cent. by weight of pitch or analogous material, heating the same in a pan or other vessel until the pitch or analogous material becomes liquid, thoroughly incorporating the pitch or analogous material with the ore, and, while the mass is in a heated state, forming the compound into bricks, blocks or lumps, substantially as specified 2nd. A brick block, or lump, consisting of about ninety-five per cent. by weight of sea-sand ores, or other finely divided ores, and about five per cent. by weight of pitch or analogous material, substantially as specified.

No. 23,753. Nailing Machine. (*Machine à Clouer.*)

James W Brooks, Cambridge, Trustee of the McKay Metallic Fastening Association, Boston (Assignee of Louis Goddu, Winchester), Mass., U.S, 5th April, 1886, 5 years.

Claim.—1st. In a nailing machine, a movable head, an awl and driver bar carried therein, and a nail guiding chute attached to and made movable in unison with the said head, and provided with the nail rest, combined with a shield bar for the heads of the nails, and with an independently movable lever and finger thereon, to act upon the heads of the nails in the said rest, substantially as described. 2nd. The rotating nail receiving drum to deposit nails into a chute, a chute and a shielding bar above it to cover the heads of the nails, combined with a toothed wheel located above the chute, at the point where the nails pass from the drum into the chute, and with means to operate the said toothed wheel when the nails clog to throw from the chute nails improperly lodged therein or thereon, substantially as described. 3rd. The nail chute, provided with the nail rest at its lower end, the shielding bar located above the said chute over the heads of the nails, and the finger-carrying lever and finger, and means to actuate them to throw the finger against the head of the foremost nail and at the rear side of its centre, and also on the head of the nail next to the foremost nails, whereby the said two foremost nails are separated, substantially as described. 4th. The nail chute provided with the nail rest at its lower end, the shielding bar located above the said chute over the heads of the nails, and the finger carrying lever and finger, and means to move the said lever combined with the separator, and means to operate it at the proper time, substantially as described. 5th. The nose and the nail centering devices 57, provided with recesses to receive the nails dropped into the said nose, and with shoulders 58, combined with a spring to operate upon the said centering devices and cause them to hold up the nails to be driven until acted upon by the driver, substantially as described. 6th. In a nailing machine, a nose having a driver passage, a chute to conduct nails directly into it and a finger to act upon the head of the foremost nail in the chute and throw its body out from the end of the chute or toward the drivers, combined with a driver bar and an attached driver, the latter acting to support the endmost nail and the column of nails back of it when the separator is withdrawn, as described. 7th The chute, provided with rest 44, and a cover, combined with an independently movable rigid pivoted lever 34 and finger 42, to operate substantially as described.

No. 23,754. Furnace. (*Fourneau.*)

Gates A. Clarke, Rochester, N.Y., and William B. Vail, Dover, N.J., U.S., 5th April, 1886; 5 years.

Claim.—1st. In a furnace provided with a fire-chamber for burning solid fuel, a rotary feed chamber, oven or retort exposed to the fire, and a flue leading from the said fuel-chamber to the fire-chamber, the fuel-chamber normally communicating with the fire-chamber only through the said flue, substantially as described. 2nd. A furnace, provided with a fire-chamber combined with a rotary fuel chamber exposed to the fire, but normally without direct communication with the said fire-chamber, a flue leading from the said fuel-chamber, and means for establishing direct communication between the fuel-chamber and the fire-chamber, for discharging the fuel from the former into the latter, substantially as described. 3rd. In a furnace, a grate and a fire-chamber above it, and an ash pit or air inlet chamber below the same, combined with a rotable fuel-chamber or retort exposed to the fire in the said fire-chamber, and a flue leading from the said fuel-chamber to the ash-pit, substantially as and for the purpose described. 4th. In a furnace provided with a fire chamber, a fuel-chamber, oven or retort, capable of rotation upon a longitudinal axis, normally without direct communication with the fire chamber, and having an opening or door to receive fuel from the ontside of the furnace, combined with a flue leading from the said fuel-chamber into the fire-chamber, and means for discharging fuel from the fuel-chamber, substantially as described. 5th In a furnace, provided with a fire-chamber, a rotarily-movable fuel-chamber and a flue leading therefrom, the said fuel-chamber having an opening which may, by its movement, be placed in communication with the said flue or with the fire-chamber, substantially as and for the purpose described. 6th. A furnace, having a fire-chamber combined with a cylindrical fuel-chamber capable of rotation about its axis, and a flue leading from said fuel-chamber to the fire, the said fuel-chamber being placed by its rotary movement in communication with the said flue or with the fire-chamber, substantially as and for the purpose described.

No. 23,755. Shears. (*Cisailles.*)

William Richard, Jeremiah W Hoy and Uzal E. Cory, Bloomville, Ohio, U.S., 5th April, 1886; 5 years.

Claim.—The combination of the main blade having the circular recess open at one side for about one-fourth of its circumference, the operating lever having the nearly-circular lower projection adapted to fit and turn within the said recess, and provided with the upper projection, and the auxiliary sliding blade having the pivot-slot and the inner ear or projection, and pivotally connected at its upper end above the said slot to the upper projection of the operating lever, all constructed and arranged to operate in the manner and for the purpose shown and set forth.