

(No Model.)

2 Sheets—Sheet 1.

A. C. BRANTINGHAM.
DUST COLLECTOR.

No. 527,939.

Patented Oct. 23, 1894.

Fig. 1.

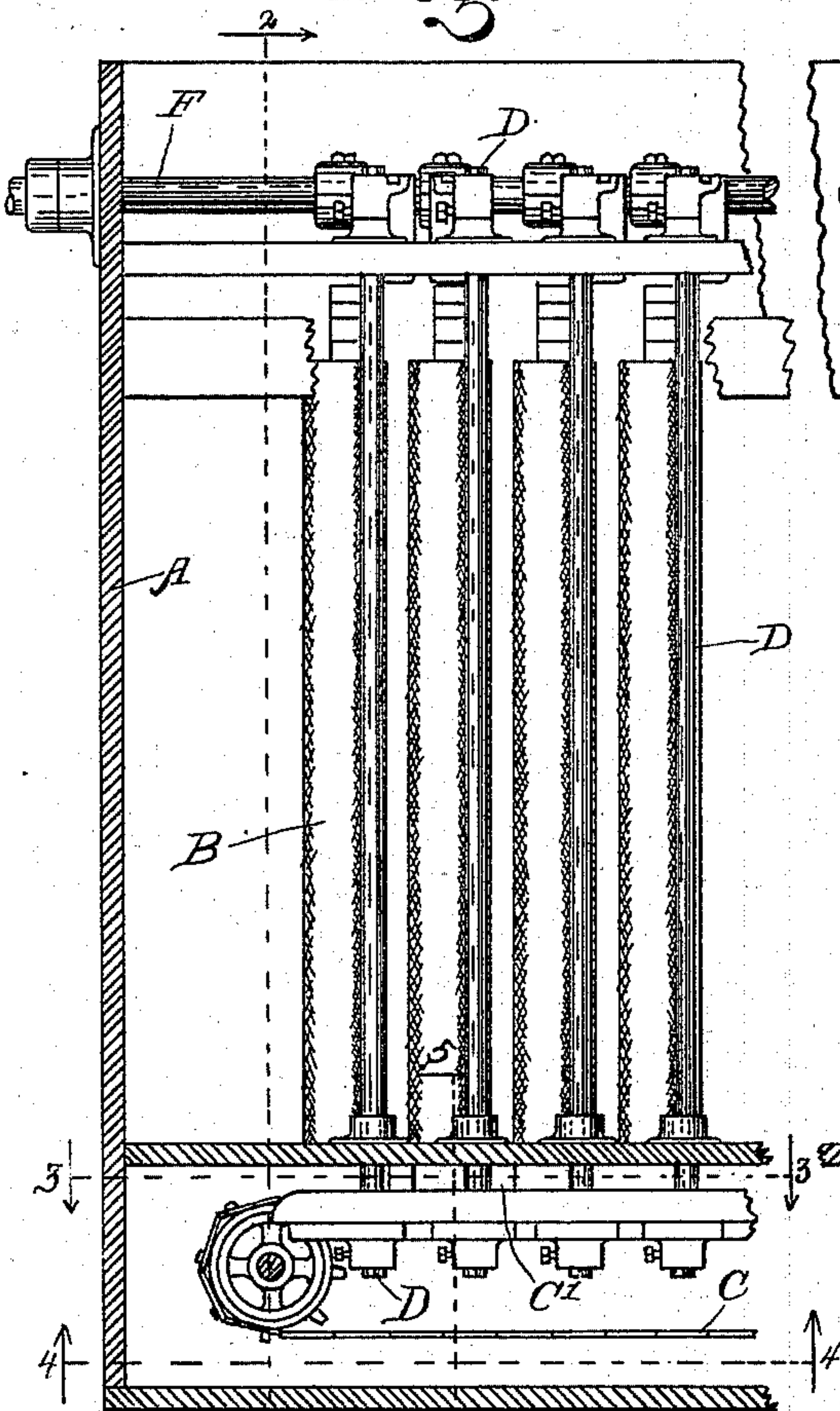


Fig. 2.

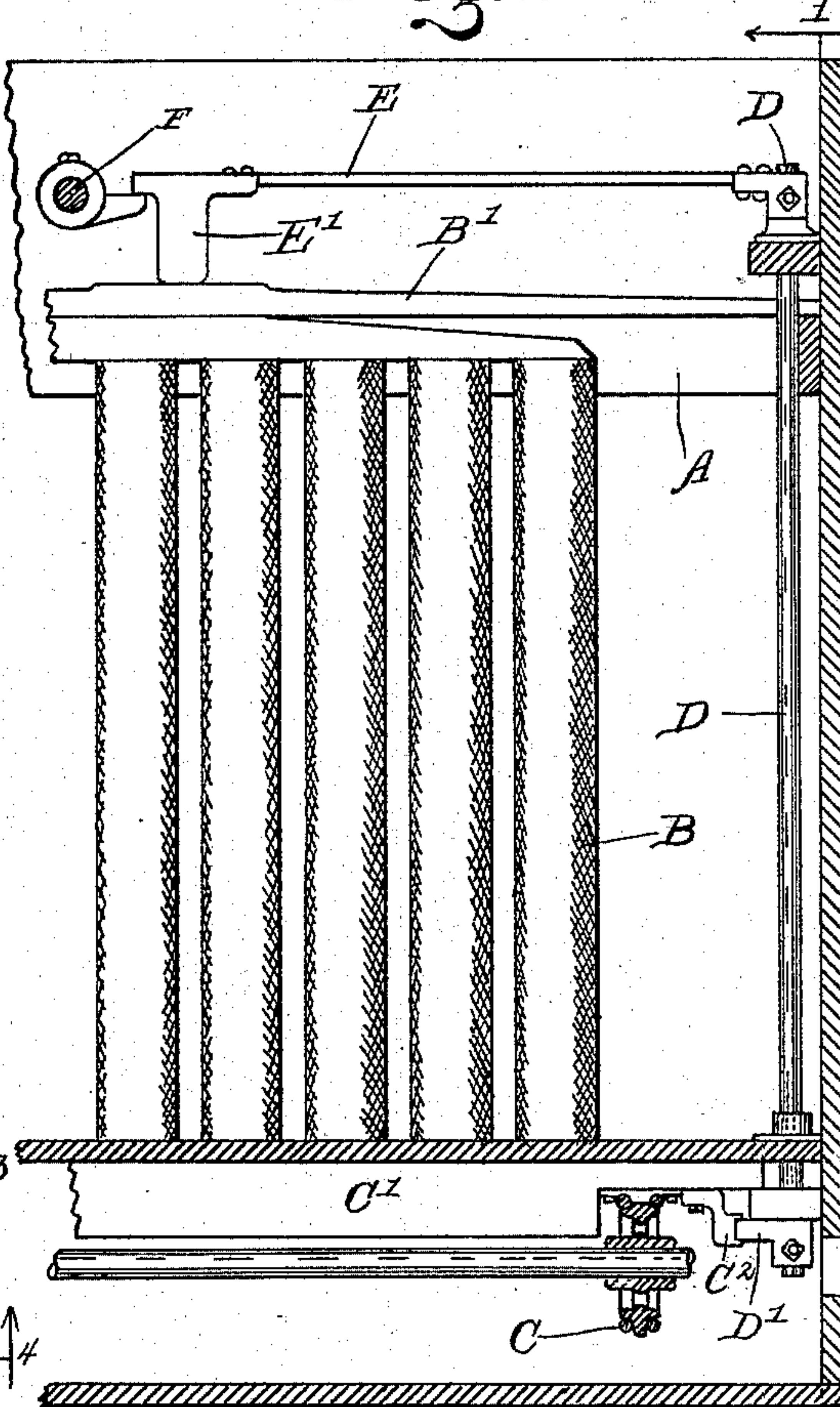


Fig. 3.

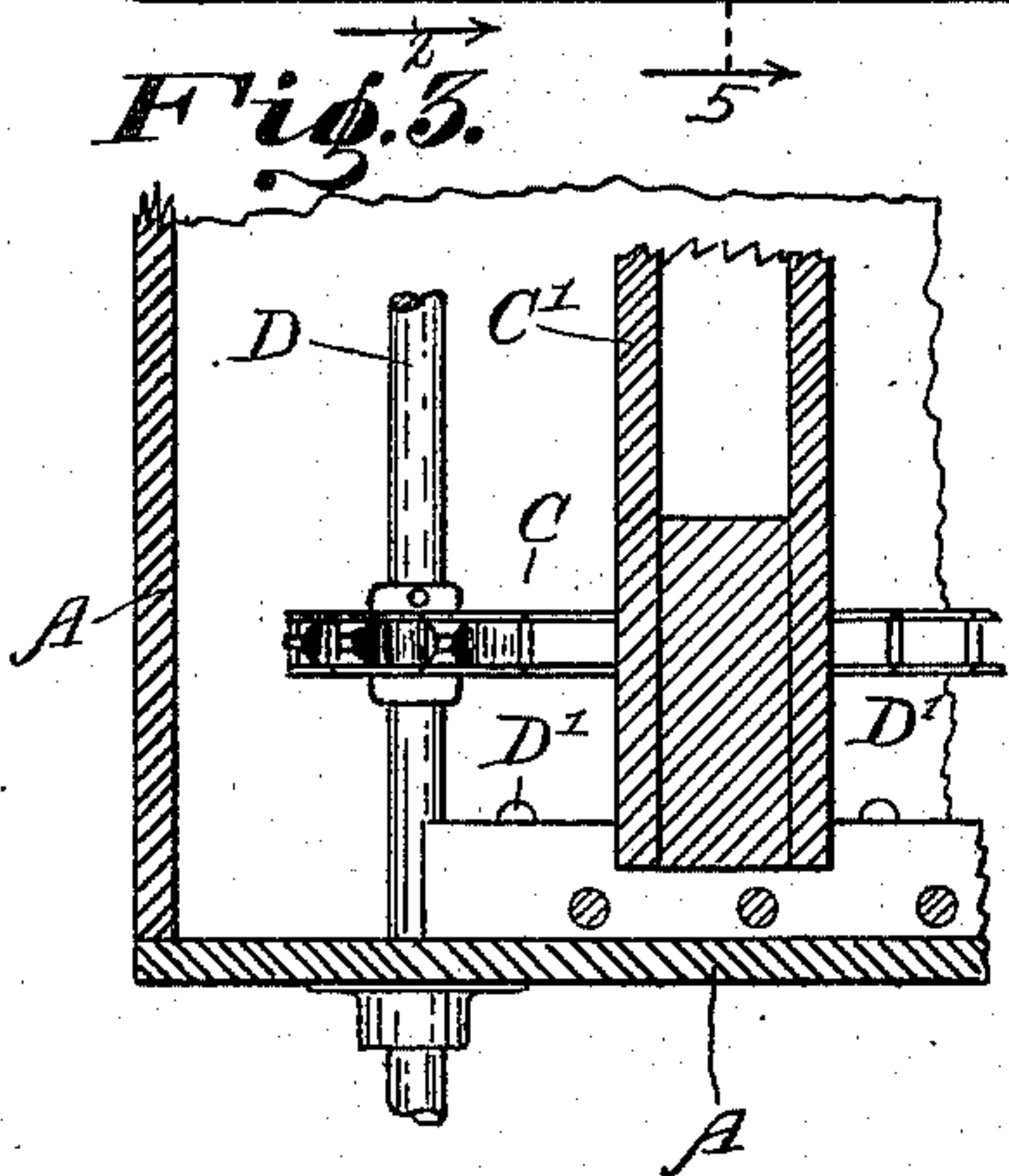


Fig. 4.

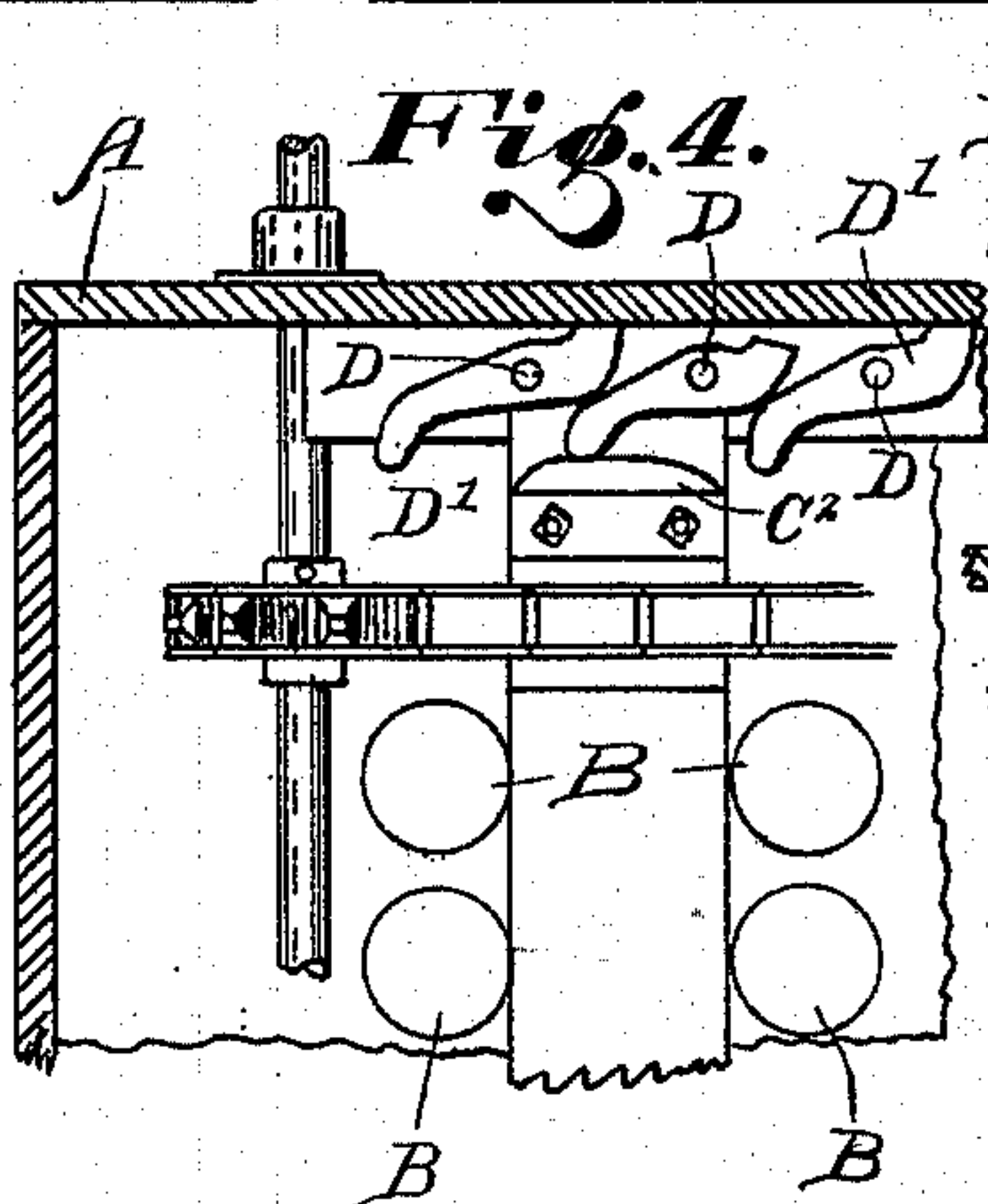
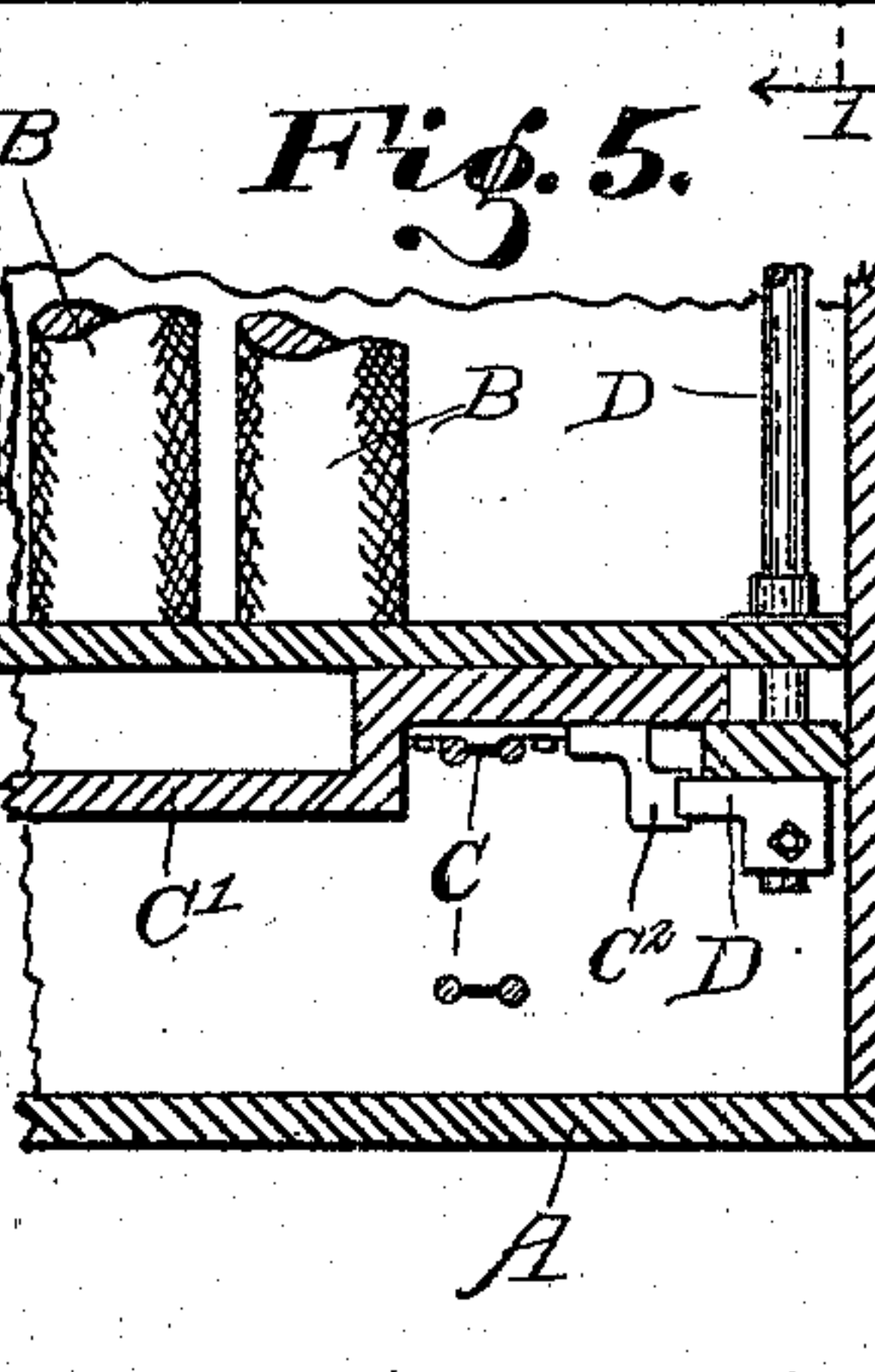


Fig. 5.



WITNESSES:

Edgar A. Kingsley.
J. Edgar Burton.

INVENTOR

Allen C. Brantingham,
BY
Chester Bradford,
ATTORNEY.

(No Model.)

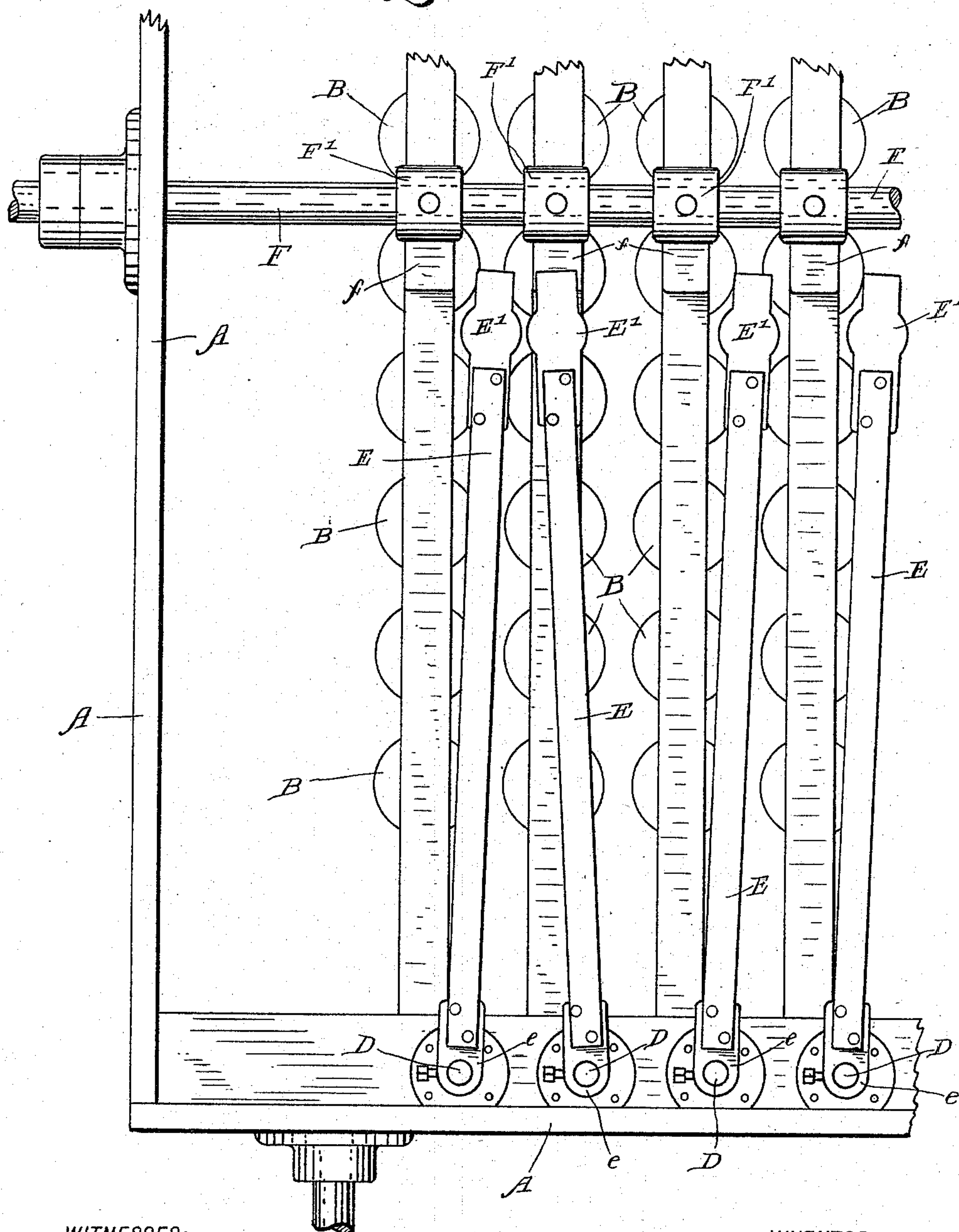
2 Sheets—Sheet 2.

A. C. BRANTINGHAM.
DUST COLLECTOR.

No. 527,939.

Patented Oct. 23, 1894.

Fig. 6.



WITNESSES:

Edgar A. Kingeley.
J. Edgar Burton.

INVENTOR

Allen C. Brantingham,
BY
Chester Bradford,
ATTORNEY.

UNITED STATES PATENT OFFICE.

ALLEN C. BRANTINGHAM, OF TOLEDO, OHIO, ASSIGNOR TO THE NORDYKE & MARMON COMPANY, OF INDIANAPOLIS, INDIANA.

DUST-COLLECTOR.

SPECIFICATION forming part of Letters Patent No. 527,939, dated October 23, 1894.

Application filed August 18, 1894. Serial No. 520,649. (No model.)

To all whom it may concern:

Be it known that I, ALLEN C. BRANTINGHAM, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Dust-Collectors, of which the following is a specification.

My said invention consists in a means for operating the jarring hammers in a tubular dust collector, and throwing them into and out of operation by swinging them sidewise, as will be hereinafter particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a fragmentary sectional view showing a portion of a dust collector embodying my said invention, as seen from the dotted line 1 1 in Fig. 2; Fig. 2, a similar view as seen from the dotted line 2 2 in Fig. 1; Fig. 3, a sectional view looking downwardly from the dotted line 3 3 in Fig. 1; Fig. 4, a detailed sectional view looking upwardly from the dotted line 4 4 in Fig. 1; Fig. 5, a detailed sectional view on the dotted line 5 5 in Fig. 1; and Fig. 6 a fragmentary top or plain view, on an enlarged scale, showing a portion of the series of dust-collecting tubes, their hammers, and the means of operating the same.

In said drawings the portions marked A represent the frame-work; B, the dust-collecting tubes; C, a traveling chain carrying dust receptacles, and also a cam; D, vertical rock-shafts adapted to be operated by said cam; E, hammer handles secured to the upper ends of said vertical rock-shafts, and F the hammer-operating shaft.

The frame A and dust-collecting tubes B are substantially similar to those shown and described in various other of my pending applications for Letters Patent, of which Serial No. 499,905, filed February 12, 1894, is an example, and need not be further described herein, except incidentally in describing the invention.

The chain C is similar to those shown in other of my said applications for patent, and carries the dust receptacles C' which are operated to be positioned periodically under the several sets of dust-collecting tubes. Said

chain also carries (preferably by attaching the same to the ends of the dust receptacles) cams C² which are adapted to come into contact with rocking levers on the lower ends of the rock-shafts D.

The rock-shafts D are mounted vertically in the frame-work A, and carry on their lower ends short levers D', which are operated by the cams C², and on their upper ends carry the hammer-handles. The levers D' are of a peculiar form, as illustrated particularly in Fig. 4, and engage with each other, so that as one is operated to bring the shaft to the position which carries the hammer into engagement with the appropriate arm on the hammer operating shaft, the one which it has just passed is forced around to throw its hammer out of operative position, and thus only one of the hammers is in position for operation at one time. As one lever always operates the one behind it which it has just passed, and as these parts remain in the positions in which they are placed until again operated, it follows that but a single hammer is in operation, that being the one which is directly above the cam by which its shaft is operated. These shafts D are shown as operated from below the tubes; but they may obviously be made shorter, and the operating cams and levers correspondingly raised to any desired point; and they may even be so positioned that the levers would be on the upper ends and the hammers on the lower ends.

The hammer-handles E are preferably spring bars, and are attached rigidly to the corresponding rock-shafts by means of hubs e, and extend out to a position near to but not in contact with the hammer-operating shaft F, and bear upon their ends, near said shaft, hammers E'.

The hammer-operating shaft F extends lengthwise of the machine, and is provided with hubs F' carrying arms f, and, when a hammer is swung into position, the corresponding arm engages with the handle of said hammer as said shaft revolves, and raises the same. As the shaft continues to revolve the hammer escapes from said arm, and, by its gravity combined with the spring force of said handle, is impelled smartly against the

spring-bar B' which sustains the upper end of that set of dust-collecting tubes with which said hammer is intended to operate, thus sharply jarring said set of dust-collecting tubes. These hubs and arms are positioned in line with the sets of tubes and directly above them, so that they only operate when the hammers are swung around into a corresponding position. The movement of these hammers, or, rather, hammer-handles, is best illustrated in Fig. 6, where one of them is shown in position to operate, while the others are shown out of such position, free from the arms *f*.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a dust-collector, of dust-collecting tubes, vertical rock-shafts, hammers extending out from said shafts, a traveling cam engaging with levers on said shafts, and a hammer-operating shaft having arms thereon adapted to operate said hammers when swung into proper position, substantially as set forth.

2. The combination, in a dust-collector, of a series of dust-collecting tubes spring-mounted at the upper end, rock-shafts parallel with said tubes, hammers mounted upon handles secured to the upper ends of said rock-shafts and adapted to swing over the

spring tube-support or to one side thereof, a traveling dust receptacle below said dust-collecting tubes mounted on endless chains, cams secured to said chains or said dust receptacles and moving therewith, levers on the lower ends of said rock-shafts, said levers and said cam being so arranged relatively to each other that said shafts are operated by said cam and the hammers swung into and out of operative position, and a hammer-operating shaft provided with arms adapted to engage with and operate said hammers when in operative position, substantially as set forth.

3. The combination, in a dust collector, of the dust-collecting tubes, the vertical rock-shafts carrying hammers at one end, means for operating said hammers, levers on the other ends of said shafts curved to engage with one another, whereby one upon being operated will operate the adjacent one, and a traveling cam adapted to come in contact with and operate said levers successively, substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Toledo, Ohio, this 14th day of August, A. D. 1894.

ALLEN C. BRANTINGHAM. [L. S.]

Witnesses:

R. C. WHITTLESEY,

GEO. J. RUDD.