

J. H. MARTIN.
HYDRAULIC MINING APPARATUS.

No. 277,762.

Patented May 15, 1883.

Fig. 1.

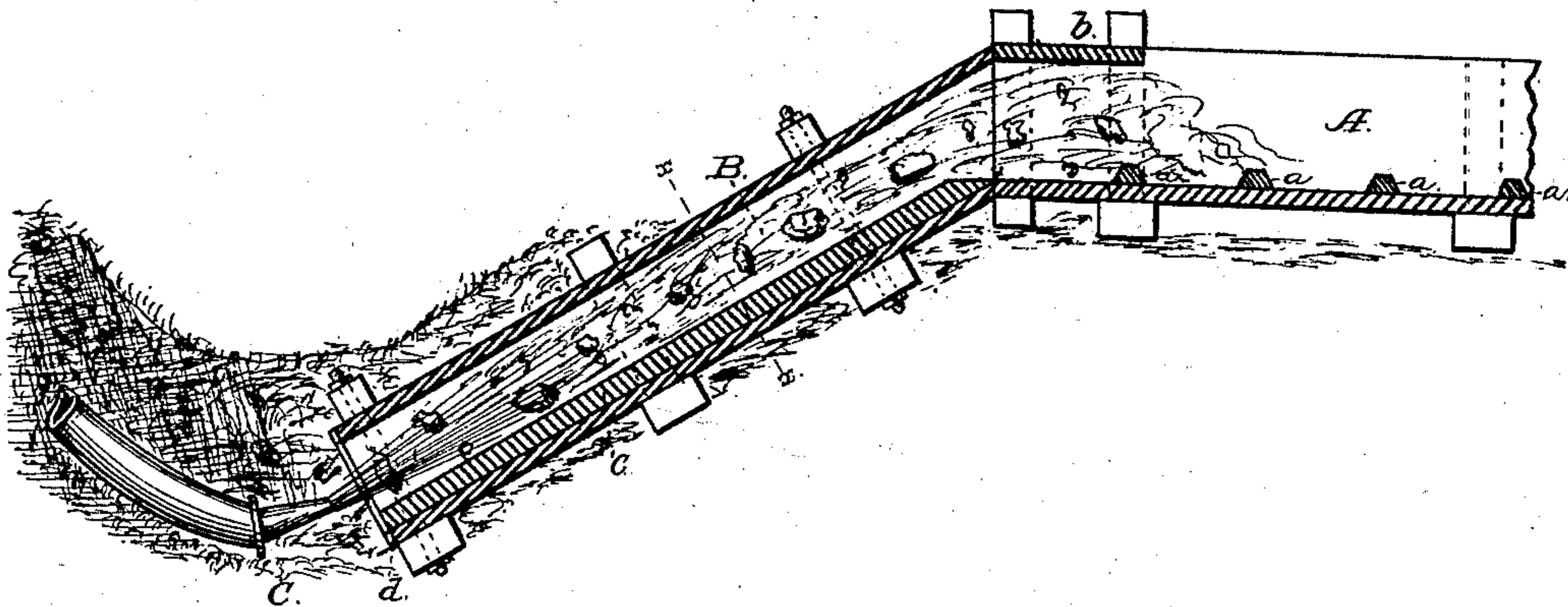


Fig. 2.

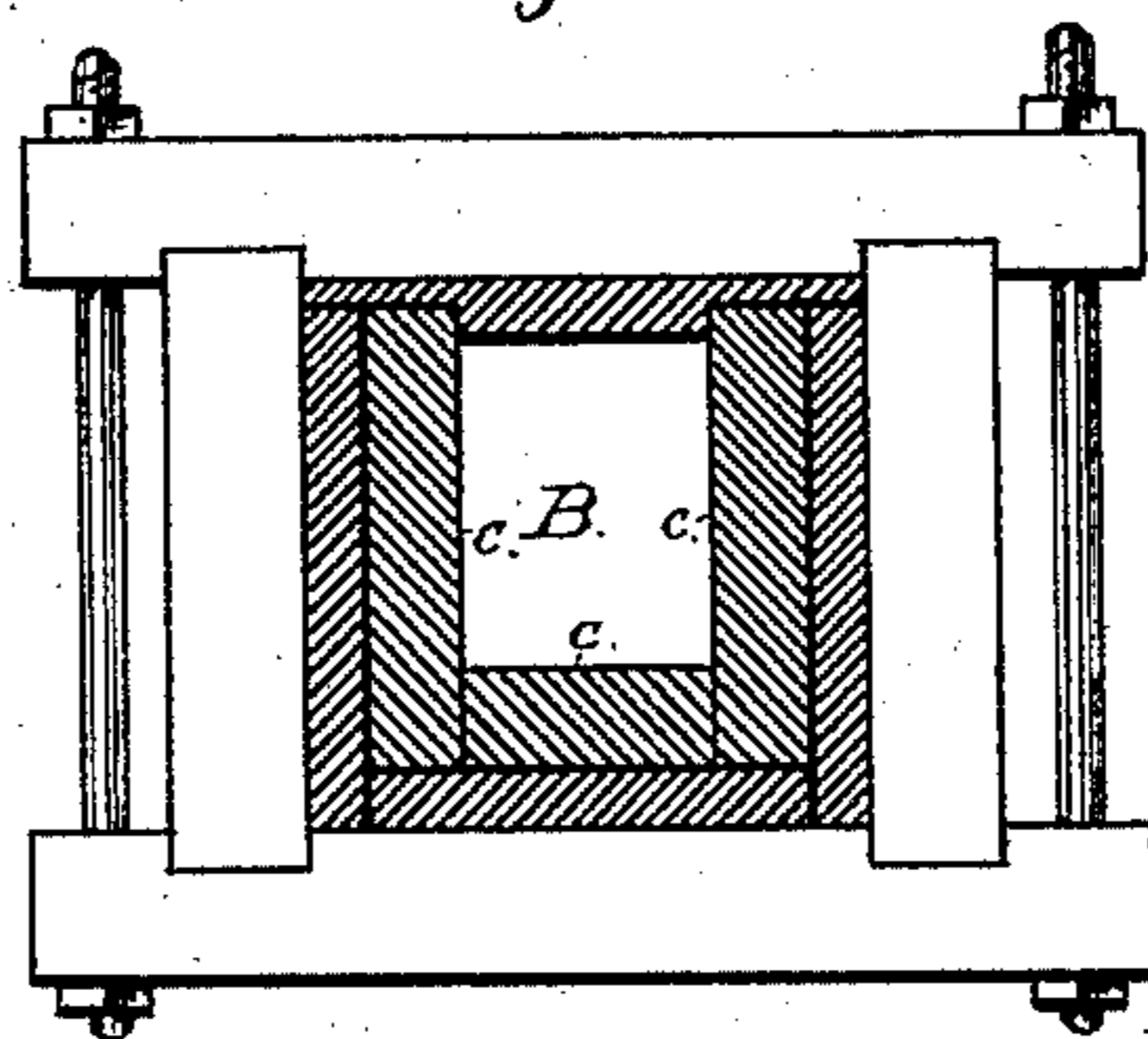
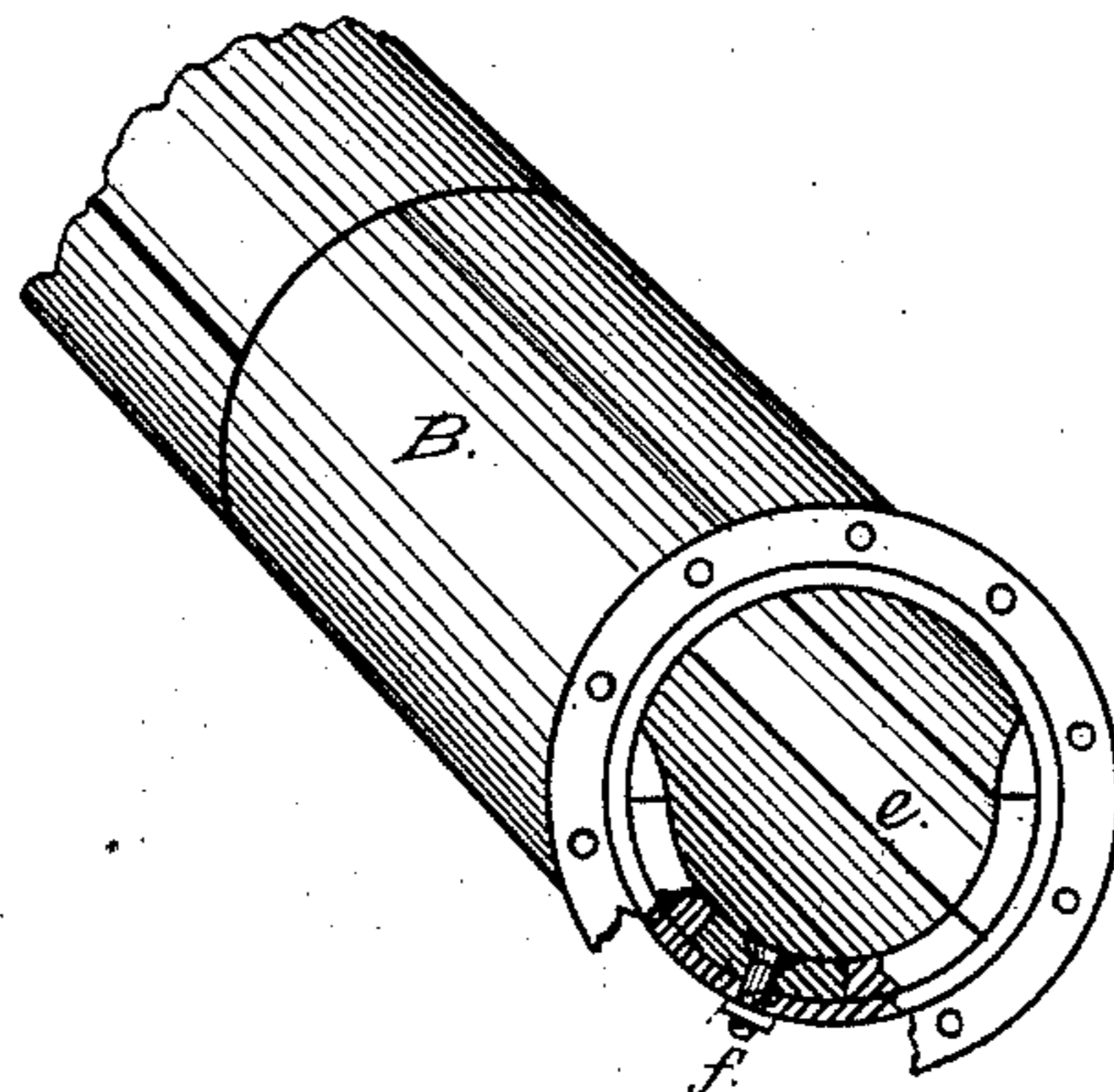


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN H. MARTIN, OF BIDWELL'S BAR, CALIFORNIA.

HYDRAULIC-MINING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 277,762, dated May 15, 1883.

Application filed January 10, 1880.

To all whom it may concern:

Be it known that I, JOHN H. MARTIN, of Bidwell's Bar, in the county of Butte and State of California, have invented a new and useful Improvement in Apparatus for Hydraulic Mining, of which the following is a specification.

My improvements relate to apparatus for elevating water, sand, and gravel by hydraulic power, principally used in mining operations where there is not sufficient fall for sluicing or drainage. Such apparatus consists, generally, of an inclined pipe rising from the ground to the desired elevation, a flume connected with the upper end of the rising pipe and extending with a slight inclination downward at a suitable distance, and a nozzle fitted at the lower end of the rising pipe for discharging water under pressure, whereby the sand and gravel are carried upward and into the flume.

My invention will be described with reference to the accompanying drawings, forming part of this specification, wherein—

Figure 1 is a vertical longitudinal section of my improved apparatus. Fig. 2 is a cross-section on line *xx* of Fig. 1. Fig. 3 is a modification.

Similar letters of reference indicate corresponding parts.

A is an elevated flume, of suitable size, which will extend the distance required with a fall of from six to twelve inches to the rod. The bottom of flume A is provided with riffles *a* to detain and save the gold. B is an inclined pipe, of wood or iron, extending from the end of flume A to the ground at an angle of from twenty degrees to forty-five degrees. The lower end of pipe B is open, and should rest on the ground at a point low enough to drain the ground that is to be worked.

C is a pipe and nozzle, the size of which will depend on the amount and pressure of the water supplied by the pipe. The nozzle C is to be placed so as to throw the stream of water up the pipe B and parallel therewith, and at such distance from the end of pipe B as to permit only such size of rocks to enter as will pass through.

At the upper end of pipe B, on the flume A, is fitted a striking-plate, *b*, of metal or other material which will stand the wear, which plate serves to check the force of the material thrown up and direct the same into the flume.

In Fig. 1 the pipe B is represented as made

of plank clamped together and lined on the sides and bottom with blocks *e*, of wood, which are sawed out across the grain, so that when placed in position the wear will come on the end grain. These blocks are mortised in, as shown in Fig. 2. The lower end of pipe B, around the opening, is covered with plates *d*, of metal, to protect the wood. In Fig. 2 the elevating-pipe B is shown as made of sheet metal, in lengths convenient for handling, and connected by flanges. The bottom and sides of the pipe are lined with bars *e*, of hardened iron, fastened with countersunk bolts *f*, as shown. This pipe is more especially fitted for extensive operations where there is ample water supply and pressure.

In operation, the water under sufficient pressure being supplied to the pipe and nozzle C, the sand, gravel, &c., are forced up the pipe B into the flume A. The stream of water being thrown straight up the pipe B, the material will be forced up on the bottom of the pipe without rebounding from side to side, and the wear on the pipe will be even and much less rapid than when the water enters at an angle to the rising pipe. The power required is also much less, and the mouth of pipe B will not become choked.

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

1. In hydraulic-mining apparatus, a nozzle supplying water under pressure, located in front of and at a distance from the mouth of an inclined pipe, so as to discharge water centrally up the same, substantially as described.

2. The combination of the nozzle C, located in front of and at a distance from the center of the mouth of the pipe B, the upwardly-inclined pipe B, and the downwardly-inclined flume A, all constructed and arranged substantially as described and shown.

3. The hydraulic-mining apparatus described, consisting of the nozzle C, the upwardly-inclined pipe B, protected by lining-blocks *e*, and the downwardly-inclined flume A, with the striking-plate *b*, all constructed, arranged, and operating substantially as described.

JOHN HULL MARTIN.

Witnesses:

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