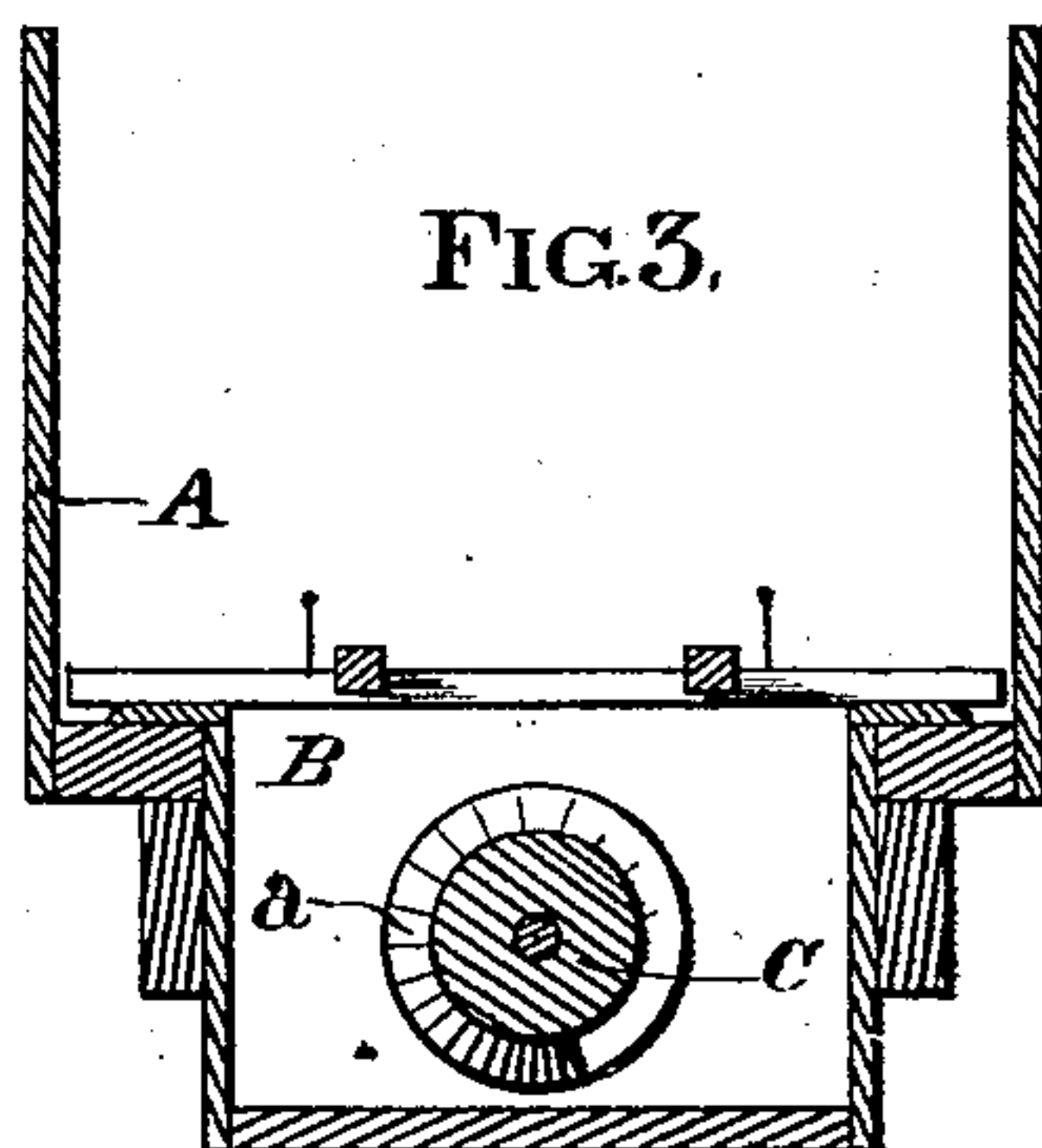
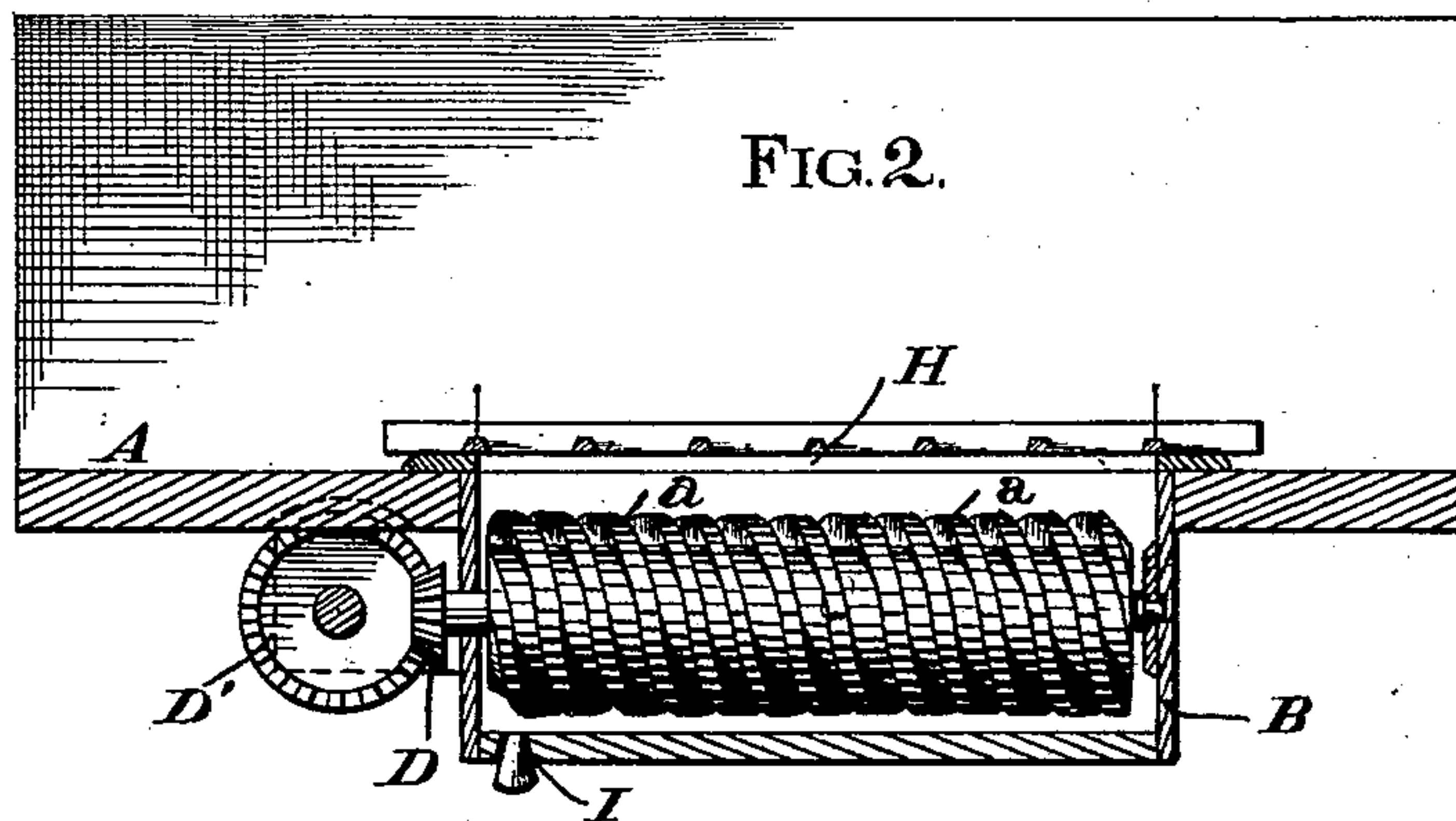
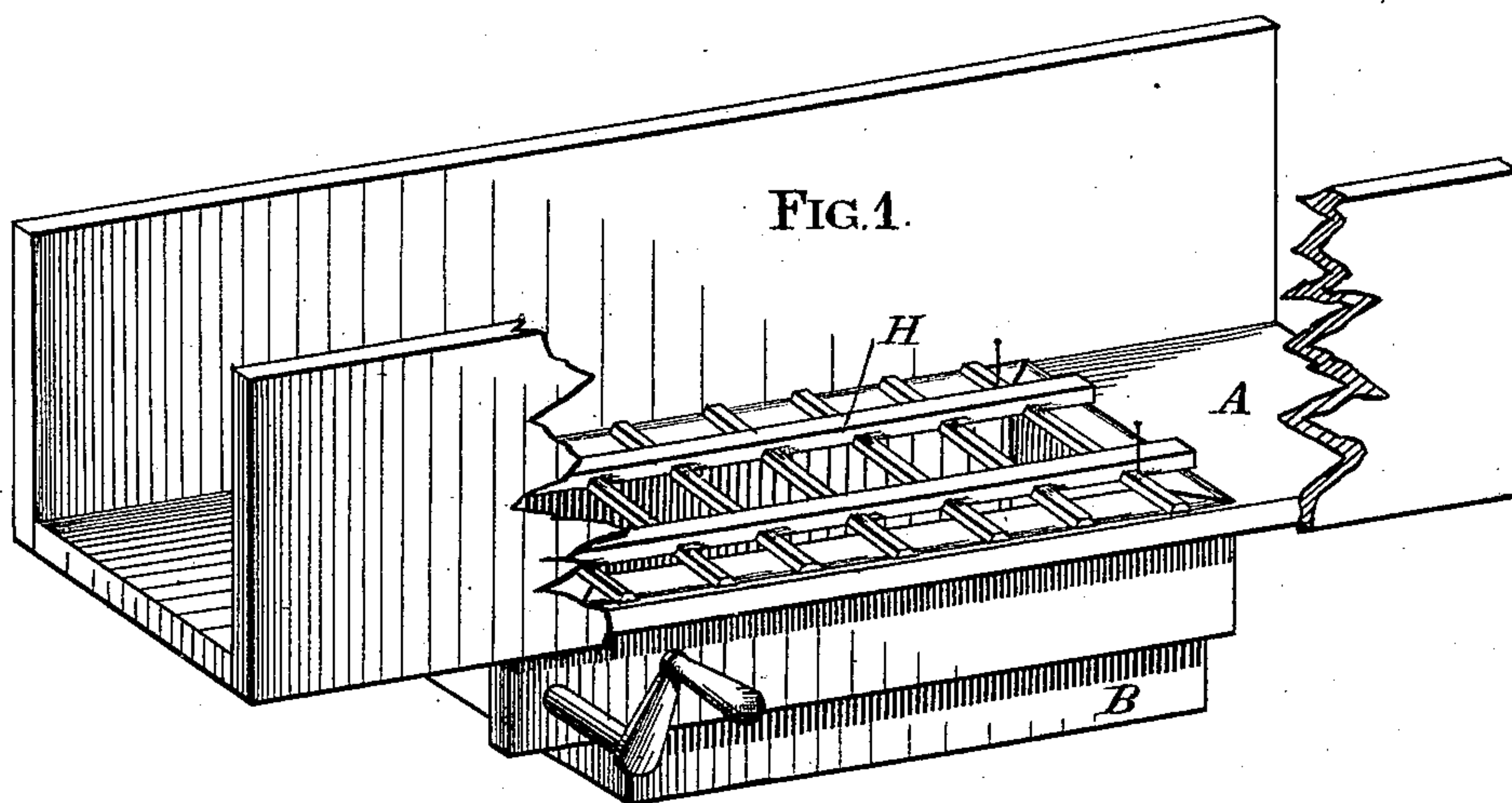


M. M. MURRAY.
Sluice Box for Saving Gold.

No. 234,887.

Patented Nov. 30, 1880.



Witnesses:
Wilmer Bradford,
E. H. Blain

Inventor:
Maurice M. Murray,
per C. M. Smith,
attorney.

UNITED STATES PATENT OFFICE.

MAURICE M. MURRAY, OF COULTERVILLE, CALIFORNIA.

SLUICE-BOX FOR SAVING GOLD.

SPECIFICATION forming part of Letters Patent No. 234,887, dated November 30, 1880.

Application filed December 1, 1879.

To all whom it may concern:

Be it known that I, MAURICE MORIARTY MURRAY, of Coulterville, in the county of Mariposa, in the State of California, have invented a certain new and useful invention or Improvement in Sluice-Boxes for Saving the Precious Metals, which invention is fully described in the following specification and accompanying drawings, in which—

Figure 1 is a perspective view partly broken away. Fig. 2 is a longitudinal section, and Fig. 3 is a cross-section.

My invention has for its object to save the precious metals in hydraulic mining along sluices, ditches, and in tail-races at the foot of mills.

It consists of a box or receptacle placed in the bottom of a sluice or tail-race, in which is caused to operate, by suitable machinery, a screw having spiral blades, which causes the lighter or worthless matter to be constantly agitated, kept afloat, and to pass out by the overflow of water into the tail-race or sluice below, while the heavier and valuable portions sink by their greater specific gravity to the bottom, and are gathered up and saved through an opening in the bottom of the box.

A grated frame is placed over the opening in the sluice, so that bowlders and larger matter will not enter the box, but will be carried along the sluice and out by the force of the water.

Referring to the drawings forming a part of this specification, A is the sluice, along which the auriferous earth mingled with water is received, and has a portion of its floor cut away to receive the box or tank B. In this box or receptacle is placed a screw, C, formed of continuous spiral blades *a a*, which screw has its bearings in the ends of the receptacle, the journals of which may pass through stuffing-boxes. One end of the shaft of this screw is provided with a beveled gear, D, the teeth of which engage with a beveled wheel, D', on the transverse driving-shaft.

Over the opening of the sluice caused by cutting away the bottom to receive the box is a grating, H, which may be let into the bot-

tom of the sluice so as to be flush with its upper surface.

The operation will be as follows, to wit: The sluice having been placed at a proper incline, the auriferous earth is shoveled into it, and the water from a hydraulic hose-pipe is directed upon the mass along the sluice with such force as to carry everything before the stream of water over and into the tank, the coarser matter, such as stones, being carried over the grating and out at the lower end of the sluice, while the finer particles, such as loose sand and valuable matter, fall into the receptacle, which is constantly filled to overflow with the water from the hose-pipe, and power is applied to the screw, the spiral blades of which keep the floating matter, such as sand and worthless debris, from settling down on the bottom of the ore-box, the overflow continuously carrying it off and out into the sluice-box proper, while the heavier and valuable portion, such as nuggets and flour-gold, by its greater specific gravity, settles on the bottom of the receiver and is cleaned up through the opening I in the bottom thereof.

Quicksilver may be employed, if found necessary, to take up the finer particles of gold, and this may be found to be especially desirable in operating my machine in what is known as "tailings" from quartz-mills.

Sluiceways having receptacles with and without false bottoms or grates, and furnished with swinging or rotary stirrers, are well known. These, however, I do not claim; but

What I claim as my invention is—

The combination, in a sluice-box, of the tank or receptacle B, grate H, and screw C, having spiral blades *a*, all constructed and operating as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 16th day of October, 1879.

MAURICE MORIARTY MURRAY. [L. S.]

Witnesses:

ROBERT SMYTH,
PETER LONGHURST.