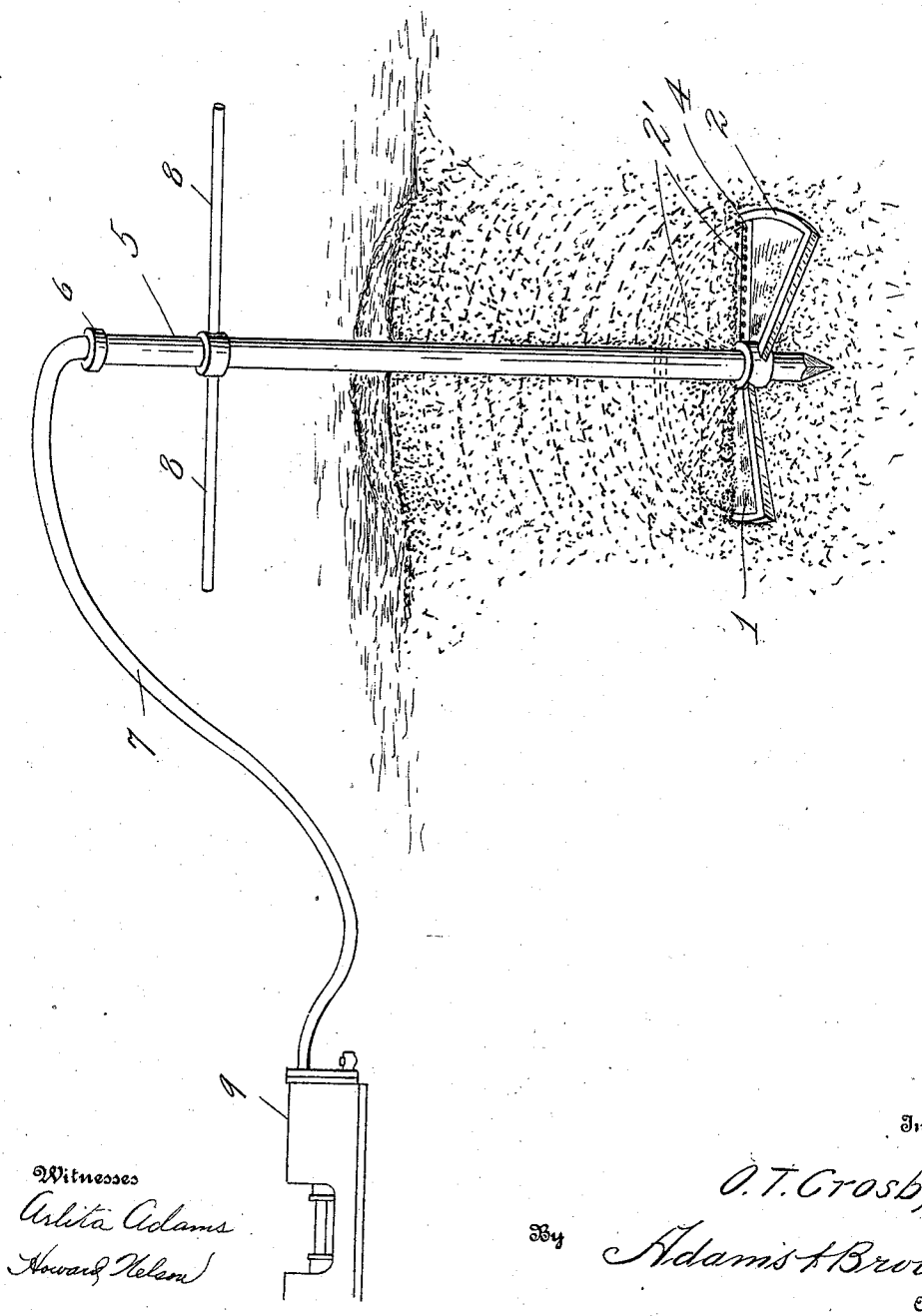
O. T. CROSBY.

METHOD OF RECOVERING VALUES FROM ALLUVIAL DEPOSITS.

APPLICATION FILED JULY 5, 1906.

923,116.

Patented May 25, 1909.



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UNITED STATES PATENT OFFICE.

OLE T. CROSBY, OF NOME, DISTRICT OF ALASKA.

METHOD OF RECOVERING VALUES FROM ALLUVIAL DEPOSITS.

No. 923,116. Specification of Letters Patent. Patented May 25, 1909.

Application filed July 5, 1906. Serial No. 324,869.

To all whom it may concern:

Be it known that I, OLE T. CROSBY, a citizen of the United States of America, and a resident of the city of Nome, Alaska, have invented certain new and useful Improvements in Methods of Recovering Values from Alluvial Deposits, of which the following is a specification.

My invention has special reference to a method of operating in alluvial deposits or other beds of a like nature containing valuable metals, as gold, for the purpose of recovering such values therefrom.

The primary object of the invention is to solve the problem of readily carrying on such operation without necessitating the removal of great quantities of the worthless materials for subsequent treatment, and to this end I aim to concentrate within the deposit or bed values contained therein and remove the same.

In carrying out the invention I operate in the bed of materials by working layers of a determined section thereof successively. This is accomplished by introducing beneath the surface of the bed suitable means which can be moved beneath layers of the material successively to loosen the same and catch such particles thereof as are permitted to gravitate thereto, and simultaneously introducing fluid, preferably air, between said means and the superimposed materials under suitable pressure to keep the particles of lesser density from being caught and carried along by said means.

In the accompanying drawing I have disclosed in a single perspective view one form of an apparatus for carrying out the process, the same being illustrated in operation upon a bed of materials.

Said apparatus forms no part of the present invention, the same being embodied in my application Serial No. 324,870, filed July 5, 1906.

With reference to the drawing, numeral 1 indicates a means capable of being moved into a bed of materials of the above described nature and beneath layers thereof successively, the said means consisting of a substantially broad blade of spiral form which is somewhat less in length than a full convolution. Extending about the margin of the blade is an upwardly projecting ridge 2 and lying across its upper face are tubular ridges 2′ provided with discharge orifices 4, the said ridges in connection with the blade forming pockets or recesses.

Secured to blade 1 is tubular stem 5 to which power is conveniently applied through the medium of handles 8 to move the blade in the bed of materials. This stem has communication with the passages in ridges 2′ and is connected by means of a swivel coupling 6 with a conduit 7 leading from an air compressor 9.

In operation, the blade 1 is pressed downwardly and simultaneously rotated in the proper direction to cause it to enter the bed of materials, air at the same time passing along the stem and discharging through the orifices 4 against the materials above the blade, serving, as heretofore intimated, to keep the particles of materials of lesser density from being caught in the pockets or recesses of the blade. After the blade has been inserted to the desired depth the movement thereof is reversed causing it to take an upward course, thereby reworking the materials through which it passed on its downward journey.

The above described process can be carried out with successful result in working ocean beaches where the tide and turbulent state of the water render it impracticable to attempt to remove great quantities of material for subsequent treatment.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States of America, is:—

The herein described method of obtaining valuables from alluvial deposits, consisting in cutting the ground to be treated into spiral layers, injecting fluid into each layer as cut to separate the particles, collecting the gravitating valuable particles, and removing the so-collected particles from under the cut layers without removal of the latter.

Signed at Seattle, Washington this 23 day of June 1906.

OLE T. CROSBY.

Witnesses:

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