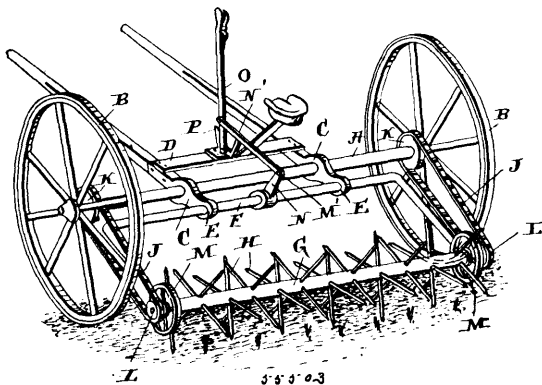


down, all substantially as described and for the purpose hereinbefore set forth. 2nd. In an automatic car coupling, with a draw-head adapted to be secured to the body of a car as shown, a coupling-block housing chamber within the draw-head, near to the bull-nose end thereof, having the recess 11 in the rearward end wall, and the abutting end portions 13 and 14 in the forward end wall, the curved portions having each a different radial extent from the pivot-point 12, with the link-mouth 9, opening through the bull-nose face into the chamber, having the curved portion, 15 about, and the link-holding hook 16, within said opening, with a link-shaft recess on each side of the hook, of a two-parted block, rule-jointed at one end, fitted into said chamber, and a plate secured into the bottom of the draw-head, with means provided, such as the described link 38, to connect two draw-heads, and with mechanism provided to manipulate said block, substantially as described and for the purpose hereinbefore set forth. 3rd. In an automatic car coupling of the character described, a coupling-block comprising two portions, placed one above the other, rule-jointed at one end and adapted to be placed within the housing-chamber as shown, the jointed end within the rear end wall recess, and the forward ends of the portions in contact with the curved portions of the forward end wall, a notched spring-arm-supporting strip secured forwardly to the top of the upper portion, a coupling-link end recess in the adjacent faces of both of the portions, with a link-retaining hook constituting the front wall of said recess in the upper portion, and an edge ledge rearward of said wall in the top of said recesses, a vertical opening through the body of the open portion of the block, and a lifting finger or lug, as shown, extending through said opening and secured to the under face of the upper portion of said block, all substantially as described and for the purpose hereinbefore set forth. 4th. In a car coupling of the character described, with a draw-head having the usual bull-nose end, the usual link-entering opening therein, with a link-retaining nose or coupling-hook and a link-shaft channel on either side of said hook, of the coupling-block housing-chamber opening through the bottom thereof and situated in the forward portion of the draw-head with a bottom plate provided to close said opening, said chamber having a rear end wall recess with a circular arched upper face, and lower and upper front end wall circular arc portions, said arched face and circular arc portions radiating from a common centre and situated at different radial distances from said centre, said centre constituting the pivot-axis of the coupling-block, and the rearwardly and downwardly sloping concave portion on either side of said link-entering opening joining said circular arc portions, all substantially as described and for the purpose hereinbefore set forth.

No. 55,503. Rotary Weeder. (*Sarcleur rotatoire.*)



Everett C. Welch, Friedeno, Pennsylvania, U.S.A., 3rd April, 1897; 6 years. (Filed 16th March, 1897.)

Claim.—1st. An improved implement of the class described comprising the main shaft, the drive-wheels, the boxings on the main shaft, the thill frame extended forward therefrom, the bearings extended rearward from the boxings, the bail-frame secured and adapted to vibrate in said bearings, the rotary weeder journaled in the ends of the said bail-frame, and a mechanism for rotating the weeder, substantially as shown and described. 2nd. An implement of the class described comprising the main shaft and drive-wheels, the boxings on the main shaft, the thill-frame extended forward therefrom, the bearings extended rearward from the boxings, the vibratory frame secured in said bearings, the arm extended upward from the frame, the hand lever, the link connecting the arm and hand lever, the rotary weeder carried by the vibratory frame, the sprocket wheels and the pinions for imparting motion to the weeder, substantially as shown and described.

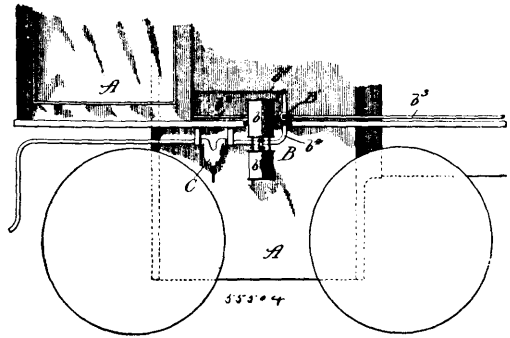
No. 55,504. Locomotive Feed Water Heater.

(*Réchauffeur de l'eau d'alimentation pour locomotives.*)

Joshua Bartlett Barnes, Springfield, Illinois, U.S.A., 3rd April, 1897; 6 years. (Filed 16th March, 1897.)

Claim.—1st. In a feed-water heater for locomotives, the combination of a tender provided with a water-holding chamber, a horizon-

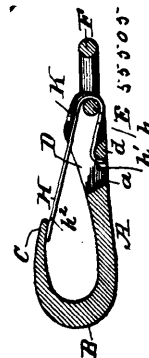
tal pipe arranged therein adjacent to the bottom portion, a series of vertical stand-pipes having nozzles at or near their upper portion to



assist in relieving back pressure, and a pipe connecting the horizontal pipe with a source of exhaust steam, substantially as described. 2nd. In a feed-water heater for locomotives, the combination of a tender provided with a water chamber, a horizontal pipe arranged in such chamber at or near the bottom portion of the same, a series of vertical stand-pipes arranged thereon having return bends at their upper portions, nozzles on such return bends, and a pipe connecting the horizontal pipe with a source of exhaust steam supply, substantially as described. 3rd. In a feed-water heater for locomotives, the combination of a tender provided with a water chamber, a horizontal heating pipe arranged therein adjacent to the bottom portion, a series of vertical stand-pipes arranged on the horizontal pipe and provided with return-bend upper portions having reduced nozzles extending downwardly to permit the exhaust of vapour and relieve back pressure, and a pipe connecting the horizontal pipe with a source of exhaust steam supply, substantially as described. 4th. In a feed-water heater for locomotives, the combination of a tender provided with a water chamber, a horizontal heating pipe arranged on the chamber and adjacent to the bottom portion thereof, a series of vertical stand-pipes arranged thereon and provided with return-bend upper portions having nozzles of a reduced diameter, the last of the series being provided with a nozzle or a larger opening than the rest, and a pipe of smaller diameter than the horizontal pipe connecting it with a source of exhaust steam supply, substantially as described. 5th. In a feed-water heater for locomotives, the combination of a tender provided with a water chamber, a horizontal heater pipe arranged therein adjacent to the bottom portion, a series of vertical stand-pipes having return-bend upper portions and nozzles of a reduced diameter, a pipe connecting the horizontal pipe with the exhaust opening of the steam pump, a three-way valve interposed on such exhaust steam supply pipe, and a pipe connecting one of the exhaust openings of the three-way valve with the stack of the locomotive, whereby steam may be shut off from the heater in the tender and forced out through the ordinary passage in the stack or vice versa, substantially as described. 6th. In a feed-water heater for locomotives, the combination of a tender provided with a water chamber, a horizontal heater pipe arranged therein and adjacent to the bottom portion thereof, a series of vertical stand-pipes on such horizontal pipe provided with return-bend upper portions having nozzles of reduced diameter, a pipe connecting the horizontal heater with a source of exhaust steam supply, and an oil separator on such exhaust supply pipe, substantially as described.

No. 55,505. Spring Tongue Snap-Hook.

(*Crochet à ressort de flèche.*)



James C. Covert, Waterslist, New York, U.S.A., 3rd April, 1897; 6 years. (Filed 16th March, 1897.)

Claim.—1st. In a spring tongue snap-hook, a body and hook portion, separated cheek portions, a U-shaped spring tongue secured between the cheeks, and means for preventing the upward movement of the tongue consisting of the turned over upper portions of the cheeks with which the tongue engages. 2nd. A spring tongue