

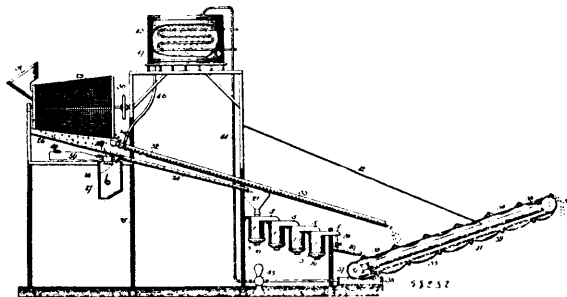
ductor, a closed conduit therefor, formed of sections, which are insulated from each other, the insulating supports for the conductor within the conduit, and a series of iron blocks secured to the conductor within the cavity, and normally out of contact with the rail, but capable of being attracted by a magnet and brought into contact with the rail, said blocks being in one or more pieces, substantially as set forth. 5th. In an electric railway, the combination of a main conductor, a closed conduit therefor, formed of sections, which are insulated from each other, the insulating supports for the conductor within the conduit, and a series of pendulum-like connecting pieces hung upon the conductor, and free to vibrate thereon, to make contact with the sides of the conduit, when attracted by a magnet, substantially as set forth. 6th. In an electric railway, the combination of a supporting rail, upon which the cars run, the rail being formed of sections, of substantially inverted U-shape in cross-section, whereby there is formed a cavity within the rail, a main conductor mounted in the cavity of the said rail, insulating supports therefor, and a series of pendulum-like connecting pieces, hung upon the conductor and free to vibrate thereon, to make connection with the side of the rail, when attracted by a magnet, substantially as set forth. 7th. In an electric railway, the combination of a supporting rail, upon which the cars run, the rail being formed of sections of substantially inverted U-shape in cross-sections, a main conductor mounted within the cavity formed within the rail, and insulating supports for the conductor, also mounted in the said cavity, substantially as set forth. 8th. In an electric railway, comprising a supporting rail for the cars, having a cavity constituting a closed conduit, an insulated electric supply conductor mounted therein, a contact-making and breaking device arranged within such a conduit, means arranged adjacent to the track for operating such device for making contact, and means for automatically restoring the device to normal position, with the contact broken, substantially as set forth. 9th. In an electric railway system, comprising a closed conduit formed by one of the supporting rails for the cars, a supply conductor mounted therein, but insulated therefrom, contact-making and breaking devices arranged within the said conduit, a sectional conductor, connections between the sections of said conductor and the said contact devices, operating devices for each contact device arranged adjacent to the tread-parts of the rail, and means for automatically restoring the contact devices to their normal positions with the contacts broken, substantially as set forth. 10th. In an electric railway system, comprising a closed conduit, a main supply conductor, contact devices within the conduit, mechanical connections, also within the conduit, between adjacent contact devices, and means whereby the contact devices are operated by the passing of the cars, substantially as set forth. 11th. In an electric railway system, comprising a closed conduit, a supply conductor mounted therein, an exposed sectional conductor, contact devices for electrically uniting the main and the sectional conductors, arranged within the said conduit, mechanical connections, also within the conduit, between adjacent contact devices, means whereby the contact devices are operated by the passing cars, and means for automatically restoring said operating means to normal position, substantially as set forth. 12th. In an electric railway system, comprising a main supply conductor, a sectional conductor, contact devices for electrically connecting the two conductors, means which tend to move the contact device to break the electric connection, a locking device which holds it when connection is made, means for operating the contact device to make connection, and a connection between the locking device and an adjacent contact device, whereby when the latter is operated the lock is released, allowing the contact device, which it holds, to be restored to normal position, substantially as set forth. 13th. In an electric railway system, comprising a main supply conductor, a sectional conductor, a contact-making and breaking device, a bolt or catch, which holds the contact device in position to make electric contact, means for operating the contact device by the passing of a car, means which tend automatically to restore the contact device to its normal position, and a connection between the said bolt or catch and a contact operating device in advance, substantially as set forth. 14th. In an electric railway system, comprising a rail conductor 3, a supply conductor 2 therein, an exposed sectional conductor, a contact-making and breaking device within the conduit, a bolt or catch within the conduit for holding the contact device, means for automatically restoring the device to position to break contact, an operating device extending outside of the conduit whereby a passing car operates it, and a mechanical connection arranged within the conduit, between the said bolt or catch, and a contact operating device in advance, substantially as set forth. 15th. In an electric railway system, a contact or working conductor arranged between two tracks and provided with two contact surfaces, whereby trolleys or collectors, carried by trains moving in opposite directions, may take electricity from the same conductor, substantially as set forth. 16th. In an electric railway system, a contact or working conductor, having two parallel separated contact surfaces 13', substantially as set forth.

No. 58,232. Hydraulic Gold Separator.

(Appareil hydraulique à separer l'or.)

John H. Barr and James F. Johnson, Kansas City, and William E. Harvey, Rosedale, all in Kansas, U.S.A., 1st December, 1897; 6 years. (Filed 5th July, 1897.)

Claim.—1st. In a gold-separating apparatus, a jar comprising a body-portion having a discharge-opening near its upper end and an



inlet-opening, a removable bottom supporting one or more amalgam-plates which project up into the body of the jar, and an inlet-pipe extending through said inlet-opening and surrounded by said amalgam plates, substantially as described. 2nd. In a gold-separating apparatus, a jar comprising a body-portion having an inlet-opening and a discharge-opening near its upper end, a removable hollow or segmental bottom for said jar, containing mercury, amalgam-plates carried thereby and projecting up into the body of the jar, and an inlet-pipe extending through the inlet-opening and having its end arranged to discharge into the mercury in said hollow bottom, substantially as described. 3rd. In a gold-separating apparatus, a jar consisting of a body-portion having an inlet opening and a discharge-opening, a removable hollow bottom adapted to contain mercury and provided internally with ribs, amalgam-plates supported upon said ribs and projecting upwardly into the body-portion of the jar, and an inlet-pipe for said jar, having its lower end surrounded by said amalgam-plates and adapted to discharge the gold-bearing material into the mass of mercury in the removable bottom, substantially as described. 4th. In a gold-separating apparatus, the combination with a series of jars arranged in different horizontal planes and each provided with a tubular extension at its upper end, having a discharge-opening, which extension overlaps the body-portion of the jar next in advance, and provided with removable bottoms, and at their upper ends with inlet-openings which register with the discharge-openings of said extensions, and with inlet-pipes which communicate with said registering openings and discharge the gold-bearing material into the mass of mercury which is contained in said removable bottoms, a discharge-pipe communicating with the discharge-opening of the extension of the foremost or lowest of said jars, and means for supplying the gold-bearing material to the inlet-pipe of the rearmost or highest jar, and of regulating the head-pressure of said material, substantially as described. 5th. In a hydraulic gold-separating apparatus, the combination of a series of jars, each provided with a tubular extension at its upper end, which communicates with the body of the preceding jar, and containing mercury, a chute communicating with the first jar of the series, a magnetic plate overhanging the same at its upper end, and provided with a magnetic extension inclining in the opposite direction, and a hopper below said extension, into which the magnetic particles are discharged, substantially as described. 6th. In a hydraulic gold-separating apparatus, the combination of a series of jars, each provided with a tubular extension at its upper end, which communicates with the body of the preceding jar, and containing mercury, a chute communicating with the first jar of the series, a magnetic plate overhanging the same at its upper end, and provided with a magnetic extension inclining in the opposite direction, a hopper below said extension, into which the magnetic particles are discharged, a rotating screen above said magnetized plate, an inclined screen between its discharge end and the magnetic plate, and said chute, a conveyor below the same and below the discharge of the series of jars, a reservoir, and a valve-controlled discharge-pipe connected therewith and arranged to discharge upon said inclined screen, substantially as described. 7th. In a gold-separating apparatus, a jar comprising a body-portion, having a discharge-opening near its upper end, and an inlet-opening, a removable bottom supporting one or more amalgam-plates, which project up into the body of the jar, an inlet-pipe extending through said inlet-opening and surrounded by said amalgam-plates, and a notched or apertured plate partitioning the removable bottom, substantially as described. 8th. In a hydraulic gold-separating apparatus, the combination of a series of jars, each provided with a tubular extension at its upper end, which communicates with the body of the preceding jar, and containing mercury, a chute communicating with the first jar of the series, a magnetic plate overhanging the same at its upper end, and provided with a magnetic extension inclining in the opposite direction, a hopper below said extension, into which the magnetic particles are discharged, a rotating screen above said magnetized plate, an inclined screen between its discharge end and the magnetic plate and said chute, a second inclined chute, a conveyor below the same and below the discharge of the series of jars, a reservoir, a valve-controlled discharge-pipe connected therewith and arranged to discharge upon said inclined screen, a tank at the lower end of the conveyor, a trough within the conveyor and arranged to discharge into said