

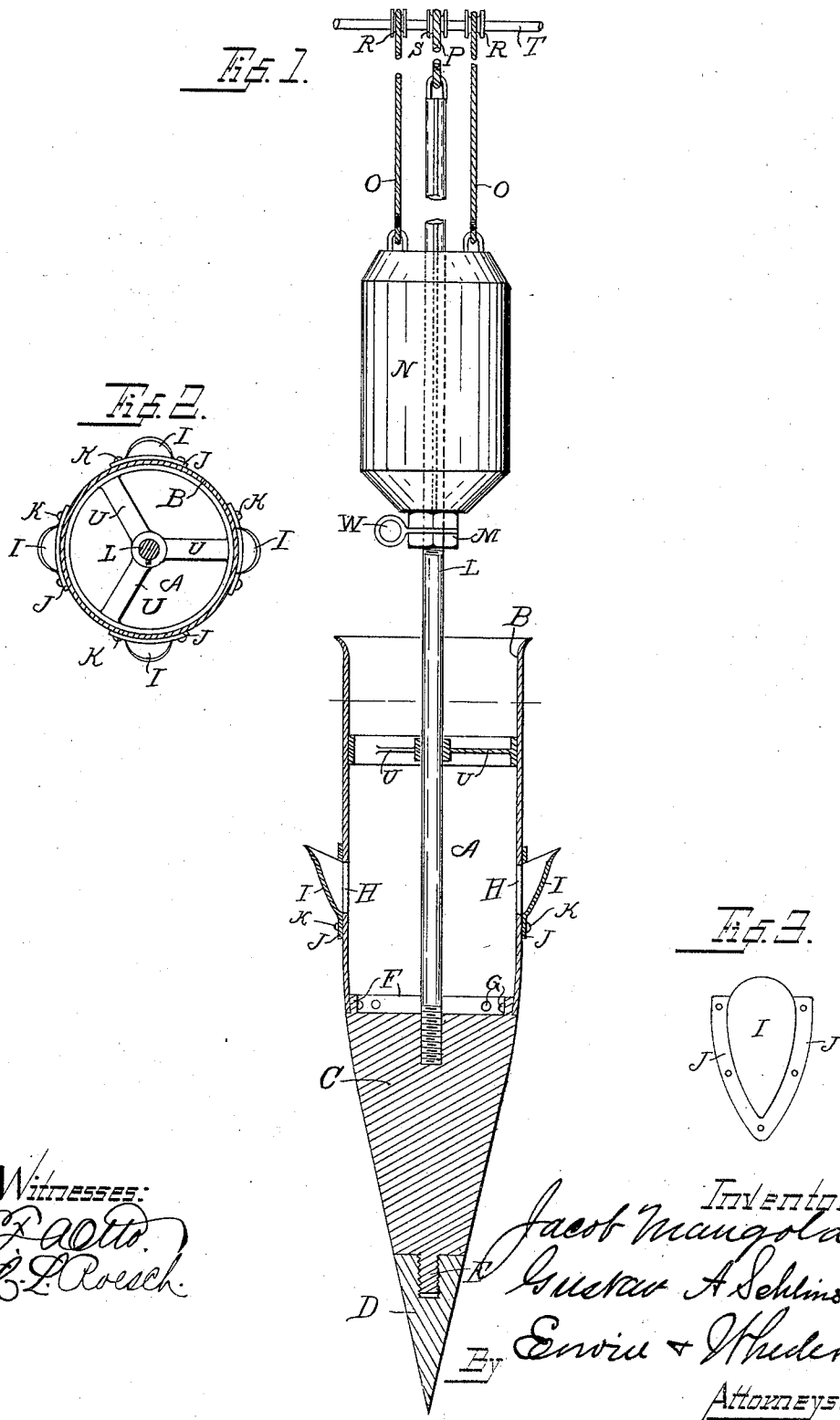
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Patented Mar. 11, 1902.

J. MANGOLD & G. A. SCHLINSÖCK.  
APPARATUS FOR RAISING SUBMARINE DEPOSITS.

(Application filed Aug. 8, 1901.)

(No Model.)



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# UNITED STATES PATENT OFFICE

JACOB MANGOLD AND GUSTAV A. SCHLINSOCK, OF MILWAUKEE, WISCONSIN.

## APPARATUS FOR RAISING SUBMARINE DEPOSITS.

SPECIFICATION forming part of Letters Patent No. 695,068, dated March 11, 1902.

Application filed August 8, 1901. Serial No. 71,299. (No model.)

*To all whom it may concern:*

Be it known that we, JACOB MANGOLD and GUSTAV A. SCHLINSOCK, citizens of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Apparatus for Raising Submarine Deposits, of which the following is a specification.

The object of our invention is to provide a device for testing and elevating mineral deposits from the beds of rivers and other submarine surfaces; and it pertains more especially, first, to the construction and arrangement of a hollow cylindrical receiver for penetrating submarine surfaces and elevating samples of deposits, and, second, to the means for forcing said receiver into the surface of the ground.

The construction of our invention is further explained by reference to the accompanying drawings, in which—

Figure 1 represents a longitudinal vertical section thereof. Fig. 2 is a top view, and Fig. 3 is a detail showing the construction of one of the buckets surrounding the inlet-apertures of the receiver.

Like parts are identified by the same reference-letters throughout the several views.

A is the receiver of our device, which comprises all that part between the outward diverging flanges B formed around its upper end and the conical end piece C. The conical end piece C is preferably made of cast-iron and is tapered, so as to facilitate penetrating the earth. The piece C is provided with a detachable point D, which is preferably made of steel and is secured to the piece C by a screw-threaded pin E, whereby in case the point becomes dull it may be removed and sharpened or replaced by another.

The receiver A is preferably formed of heavy sheet metal and is secured to the cast-metal block C by an annular flange F and rivets G. The walls of the receiver A are provided with a plurality of inlet-apertures H, which apertures are provided with cast-metal buckets I. The buckets I are provided with connecting-flanges J for the reception of the retaining-bolts K, by which they are secured to the receiver around the inlet-apertures H.

To the upper end of the conical end piece C is rigidly attached an operating guide-rod L.

To the surface of the guide-rod L is rigidly affixed, by a screw-threaded joint or otherwise, a stop M, and surrounding said guide-rod above said stop M is a driving-block N, which is adapted to be reciprocated upwardly and downwardly on said guide-rod L, said driving-block N being raised by operators at the surface of the water by drawing upwardly upon the ropes or cables O O until said block N is brought near the upper end of said guide-rod, when it is permitted to drop of its own gravity upon said stop M, whereby said receiver is driven with each successive stroke of the block into the ground. To the end of said guide-rod L is attached a rope or cable P, by which the entire apparatus is raised and lowered. We have shown the upper ends of said cables O and P passing over ordinary pulleys R R and S, supported upon a shaft T, but do not limit ourselves to any particular mechanism for raising and lowering the apparatus or for operating the driving-weight, as a great variety of well-known devices may be used for such purposes.

The guide-rod L is preferably made rectangular in shape or provided with a bead or flange, so that said driving-block N, which is fitted thereto, will be prevented from turning thereon as it is being raised and lowered in the act of driving the receiver into the ground. The upper end of the receiver A is connected with the guide-rod L by a plurality of brace-rods U, as shown in Fig. 2.

We have preferably provided the apparatus with a heavy cast-metal end piece and guide-rod to facilitate retaining such parts as nearly as possible in a true vertical position as the same are being forced into the ground. It will be understood that after the apparatus has been forced beneath the ground the outwardly-diverging buckets I and annular flange B will as the same are being elevated engage in the surrounding deposits and cause them to drop or pass into said receiver, when said deposits may be drawn to the surface. With this device it is intended not only to procure samples of the mineral deposits in the beds of rivers and similar places, but also to construct the same of such size as to adapt it to be used to do the work of an ordinary dredge, when, owing to its direct vertical movement, it can be operated at any depth

and in many places at such depth as will preclude the possibility of using an ordinary dredge for such purpose.

The stop or block M is provided with an eyebolt W, which eyebolt is located at or near the center of gravity of said device when said weight N is at the upper end of its movement, whereby when said apparatus, with its containing deposits, is drawn above the surface of the water it may be suspended from said eyebolt while it is being inverted for the purpose of discharging the contents of said receiver.

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

1. In a device for elevating mineral deposits from submarine surfaces, the combination of a conically-shaped receiver; a central guide-rod for operating said receiver; a reciprocating driving-block supported upon said guide-rod; a contact block or stop rigidly secured to said guide-rod, beneath said driving-block; means for reciprocating said driving-block and forcing said receiver into the ground; and means for raising and lowering said apparatus, substantially as and for the purpose specified.

2. In a device for elevating mineral deposits from submarine surfaces, the combination of a receiver provided at its lower end with a conically-shaped cast-metal portion, and provided in its vertical walls with a plurality of inlet-apertures, having outwardly-diverging flanges; a vertical guide-rod rigidly affixed,

at its lower end, to said cast-metal tapered portion; a stop or block rigidly affixed to said guide-rod at a slight distance above said receiver; a reciprocating weight adapted to move upwardly and downwardly on said guide-rod; means for raising and dropping said reciprocating weight when driving said receiver into the ground; and means for raising and lowering said receiver with the weight, substantially as and for the purpose specified.

3. In a device for elevating deposits from submarine surfaces, the combination of a sheet-metal receiver A, provided with a plurality of inlet-apertures H; outwardly-diverging cast-metal flanges or pockets I, secured to said receiver around said apertures; a conical, cast-metal block C secured to the lower end of said receiver; detachable, hard-metal point D, secured to the lower end of said block C; vertical guide-rod L affixed at its lower end to the upper end of said conical block; stop-block M affixed to said guide-rod; driving-block N slidably supported upon said guide-rod; and means for raising said block and operating said apparatus from the surface of the water, all substantially as and for the purpose specified.

In testimony whereof we affix our signatures in the presence of two witnesses.

JACOB MANGOLD.  
GUSTAV A. SCHLINSOCK.

Witnesses:

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