No. 688,493. Patented Dec. 10, 1901.

C. H. STEBBINS.

SAND SEPARATING APPARATUS.

(Application filed Aug. 30, 1901.)

(No Model.)

Fig. 1.

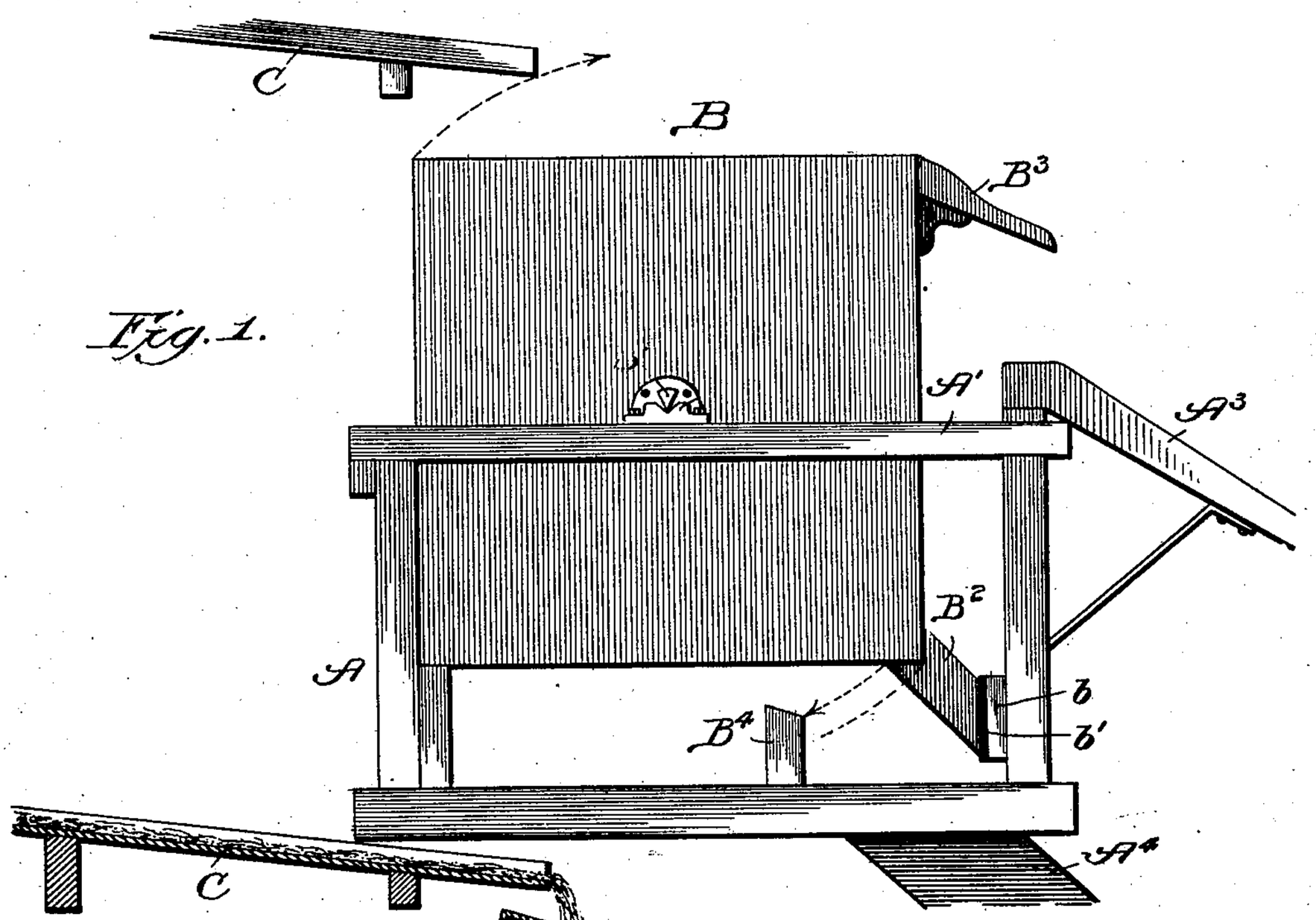
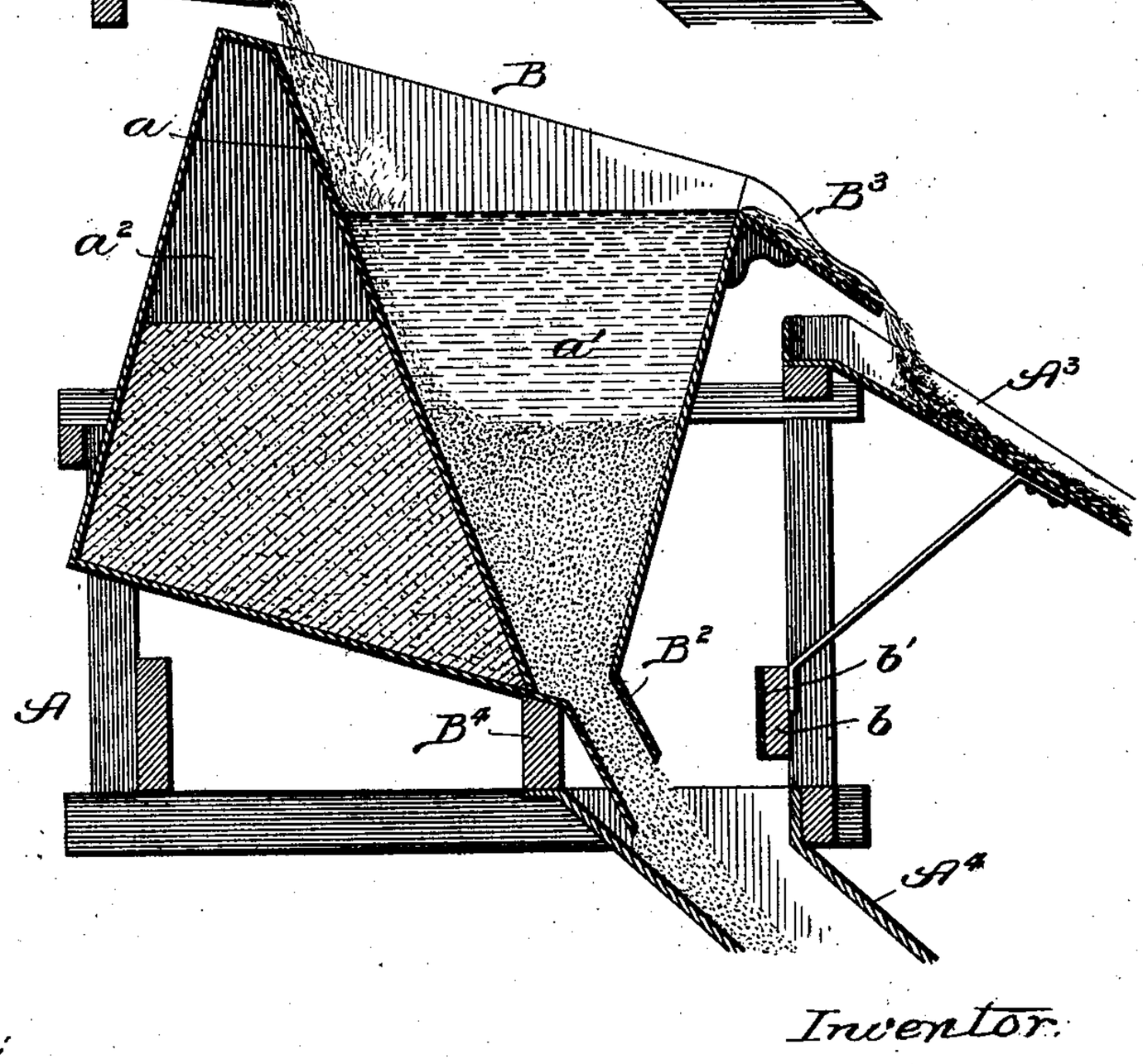


Fig. 2.



Witnesses:
Chas. L. Gaylord.
John Enders Jr.

Inventor.
Charles H. Stebbins,
By Pyne, Smith & Pyne, Att'ys.

UNITED STATES PATENT OFFICE.

CHARLES H. STEBBINS, OF CHICAGO, ILLINOIS.

SAND-SEPARATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 688,493, dated December 10, 1901.

Application filed August 30, 1901. Serial No. 73,775. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. STEBBINS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Sand-Separating Apparatus, of which the following is a specification.

My invention relates particularly to apparatus for cleaning sand and separating the same from its impurities, the latter being carried off with the wash-water.

My primary object is to provide simple and inexpensive apparatus of this character which is compact in form and well adapted to its purpose.

My invention is illustrated in its preferred form in the accompanying drawings, in which—

Figure 1 is a view in side elevation of my improved sand washing and separating apparatus; and Fig. 2, a sectional view parallel to one side, illustrating the position of the sand-collecting box during the dumping operation.

A represents a stationary frame having side rails A′, equipped with bearings A^2; A^3, a water-discharge spout carried by said frame; A^4, a sand-discharge spout carried by said frame; B, a combined sand-collecting and ballast box, provided on the exterior surfaces of its sides with bearings B′, coacting with the bearings A^2, said box being divided by an inclined wall *a* into a sand-collecting chamber *a′* and a ballast-chamber a^2; B^2, a sand-discharge spout for the chamber *a′*; B^3, a water-discharge spout for the chamber *a′*, whereat the impurities also are discharged; B^4, a stop limiting the downward tilt of the box B, and C a supply-spout through which water and sand are delivered to the chamber *a′*.

The frame A is provided with a stop *b*, provided with a facing *b′*, of rubber or other yielding material, affording a valve. As shown in Fig. 1, when the box B is in the upright position the end of the sand-discharge spout B^2 bears against the yielding piece *b′*, and said discharge is effectually sealed. The piece *b′* preferably lies in substantially a vertical plane, and the end of the spout B^2 conforms thereto.

The operation is as follows: The required amount of ballast is introduced into the chamber a^2 through any suitable opening, (not shown,) and the ballast operates to hold the box B in the position shown in Fig. 1, with the end of the spout B^2 bearing firmly against the valve *b′*. Sand and water enter the box from the chute C, and the sand collects in the bottom of the chamber *a′*, while the water and relatively light impurities overflow at the spout B^3. When sufficient sand collects in the chamber *a′* to overbalance the ballast in the chamber a^2, the box tilts, moving the spout B^2 away from the valve *b′* and permitting the sand to discharge into the spout A^4. Practically the ballast may be so adjusted as to cause the sand to reach a level nearly even with the spout B^3 before the box is tilted. The sand is quickly discharged, and the weight of the ballast again predominates and rights the box, after which the operation is repeated.

It will be observed that the front wall of the chamber *a′* is vertical, while the rear wall is inclined, so that the sand is in effect confined within a hopper when the box is in the position shown in Fig. 2. Preferably the box is of rectangular form, being simply divided by the inclined partition *a*. Changes in form and in minor details may be made, however, without departure from my invention.

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

1. In apparatus of the character described, the combination of a suitable frame, a tiltably-mounted suitably-ballasted sand-collecting chamber supported thereon, said chamber being provided at its lower portion with a sand-discharge and at its upper portion with a water-discharge, and a fixed valve located exterior to said chamber and engaged by the sand-discharge orifice when the device is in the upright position, substantially as described.

2. In apparatus of the character described, the combination with two side frames provided with bearings, of a box provided on the exterior surfaces of its sides with coacting bearings, said box having a partition dividing it into a ballast-chamber and a sand-collecting chamber, said last-named chamber being provided at its lower portion with a sand-discharge and at its upper portion with a water-

discharge, and a valve located exterior to said sand-collecting chamber and adapted to be engaged by said sand-discharge when the box is in its upright position, substantially as described.

3. In apparatus of the character described, the combination of a frame provided with a sand-discharge spout and a water-discharge spout and adjacent to said sand-discharge spout with a valve, and a tilting box mounted in said frame and provided with a ballast-chamber and a sand-collecting chamber, said last-named chamber being provided with a sand-discharge spout bearing against said valve and located above said first-named sand-discharge spout, and provided also with a water-discharge spout located above said first-named water-discharge spout.

4. In apparatus of the character described, the combination with a frame provided with a water-discharge spout, with a sand-discharge spout, and above said sand-discharge spout with a valve, of a tilting vessel having a sand-collecting chamber provided with a sand-discharge spout located above said first-named sand-discharge spout and bearing against said valve, and provided, also, with a water-discharge spout located above said first-named water-discharge spout, ballast for holding said tilting vessel normally in an upright position, and a stop serving to limit the tilting movement of said vessel.

CHARLES H. STEBBINS.

In presence of—
ALBERT D. BACCI,
WM. B. DAVIES.