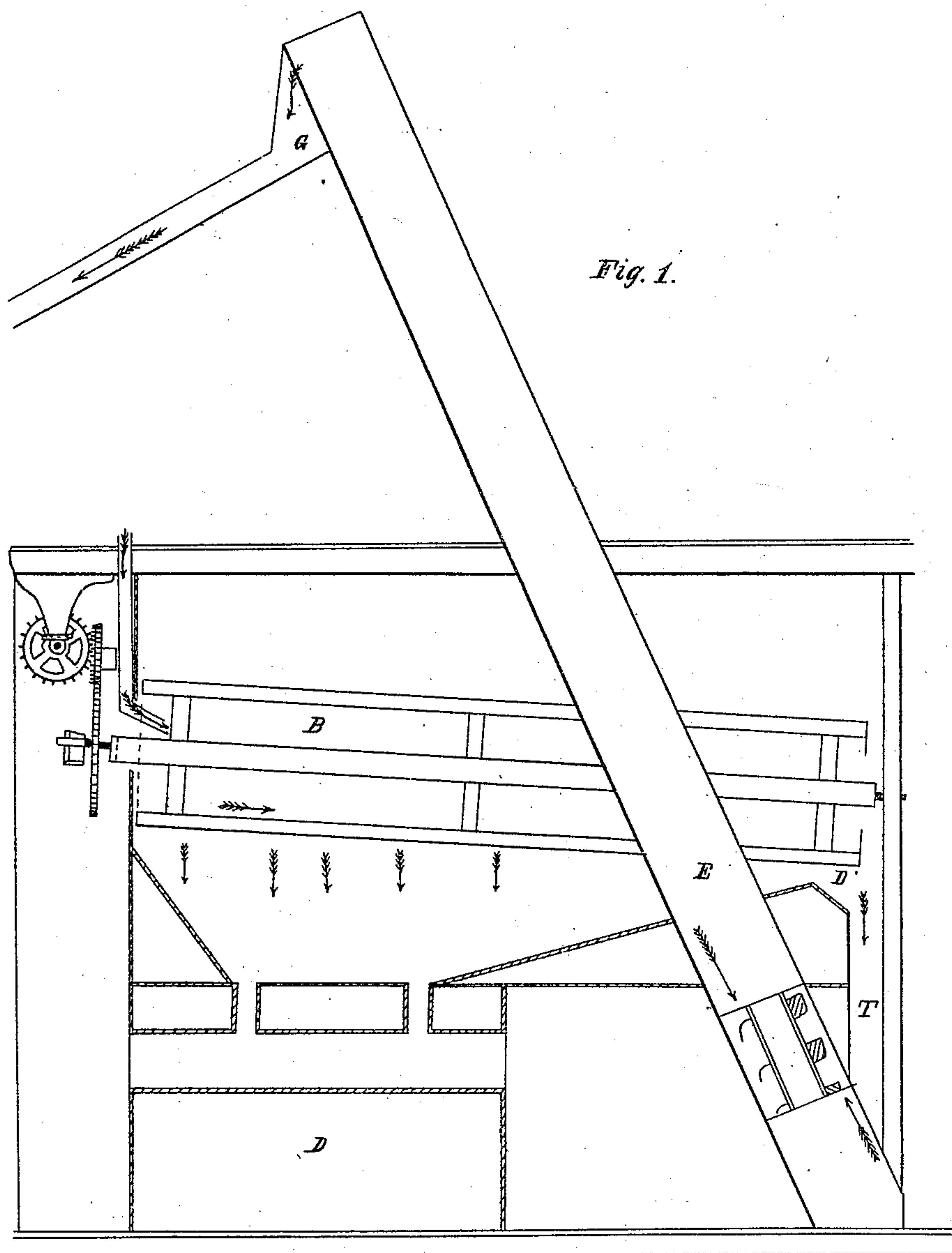


G. F. WILSON.
PROCESS OF AND APPARATUS FOR THE MANUFACTURE OF ACID PHOSPHATES.
No. 75,331. Patented Mar. 10, 1868.



WITNESSES.

William Hulse
Winslow Warren

INVENTOR.

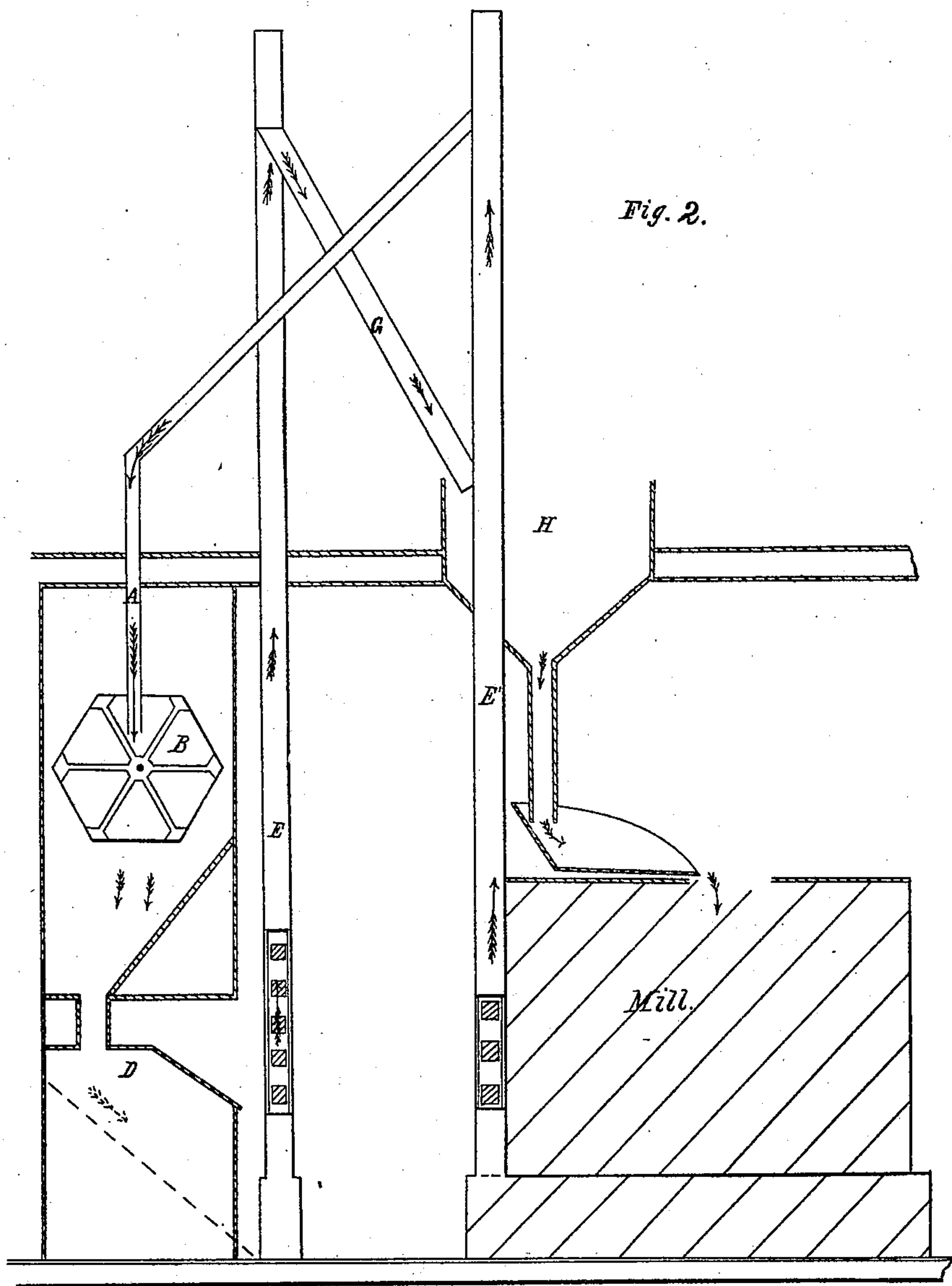
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United States Patent Office.

GEORGE F. WILSON, OF EAST PROVIDENCE, RHODE ISLAND.

Letters Patent No. 75,331, dated March 10, 1868.

IMPROVED PROCESS AND APPARATUS FOR THE MANUFACTURE OF ACID PHOSPHATES.

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, GEORGE F. WILSON, of East Providence, in the county of Providence, and State of Rhode Island, have invented a new and improved Mode of Bolting Horsford's Acid Phosphates, as described in his patent; and I hereby declare the following to be a full and exact description thereof, reference being had to the accompanying diagram, and to the letters of reference marked thereon.

The object of this invention is to separate the particles of ground acid phosphates, above referred to, of the requisite fineness, from such as must again pass under the pulverizer. This requires the employment of a sieve, composed of such material as would not be acted upon by the acid, and the disposition of the sieve, in connection with the mill and elevator, in such manner as would make the process continuous.

In my earlier experiments, the sieve was a horizontal box, of which the bottom was wire gauze, to which reciprocal motion was imparted, and into which the unequally-powdered acid was thrown by the shovelful, and aided in its passing through the sieve with a coarse brush operated by hand. The clogging and corrosion of the gauze, and the necessity of working large quantities in little time, led me to construct a silk screen, disposed in the form of an ordinary flour-bolt. It was fed from the mill by means of an elevator and chute. The fine particles, as the bolt revolved, passed through the meshes, and the tailings were discharged at the end to be carried by an elevator and chute back to the hopper of the mill, to be again passed under the stones. The accompanying diagrams show the parts of the bolt and its connections.

Figure 1 shows the bolt in its length, and

Figure 2 the bolt as viewed from the end, and their more important connections.

B is the bolt; A the chute, into which the ground acid is delivered by the elevator E, as received from the mill. D is the pin, under the bolt-chamber; D', the end, where the tailings discharge into the chute F; to be taken up by the elevator E into the chute G, leading to H, the hopper of the mill.

What I desire to secure by Letters Patent of the United States, is—

The improved mechanism for sifting this mixture of coarsely and finely-powdered acid phosphate of lime, as described under Horsford's patents, and separating the coarser parts of the same, substantially as and for the purpose described.

Witnesses:

WILLIAM HEDGE,
WINSLOW WARREN, Jr.

GEO. F. WILSON.