

No. 880,337.

PATENTED FEB. 25, 1908.

G. S. SLOCUM, DEC'D.

A. B. SLOCUM, EXECUTRIX.

SAND BLAST MACHINE.

APPLICATION FILED JUNE 17, 1907.

3 SHEETS—SHEET 1.

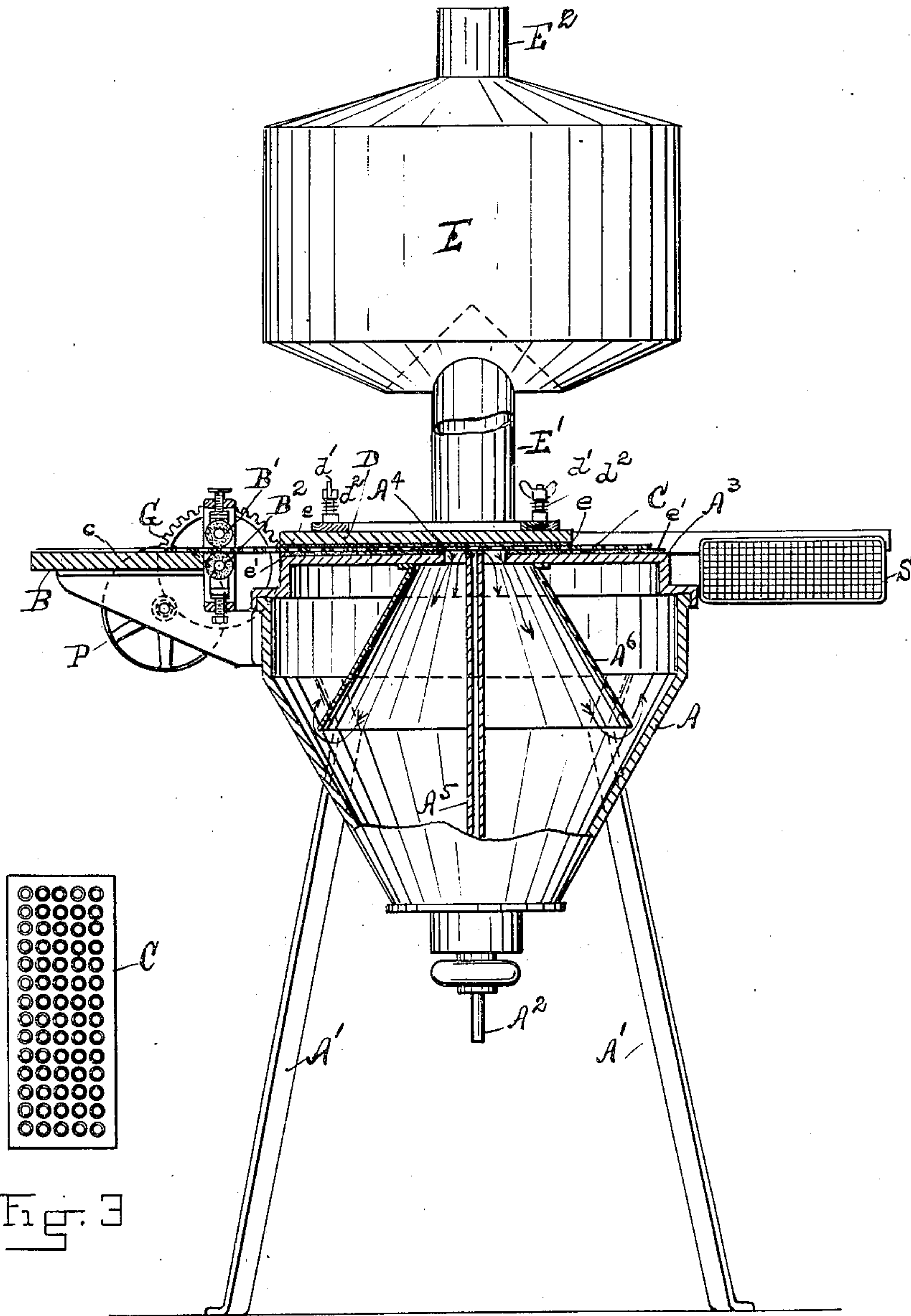


Fig. 3

Fig. 1

WITNESSES.

Harry C. Lovell.

William C. Munn

INVENTOR.

George Scott Slocum

By Henry Macdonald

ATTY.

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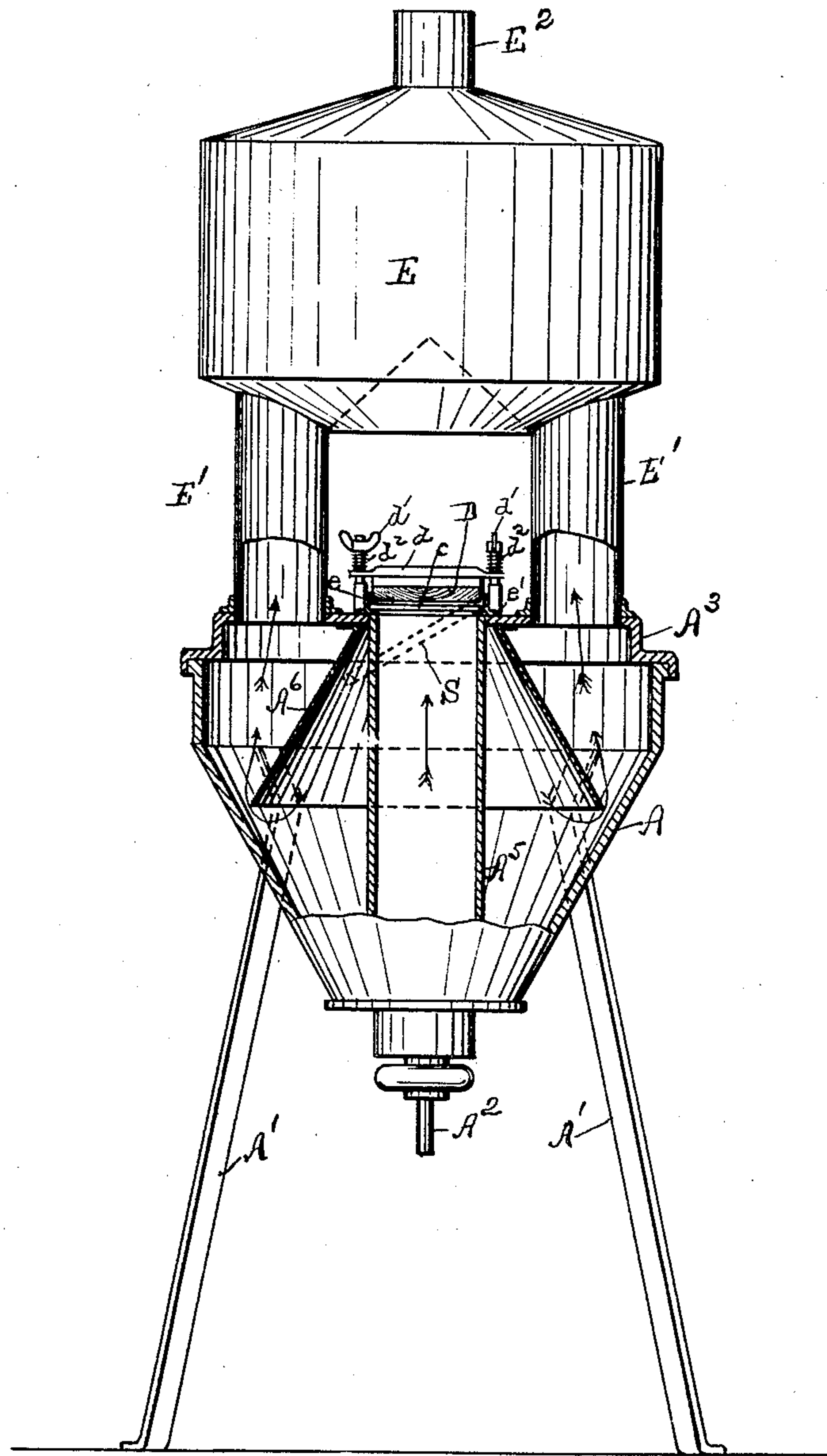


Fig 2

WITNESSES

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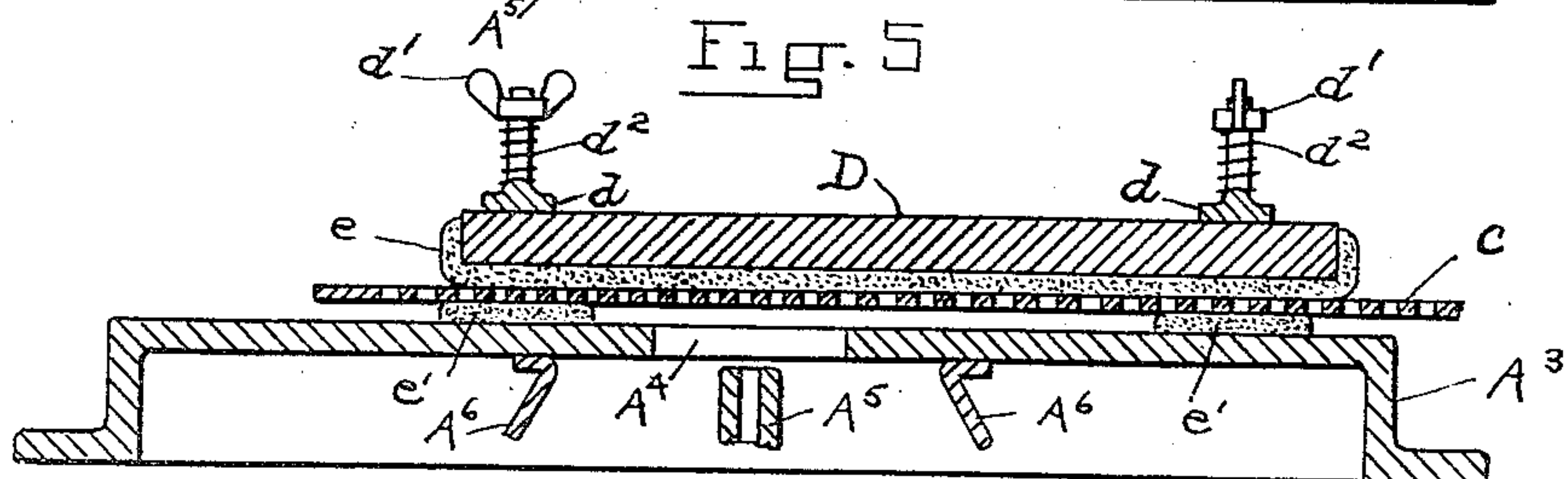
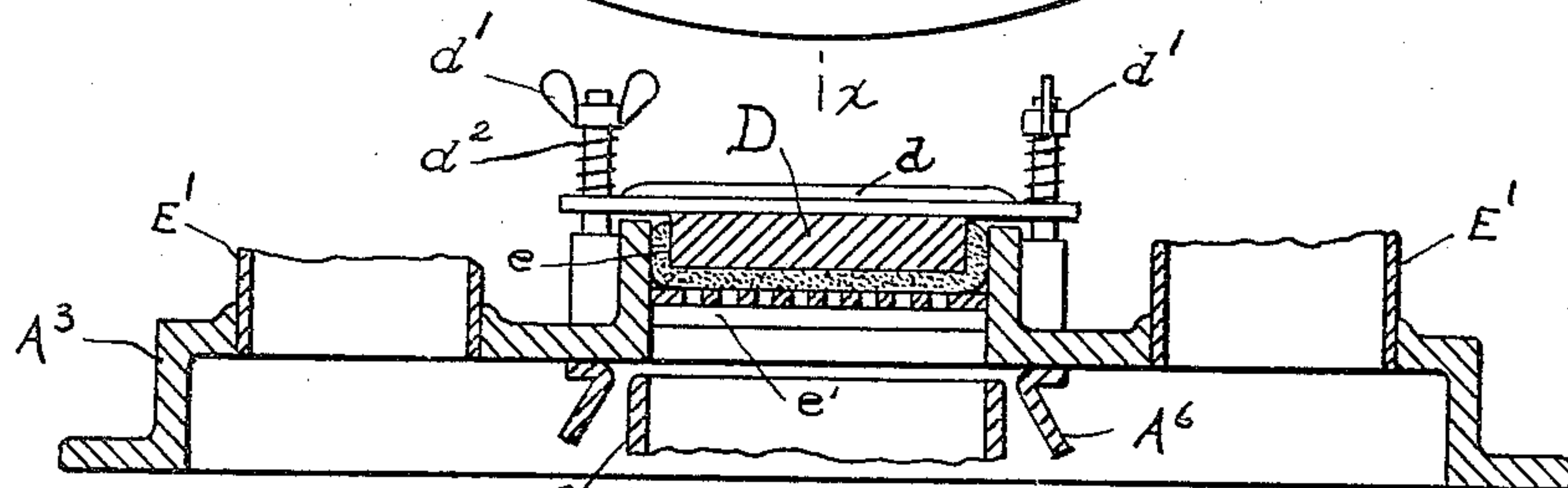
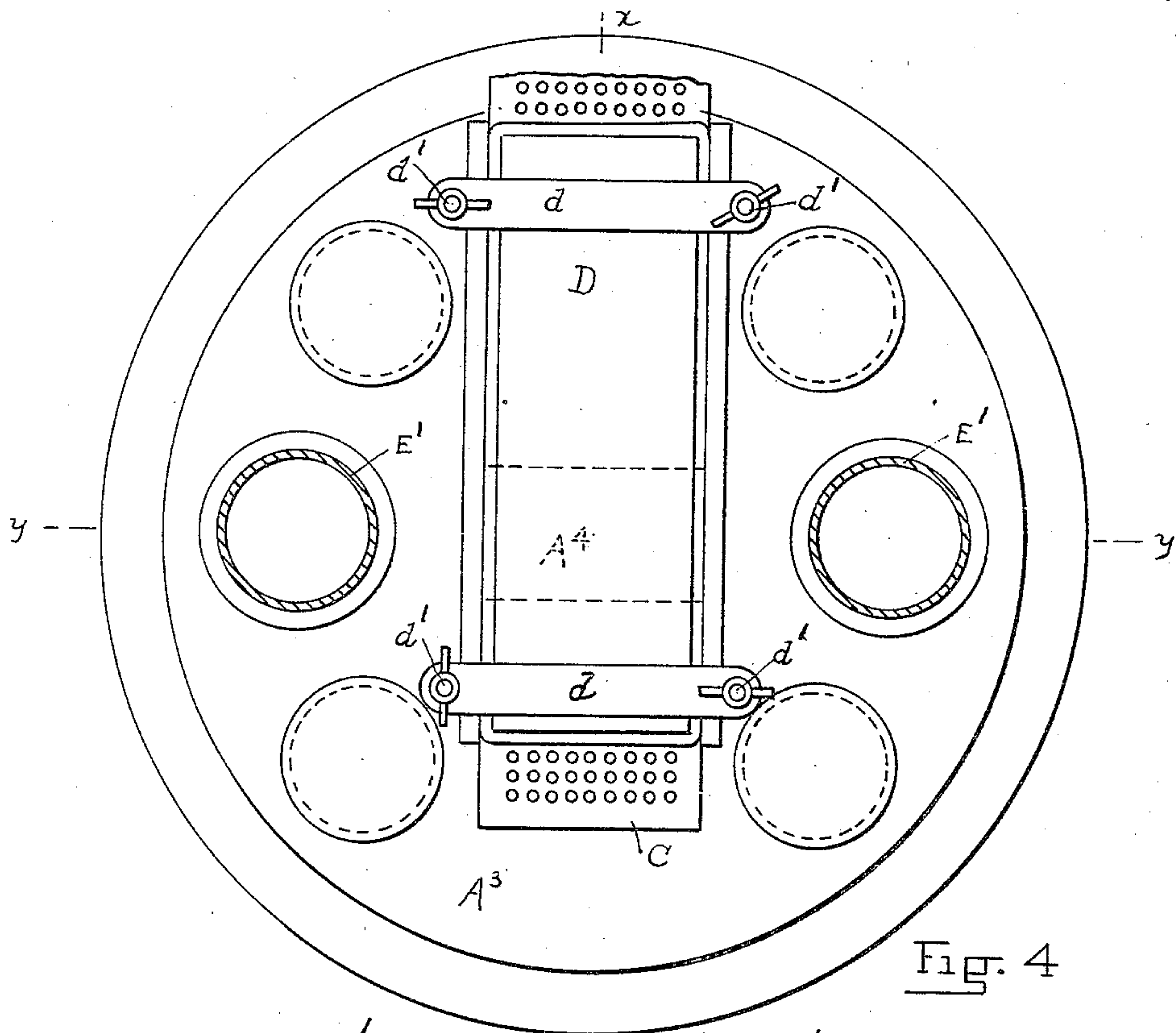
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3 SHEETS—SHEET 3.



WITNESSES
John F. Cavanagh
Matherine McDonald.

INVENTOR
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UNITED STATES PATENT OFFICE.

GEORGE SCOTT SLOCUM, OF NEWPORT, RHODE ISLAND; ANNIE B. SLOCUM EXECUTRIX OF SAID GEORGE SCOTT SLOCUM, DECEASED.

SAND-BLAST MACHINE.

No. 880,337.

Specification of Letters Patent.

Patented Feb. 25, 1908.

Application filed June 17, 1907. Serial No. 379,519.

To all whom it may concern:

Be it known that I, GEORGE SCOTT SLOCUM, a citizen of the United States of America, and a resident of the city and county of Newport, in the State of Rhode Island, have invented certain new and useful Improvements in Sand-Blast Machines, of which the following is a specification.

My invention is especially applicable to that class of sand-blast machines shown in Letters Patent of the United States, No. 636,460, issued to me November 7, 1899, but it is also designed and adapted for use in sand-blast machines in which sand or other abradant is carried by a jet of air or like mobile vehicle through a conduit against the surface of an article held in the plane of action of such sand-carrying jet.

The purpose of my invention is to combine operatively in such machine means for holding a plurality of articles to be cut or ornamented, and for conveying the same collectively across the path of the sand-carrying jet; means for preventing the escape into the workroom of dust and particles of the abradant; means for dissipating the force of the jet after it has acted upon the article and prior to its exhaust to the outer air, and thereby to release particles of the abradant which may have been carried along with it and allow such particles by gravity to be returned to the sand-chamber for reuse.

To these ends my invention consists in the novel construction, combination and arrangement of parts hereinafter described and shown in the drawings.

In the accompanying drawings, in which I have shown only those parts of the machine necessary to illustrate the relation of my invention thereto: Figure 1 is a side elevation showing the body or sand-chamber of my machine partly in section, a sectional view of the feed-table, feed-rolls and conveyer, and the exhaust chamber and its connections with the sand-chamber. Fig. 2 is a rear elevation of the same parts, the sectional portion of the view being taken at right angles to that shown in Fig. 1. Fig. 3 is a plan view of the conveyer, or platen carrying the articles to be operated upon. Fig. 4 is a plan of the cover of the sand chamber, conveyer, etc. Fig. 5 is a section taken on line *y-y* of Fig. 4. Fig. 6 is a section taken on line *x-x* of Fig. 4.

A, represents the sand chamber mounted

in the usual way upon standards A^1 , and connected in the usual manner through the duct-pipe A^2 with the valve chamber, not shown. Said chamber, A, is provided with an air-tight cover A^3 , in turn provided with an opening A^4 , arranged, as shown, immediately over the jet-conduit, A^5 , which may be constructed and arranged as shown in my Letters Patent above referred to. Secured to the under side of said cover, and surrounding said opening and conduit, is a cone-shaped deflector A^6 , adapted to turn the air current, after its impingement against the articles to be cut, downward as indicated by the arrows.

Upon one side of the sand chamber, A, near the top thereof, is mounted a feed-table, B, and feed-rolls, B^1 , B^2 , between which is arranged to travel the conveyer, C, which is provided with a plurality of perforations adapted to receive and hold the articles, such as buttons, to be operated upon, and to convey the same, as the conveyer is fed along by the feed-mechanism, across the path of the blast-jet and the opening A^4 . Said conveyer travels in a channel or guideway, *c*, extending across said table and the top of the cover, A^3 , over the opening A^4 . Packings, *e*, and e^1 , arranged above and below said conveyer in said channel or guideway are adapted and designed to render said sand chamber air-tight both around the opening A^4 and the conveyer C, and to be, by suitable means, as hereinafter described, held in yielding contact with said conveyer at all times in its passage between them. I have shown as a convenient device for insuring such yielding contact the plate D covered on its under surface and its four edges with suitable packing material, *e*, and arranged to fill said guideway above and for a suitable distance on either side of the opening A^4 with an air-tight fit, and to be held down yieldingly against said conveyer, in its passage through said guideway, by the straps *d*, and nuts d^1 , acting against the interposed helical springs d^2 , and to force the conveyer downward with an air-tight fit upon the packings e^1 , located on the top of the cover A^3 at opposite sides of the opening A^4 , and thereby prevent the escape of dust or abradant around said opening or said conveyer. It is obvious that by this device I am enabled to insure at all times an air-tight packing on all sides of the conveyer and of the opening A^4 , and that by

reason of the yielding capacity of the packing plate D the capacity of the machine is not restricted to any specific thickness of article to be operated upon. Arranged immediately above the sand chamber, A, and connected therewith by the duct pipes E¹, E¹, is the exhaust chamber, E, provided with the pipe, E², through which the exhaust is carried to the outer air.

The central portion of the interior floor of the exhaust-chamber, E, is conical, as indicated by the dotted lines in the Figs. 1 and 2, while the sides of the floor are inwardly, downwardly inclined, so that particles of sand or other abradant carried into the exhaust-chamber by the air current will by gravity be carried down into the pipes, E¹, E¹, and fall into the lower portion of the sand chamber, A, whence it can again be taken by the air and induced currents and forced through the conduit, A⁵, against the articles to be cut or ornamented. The buttons or other articles operated upon are discharged upon an inclined screen, S, and thereby separated from the sand which may cling to them. The rolls B¹, B², are adjustably mounted, and are actuated to feed the conveyer through the guideway and across the plane of action of the jet by suitable feed-mechanism. I have shown in the drawings a driving pulley P, and the pinion-gear G, arranged for this purpose.

I claim as my invention, and desire to secure by Letters Patent:

1. In a machine in which an abradant is carried by a jet of air or like mobile vehicle through a conduit against the surface of an article to be sand-blasted, the combination with an abradant-containing chamber provided with a cover having an opening through its top and a guideway located upon the top of said cover and extending across said cover top and said opening, at opposite sides of said opening and in line therewith, of a conveyer arranged in said guideway for reciprocating movement over said opening and adapted to carry articles to be sand-blasted across the said opening and the plane of action of the abradant-carrying jet, and a jet conduit located within said abradant-containing chamber and terminating within said chamber near said opening.

2. In a sand-blast machine the combination of a sand chamber, provided with a cover having an opening through its top and a guide-way located upon the top of said cover and extending across said cover top and said

opening at opposite sides of and in line with said opening, a conduit for an abradant carrying jet located within said sand-chamber and terminating within said sand-chamber near said opening, a perforated conveyer arranged in said guide-way for reciprocating movement therein across said opening and adapted to hold a plurality of articles to be sand-blasted and to be fed over said opening and across the plane of action of said abradant carrying jet, and means for actuating said conveyer.

3. In a sand-blast machine the combination of an abradant containing chamber provided with a cover having a centrally located opening through its top and a guideway extending across the top of said cover and opening, in line with said opening, a jet conduit located within said chamber and terminating therein near said opening, a conveyer arranged for both reciprocating and vertical movements in said guideway and adapted to be fed along in said guideway to carry across said opening and across the plane of action of said jet articles to be sand-blasted, packings arranged on said cover below said guideway at opposite sides of said central opening, and a packing-plate arranged and adapted for vertical movement in said guideway above said conveyer to thereby hold said conveyer in yielding contact with said packing plate and said lower packings with substantially an air-tight fit.

4. In a sand-blast machine the combination of an abradant containing chamber, a deflector extending downward from the upper interior of said chamber, and a conduit for an abradant carrying jet located within said chamber, and terminating within said deflector, with an exhaust chamber connected with the outer air and ducts connecting said exhaust and abradant containing chambers.

5. In a sand-blast machine the combination with a sand chamber, of a cover provided with an opening through its top, a guideway located on the top of said cover and extending across said top and opening in line with said opening, a packing-plate arranged for yielding vertical movement in said guideway, and means for causing such yielding movement of said packing-plate.

GEORGE SCOTT SLOCUM.

Witnesses:

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