

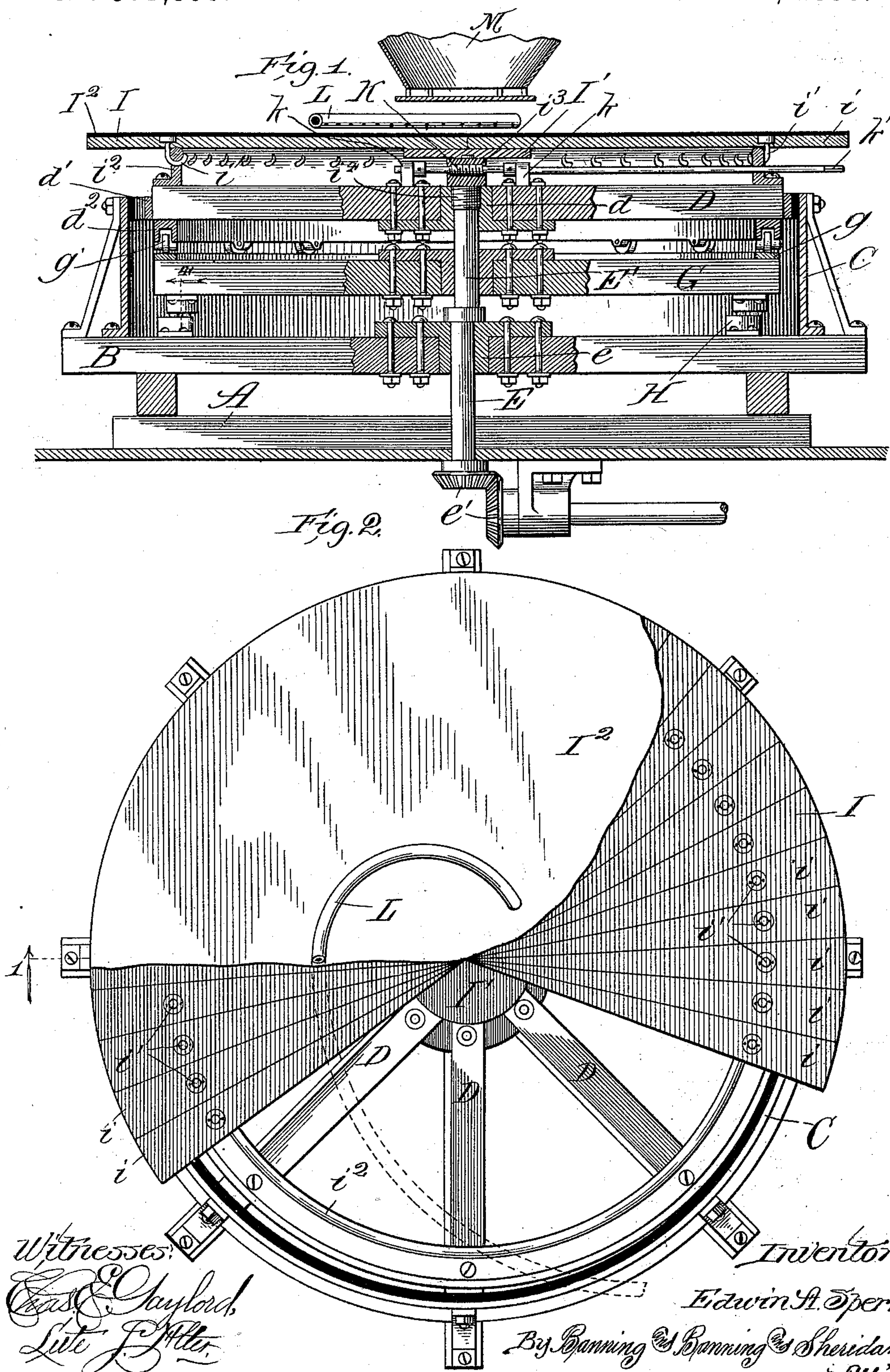
(No Model.)

2 Sheets—Sheet 1.

E. A. SPERRY.
VANNER.

No. 561,355.

Patented June 2, 1896.



Witnesses:
Eas & Clayford,
Lito J. Mto.

Inventor:
Edwin A. Sperry.
By Banning & Banning & Sheridan
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(No Model.)

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Fig. 3.

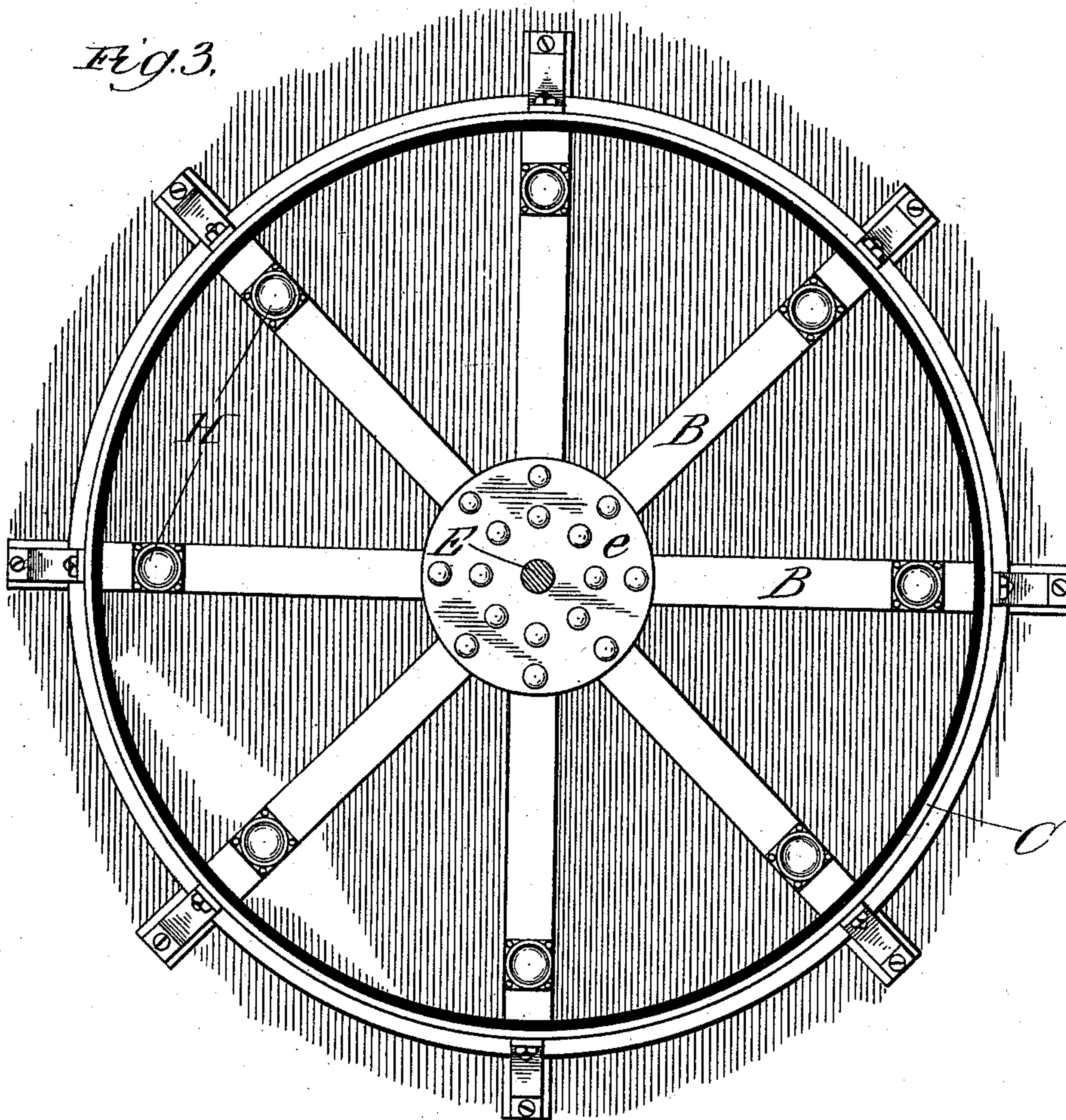
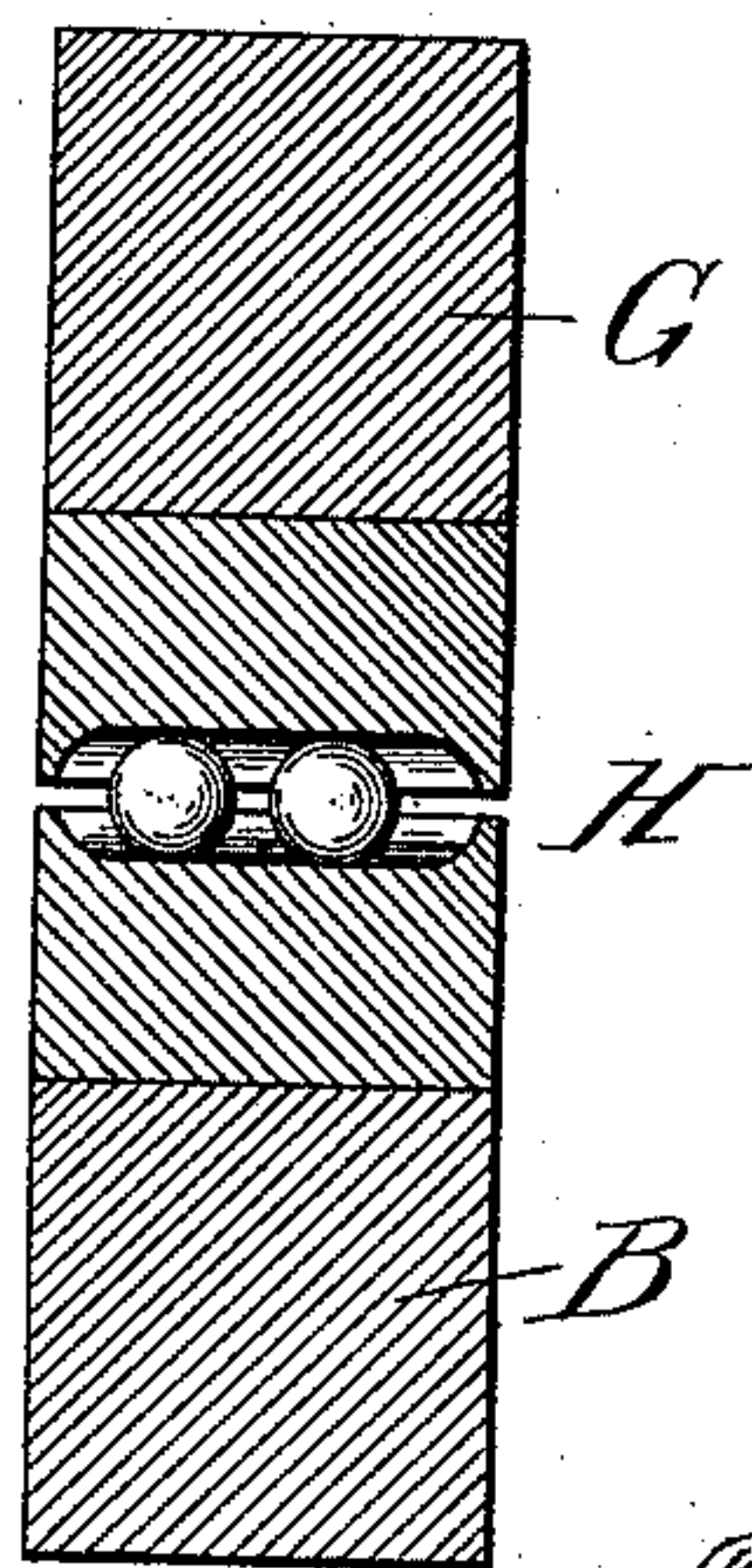


Fig. 4.



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UNITED STATES PATENT OFFICE.

EDWIN A. SPERRY, OF GUNNISON, COLORADO.

VANNER.

SPECIFICATION forming part of Letters Patent No. 561,355, dated June 2, 1896.

Application filed January 13, 1896. Serial No. 575,306. (No model.)

To all whom it may concern:

Be it known that I, EDWIN A. SPERRY, of Gunnison, Gunnison county, Colorado, have invented certain new and useful Improvements in Vanners, of which the following is a specification.

The object of my invention is to provide a simple, economical, and efficient vanning-machine for the separation of pulp, slime, &c., from ores containing precious metals; and the invention consists in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a central vertical section of my improved vanner, taken on line 1 of Fig. 2; Fig. 2, a plan view, partly in section, looking at it from above; Fig. 3, a plan view of the main supporting-frame; and Fig. 4, an enlarged sectional view of a portion of the mechanism, taken on line 4 of Fig. 1.

In constructing a vanner fitted with my improvements I use a base A of the desired shape and size to support the main frame B. This main frame is of a size and strength sufficient to inclose and support the operative parts, as hereinafter described, and is provided with an encircling tire C, against which the upper rotating disk D impinges to be slowly revolved.

To operate the upper supporting and rotatable disk a vertical driving-shaft E is provided, having its bearing portion mounted in a suitable bearing e in the main frame and its lower end preferably provided with a beveled gear e', by which it may be driven by any suitable gearing from any desired source of motive power. The upper portion E' of the vertical driving-shaft is made eccentric with the main portion and has its upper end loosely mounted in the bearing portion d' of the rotating table or disk, so that as the shaft is rotated the tire d' on the periphery of the upper disk or table contacts the upright tire, thus slowly revolving such table.

To form an antifriction-support for the upper disk, I prefer to provide an intermediate table G, loosely mounted on the eccentric portion of the vertical driving-shaft, so that it may be vibrated as the shaft is rotated and at all times present the same portion of the track g to the antifriction-rolls g' upon which

the upper disk rolls. A circular channel-iron d² is secured to the under side of the upper table and spans the rolls, so as to contact with their central projecting pivots or pins, and thus assist in positioning the rolls.

I interpose a set of ball-bearings H between the intermediate table and the main frame to lessen the friction between such portions.

Secured to the upper rotating table or disk is the vanning-table I, which is constructed as follows: A plurality of radial boards i are provided, which are pivoted at or near their outer ends i' to a ring i² on the upper table and their inner ends resting upon or secured to a vertically-adjustable disk I'. This arrangement permits the obtaining of the desired angular or conical plane for the vanning-surface. The vanning-table is provided with a flexible upper portion l², preferably made of rubber, and which may be secured thereto in any usual manner.

To raise the adjustable disk, I provide its central portion with a worm-gear i³ and threaded portion i⁴, the latter engaging with a threaded opening in the upper table. A worm K, which meshes with the worm-gear, is provided and mounted in suitable bearings k, having a stem k' extending out far enough to be within easy reach of an operator, so that the vanning-table can at all times be under control.

A curved spray-pipe L is provided and perforated so as to spray water on the upper surface of the vanning-table, and preferably in a direction opposite to its motion. A hopper or feed-box M is located, preferably, over the center of the vanning-table to feed or deliver the material, as desired.

In operation the mechanism is started and rotates in a direction opposite the movement of the hands of a clock. Material is fed upon the vanning-table and a spray of water turned on. The vanning-table moving from side to side and slowly revolving allows the lighter materials to be washed off in curves, gradually increasing, while the heavy metal ores remain on the surface for further treatment.

While I have entered into a more or less minute description of my invention and as being embodied in more or less precise forms, I do not desire to be limited thereto unduly no more than is pointed out in the claims. On

the contrary, I contemplate all proper changes in form, the omission of immaterial parts, and the use of proper equivalents as circumstances may suggest or render expedient.

5 I claim—

1. In a vanning-machine, the combination of a supporting-frame, a horizontally-movable table loosely mounted above the same, a vertical eccentric driving-shaft for such table,
10 an encircling tire adapted to be impinged by the table and revolve the same, and a vanning-table mounted on the movable table, substantially as described.

2. In a vanning-machine, the combination
15 of a supporting-frame, an eccentrically rotatably movable table loosely mounted above the same, an eccentric driving-shaft for such table loosely mounted in the supporting-frame, an encircling tire arranged to revolve
20 the movable table, a vanning-table adjustably mounted on the movable table, and means for adjusting the vanning-table, substantially as described.

3. In a vanning-machine, the combination
25 of a supporting-frame, an eccentrically rotatably movable table loosely mounted above such frame, an eccentric driving-shaft for loosely driving the movable table and mounted in the supporting-frame, an intermediate
30 supporting-table providing an antifriction

mounting for the movable table interposed between it and the supporting-frame and arranged to move eccentrically with the movable table; an encircling tire to revolve the movable table, a vanning-table conically adjustably mounted on the movable table, and means for adjusting the vanning-table, substantially as described. 35

4. In a vanning-machine, the combination of a supporting-frame, an eccentrically rotatably movable table mounted above such frame, an eccentric driving-shaft for loosely driving the movable table and mounted in the supporting-frame, an intermediate supporting-table providing an antifriction mounting
40 for the movable table interposed between it and the supporting-frame and arranged to move eccentrically with the movable table; an encircling tire to revolve the movable table, a vanning-table conically adjustably
45 mounted on the movable table, and means for adjusting the vanning-table, a curved spray-pipe arranged above the vanning-table, and a feed-box arranged above and near the center of the vanning-table, substantially as described. 55

EDWIN A. SPERRY.

Witnesses:

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