

of the crusher shaft provided with a top supporting flange. 3rd. The combination of the ball, and the chilled socket fulcrum bearing with the revolving eccentric bearing box. 4th. The combination of the crusher shaft having a ball, a chilled socket bearing, a crusher head, crushing concave and a revolving eccentric bearing box. 5th. The combination, with the crusher head provided with grooves and with the crusher shaft also provided with grooves, of rings for fastening the head upon its shaft, said rings being formed by flowing molten metal into the said grooves. 6th. A crusher shaft provided with a bearing box having an interior chilled surface approximating closely the form of hollow sphere, and a cylindrical exterior surface, not chilled, which bears directly upon the surface of a box formed in an arched cross bar or cap of the frame of the machine. 7th. A stone breaker, ore crusher, or reducing machine, having a crusher shaft provided with a chilled ball and socket bearing at its top, and a suspended revolving eccentric bearing box around the lower end. 8th. The combination of the shaft having a hard metal ball at its upper end, a segmental bearing box having an interior chilled surface, corresponding to the form of the bearing surface of the ball, a chilled metal crusher head of tapering form, a flaring crushing concave lined with chilled metal plates, a tubular metal frame having an oil step well at its lower end and openings at its sides and also having an inclined diaphragm with a flanged central passage through it, a loose collar between the crushing head and the flange of the diaphragm, and gearing for revolving the eccentric bearing box. 9th. The oil well forming an oil chamber and having a step block, and provided with a channel and passages in its walls, in combination with a flanged eccentric bearing box. 10th. The perforated or valved conical collar placed around the circular shaft and overhanging the top of the oil well, in combination with a rotating shaft. 11th. The overhanging conical guard attached to the top of the gear wheel which revolves the eccentric bearing box. 12th. The guard at the upper outer edge of the oil chamber and outside of the channelled ledge thereof. 13th. The combination of the indication pipe, with the oil well having a channel and passages in its wall, an eccentric revolving bearing box and its shaft carrying a crusher head. 14th. The combination, with the stone breaking or ore crushing machine, of the keyed collar provided with a leverage arm on one side of its edge, a safety pin unsupported between its ends, and a toothed gear wheel or driving pulley. 15th. The combination of devices for making the casting of the hollow segmental bearing with temporary uniting webs and dividing splits, consisting of the winged pattern, the chilling ball having centering stem and sockets, parting plates, and a sand mould. 16th. The hollow casting for the segmental bearing provided with babbett metal at its ends and in its splits, and with centering sockets whereby it is sustained and can be centered in a lathe and turned off on its cylindrical surface. 17th. The lead tool with inn metal stem for polishing the concave of the segments. 18th. The segmental bearing box for stone breaking and ore crushing machines, having an interior surface which is nearly in form of a hollow sphere and chilled.

No. 13,179. Adjustable Plough Point. (*Soc de charrue mobile.*)

Romulus R. Decker, Coneseon, Ont., (Assignee of Jonathan L. Dawes, Bergin, N. Y., U. S.), 28th July, 1881; (Extension of Patent No. 6,366.)

No. 13,180. Improvements on Atomizers for Hydro-Carbons. (*Perfectionnements aux pulvérisateurs des hydro-carbures.*)

William W. Thomas, Jersey, N.J., U.S., 28th July, 1881; for 5 years.

Claim.—1st. The combination, with steam and liquid chambers and a nozzle tube extending from the liquid chamber, of a steam tube carrying a valve fitting to a seat at the rear of said nozzle tube, and extending beyond the valve so as to form between the two tubes, in front of the valve, a channel of annular transverse section. 2nd. The combination of the chambers B C, the nozzle tube D having the sharp-edged construction C and the stem tube E carrying the valve H and having the extension E'. 3rd. The combination of the chambers B C, the nozzle tube D having the sharp-edged construction C and the stem tube E carrying the valve H and having the extension E'.

No. 13,181. Improvements on Corsets. (*Perfectionnements aux corsets.*)

Ira D. Warner and John C. Tallman, Bridgeport, Ct., U. S., 28th July, 1881; for 5 years.

Claim.—1st. The improvement in corset stiffeners, and in the manufacture thereof. 2nd. A protecting blade of tannic fibre adapted for attachment to a corset behind the busks. 3rd. Boring the sections, pressing the latter between heated plates while detached, then sewing the sections together. 4th. Introducing the stiffener laterally between the sheets forming the sections, then sewing the sheets close together, close to the edges of the bones. 5th. The combination of the sheets b c and intermediate bones extending to the edge of a binding e sewed through the bones.

No. 13,182. Improvements on Rowlocks. (*Perfectionnements aux tolitières.*)

Robert Kirkpatrick, Oshawa, Ont., 28th July, 1881; for 5 years.

Claim.—1st. The ribbed ferule G and the recessed ring D. 2nd. The combination of the ribbed ferule G and the recessed ring D with the stem A, fork B, pivots C bearing b and socket J.

No. 13,183. Improvements on Gloves. (*Perfectionnements aux gants.*)

Henry Urwick, St. John's Hill, Eng., 28th July, 1881; for 15 years.

Claim.—1st. The manufacture of kid and other gloves with the slit for the wrist band, and the slit where the thumb piece is to be seen in all as one continuous slit, and with the strip which forms the thumb piece prolonged to the welt at the extremity of the wrist band, and sewn at its side edges to the edges of the slit. 2nd. The attachment of elastic bands of vulcanized india rubber, or other elastic springs, across such strip at the wrist band.

No. 13,184. Improvements on Dumping Cars. (*Perfectionnements aux chars à bascule.*)

Matthew Van Wormer, Dayton, Ohio, Simeon Brownell and Frank Brownell, Boston, Mass., U.S., 28th July, 1881; for 5 years.

Claim.—1st. The car bed as made with the cross sills and headers 11 extending from the longitudinal sills 2 5, and framed or fastened thereon, and with the shorter longitudinal sills 3 4, framed into the headers 11 and with the out side sills 6 7, the construction affording space at the ends of the car for the worm and gear or machinery, which operates the dumping mechanism, and ample clear space at the sides for dumping, and all without weakening the car bed. 2nd. The transom 8 applied above the frame of the car, in combination with the transome or braces a beneath the same and connected thereto, and secured under the inside sills 2 5, and the outside sills 6 7. 3rd. The rockers 9 constructed with central boss b and series of coqs c c, in combination with the convex bed 10 constructed with central socket c¹ and the sockets c² c³, for the purpose of dumping the car and causing it to right itself up again. 4th. In combination with the trucks and with the car bed or body of a tilting or dump car, the bar 11 for connecting these parts together and preventing their separation when the car is in motion. 5th. The dumping shaft or shaft 12, extending nearly the length of the car, in combination with a pulley thereon, and with the chain and series of pulleys or devices for actuating the same, and for connection with a hand lever or wheel and a connecting worm and gear, whereby such shaft may be operated. 6th. The combination, with the ends of the truck timbers, of the straps i i and their interposed guide pulley h, these straps being constructed and applied to each other and the truck timbers so as not to interfere with the proper action of the car springs. 7th. In combination with the swing doors, the bar or rod 15, one or more dogs or levers k, one or more slide latches l and their guides, the combination and arrangement being such that the inner ends of the dogs k may serve automatically to fasten or unfasten the doors. 8th. The swing doors, mortised in timbers or iron supports O at each end strengthened by truss rods r r and by metal cross bars or straps p having bevelled lower ends for engagements with the fastening latches, and provided with one or more straps or projections q. 9th. In combination with the car bed, the end posts 17 resting on the outside sills, and extending downward and secured to the outside of the same and extending high enough to permit the swing doors to be attached thereto, said posts being grooved or recessed at their inner corners to receive the end board t of the car flush with the inside of the posts, the posts and the board being held together by a connecting rod and braced by braces u. 10th. The centre posts 18 made and applied to the car bed, and assisting to support the swing doors, and strengthened by an inside metal plate v¹ and by a tightening rod v beneath the floor connecting the opposite posts. 11th. In combination with the car, the movable side bearing 19 provided at their point of suspension with a slot or keyway, whereby, whilst holding the car in position during transit and adapted to be swung up for dumping, they also prevent undue friction when the car is in motion around curves. 12th. In combination with the draw-box by the rocker 20 secured upon its under side. 13th. The brake mechanism consisting of the combination of the bar 21, arm 22 on the truck timber, arm 23, brake bar f² g², rod or bar i², lever j², links K² and straps l², and appropriate means for actuating the same from the car platform. 14th. The loose V-pulley e¹ made with deep sockets 3² and the narrow-deeper grooves connecting such sockets, and whereby the chain may be held therein by its imbedded links without slipping when the pulley is revolved. 15th. The combination, with the pulley shaft, of the loose chain pulley e¹ and having V-teeth and an annular groove, of the V-tooth pulley e fixed to the shaft, and an appropriate mechanism for disengaging these pulleys, and to allow the car bed to dump its load suddenly or slowly. 16th. The combination of the pulley shaft and the loose and fast V-pulleys e e¹, the shifting lever 24, rod u² and a hand lever. 17th. In combination with the linked chain f attached to both sides of the car bed, the guide pulleys g¹ made with the flat surfaces w² adapted for the links, and with the peripheral groove e². 18th. In combination with the pulley shaft and with mechanism for operating the same, the pulleys e e¹ and chain, the guide pulleys g g and guide pulleys h h, the ends of the chain being fastened to the outside car cells or floor.

No. 13,185. Improvements on Sleeping Cars. (*Perfectionnements aux chars dortoirs.*)

Adélaïde F. Martel and Charles A. Martel, Montreal, Que., 28th July, 1881; for 5 years.

Claim.—In a car or apartment, a berth suspended from above and provided with elevating mechanism, whereby the berth may be raised above the heads of persons occupying the apartment. 2nd. In a car or other apartment, a berth suspended from above and adapted to be raised bodily above the heads of occupants of such apartments. 3rd. A berth suspended by bands at its several corners, and a windlass adapted to wind up said bands and thereby elevate the berth. 4th. In combination with one or more berths, jointed end boards or partitions adapted and arranged to sustain the weight of the berths when lowered, and to fold inward above the berth or berths when elevated. 5th. In combination with a berth adapted to be raised or lowered, a sustaining end board or partition jointed to the berth frame and to an overhead support, and adapted to fold inward over the berth at an intermediate point. 6th. A folding partition provided at its points with means for throwing said joint out of line. 7th. A berth adapted to be raised or lowered, provided with locking bolts to engage with fixed portions of the car or apartment, and secure it firmly in both its elevated and depressed positions. 8th. A berth provided with folding end boards or partitions and suspended by flexible bands and means as shown for winding up the bands. 9th. In combination with a suspended berth, a fixed support connected with the floor of the apartment, and locking devices adapted to secure the berth to said supports. 10th. In combination with a fixed base provided with notched lugs, a suspended berth perforated to receive said lugs, and provided with locking bolts to engage therewith. 11th. A car seat having its seat portion hinged to its base and adapted to fold over. 12th. In a car seat, a seat frame provided with arc-shaped ribs, and mounted in a second frame provided with grooves of corresponding form, whereby the inclination of the seat may be varied. 13th. In a sleeping car or other apartment, a seat having the upper portion