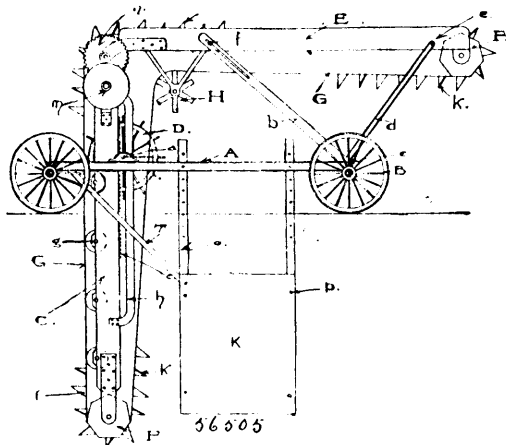


of a ring, of electric conducting material for the tub, an electrical conductor to communicate between said lining and the positive pole of a generator, a group of plates forming a cathode connected with the negative pole of the said generator and stationarily suspended in the centre of the tub, a perforated screen around the cathode, a pan removably located below the cathode, an elevated false bottom around the pan, scrapers or ploughs located above the said bottom and inclined towards centre, relatively to the direction of the tub's motion, inlet and outlet pipes and a steam pipe opening into the tub, substantially as described. 3rd. In an ore reducing machine, a tub mounted for horizontal rotation, a group of cathode plates hung stationarily in the tub and electrically connected with the negative pole of a generator, a perforated screen around the cathode, and one or more anodes within the tub and outside of said screen, and electrically connected with the positive pole of the said battery, substantially as described.

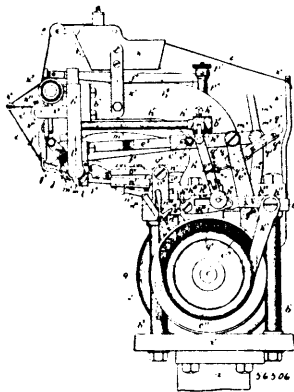
No. 56,505. Machine for Digging and Refilling Sewers. (*Machine pour creuser et remplir les égouts.*)



Edmund Abner Cawsey, Stratford, Ontario, Canada, 6th July, 1897; 6 years. (Filed 22nd March, 1897.)

Claim.—1st. In a sewer trench excavator, the combination of buckets and picks on an endless flexible belt carried and guided on and by the leg *c* and trough *C*, as shown and described for the purpose set forth. 2nd. The combination of steel sharing-plates attached to a carriage and propelled by a motor.

No. 56,506. Sewing Machine for Lasting Boots and Shoes. (*Machine à coudre pour chaussures.*)



James Edward Jackson, Lynn, Mass., 6th July, 1897; 6 years. (Filed 17th April, 1897.)

Claim.—1st. A sewing machine for lasting boots and shoes, provided with grippers for the insole and pinchers for the upper, combined with means for causing the grippers and the pinchers to intermittently release the work, and means for feeding the said work when it is released as aforesaid, substantially for the purposes set forth. 2nd. In a sewing machine for lasting boots and shoes,

the combination with the sewing mechanism, of a pincher for the upper, a gripper positively gripping and holding the insole to resist the thrust of the pincher, means for causing the pincher to intermittently release the upper, and an automatic feeding mechanism for feeding the work when the upper is released by the pincher. 3rd. In a sewing machine for lasting boots and shoes, the combination with a pincher for drawing the upper taut over the last and holding it in a taut condition, grippers for positively gripping the insole to resist the thrust of the pincher, and a needle, of means for causing the pincher to release the upper, and means for moving the needle and the work laterally when the upper is released. 4th. In a sewing machine for lasting boots, the combination with the needle of an intermittently acting gripper having two jaws for the insole, and an intermittently acting pincher for the upper. 5th. In a sewing machine for lasting boots and shoes, the combination, with gripper jaws for the insole, a pincher for the upper, an awl and a needle, of means for causing the pincher and gripping jaws to grasp the work when the awl penetrates the latter and for causing them to release the work when the needle has penetrated it, and means for moving the needle laterally, and for the purpose set forth. 6th. In a sewing machine for lasting boots and shoes, the combination with the gripper for a tape or similar device on an insole, a pincher for the upper, and stitching mechanism for sewing the upper to the tape, of an awl, and means for causing the gripper to release the tape intermittently, for the purpose set forth. 7th. In a sewing machine for lasting boots and shoe, the combination with the stitching mechanism, of a pincher for the upper having two jaws, and means for moving the pincher bodily to carry the edge of the upper toward the stitching mechanism, said pincher having one jaw movable independently of the other jaw. 8th. In a sewing machine for lasting boots and shoes, the combination with the stitching mechanism, of pinchers for the upper, consisting of two pivoted levers, each having a jaw on the end, one of said jaws being movable relatively to its lever, for the purpose set forth. 9th. In a sewing machine for lasting boots and shoes, the combination with the stitching mechanism, of a pincher for the upper, consisting of two pivoted levers, each provided with a jaw, one of said jaws being movable relatively to its supporting lever, means for swinging said levers on their pivots, and means for moving said movable jaw relatively to its lever, for the purpose set forth. 10th. In a sewing machine for lasting boots and shoes, the combination with suitable stitching mechanism, of an abutment, and an automatically operated pincher constructed to grasp the upper with a yielding pressure. 11th. In a sewing machine for lasting boots and shoes, the combination with suitable stitching mechanism, of an abutment for the insole, and a pincher gripping the upper with a yielding pressure and means for automatically and yieldingly operating said pincher to stretch the upper over the last. 12th. In a sewing machine for lasting boots and shoes, the combination with suitable stitching mechanism, of an abutment for the insole, an automatic pincher for the upper, said pincher having two levers each with a jaw on the end, means for yieldingly clamping one jaw against the other jaw, and means for moving said jaws bodily. 13th. In a sewing machine for lasting boots and shoes, the combination with suitable stitching mechanism, of an automatically operated pincher for the upper and manually operatable means for releasing the work from the jaws of the said pincher. 14th. In a sewing machine for lasting boots and shoes, the combination with suitable stitching mechanism, of an automatically operated pincher for the upper, and a manually operatable means for moving one jaw of the pincher relatively to the other jaw thereof to release the work. 15th. In a sewing machine for lasting boots and shoes, the combination with suitable stitching mechanism, of an automatically operated pincher for the upper, automatic power devices for clamping the jaws of the pincher together, and manually operatable means inserted in said devices for releasing the work from said jaws. 16th. In a sewing machine for lasting boots and shoes, the combination with suitable stitching mechanism, of an automatically operated pincher for the upper, and means for controlling the movements of said pincher. 17th. In a sewing machine for lasting boots and shoes, the combination with suitable stitching mechanism, of an oscillatory pincher, automatically operating devices for moving said pincher, and manually operatable means for limiting the movements of said pincher. 18th. In a sewing machine for lasting boots and shoes, the combination with suitable stitching mechanism, of an oscillatory pincher, automatically operating devices for moving said pincher, and a hand lever having a stop for limiting the movements of said pincher. 19th. In a sewing machine for lasting boots and shoes, the combination with suitable stitching mechanism, of an oscillatory pincher, automatically operating devices for moving said pincher, and means for holding said hand lever at any desired adjustment. 20th. In a sewing machine for lasting boots and shoes, the combination with suitable stitching mechanism, of a gripper for the insole, automatically acting devices for clamping the jaws of said gripper together, and manually operated means for releasing the work when said jaws are clamped. 21st. In a sewing machine for lasting boots and shoes, the combination with suitable stitching mechanism, of a gripper for the insole, automatically acting devices for clamping the jaws of said gripper together, and manually operated means for releasing the work when said jaws are clamped. 22nd. In a sewing machine for lasting boots and shoes, the combination with suitable stitching mechanism, of a gripper for the insole, automatically acting devices for clamping the