

ducing ore, subjecting a moist or plastic mass of admixed pulverized iron ore, and a reducing agent, to a reducing heat in a vibratory or other suitable furnace, substantially as and for the purpose specified. 2nd. As an improvement in the art of reducing ore, subjecting a mixture of pulverized ore and a carbonaceous reducing agent, which has been rendered moist or plastic by the addition of two fluids, which distill or vaporize at different temperatures, to a suitable reducing heat, substantially as and for the purposes specified. 3rd. As an improvement in the art of reducing ore, subjecting a moist or plastic mixture of pulverized ore, and a carbonaceous reducing agent, to which has been added paraffine or crude petroleum, residuum and water, to the action of a reducing heat, in a suitable furnace, substantially as and for the purposes specified.

No. 34,996. Auger. (*Tarrière.*)

Josiah Bailey, Wilmington, Ohio, U.S.A., 10th September, 1890; 5 years.

Claim.—1st. An auger, which has a single main spiral web, together with a pointed cutter, backed by a spiral web which has a pitch greater than the pitch of the main spiral web of the auger, and which decreases gradually in radius as it ascends, and runs into and coincides with the said main spiral web at a short distance from the cutter, substantially as described. 2nd. An auger, which has a single spiral main web, which increases in thickness gradually and uniformly from the outer to the inner edge, together with a pointed cutter placed to one side of and at some distance from the axis of said auger, and a support for said cutter projecting from said axis, substantially as described. 3rd. An auger, which has a single main spiral web, which terminates in a suitable edge for removing the chips, together with a pointed cutter backed by a spiral supporting web, which has a pitch greater than the pitch of the main spiral web, and which decreases gradually in radius as it ascends, and runs into and coincides with the said main spiral web, substantially as described. 4th. An auger, which has a single main spiral web, which increases in thickness gradually, and uniformly from the outer to the inner edge, together with a pointed cutter which is backed by a short spiral web, which has a pitch greater than that of the main spiral web, and which decreases gradually in diameter as it ascends, and runs into and coincides with the main spiral web, substantially as described. 5th. In an auger, the single pointed cutter supported upon and projecting downward from a suitable web, which terminates in a straight cutting edge, a portion of the cutting edge of the pointed cutter being above said web, substantially as described.

No. 34,997. Combined Can Holder and Filler. (*Porte-bidon et entonnoir combinés.*)

Ephraim Abiger Foster, Port Clinton, Ohio, U.S.A., 10th September, 1890; 5 years.

Claim.—The herein described device, consisting of handles provided with curved bands constructed to surround a vessel and holding the same, said curved bands being provided at diametrically-opposite points with perforations, in combination with a filling-hopper provided with an annular flange, having diametrically-opposite perforations, vertical guide rods having their upper ends passing through the perforations in the annular flange of the hopper, and their lower ends bent inwardly to engage the perforations of the curved bands, and stops located upon the vertical guide-rods beneath the annular flange of the hopper, substantially as set forth.

No. 34,998. Composition for Bricks and Stones. (*Composition pour la brique et la pierre.*)

George Pepper and Thomas Walter Horn, Toronto, Ontario, Canada. 10th September, 1890; 5 years.

Claim.—The use of fresh burnt lime, to which at the moment of slaking, salt is added, substantially as and for the purpose specified.

No. 34,999. Clothes Wringer. (*Essoreuse à linge.*)

The Stone Manufacturing Company, (assignees of Thomas W. Stone), Columbus, Ohio, U.S.A., 10th September, 1890; 5 years.

Claim.—1st. In combination with the main frame, having an adjustable roll mounted therein, with means for adjusting and clamping the same, and provided at its lower end with clamping arms H, with clamping frame having a roller mounted therein and provided with clamping arms J, said auxiliary frame being pivoted to the main frame, substantially as and for the purpose set forth. 2nd. In a wringer frame, consisting of a main frame, and a pivoted auxiliary frame, the clamping arms H, J, having their lower ends bevelled or curved outward to enable them to be shoved down on the manipulation, as set forth. 3rd. In combination, with the main frame having its end pieces A, recessed for the reception, of the roller journals and their bearing blocks G, the spring S, follower D, provided with an adjusting screw B, and hand lever L provided with an eccentric A, arranged to bear on the follower D, substantially as shown and described. 4th. In a wringer frame, the recessed end pieces A, having the guides or lugs C, arranged therein, in combination with the presser blocks G, provided with the semi-circular recesses at their lower ends, and arranged to fit and move between said guides, substantially as shown and described. 5th. The recessed end pieces A, provided with the vertical projections N, for keeping the roller journal in its central position, and preventing lateral displacement of the same, when relieved from pressure.

No. 35,000. Mattress. (*Matelas.*)

John Blocher, Franklin Grove, Illinois, U.S.A., and Daniel F. Riddlebarger, China, Illinois, U.S.A., 10th September, 1890; 5 years.

Claim.—1st. In a mattress, the combination with the case formed with compartments, and with end flaps provided with holes, as shown, of the buttons, the lacings passed through the undermost of the overlapped flaps, and through the eyes of the buttons, which are passed through the holes in the outer flaps, and the lacing united, substantially as shown and described. 2nd. The mattress, described, composed of the case formed in sections connected by flexible connections, and with end flaps, provided with holes, as shown, the buttons, the strips united to the upper and lower faces of the case upon the inner side thereof, to form separate compartments, the filling in said compartments, with the end flaps overlapped over the ends of the compartments, the lacings fast at one end and passed through the holes in the undermost of the overlapped flaps, and the buttons having their shanks passed through the eyes of the outer flaps, and having the lacings passed through the eyes of said shanks between the flaps, and the said lacings united around the side of the sections, substantially as shown and described.

No. 35,001. Car Door. (*Porte de char.*)

Andrew B. Monck, and Charles A. Morton, Fargo, North Dakota, U.S.A., 10th September, 1890; 5 years.

Claim.—1st. In a car door, the combination, with the swinging bail connected to the side beams of the door frame, of the vertical strips C, secured to the said side beams adjacent to the side arms of the bail, and the door provided with loops fitting and sliding on the said side arms, substantially as specified. 2nd. In a car door, the combination, with the swinging bail having the side arms B, C, and the bottom bar D, standing out from the side arms to provide a rest, of the door provided with loops fitting and sliding on the side arms of the bail, the supporting blocks H, H, to engage the bottom bar, when the door is elevated, and the transverse cleat G, to fit close to the said bottom bar when the door is lowered, substantially as specified.

No. 35,002. Car Axle. (*Essieu de char.*)

Charles Summer Bates, Braintree, Mass., U.S.A., (assignee of William F. Sherman, Lowell, Mass., U.S.A.) 10th September, 1890; 5 years.

Claim.—1st. A divided axle, having a removable collar secured to the inner end of each part, a sleeve secured to each part of the axle and means for securing the sleeves against separating movement. 2nd. A divided axle, a sleeve secured to each part, one sleeve fitting the recessed face of the other, anti-friction bearings between the sleeves and an annular ring secured to one sleeve, and overlapping the other. 3rd. A divided axle, having a sleeve on each part, fitting and secured one within the other, and anti-friction bearings between the opposing faces of said sleeves. 4th. A divided axle, having a sleeve on each part, provided each with an annular groove in their opposing faces, and bearings arranged in said grooves. 5th. A divided axle, sleeves on the inner ends of the axle having recesses to form a channel, anti-friction bearings in said channels, and means for securing the sleeves against separating movement. 6th. A divided axle, collars on the inner ends of the axle, sleeves secured to each part of the axle, having an annular channel, anti-friction bearings in said channels, and means for securing the sleeves against separating movement. 7th. In combination, with a divided axle connected by a socket, and dowel connections, a sleeve on each end of the axle having grooves in their opposing faces, bearings in said grooves and means for securing the sleeves together. 8th. In combination, with a divided axle connected by a dowel, a collar on each part of the axle, a sleeve surrounding each collar, bearings between the sleeves, and means for connecting the sleeves.

No. 35,003. Machine for Making Twine from Straw, Flax, Hemp, etc. (*Machine pour la fabrication du cordonnet avec de la paille, de l'étoupe, de la filasse, etc.*)

George H. Ellis and Henry Keller, Sauk Centre, Minnesota, U.S.A., 10th September, 1890; 5 years.

Claim.—1st. The combination, with a series of rotatory strand-forming twisting-heads, having converging axes, each twisting-head having motion on its axis only, and the delivery portions of such heads being disposed in close proximity to each other, of a rotatory twister arranged to twist together the strands immediately upon quitting the delivery portions of the twisting-heads, substantially as described. 2nd. The combination, with a series of rotatory strand-forming twisting heads, having converging axes, each twisting-head having motion on its axis only, and the delivery portion of such heads being disposed in close proximity to each other, of a rotatory twister arranged to twist together the strands immediately upon being freed from the confinement of the delivery portions of the twisting heads, substantially as described. 3rd. The combination, with a converging series of rotatory strand-forming twisting-heads, having their axes each arranged at any angle of approximately forty-five degrees to a medial line, each having motion on its axis only, and each having a spinning-tube of exactly the diameter of the strand to be produced, of a rotatory twister arranged to twist together the strands immediately upon being freed from the confinement of the delivery-tubes of the twisting-heads, substantially as described. 4th. The combination, with the converging series of rotatory strand-forming twisting-heads, each having motion on its axis only, and being provided with a pair of feed-rolls, and with a delivery-tube, of exactly the diameter of the strand to be produced, of a rotatory twister arranged to twist together the strands immediately upon being freed from the confinement of the delivery-tubes of the twisting heads, and means for rotating the twisting-heads upon their axes, and turning the feed-rolls, substantially as described.