No. 809,593. PATENTED JAN. 9, 1906.

S. W. WIBLE.

DEVICE FOR REMOVING MINING AND OTHER DEBRIS.

APPLICATION FILED FEB. 6, 1905.

Fig. 1.

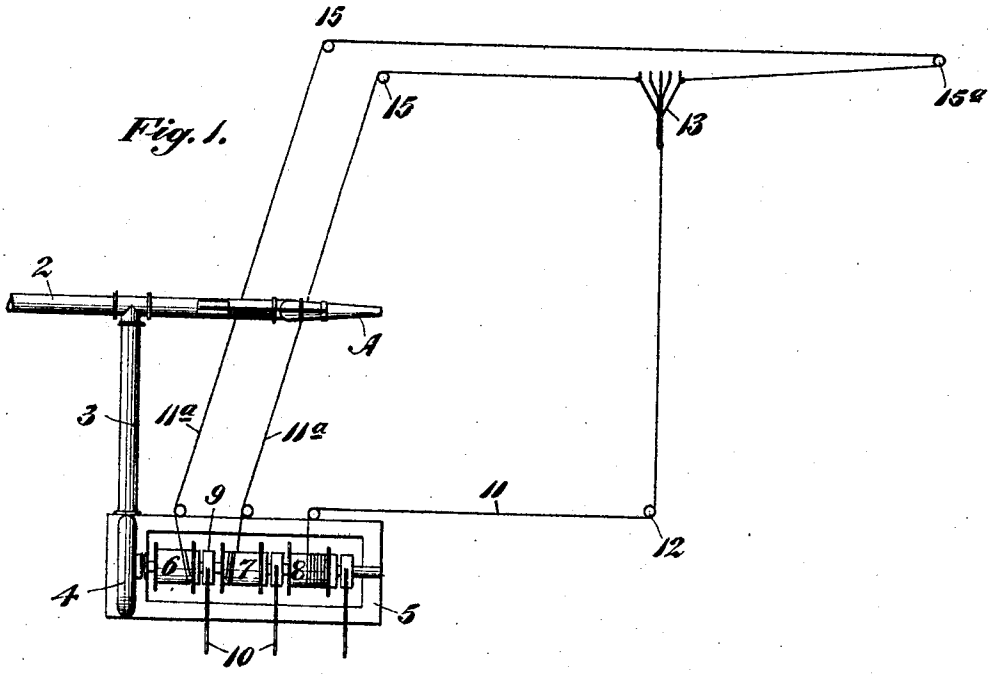


Fig. 2.

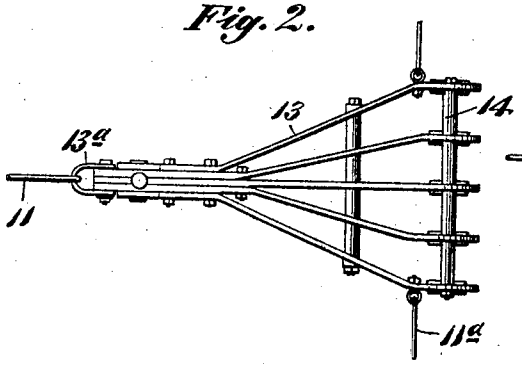
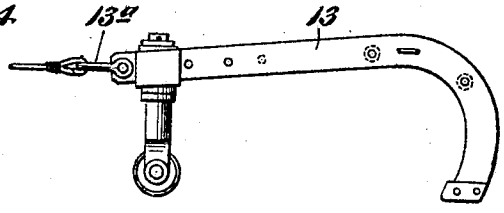


Fig. 3.



Witnesses,
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UNITED STATES PATENT OFFICE.

SIMON W. WIBLE, OF BAKERSFIELD, CALIFORNIA.

DEVICE FOR REMOVING MINING AND OTHER DEBRIS.

No. 809,593. Specification of Letters Patent. Patented Jan. 9, 1906.

Application filed February 6, 1905. Serial No. 244,472.

To all whom it may concern:

Be it known that I, SIMON W. WIBLE, a citizen of the United States, residing at Bakersfield, State of California, have invented new and useful Improvements in Devices for Removing Mining and other Debris, of which the following is a specification.

My invention relates to an apparatus which is designed to automatically remove mining and other debris or material which it is desired to remove.

It comprises combinations of mechanism and details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a diagrammatic view of my invention. Fig. 2 is a plan view of rake. Fig. 3 is a side elevation of same.

Where hydraulic mining is being carried on and the earth washed in large quantities by the use of hydraulic nozzles or similar apparatus, considerable quantities of rock and heavy worthless material are uncovered and if not removed may interfere with the work. Under ordinary conditions it is necessary to suspend operations and to remove this useless material before work can again proceed.

It is the object of my invention to provide an apparatus which can be automatically operated and by which the rock or other debris may be removed without suspending the washing operation. The device is also available to remove earth or any other material which it may be desired to so move.

As shown in the accompanying drawings, A represents a hydraulic nozzle of any usual or suitable description such as is employed for washing gold-bearing earth or any material which is separable by the use of a jet of water. Water for the nozzle is supplied through a pipe, as at 2, and under such pressure as may be desirable or available. From the pipe 2 a branch pipe 3 leads to some point conveniently located with relation to the mine or place being worked. This pipe delivers a jet of water, which may be employed to drive a momentum-wheel, located as at 4. The shaft of this wheel is journaled in a suitable frame, as at 5, and upon this shaft are mounted drums 6 7 8. By means of clutches, as at 9, and clutch-levers 10 either or any of these drums may be engaged with a revolving shaft of the wheel, and thus thrown into operation. Ropes of any suitable description, as at 11, are wound upon these drums and pass over guide-pulleys, as at 12, by which their direction may be changed as desired. 13 is a rake or scraper which is to be operated by these ropes.

This device is made of any suitable or desired form to suit the character of the work to be done. If large rocks or cobbles are to be removed, the device is preferably made with a series of teeth diverging from a common shank to which is attached a swivel, as at 13^a, and from this swivel one of the ropes 11 is led around the guide-pulley 12 to one of the drums, so that by winding the rope upon this drum the raking device will be drawn toward the last of the guide-pulleys and either transversely or otherwise across the space being operated upon by the hydraulic apparatus. The arms of the rake diverge from the swivel and are held separate from each other by blocks, as at 14. These blocks may be mounted upon a shaft or rod which extends through from one side to the other, and they serve to maintain the teeth at the outer end in as widely-separated a condition as may be desired. Other rods or guides may be passed through the bars, forming the teeth at any suitable or desired intervals. The ends of the teeth may be thickened, rounded, or otherwise constructed, so that in drawing the apparatus over the surface to be cleaned they will not be forced into the bed-rock or that portion of the surface which it is not desired to remove. Upon each side of the rake are attachments for ropes 11^a, which lead, respectively, from two of the drums perviously described, as in the present case the drums 6 and 7.

Direction-pulleys 15 are located at opposite ends of the space to be worked, and it will be seen that if the drum 6 is engaged with the motor the rake may be pulled sidewise toward the point 15, and thus placed behind any rock or material which it is desired to remove from the space. When the rake has been placed in the proper position, the drum 6 may be disengaged, and the drum 8 being engaged and set in motion will pull directly upon the rake through the rope 11, and this will pull any rock or material engaged by the rake toward the direction-pulley 12, around which the rope 11 last passes before being connected with the rake. If the material to be removed be found at the other end of the space, the drum 7 is engaged and through its rope 11^a passing around the guide-pulley 15^a at the opposite end of the space the rake will be drawn to

that point, the ropes connecting with the drums 6 and 8 yielding to accommodate the movement of the rake and their respective drums unwinding for this purpose. The rake being then placed behind such material as it may be desired to remove may again be drawn toward the side of the space by engaging the drum 8. In this manner any material within a given space which is inclosed by the direction-pulleys may be removed to one side or to any desired point without any cessation in the operation of the hydraulic nozzle or other apparatus covering that space.

Although the apparatus is here described as being used in conjunction with a hydraulic washing apparatus and the motor is described as being a momentum-wheel driven by water under high pressure, it will be understood that any suitable or desired motor may be substituted where convenient and the apparatus may be used for moving any substances within its scope.

For convenience in moving the rake from one point to another I have shown the tongue or end to which the swivel 13 is attached as being supported upon a caster-wheel, so that as the device is moved from one place to another this portion will be lifted above the ground and will move easily to conform to the movements of the rake.

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

1. An apparatus for removing rock and debris, said apparatus comprising drums loosely mounted upon a motor-driven shaft, means for engaging said drums with or disengaging them from the shaft, a rake, a rope extending from the rake to one of said drums, direction-pulleys around which the rope passes, other ropes connecting with opposite sides of the rake, direction-pulleys around which the last-named ropes pass, and independent winding-drums with which said ropes are connected and by which the rake is placed in position.

2. An apparatus for the removal of rocks and debris, said apparatus consisting of a rake, a rope and direction-pulleys by which the rake may be drawn across the territory to be cleared, other ropes attached to the sides of the rake through which power may be applied to transfer the rake to any desired point to engage the material to be removed.

3. In an apparatus for removing rock and debris, a rake consisting of bent arms having their outer ends adapted to engage the material to be moved, a central shank to which said arms converge and are fixed, a swiveled rope connection carried by the end of the shank, spacing-blocks by which the outer ends of the arms are maintained in position and means for attaching ropes upon opposite sides whereby the device may be moved laterally.

4. In an apparatus for moving rocks and debris, a rake composed of curved arms, adapted to engage the material, a central shank to which said arms converge and are secured, a caster-wheel upon which the shank is supported, a swivel attachment for a rope by which the rake and its load may be moved, spacing-blocks by which the outer ends of the arms are maintained in position, means carried by opposite sides of the rake for the attachment of ropes whereby transverse movement in positioning of the rake may be effected with relation to the material to be moved.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

SIMON W. WIBLE.

Witnesses:
S. H. NOURSE,
HENRY P. TRICOU.