

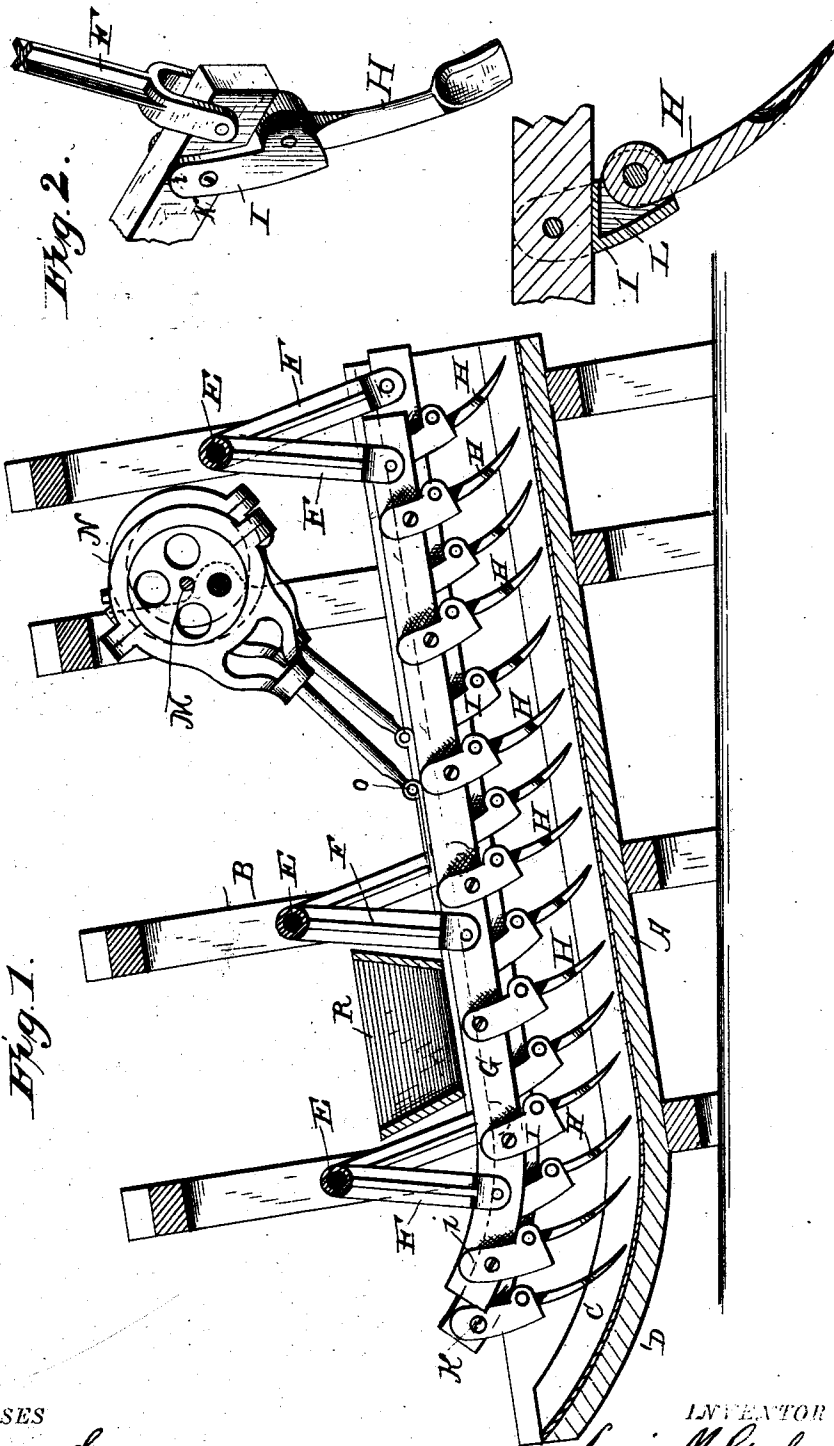
(No Model.)

L. M. GOCHNAUER.

ORE SEPARATOR.

No. 245,155.

Patented Aug. 2, 1881.



WITNESSES

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UNITED STATES PATENT OFFICE.

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ORE-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 245,155, dated August 2, 1881.

Application filed October 15, 1880. (No model.)

To all whom it may concern:

Be it known that I, LEVI M. GOCHNAUER, of Lancaster, in the county of Lancaster, and in the State of Pennsylvania, have invented certain new and useful Improvements in Ore-Separators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention relates to certain improvements in that class of separators for iron and other similar ores in which a series or gang of shovels pivoted to a series of reciprocating bars are employed in connection with an inclined sluice box or trough, through which a current of water is passed to separate the lighter from the heavier particles of the ores; and it has for its objects to provide an improved means for hanging the shovels to their respective reciprocating bars, whereby they will be operated in line with said bars and prevented from twisting the same, and also to provide for limiting the movement of the shovels upon the backward reciprocation of the bars, as more fully hereinafter specified. These objects I attain by the apparatus illustrated in the accompanying drawings, in which—

Figure 1 represents a longitudinal sectional view of my improved apparatus, and Fig. 2 represents a perspective view of one of the shovels and its supporting-hanger.

The letter A indicates an ordinary inclined sluice box or trough, supported in the frame B, and provided with a metal-lined bottom, C, curved upwardly at its lower end, as indicated by the letter D. The said frame is provided with a series of transverse shafts, E, to which are pivoted a series of swinging arms, F, which are bifurcated at their lower ends and carry the reciprocating longitudinal bars G, which which are curved upward at their lower ends correspondingly to the curve at the lower end of the sluice box or trough.

The letter H indicates the shovels, and I the standards or hangers to which the shovels

are pivoted, the said hangers being provided with upright lugs *i* at each side, which embrace the bars G, and are secured to the same by screws K. The lower part of the hangers is curved at the rear and recessed at the forward portion, as indicated by the letter L, for the reception of the upper ends of the shovels, which are pivoted therein, the rear curved walls of the recesses serving as a stop to limit the rearward movement of the shovels as they are carrying the ore forward.

The letter M indicated a transverse shaft carrying a series of eccentrics, N, corresponding in number to the reciprocating bars, the said eccentrics being provided with the ordinary straps and rods, the latter of which are pivoted to the respective bars, as indicated by the letter O. To one end of the shaft M is secured a driving-pulley, through the medium of which the apparatus is put in motion.

The apparatus is provided with a hopper, R, through which the ore is introduced.

The operation of my invention will be readily understood in connection with the above description.

The ore is fed into the hopper and water let into the sluice-box at the upper end. The apparatus is then put into motion, the shovels operating to carry the ore up the inclined bottom and discharge it at the upper end, while the water carries off the lighter portions at the lower end.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

In combination with the reciprocating bars, the hangers secured thereto, and provided with recesses in which the shovels are pivoted, the rear walls of the hangers forming stops for the shovels, substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand this 14th day of October, 1880.

LEVI M. GOCHNAUER.

Witnesses:

H. AUBREY TOULMIN,
C. A. NEALE.