(No Model.) 2 Sheets—Sheet 1.

I. WHALER.

DEVICE FOR RECOVERING GOLD OR PRECIOUS METALS FROM STREAMS.

No. 539,463. Patented May 21, 1895.

Fig. 1

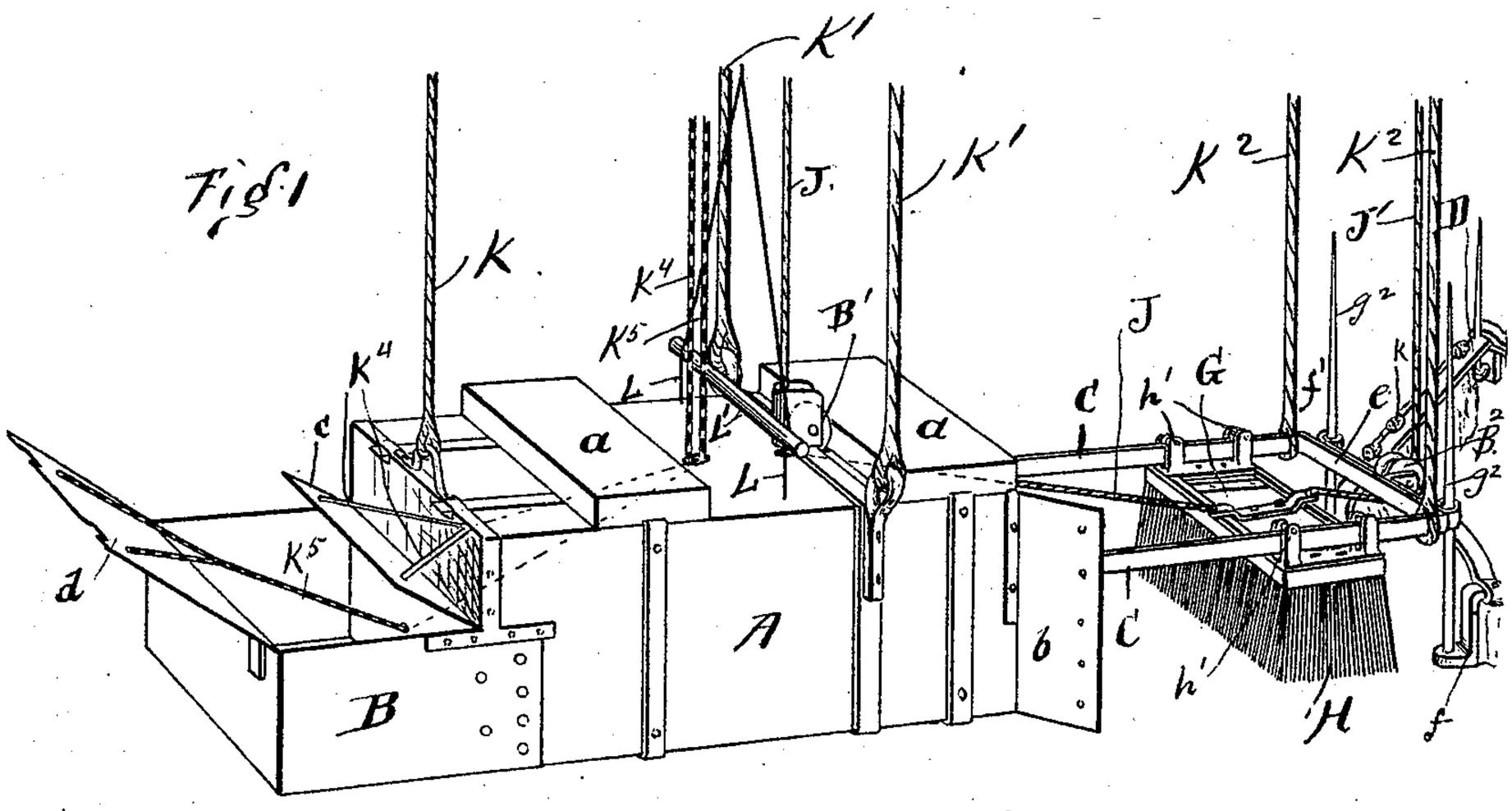


Fig. 2

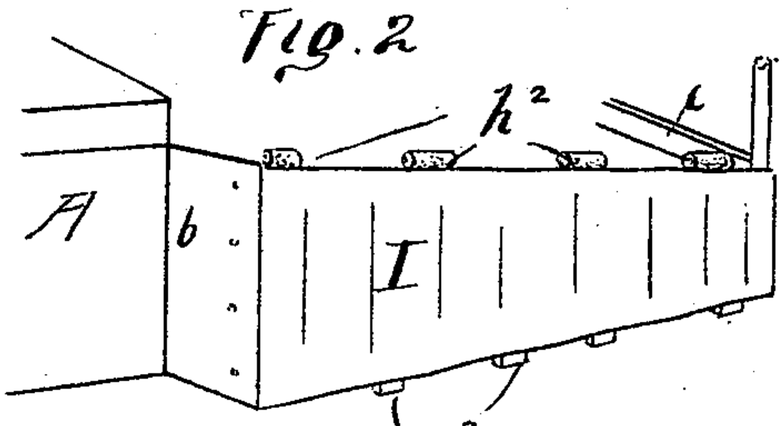


Fig. 3

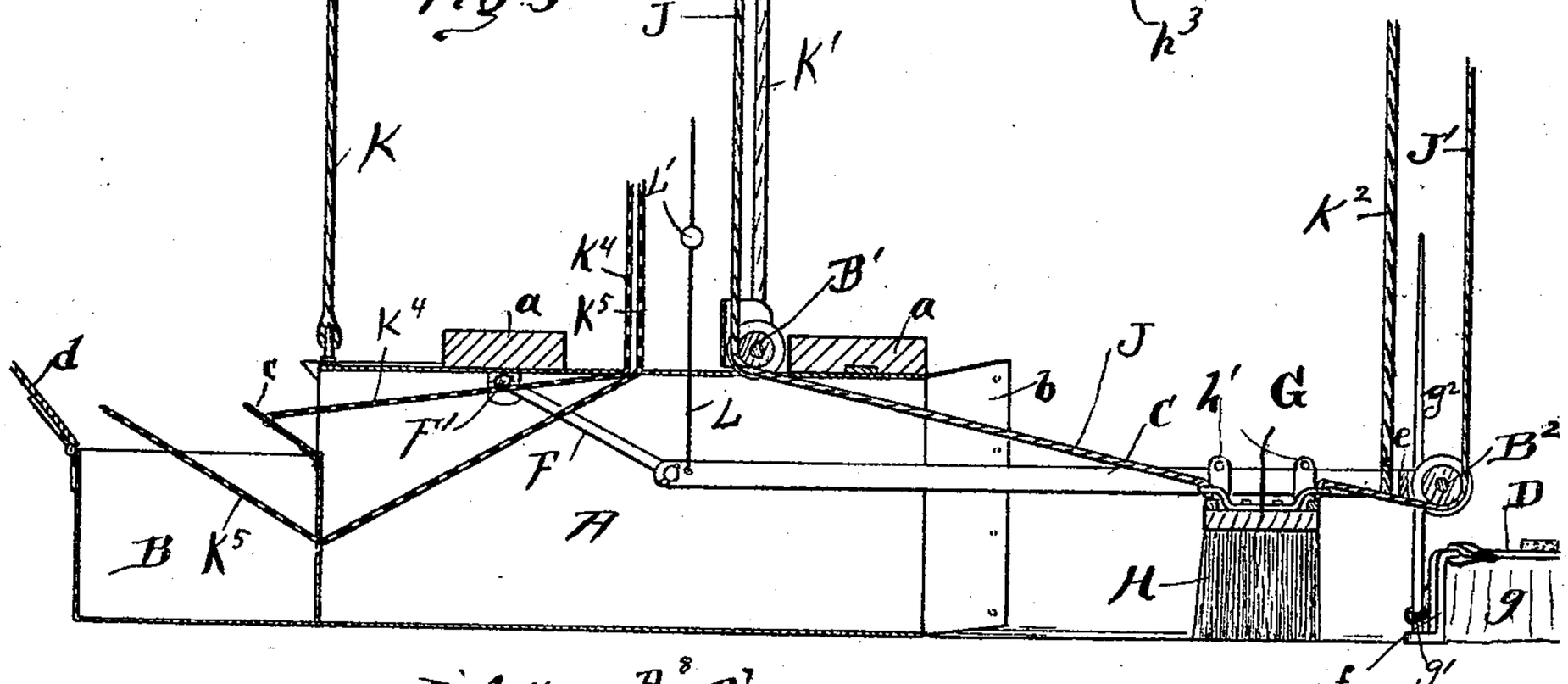
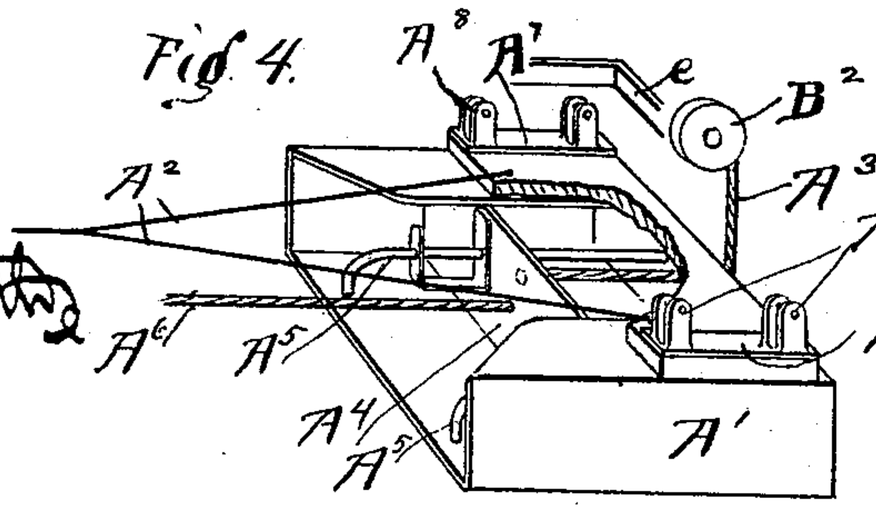


Fig. 4.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

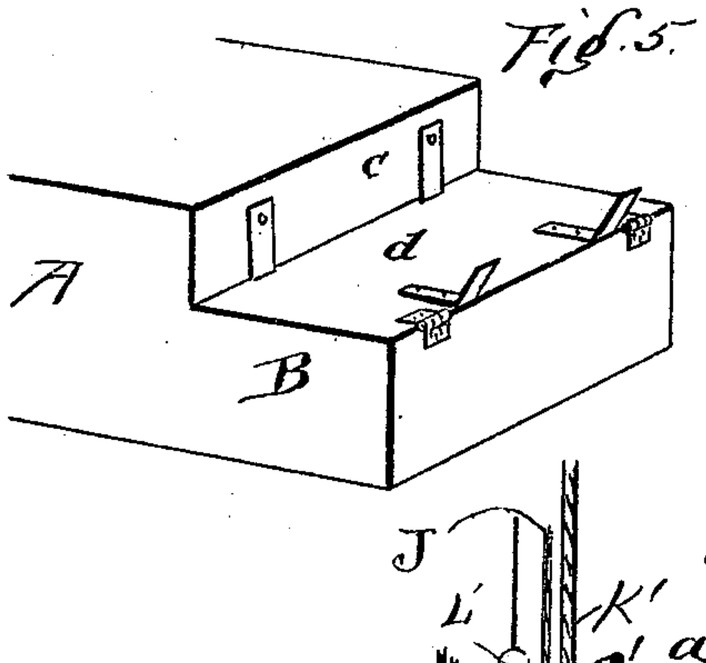
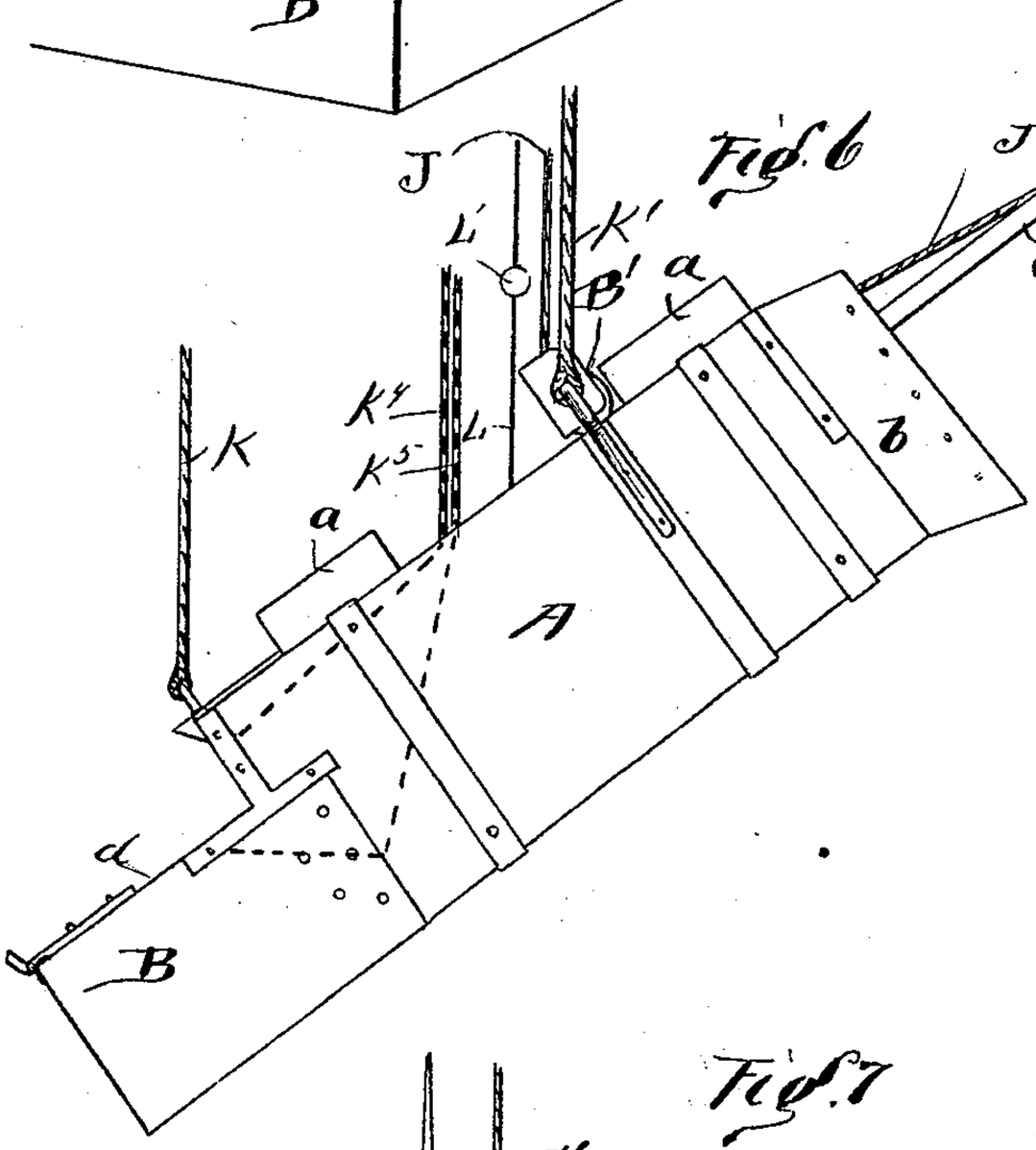


Fig. 6



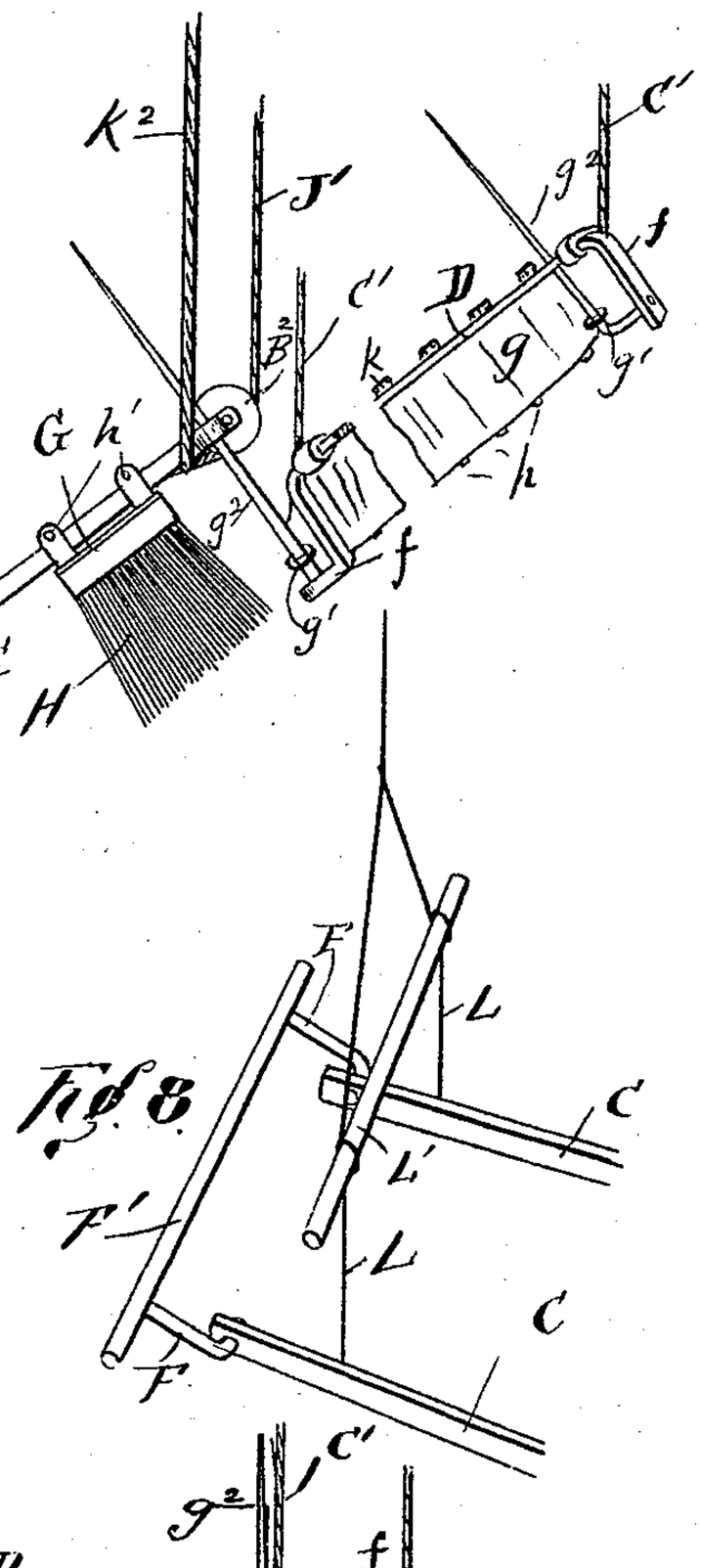
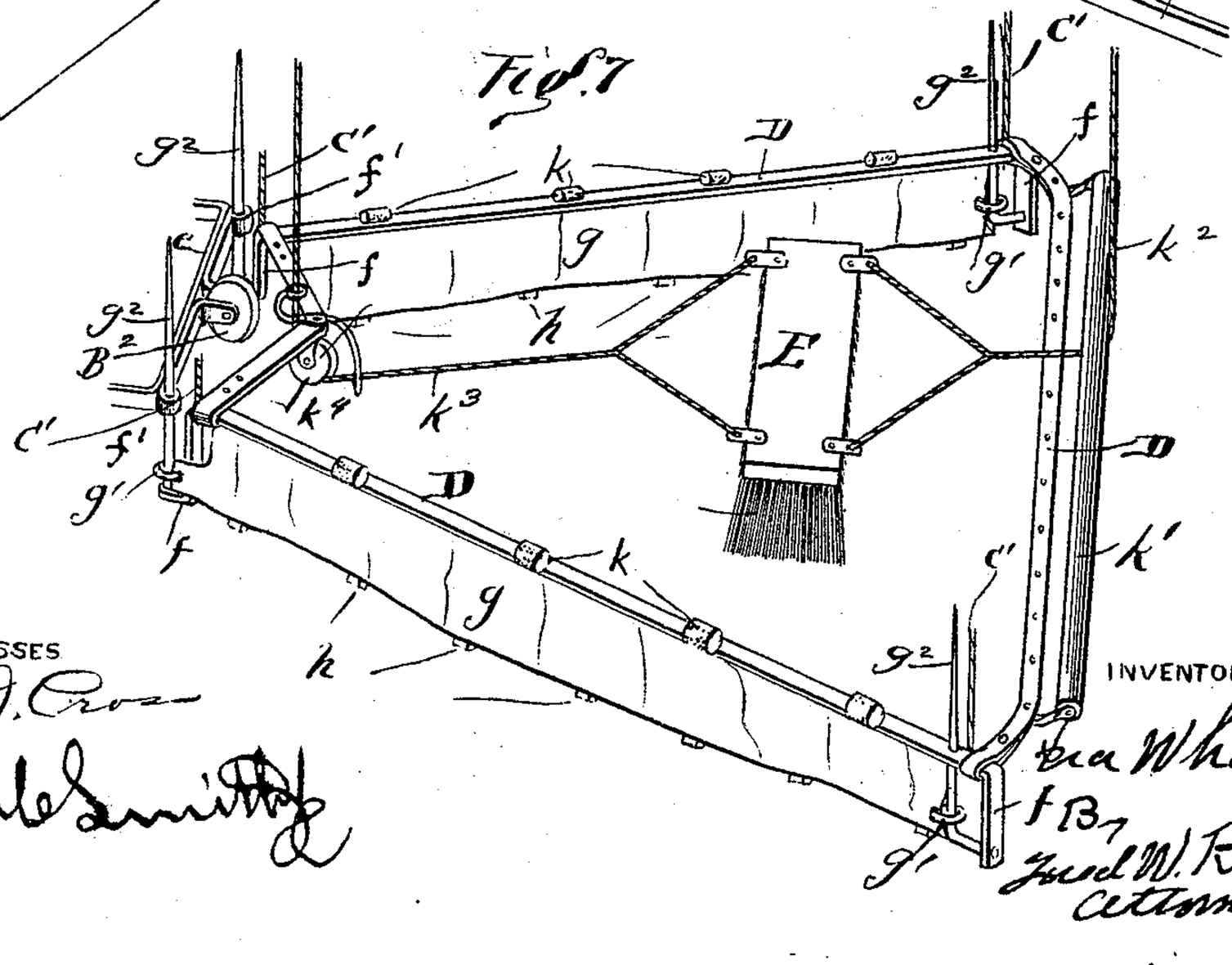


Fig. 8.

Fig. 7.



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UNITED STATES PATENT OFFICE.

IRA WHALER, OF CANTON, OHIO.

DEVICE FOR RECOVERING GOLD OR PRECIOUS METALS FROM STREAMS.

SPECIFICATION forming part of Letters Patent No. 539,463, dated May 21, 1895.

Application filed January 7, 1895. Serial No. 534,024. (No model.)

To all whom it may concern:

Be it known that I, IRA WHALER, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Devices for Recovering Gold or Precious Metals from Streams; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is an isometrical view of the sluice-box and track, showing a brush or broom properly located on the track, also showing the dead-water box open. Fig. 2 is a view showing the mouth end of the sluice-box and illustrating one of the adjustable side walls properly attached thereto. Fig. 3 is a longitudinal section of the sluice-box, showing the position of the operating ropes or chains, also showing the dead-water box. Fig. 4 is a detached view of the scoop, showing its slide properly located therein. Fig. 5 is an end view of the dead-water box, showing the same closed. Fig. 6 is a side view of the sluice-box, dead-water box, and the extension to be located in front of the mouth of the sluice-box. Fig. 7 is a detached view of the extended frame, showing the adjustable walls properly located and illustrating a brush properly adjusted thereto. Fig. 8 is a view showing the inner ends of the track-rails, together with their pivotal attachment and elevating-wires.

The present invention has relation to devices for recovering gold and precious metals from the bottom of streams or bodies of water, and it consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in all of the figures of the drawings.

In the accompanying drawings, A represents what may be termed a sluice box, which is preferably formed of metal, and rectangular in cross section. The box A may be of any desired length and size, reference being had to properly operating the device as hereinafter described. For the purpose of holding the box A at a particular point of adjustment, the weight-bars *a* are provided, which weight-bars are securely attached to the box A, in any convenient and well known manner.

The front or forward end of the box A is provided with the flaring sides *b*, which flaring sides are securely attached to the front or forward end of the box A. The rear end of the box A, is provided with the dead water box or compartment B, to which are hinged the door *c* and the cover *d*, said parts being located and arranged substantially as shown in the drawings.

In the drawings I have illustrated but one dead water box, but it will be understood that additional dead water boxes may be provided without departing from the nature of my invention.

The box A, is provided with the track bars C, which track bars extend rearward any desired distance and also forward, the forward portions of the track being extended past and beyond the front end of the box A, substantially as illustrated in Figs. 1 and 3, and the front or forward ends of said track-bars secured together by means of the cross-bar *e*.

For the purpose of sweeping the bottom of a stream in front of the track-bars C, the extended frame D, is provided, which is supported at the required height by means of the legs *f*, which legs are securely attached to the frame, or if desired they may be formed integral with some part of the frame.

For the purpose of properly closing the sides of the frame D the flexible walls *g*, are provided, which flexible walls are preferably formed of canvas or like material. For the purpose of causing the bottom edges of the walls to come in close contact with the bottom of the stream, their bottom or lower edges are weighted, either at intervals, as illustrated by the metal blocks *h*, or a chain may be secured to the bottom or under edge of the flexible walls *g*, as the only object to be accomplished is to hold the bottom edges of the wall *g* in close contact with the bottom or bed of the stream.

For the purpose of assisting in holding the flexible walls in a vertical position, the corks *k*, are provided, which corks are secured in any convenient and well known manner to the top or upper edge of the flexible walls *g*. The front or forward portion of the frame D, is provided with the roller *k'*, around which

roller is located the rope or cord k^2, which rope or cord is extended upward a sufficient distance to be operated from the top on the water. In the drawings I have shown the roller k' formed of considerable length, but it will be understood that said roller may be formed shorter without departing from the nature of my invention. The cord k^2, is extended and attached to the brush E, substantially as illustrated in Fig. 7. To the opposite side of the brush E is attached the cord k^3, which cord extends under the roller k^4 or its equivalent.

The object and purpose of providing the cords k^2 and k^3 is to provide for moving the brush E, back and forth within the space inclosed by the frame D and the flexible walls g. It will be understood, that as the cord k^2, is pulled upward, the brush E will be drawn toward the front of the frame, and as the cord k^3 is drawn upward the brush will be moved toward the rear end of the frame, or in other words brought toward the open end of the box A.

It will be understood that as the brush E is moved back and forth upon the bottom or bed of a stream, the loose particles will become detached from the bed, and by the movement of the water and the brush, said loose particles will be carried forward toward the open end of the sluice box A. For the purpose of guiding the loosened particles toward the sluice box A, the flexible walls g are provided, which flexible walls are located and arranged substantially as shown in Figs. 6 and 7.

For the purpose of holding the flexible walls g, the eyes g' are provided, which eyes are attached to the canvas, and are placed over the upright pins g^2, which pins are for the purpose of properly stretching the canvas. The track rails C are pivotally attached at their inner ends to the arms F, which arms are securely attached to the cross-bar F', which cross-bar is located in the sluice box A. Upon the track rails C is located the traveling frame G, which traveling frame is provided with the traveling wheels h'.

To the frame G, is securely attached the brush H, which brush is preferably formed of steel wires; but it will be understood that other material may be used in the formation of the brush H, without departing from the nature of my invention. For the purpose of inclosing the space within which the brush H is to be operated, the adjustable or flexible walls I are provided, one of said walls being attached to the flaring side pieces b, and the opposite end attached to the rear pins g^2, said walls being provided with corks h^2 and weights h^3.

In use when it is desired to operate my device the sluice box A, together with its different parts is lowered to the bottom or bed of a stream or body of water, by means of the ropes or chains K, K' and K², which ropes or chains are securely attached to the sluice box A, and the track rails at their bottom or lower ends. It will be understood that at the time the sluice box together with its different parts is lowered for use the door c, and the cover d, should be opened, as illustrated in Figs. 1 and 3. After the sluice box together with its different parts has been properly placed at the bottom or bed of a stream or body of water, the brush H is moved back and forth upon the track rails by means of the cords or chains J and J', which cords or chains are attached to the frame G in any convenient and well known manner. When it is desired to draw the brush H toward the mouth of the sluice box, the rope or chain J, is drawn upward, thereby moving the brush toward the sluice box. After the brush H has been drawn into the sluice box, the wires L are drawn upward, thereby elevating the inner ends of the track-bars C, which in turn elevates the brush H. The opposite ends of the track-bars C, are elevated by means of the ropes or chains K², and while the tracks are in an elevated position the brush H is moved away from the sluice box by means of the rope or chain J'. After the brush H has been carried the desired distance from the open end of the sluice box, the track rails are lowered so as to cause the brush H to ride on the bottom of the bed of a stream, when it is again brought toward the sluice box.

It will be understood that the sluice box A, may be moved along the bed of a stream, thereby changing the position of the sluice box.

It will be understood that as the water passes through the sluice box, the gold ore, dust or nuggets, together with gravel and sand will be carried into the dead water box B, where it will lodge.

After the brush has operated as above described for the desired length of time, the door c, is closed by drawing or pulling the cord K⁴ upward, after which the cord K⁵ is drawn upward, which closes the cover d, thereby inclosing the dead water box B, after which the entire device is elevated to the surface of the water and placed in a vessel or upon the bank of a stream.

When it is desired to operate the brush E, in connection with the brush H, the frame B, together with its different parts is attached to the bar e by means of the eyes f', and the pins g^2.

For the purpose of holding the cover d in a closed position, the spring catches d' are provided, which spring catches are located upon the outer side of the door c substantially as illustrated in Fig. 5. For the purpose of holding the cover d in the position illustrated in Fig. 1, the bars d^2, are provided, which bars are located and arranged substantially as shown in Fig. 5.

For the purpose of spreading the bottom or lower ends of the wires L, the cross-bar L' is provided, which cross-bar is located a short distance above the sluice box, as illustrated in Fig. 6.

When it is desired to scoop heavy particles from the bottom of a stream, the sliding scoop, or rather the traveling scoop A′ is placed upon the track rails C, and is moved back and forth by means of the ropes or chains A^2 and A^3. Within the scoop A′ is located the slide A^4, which slide moves back and forth within the scoop upon the guide rails A^5.

In use the scoop is operated in substantially the same manner as that of the brush H, except, that when the scoop has been brought into the sluice box the rope or cord A^6 is drawn forward, thereby moving the slide A^4 forward and emptying the scoop, the contents of which are delivered into the sluice box A.

The scoop A′ is provided with the frame A^7, which frame is provided with traveling wheels A^8. It will be understood that for the purpose of properly controlling the different ropes or chains, pulleys, such as B′, B^2 and others if necessary as K^4, are to be employed.

It will be understood that the bottom or lower ends of the wires L, should be attached in a convenient and well known manner to the track rails C.

For the purpose of causing the flow of the water to assist in moving the particles gathered by the scoop, and the brushes toward, and into the dead water box, the open end of the sluice box A, should be placed toward the source or head of the stream.

The dead water box B, is located at the end of the sluice box A, and adjacent thereto, by which arrangement the heavy or rich particles will find their way to the bottom of the dead water box, and the lighter substances will be carried over the dead water box, thereby collecting in the dead water box the richer particles, by which arrangement a separation will be brought about.

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

1. The combination of a sluice box, provided with a dead water box, track rails pivotally attached to the sluice box, and a brush, suspended from the track rails, and means for moving the brush and elevating the track rails, substantially as and for the purpose specified.

2. The combination of a sluice box provided with flaring sides, and having pivotally attached to said sluice box track rails a flexible wall located at the side of the track rails, and a brush suspended from the track rails, and means for moving the brush back and forth upon the track rails, and a dead water box, substantially as and for the purpose specified.

3. The combination of the sluice box A, provided with a dead water box, a brush suspended from a track, and means for operating the brush, the door *c*, provided with spring catches *d*′, the cover *d*, and means for closing the cover, substantially as and for the purpose specified.

4. The combination of a sluice box, provided with track rails, a frame as D, provided with the pins or standards g^2, canvas walls weighted at their bottom or lower edges, and the brush E, located within the frame D, and means for operating the brush, substantially as and for the purpose specified.

5. The combination of the track rails C, the sluice box A, the arms F, carrying the track rails, the cross-bars F′ and the wires L, secured to said track rails and a traveling brush, suspended from the track rails.

6. The combination of the frame D, provided with the legs *f*, the pins g^2, and the bar *e*, provided with the eyes *f*′, the brush E, and means for operating the brush, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

IRA WHALER.

Witnesses:
F. W. BOND,
E. A. C. SMITH.