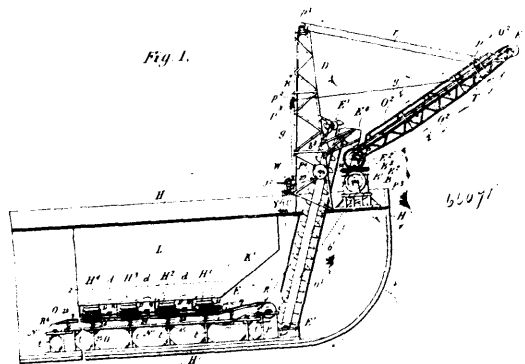


chambers, means within the central chamber controlling the inlet and eduction ports, and means for exhausting the motive fluid from the end chambers, in substance as set forth. 6th. An engine having a cylinder provided with an inlet port for the motive fluid, two pistons dividing the interior of the cylinder into three chambers, a rotary shaft in the central chamber, two cranks, two pitmen, an eduction port and passages from the central chamber to the end chambers, a rotary valve controlling the inlet and eduction ports, and means for exhausting the motive fluid from the end chambers, in substance as set forth. 7th. An engine having a cylinder provided with an inlet port for the motive fluid, two pistons dividing the interior of the cylinder into three chambers, a rotary shaft in the central chamber, two cranks, two pitmen, an eduction port and passages from the central chamber to the end chambers, a rotary valve in the central chamber operated by the shaft and controlling the inlet and eduction ports, and means for exhausting motive fluid from the end chambers, in substance as set forth. 8th. An engine having a cylinder provided with an inlet port for the motive fluid, two pistons dividing the interior of the cylinder into three chambers, a rotary shaft in the central chamber, two cranks, two pitmen, an eduction port and passages from the central chamber to the end chambers, a rotary valve adjustable about the shaft and controlling the inlet and eduction ports, and means for exhausting motive fluid from the end chambers, in substance as set forth. 9th. The combination in an engine, constructed and operating substantially as set forth, of a cylinder having inlet and eduction ports, a rotary shaft, and a rotary valve for controlling the inlet and eduction ports operated by the shaft, said valve being slotted or cut away to afford a passage for motive fluid. 10th. The combination in an engine, constructed and operating substantially as set forth, of a cylinder having inlet and eduction ports, a rotary shaft, and a valve for controlling the inlet and eduction ports, said valve comprising a disc portion and a sleeve or cylindrical portion mounted on the shaft. 11th. The combination of an engine, constructed and operating substantially as set forth, of a cylinder having inlet and eduction ports, a rotary shaft, and a valve for controlling the inlet and eduction ports, said valve being adjustable upon the shaft. 12th. The combination in an engine, constructed and operating substantially as described, of a cylinder having inlet and eduction ports, a rotary shaft, and a valve for controlling the inlet and eduction ports, said valve being mounted upon the shaft and adjustable longitudinally upon and also about the axis of the shaft. 13th. An engine having a cylinder provided with an inlet port for the motive fluid, two pistons dividing the interior of the cylinder into three chambers, a rotary shaft, two cranks, two pitmen, a valve controlling the inlet port and which admits motive fluid only during a part of the period of the outward traverse of the pistons, an eduction port and passages from the central chamber to the end chambers, means for periodically opening and closing the eduction port, and means for exhausting the motive fluid from the end chambers, in substance as set forth. 14th. The combination in an engine, constructed and operating substantially as set forth, of a cylinder having inlet and eduction ports, a rotary shaft, and a valve for controlling the inlet and eduction ports, the said valve being cut away or slotted in the shape of an arc of a circle for a distance less than half the circumference of the valve measured by a radius extending from the center of the shaft to the inlet port, whereby motive fluid can be used expansively in the central chamber of the engine. 15th. The combination in an engine constructed and operating substantially as set forth, of a cylinder provided with inlet and eduction ports, passages from the central chamber to the end chambers, means for controlling the admission of motive fluid to and its eduction from the central chamber, and means operated by the pistons for exhausting the motive fluid from the end chambers. 16th. The combination in an engine, constructed and operating substantially as set forth, of a cylinder provided with an inlet and eduction ports, passages from the central chamber to the end chambers, means for controlling the admission of motive fluid to, and its eduction from the central chamber, and valves operated by the pistons each having open passages in a part of its length for exhausting motive fluid. 17th. The combination of an engine, constructed and operated substantially as described, of exhaust valves consisting of tubes secured to the pistons and notched or slotted at the ends, in substance as set forth. 18th. The combination in an engine, constructed and operating substantially as set forth, of a cylinder provided with inlet and eduction ports, said valve bearing against a boss in which the inlet and eduction ports are located. 19th. The combination in an engine, constructed substantially as set forth, of a side casting having bosses in which inlet and eduction ports are located, and a rotary valve bearing against the bosses. 20th. The combination in an engine constructed and operating substantially as set forth, of a cylinder provided with inlet and eduction ports, and a valve operated by a rotary shaft and controlling the inlet and eduction ports, said valve bearing against a tortuous boss in which the inlet and eduction ports are located. 21st. An engine having a cylinder provided with inlet and eduction ports, a rotary shaft, two pistons, two cranks, two pitmen, two passages from a central chamber to the end chambers, means for controlling the admission of motive fluid through the inlet port, a valve located within the central chamber which controls the eduction port, and valves operated by the pistons for exhausting the motive fluid from the end chamber, in substance as set forth. 22nd. The combination in an engine, constructed and operating

substantially as set forth, of a casting, a rotary shaft, a rotary valve in contact with the inner surface of the casting and operated by the shaft, inlet and exhaust ports through the casting controlled by the valve and passages from the central chamber to the end chambers, and means for exhausting motive fluid from the end chambers.

No. 66,071. Coal Removing Apparatus.
(Appareil à transporter le charbon.)



Owen James Conley, New York City, New York, U.S.A., 2nd February, 1900; 6 years. (Filed 23rd January, 1900.)

Claim.—1st. A vessel having a conveyer located beneath the load to be carried, in combination with means between the load and the conveyer for preventing the former from resting upon the latter, and additional means, in the nature of feeding and feed regulating drums for simultaneously checking and feeding the material laterally into or upon the conveyer, substantially as described. 2nd. A vessel having a conveyer located beneath the load to be carried, means between the load and the conveyer for preventing the former from resting upon the latter, in combination with hoppers adapted to convey the material of the load laterally to the conveyer, together with means located in each hopper beneath the means which supports the load and in the direct path of the inflowing material, said means being adapted to hold the material in check and prevent the too rapid advance thereof to the conveyer, substantially as described. 3rd. A vessel having a conveyer located beneath the load to be carried, a supporting roof located beneath the load and over the conveyer, hoppers beneath the lateral edges of said roof and sliding doors on the underside of said roof, in combination with means for causing said doors to close the hoppers, and feeding mechanism adapted to check the flow of the material and to simultaneously feed it forward, substantially as described. 4th. A vessel having a double inclined roof located beneath the load to be carried, a conveyer or belt located beneath said double inclined roof, hoppers adapted to convey the material of the load from the carrying compartment to the conveyer or belt, in combination with means located beneath the lateral edges of said double inclined roof and in the path of the inflowing material, said means being adapted to hold said material in check and prevent the too rapid advance thereof to the conveyer, substantially as described. 5th. A vessel having a conveyer located beneath the load, in combination with means, as hoppers, for directing the material of the load toward the conveyer, together with feeding and feed regulating drums adapted to simultaneously hold in check and deliver the material directly to the conveyer, substantially as described. 6th. A vessel having a conveyer, located beneath the load to be carried, in combination with means, as hoppers, for directing the material of the load toward the conveyer and feeding and feed regulating drums, one pair for each hopper, said drums being carried by continuously driven lines of shafting and provided with clutch mechanism for connecting them to and disconnecting them from said lines of shafting at will, substantially as described. 7th. A vessel provided with a compartment under a roof-like structure extending beneath the entire load, in combination with lateral or side openings in said compartment, together with pairs of drums for regulating the flow of the material of the load through the openings and holding it in check in accordance with the angle at which the material will flow by its own weight, one drum of each pair being provided with means for adjusting it with relation to the other, substantially as described. 8th. A vessel having a carrying compartment, a double inclined or roof-like structure located beneath the load to be carried, a conveyer or belt located beneath said roof-like structure, hoppers for delivering the material of the load from the carrying compartment to the conveyer, means located in said hoppers and beneath the lateral edges of the double or roof-like structure for holding the material in check, in combination with side ledges or pockets adapted to permanently hold a part of the material, in such manner that the upper surface of the material thus held will act as a frictional or sliding surface for the removable part of the load, to move or slide thereover, substantially as described. 9th. Means for handling coal, iron ore and similar materials, compris-