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B. F. CRUZAN & J. J. ROBINSON.

ORE JIGGER.

No. 302,545. Patented July 29, 1884.

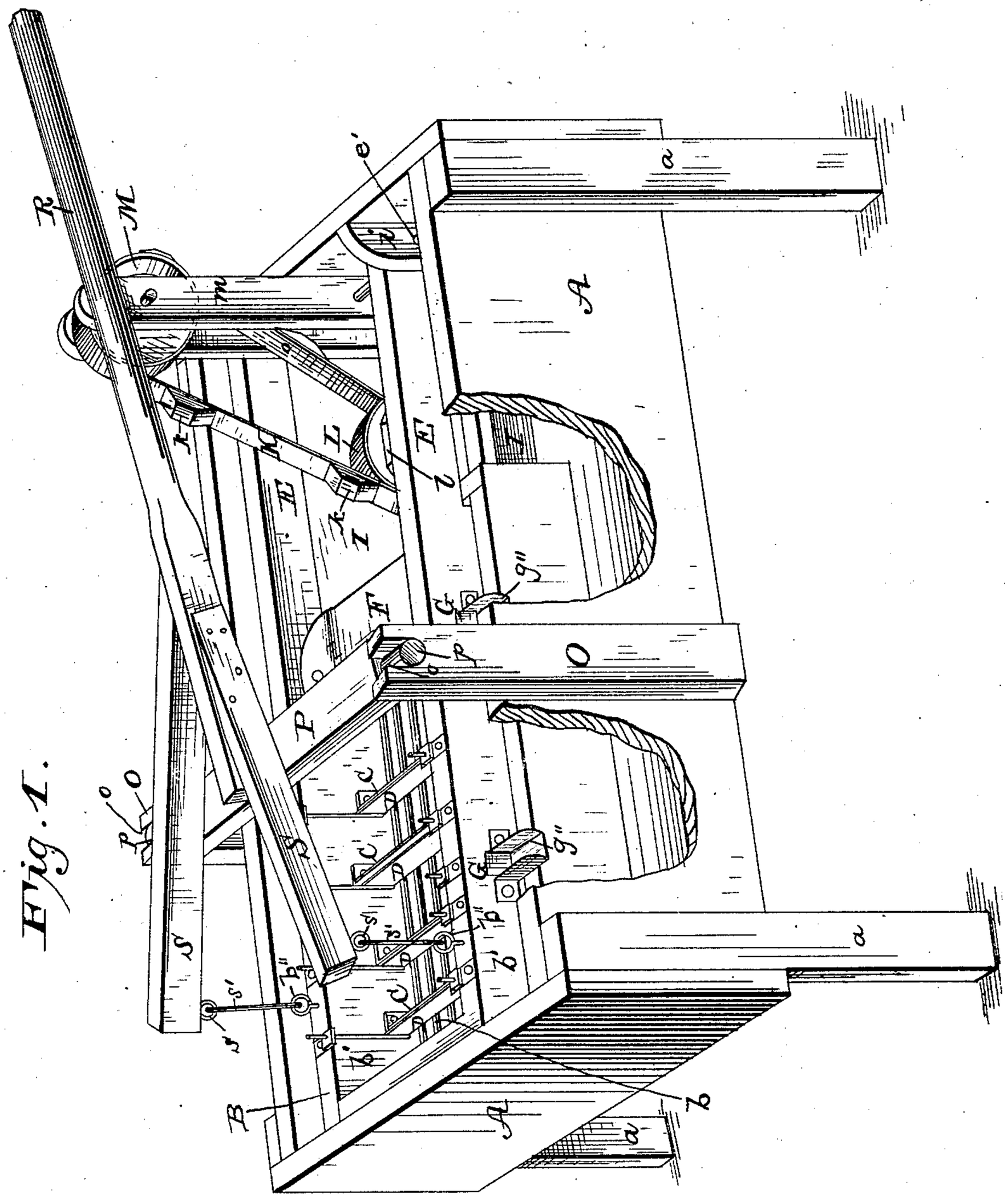

Fig. 1.

Witnesses:
D. Dunham
Chas. F. Benjamin

Inventors:
B. F. Cruzan & J. J. Robinson
By J. L. McTarlor
Atty.

(No Model.) 4 Sheets—Sheet 2.

B. F. CRUZAN & J. J. ROBINSON.

ORE JIGGER.

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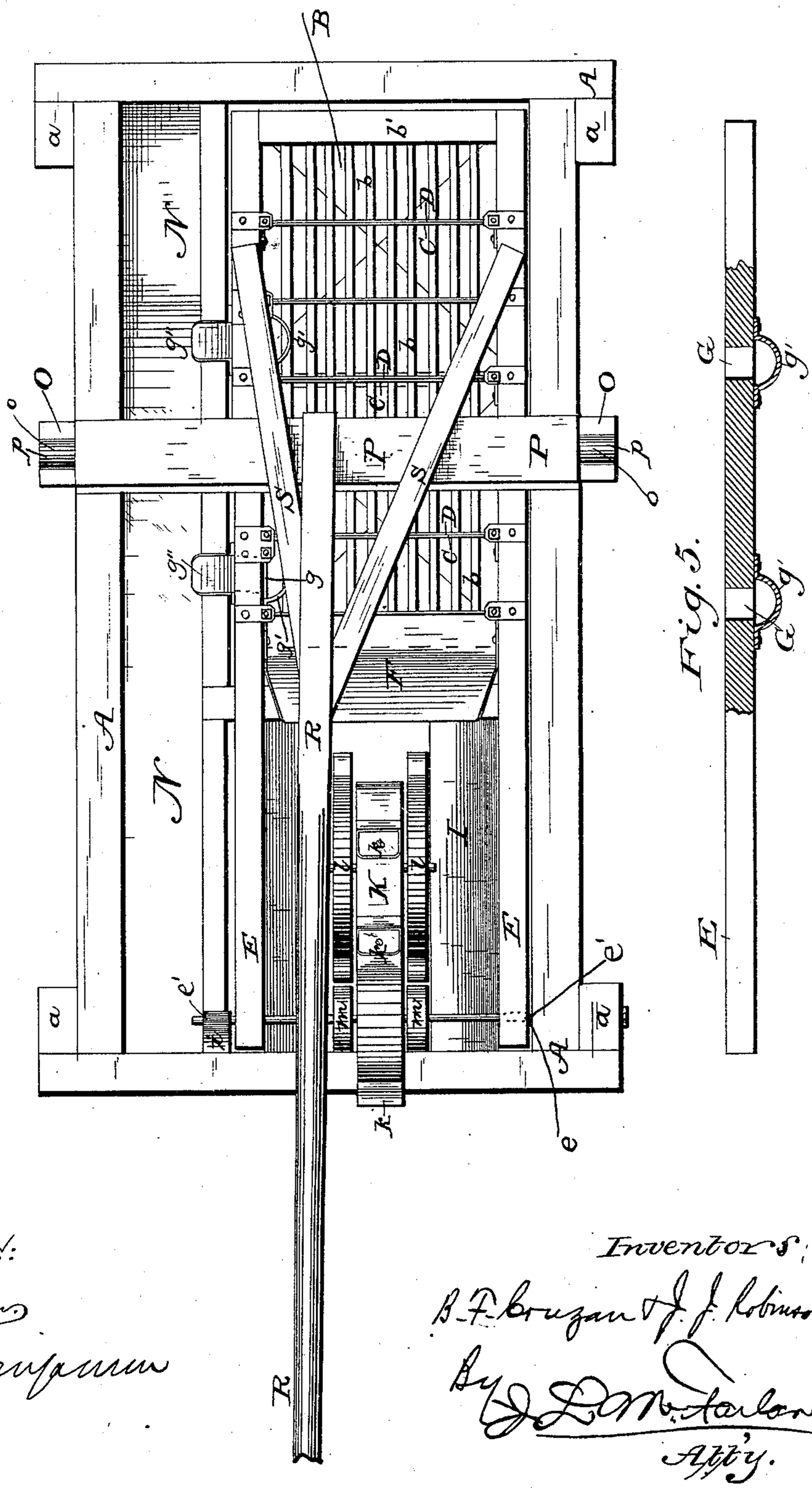

Fig. 2.

Fig. 5.

Witnesses:
~~A. M. Burnham.~~
Chas. F. Benjamin

Inventors:
B. F. Cruzan & J. J. Robinson,
By D. L. McFarlane
Atty.

(No Model.) 4 Sheets—Sheet 3.

B. F. CRUZAN & J. J. ROBINSON.

ORE JIGGER.

No. 302,545. Patented July 29, 1884.

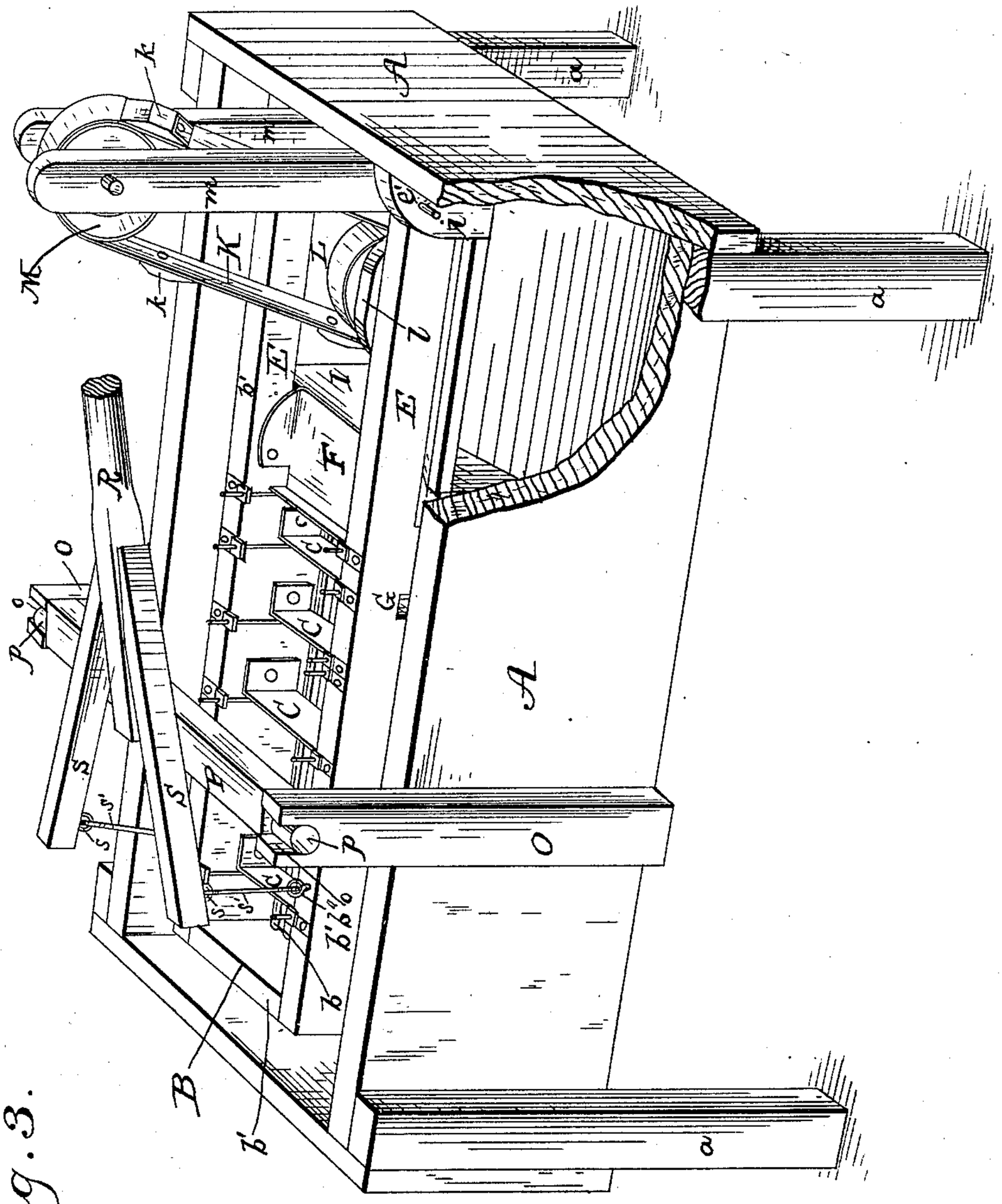

Fig. 3.

Witnesses:
C. A. Burnham.
Chas F. Benjamin

Inventors:
B. F. Cruzan J. J. Robinson
By D. L. McFarland
Atty.

(No Model.) 4 Sheets—Sheet 4.

B. F. CRUZAN & J. J. ROBINSON.

ORE JIGGER.

No. 302,545. Patented July 29, 1884.

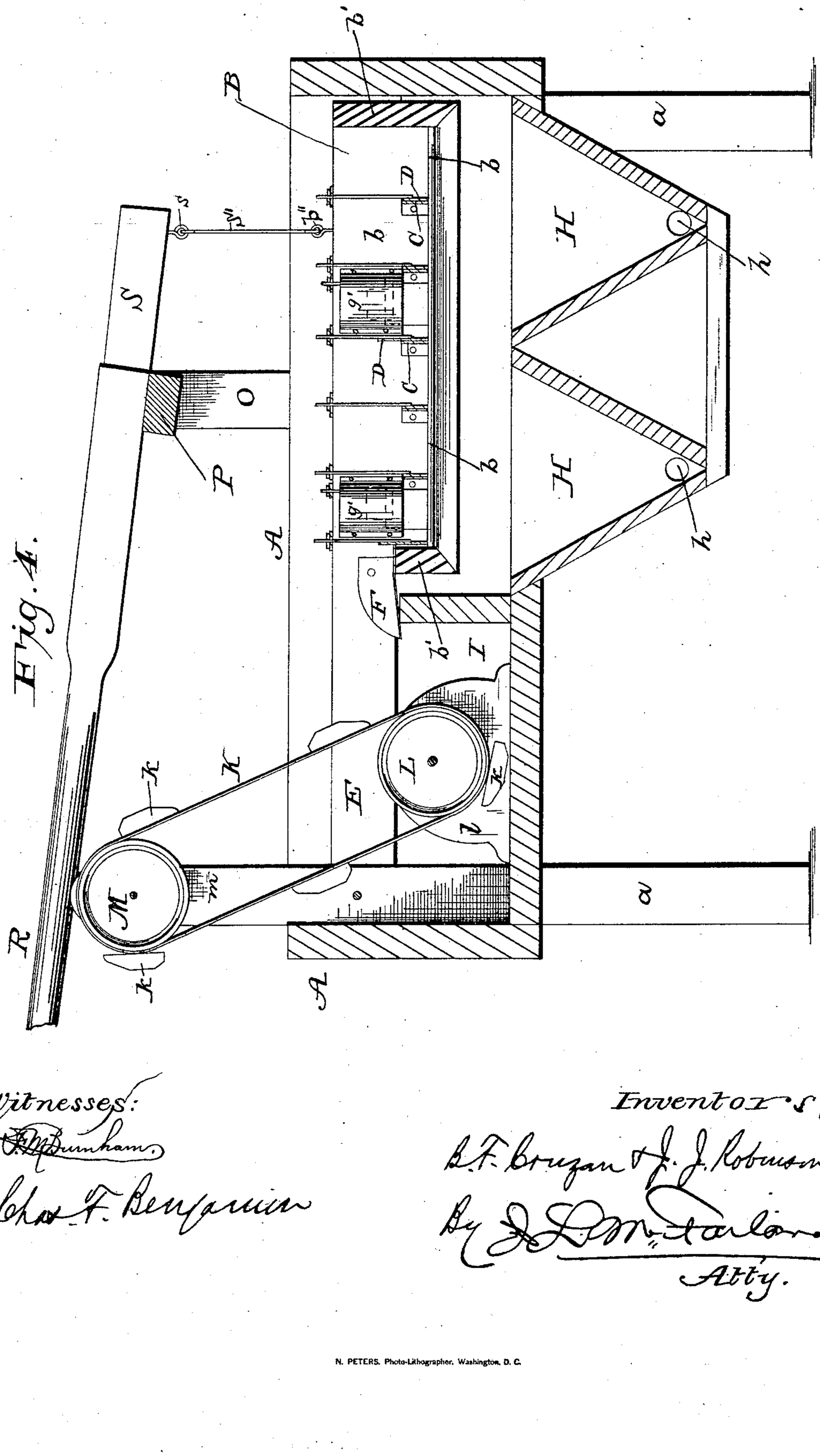

Fig. 4.

Witnesses:
C. M. Dunham.
Chas. F. Benjamin

Inventors:
B. F. Cruzan & J. J. Robinson
By D. L. M. Carlon
Atty.

UNITED STATES PATENT OFFICE.

BENJAMIN F. CRUZAN AND JOHN J. ROBINSON, OF WEBB CITY, MISSOURI.

ORE-JIGGER.

SPECIFICATION forming part of Letters Patent No. 302,545, dated July 29, 1884.

Application filed March 4, 1884. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN F. CRUZAN and JOHN J. ROBINSON, citizens of the United States, residing at Webb City, in the county of Jasper and State of Missouri, have invented certain new and useful Improvements in Ore-Jiggers; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in machines for cleaning and separating ores, and its object is to give increased efficiency to the plunging-sieve, by which the cleaning and separating are accomplished in machines of the class to which the invention pertains.

The mechanism now to be described and claimed consists of a water-tank in one corner of which is a plunging-sieve, the sieve being divided by partitions to facilitate control and separation of the contents according to the weight of the respective lumps and particles of ore.

In the accompanying drawings, wherein like letters represent like parts, Figure 1 is a perspective of the tank and its attachments, taken from the left side, near the upper end, and with the side broken away to show the interior; Fig. 2, a plan view from the top of the machine; Fig. 3, a perspective from the lower end, with the end wall of the tank partly broken away; Fig. 4, a longitudinal section view through a line corresponding to the middle of the sieve; and Fig. 5, a top section view of the "off" side wall of the sieve, showing the half-circular guards about the discharge-holes.

A is an oblong tank, mounted upon four legs, *a a*. Within this tank, at one end and side thereof, operates the sieve B. The bars *b* of this sieve run lengthwise, and are crossed by fixed partitions C C. Each of these partitions has parallel and in contact with it an upwardly-sliding partition, D D, to make the partition-wall higher when desired. A chute, F, is attached to the lower end of the sieve for the discharge of waste or tailings. Apertures G G are formed in the off side wall of the sieve, each aperture being about midway between the top and bottom of the sieve and about midway between the partitions on either side of it. Each aperture is closed or diminished at will by a valve, *g*, set in grooves and sliding upward. These valves are made just wide enough to close the aperture as they move up, so as to leave room for a half-cylinder of sheet metal, *g' g'*, which is placed about each aperture inside the sieve, and extends in length from the top of the sieve to about or but slightly below the top of the fixed partitions. In working the sieve there is always a thin bed of ore on the bars, and above this is the mingled mass of ore and waste that is in process of separation. The cleansed and separated ore sinks to the bed, passes under the half-circular guards, and gradually rises within them till discharged through the apertures G G and the chutes *g'' g''* into the compartment N, hereinafter described. The sliding partitions next below these apertures are made higher than their fellows, so as to facilitate the accumulation of ore at these discharge-holes. A narrow compartment, N, is formed along one side of the tank, which receives the ores discharged through the apertures G G, and buckets may be placed in this compartment to catch the ore discharged from the chutes *g'' g''*. Standards O O are fixed to the sides of the tank, provided with slots *o o* to receive the journals *p p* of the shaft P. Attached to this shaft is a long pole or sweep, R, running back beyond the end of the tank, and there intended to be attached to a power-shaft operated by a crank, so as to give the pole an up-and-down jigging motion. This pole is made somewhat flexible, in order that it may slightly bend while the sieve is being raised, and when the downward motion begins the sudden straightening of the pole will give a jerk to the sieve and loosen the mass therein, to be better acted upon by the plunge. Braces S S project obliquely across the shaft P, and to them are attached eyes *s s*, from which depend double hooks *s' s'*, to catch in the eyes *b'' b''* in the upper edges of the sieve B.

Having thus described our invention, what we claim to be new and useful, and desire to secure by Letters Patent, is the following:

1. The combination of a sieve for washing ores, with a series of low fixed partitions crossing the said sieve at intervals, adjustable partitions parallel and in contact with said fixed partitions, and means for adjusting and holding the same in position, in the manner and for the purposes hereinbefore described.

2. The combination of a sieve-frame having discharge-holes, with valves sliding in grooves, and half-circular guards, in the manner and for the purposes described herein.

3. In a machine for separating ores, the combination of a water-tank with a plunging-sieve, a flexible sweep or pole provided with braces, having suitable connection with the sieve-frame, a rocking-shaft, and shaft-standards, in the manner and for the purposes described herein.

In testimony whereof we affix our signatures in presence of two witnesses.

BENJAMIN F. CRUZAN.
JOHN J. ROBINSON.

Witnesses:
J. MORRIS YOUNG,
E. K. SMITH.