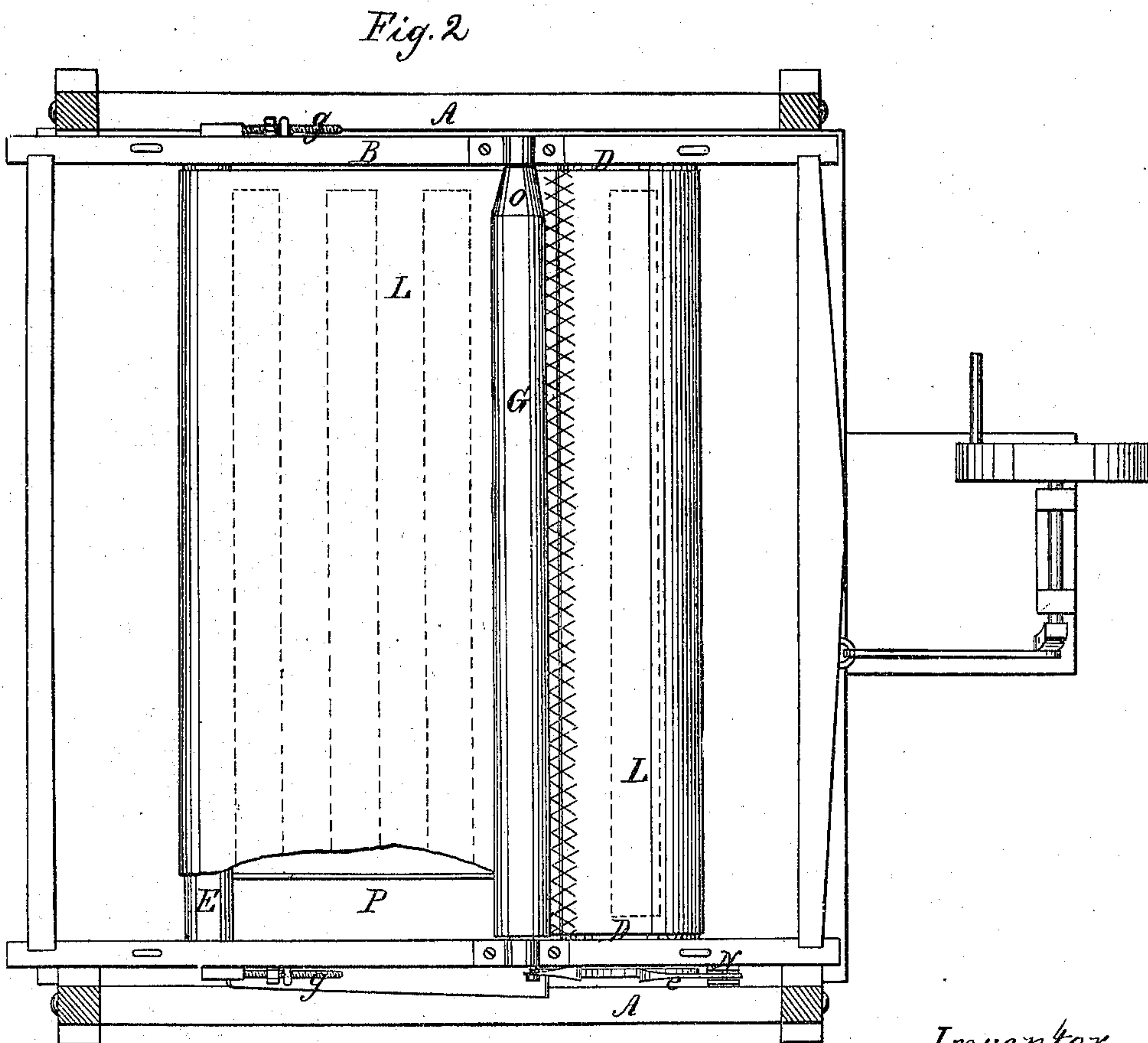
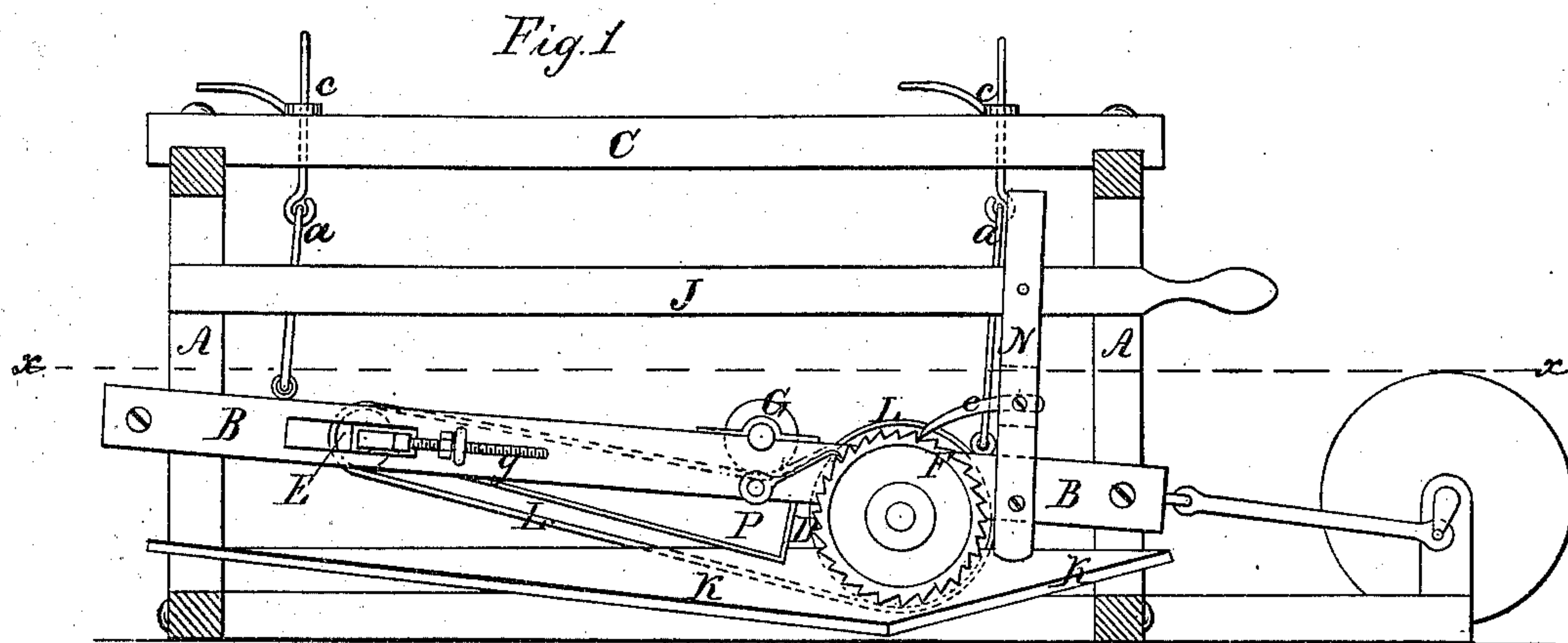


*J. M. Bryan*

*Ore Concentrator*

*N<sup>o</sup> 89,734.*

*Patented May 4, 1869.*



Witnesses  
*Geo. H. Strong*  
*J. L. Boone*

Inventor  
*Jno M Bryan*  
 By *Dewey & Co*  
 His Attorneys



# United States Patent Office.

JOHN M. BRYAN, OF LINCOLN, CALIFORNIA.

Letters Patent No. 89,734, dated May 4, 1869.

## IMPROVED SELF-DISCHARGING BLANKET ORE-CONCENTRATOR.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN M. BRYAN, of Lincoln, county of Placer, and State of California, have invented a Self-Discharging Blanket Concentrator; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains, to make and use my said invention or improvement without further invention or experiment.

My invention relates to an improved concentrator for separating sulphurets from the pulp or tailings after it has passed through the batteries; and

It consists in arranging a broad canvas belt on rollers, so as to form an endless belt, and placing across the top of the blanket a third roller, which causes a depression in the top of the blanket.

The rollers are arranged on a swinging frame, and are operated by a ratchet and pawl.

The pawl is caused to engage the teeth of the ratchet by the swinging of the frame.

The pulp is fed on the canvas at one side, and passes across it, leaving the sulphurets clinging to the canvas, whence they are deposited in a trough beneath.

To more fully illustrate and explain my invention, reference is had to the accompanying drawings, forming a part of this specification, of which—

Figure 1 is a side elevation

Figure 2 is a plan.

Similar letters of reference, in each of the figures, indicate like parts.

Inside of a suitable frame, A, I place a square frame, B, and swing it from the upper timbers C C, by means of rods and links *a a*, or other suitable device.

The frame B is adjustable by means of screws on the upper part of the rods *a*, and may be raised and lowered by means of nuts *c c*.

Passing across the frame B, and having their bearings in the opposite ends of the frame, are rollers D E.

The roller D is much larger than E, and has attached to its journal at one end, the ratchet-wheel F.

Passing around these two rollers, so as to form an endless belt, is a wide piece of canvas, L, made of two thicknesses doubled and quilted together.

The two ends of the canvas are joined by cross-stitches, so that the canvas will present a smooth surface.

Passing across the frame above the canvas belt, and near the large roller D, is a small roller, G, which bears down upon the canvas, causing it to sag on top.

A bar, N, is attached loosely at one end to the timber J, on the frame A, and the opposite end is pivoted to the swinging frame B near the ratchet-wheel I.

A pawl, *e*, is pivoted to this bar, and falls upon the ratchet, which, as the frame B swings back and forth, causes the roller D to revolve, and thus carry around the canvas.

The roller E is adjustable by means of a screw, *g*, by which the tension of the belt may be increased or diminished as desired.

The end *o* of the roller G is bevelled, so as to cause the canvas to turn up at the point where the pulp is introduced, and prevent it from being discharged on the wrong side.

The operation of the machine is as follows, viz:

The frame B is first adjusted by means of the nuts *c c*, so that the side of the belt on which the pulp is fed will be higher than the opposite side.

The machine is then set in motion, and pulp introduced upon the belt.

The pulp by its gravity falls to the lowest part of the sag next to the roller G, and passes across the canvas, while the sulphurets, owing to their greater specific gravity, sink to the bottom and cling to the canvas belt, and are carried by it over the roller E, and are washed off by the water in a tank or trough, K, directly beneath, through which the canvas passes, while the refuse matter is discharged at the opposite side of the belt through the spout P.

The frame B may be operated by a crank, or other suitable device.

It is important that the canvas be of a uniform thickness, as upon the true movements of the belt depends in a great degree the proper separation of the sulphurets.

When desired to clean up, the water can be drawn off from the tank K, and the sulphurets be taken out in a body.

Having thus described my invention,

What I claim, and desire to secure by Letters Patent, is—

1. The adjustable swinging frame B, rollers D, E, and G, canvas belt L, and tank K, the whole arranged substantially as and for the purpose herein described.

2. The frame B, rollers D, E, and G, and swinging bar N, in combination with the ratchet-wheel F and pawl *e*, the whole arranged to operate substantially as and for the purpose herein described.

3. Passing the pulps across a revolving canvas belt from side to side, substantially as described.

In witness whereof, I have hereunto set my hand and seal.

JOHN M. BRYAN. [L. s.]

Witnesses:

J. L. BOONE,

GEO. H. STRONG.