No. 677,537. Patented July 2, 1901.

M. COVEL.

APPARATUS FOR GOLD MINING.

(Application filed Apr. 26, 1900.)

(No Model.)

Fig. 1.

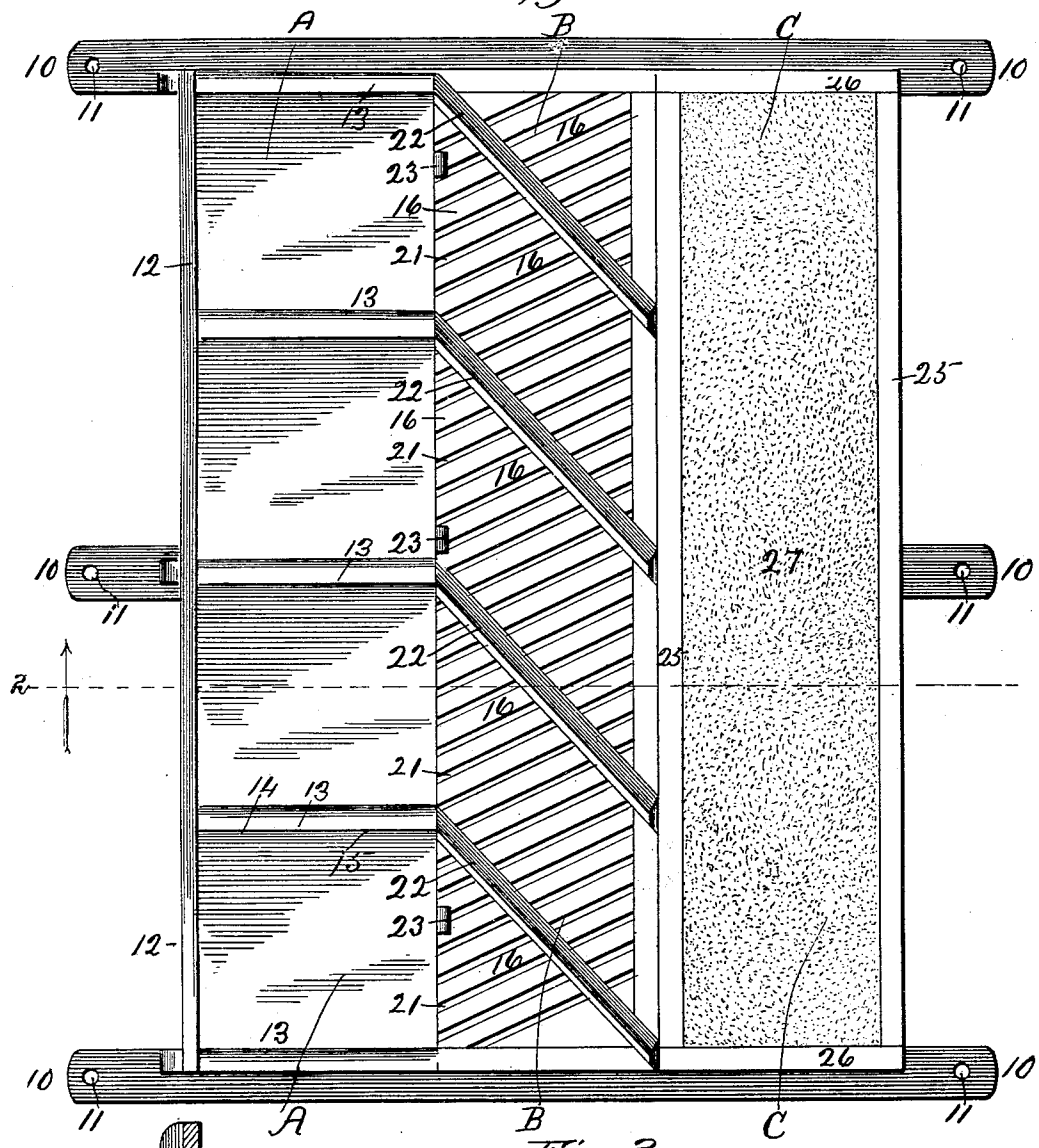
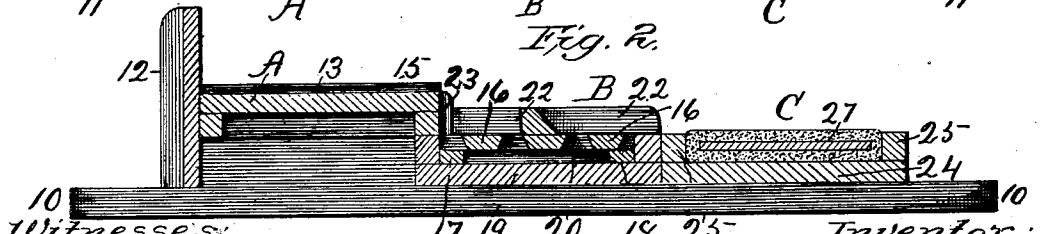


Fig. 2.



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UNITED STATES PATENT OFFICE.

MILO COVEL, OF CHICAGO, ILLINOIS.

APPARATUS FOR GOLD-MINING.

SPECIFICATION forming part of Letters Patent No. 677,537, dated July 2, 1901.

Application filed April 26, 1900. Serial No. 14,387. (No model.)

To all whom it may concern:

Be it known that I, MILO COVEL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Apparatus for Gold-Mining; and I do hereby 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.

This invention relates to an apparatus for the use of miners in gold-mining operations, and has for its object to provide an arrangement of this character that is more especially intended as a beach-washer along the coast-line or other localities where the water-supply is adequate.

Figure 1 is a plan of the apparatus in the form of a washer and riffle-frame. Fig. 2 is a transverse section of the same on line 2, Fig. 1, looking in the direction indicated by the arrow.

In many sections along the sea-coast a large percentage of fine gold is found mixed with the sand; but its separation and recovery have been a difficult matter for the want of a suitable and effective apparatus.

As illustrated in Fig. 1, the apparatus is converted into what may be termed a "beach-washer," to be used along the shore-line where the flow of the tide and the action of the waves may be successfully utilized to a good advantage.

As a beach-washer the apparatus consists of a table-bed A, a riffle-frame B, and a fabric pad-section C. These three sections are joined together edgewise, running parallel with reference to each other, and are properly secured together, the riffle and the pad-sections being a step lower than the table-bed, so that the sand or gold-bearing earth will have a slight fall from the latter onto the riffle-surface. This form of the apparatus is supported on a number of base-timbers 10, provided in the respective ends with apertures 11, through which stakes may be driven into the earth to form an anchorage.

In practical working the upper end, Fig. 1, is placed toward the water and in position to be subjected to the washing action of the waves in separating the fine gold from the sand. The back board 12 prevents the material from being washed off on the wrong side. The apparatus will be set so that there will be an incline from the back 12 to pad-section. There will also be an endwise incline equal to that of the natural inclination of the beach. The particular degree of inclination given this form of the apparatus in order to obtain the best results from the washing action of the waves will be governed by circumstances.

The table-bed is provided with a number of parallel cleats 13, disposed at intervals. These cleats are beveled or rounded on the sides that receive the impact of the incoming waves, as at 14, and have a straight vertical edge on the back side, as at 15. This form of a cleat offers less resistance to the free incoming flow of the water, but checks and retards the backflow so that a considerable volume will be directed onto the riffle-section as the water recedes.

The riffle-frame consists of a series of slats 16, laid diagonally, their respective ends being secured to the companion longitudinal bars 17 and 18, which support the slats above the bottom board 19 and provide a chamber or space 20 therebetween, as shown in Fig. 2. The slats 16 are set so that the ends next the table-bed are the farthest from the water end and are separated by narrow spaces 21, forming open-work and opening into the chamber 20. A number of guide-bars 22 are disposed at wide intervals across the top of slats 16 in a diagonal direction opposite to that of said slats, as shown in Fig. 1. The inner edge of the riffle-frame slips under the lower end of lugs 23, which are secured to the table-bed and serve the purpose of removably retaining the same in place.

The pad-section C consists of the bottom 24, having border side bars 25 and end bars 26, providing a recess in which is inserted a soft pad 27. This pad may be of any suitable fabric, such as a woolen blanket or carpet which is ordinarily used in collecting fine gold. The pad is double and may be turned over from side to side, so that both sides may be used before the gold collected is removed. In operation the very fine particles of gold will adhere to and be retained by the surface of the pad and may then be recovered therefrom in the usual manner, thus saving much of the gold that would be ordinarily lost.

This pad may be retained in place in any suitable manner.

In using the apparatus as a beach-washer the gold-bearing sand or other earthy matter is thrown onto the table-bed to receive the impact of the waves, which has the effect of gradually washing it off onto the riffle-frame, where it is further acted upon by the water in the process of separation. The angle at which the slats 16 are placed with reference to the incoming waves has the effect of creating cross-currents and thoroughly agitating the mixture of the sand and water, so that the heavier particles of gold will be given a chance to settle and pass into the chamber 20 through the openings between the slats, the lighter sand being carried away. The guide-bars 22 serve to shoot the water and sand onto and over the pad-surface, where the fine particles of gold, being naturally the heaviest, will go to the bottom and adhere to the soft-pad surface. The sand will be shoveled onto the table in such quantities as the action of the water will properly dispose of, so that the mixture flowing over the pad-section will be thinned out to obtain the best results in recovering a large percentage of gold.

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

1. An ore-washer and separating apparatus, to be located along the line of the beach in position to utilize the wave action, and comprising a table-bed, on which the gold-bearing earth is deposited, a riffle-frame, located one step lower than said bed and a reversible fabric pad, located in turn a step lower than the riffle-frame and all joined together edgewise and adapted to receive the wave action endwise, substantially as described.

2. An ore-washer and separating apparatus, comprising a table-bed, provided with an elevated back, a riffle-frame, consisting of a number of slats, running diagonally and separated by narrow openings communicating with a chamber below said riffle, a number of guide-bars, crossing said slats diagonally in the opposite direction and set widely apart, and a fabric pad, adapted to collect and retain the fine gold coming from said riffle, substantially as described.

3. In an ore-washing and separating apparatus, the combination with a table-bed, provided with a number of parallel cleats, of a riffle-frame, the guide-bars, running across said riffle in a diagonal plane with reference to said cleats, and a fabric pad-section, joining the riffle-frame on the side oppposite to that of the table-bed, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

MILO COVEL.

Witnesses:
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L. B. COUPLAND.