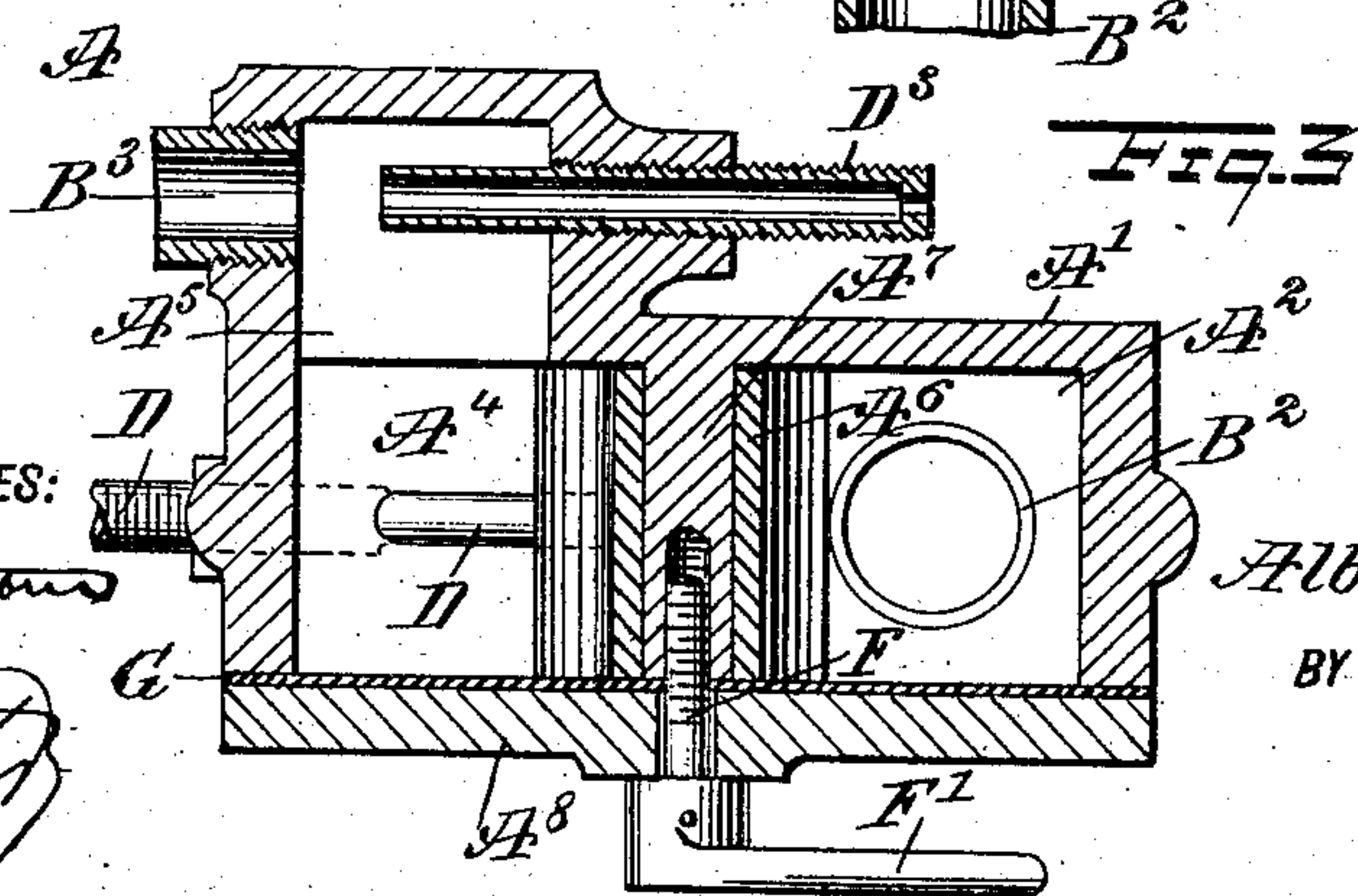
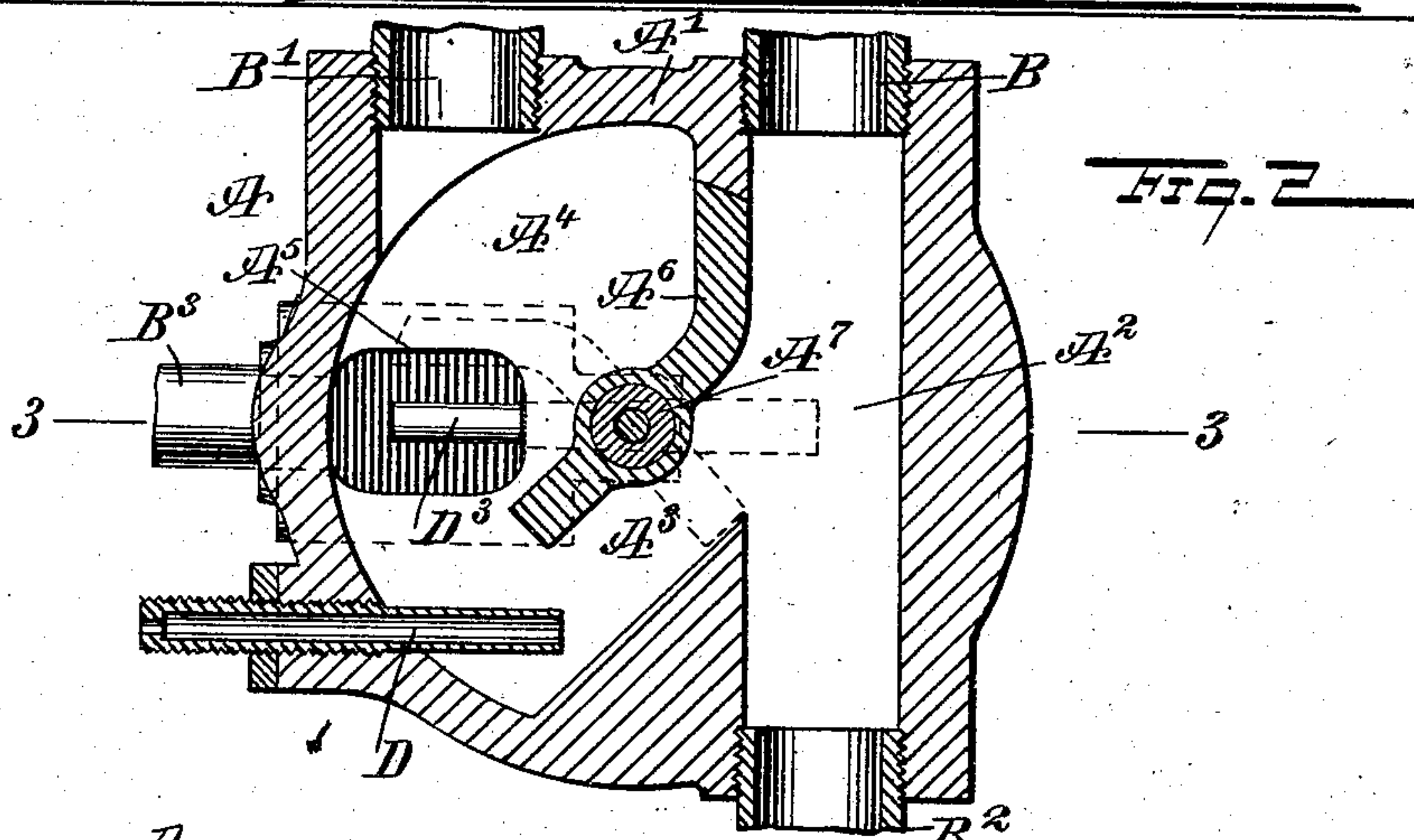
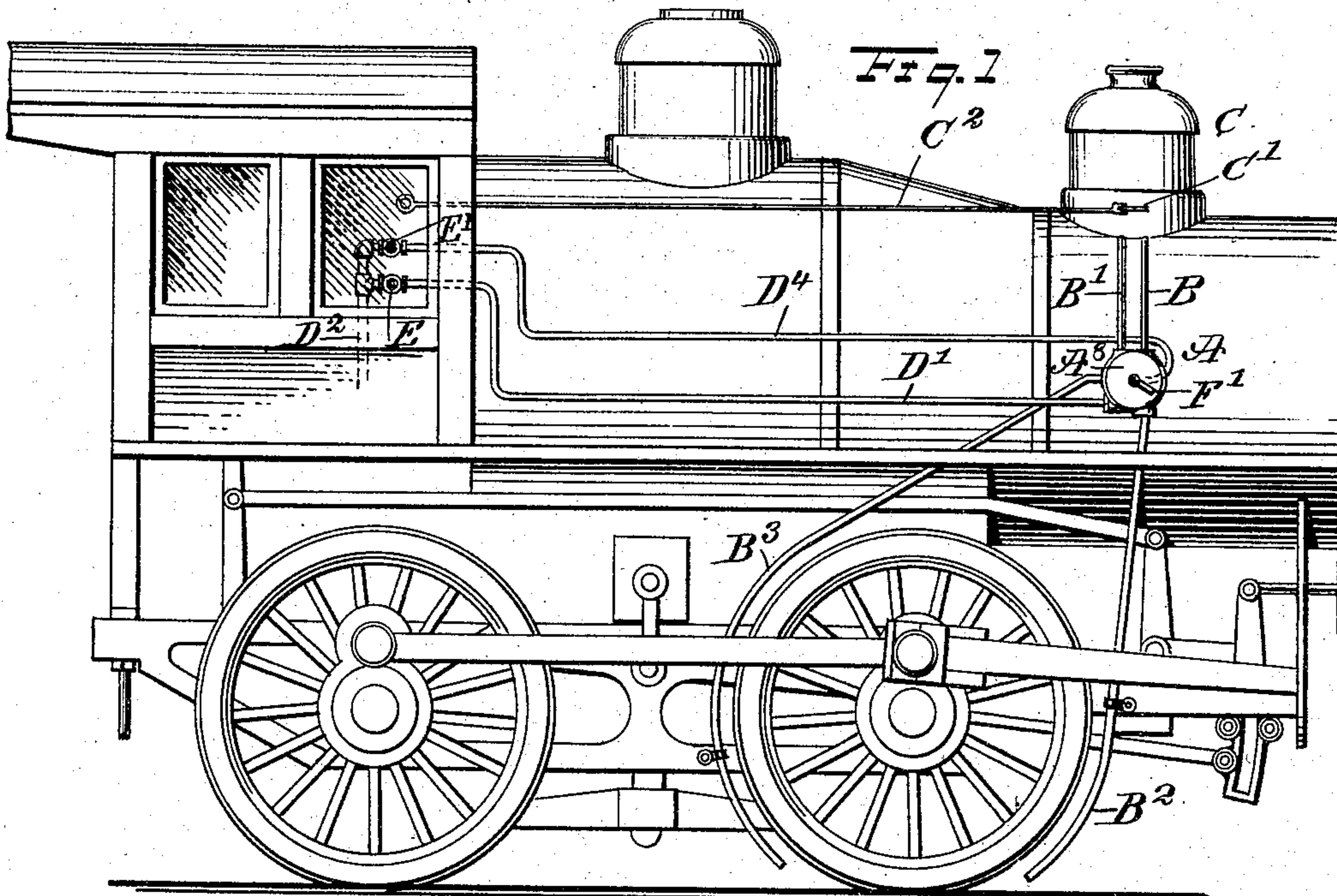


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A. B. POTTS.  
TRACK SANDER.

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WITNESSES:

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# UNITED STATES PATENT OFFICE.

ALBERT BETHENY POTTS, OF CHATTANOOGA, TENNESSEE.

## TRACK-SANDER.

SPECIFICATION forming part of Letters Patent No. 782,696, dated February 14, 1905.

Application filed October 17, 1904. Serial No. 228,711.

*To all whom it may concern:*

Be it known that I, ALBERT BETHENY POTTS, a citizen of the United States, and a resident of Chattanooga, in the county of Hamilton and State of Tennessee, have invented a new and Improved Track-Sander, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved track-sander arranged to permit of being readily changed from a pneumatic track-sander to a gravity track-sander to prevent clogging of the sand in the passage from the sand-box to the track to give access to the interior of the sand-trap for conveniently cleaning the same and removing obstructions.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement as applied to a locomotive. Fig. 2 is an enlarged sectional side elevation of the sand-trap, and Fig. 3 is a sectional plan view of the same on the line 3 3 of Fig. 2.

The sand-trap A of the track-sander is provided with a casing A', connected at its top by pipes B and B' with the sand-box C of the locomotive, as plainly indicated in Fig. 1. The pipe B connects at its lower end with a passage-way A<sup>2</sup>, formed vertically in the casing A', and from the bottom of this passage-way A<sup>2</sup> leads a discharge-pipe B<sup>2</sup>, extending close to the track-rail in front of the drive-wheel of the locomotive, as shown in Fig. 1. The sand passing from the sand-box C to the pipe B by gravity is controlled by the usual valve C' and connecting mechanism C<sup>2</sup>, extending to the cab of the locomotive within reach of the engineer to enable the latter to open the valve C' whenever it is desired to allow the sand to flow by gravity from the sand-box C by way of the pipe B, passage-way A<sup>2</sup>, and pipe B<sup>2</sup> to the rail in front of the drive-wheel.

Into the passage-way A<sup>2</sup> leads an upwardly-inclined slot or port A<sup>3</sup>, into the lower end of which extends a nozzle D, connected at its outer end by a pipe D' with an air-supply pipe D<sup>2</sup>, connected with a suitable air-supply, and in the said pipe D' is arranged a valve E, which when opened by the engineer or motorman allows air under pressure to flow by way of the pipe D' to the nozzle D.

The pipe B' connects the sand-box C directly with a chamber A<sup>4</sup>, connected with the lower end of the port A<sup>3</sup>, so that sand flowing down the pipe B' fills the chamber A<sup>4</sup> and the port A<sup>3</sup>. The chamber A<sup>4</sup> opens laterally into a chamber A<sup>5</sup>, also filled with sand from the chamber A<sup>4</sup>, and from this chamber A<sup>5</sup> leads a discharge-pipe B<sup>3</sup> to the track-rail in the rear of the drive-wheel, as plainly illustrated in Fig. 1. A nozzle D<sup>3</sup> extends into the chamber A<sup>5</sup> in alinement with the discharge-pipe B<sup>3</sup>, and the outer end of the said nozzle D<sup>3</sup> is connected by a pipe D<sup>4</sup> with the air-supply pipe D<sup>2</sup>, previously mentioned, and in the said pipe D<sup>4</sup> is arranged a valve E' under the control of the engineer or motorman, so that when the latter opens the valve E' air under pressure passes by way of the pipe D<sup>4</sup> and nozzle D<sup>3</sup> into the chamber A<sup>5</sup> to force the sand therein down the pipe B<sup>3</sup> onto the track-rail in the rear of the drive-wheel.

In case the pipe B becomes clogged from any reason whatever or the valve C' fails to work and remains closed and it is desired to sand the rail in front of the drive-wheel, then the engineer opens the valve E to allow the air discharging at the nozzle D to act on the sand in the port A<sup>3</sup> to force the said sand up the port A<sup>3</sup> into the passage-way A<sup>2</sup>, from which the sand then drops down through the pipe B<sup>2</sup> to the rail in front of the drive-wheel.

When the valve E' is opened, then the sand which flows from the sand-box C by way of the pipe B' into the chamber A<sup>4</sup> and its terminal chamber A<sup>5</sup> is forced by pneumatic pressure from the nozzle D<sup>3</sup> into the pipe B<sup>3</sup> and down the same to the track in the rear of the drive-wheel.

In case the pipe B is dispensed with the top of the passage-way A<sup>2</sup> is plugged up and sand



can be forced by air-pressure into either pipe B<sup>2</sup> or B<sup>3</sup> by the engineer opening the corresponding valve E or E'. When the valve E is opened, then the air forces the sand from the chamber A<sup>4</sup> up the port A<sup>3</sup> for the sand to drop down the passage-way A<sup>2</sup> and to pass by way of the pipe B<sup>2</sup> to the rail in front of the drive-wheel, and when the valve E' is opened the sand from the chamber A<sup>5</sup> is forced to the rail in the rear of the drive-wheel. In case the air-pressure is not available for any reason whatever then the sand is allowed to flow by gravity to the rail in front of the drive-wheel; but for this purpose it is necessary for the engineer to first change the interior arrangement of the sand-trap A. In this case the valve C' is arranged on the pipe B' instead of the sand-box C and the passage-way, A<sup>2</sup> and A<sup>4</sup> have a partition A<sup>6</sup> common to both, and this partition A<sup>6</sup> is mounted to turn on a stud A<sup>7</sup>, forming part of the casing A', and in case it is desired to use the device as a gravity-feed one then the partition A<sup>6</sup> is turned to assume the position shown in dotted lines in Fig. 2—that is, to close the port A<sup>3</sup> and to extend over the entrance to the chamber A<sup>5</sup>—so that sand passes down the pipe B' and over the partition A<sup>6</sup> into the passage-way A<sup>2</sup> and down the pipe B<sup>2</sup> to the track in front of the drive-wheel as soon as the valve C' on the pipe B' is opened. The partition A<sup>6</sup> is held in either of these two positions mentioned by clamping the partition in place by the use of a cover A<sup>8</sup> on the front face of the casing A'. This cover is secured in position by a bolt F, screwing in the stud A<sup>7</sup> and carrying at its outer end a handle F', abutting against the outer face of the cover A<sup>8</sup>. A gasket or packing G is placed between the inner face of the cover and the front face of the casing A' to render the interior thereof completely moisture-proof to prevent rain and moisture from passing into the trap and into the sand, which would prevent the latter from freely flowing from the trap. By unscrewing the bolt F and removing the cover A<sup>8</sup> and its packing G complete access is had to the interior of the casing A' to allow of cleaning the same or removing obstructions therefrom in case such obstructions have lodged in the casing. When the cover A<sup>8</sup> is removed, as described, the partition A<sup>6</sup> can be conveniently turned into either of its two positions, according to the use intended to be made of the sand-trap, as above described.

The device is very simple and durable in construction and can be cheaply manufactured and used with or without the aid of pneumatic pressure.

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

1. A sand-trap for a pneumatic sander, comprising a casing having a discharge-passage and a chamber, each connected with the sand-supply, and an adjustable partition between

the chamber and passage, whereby the sand may be discharged directly into the said passage, or into the chamber and from thence into the passage.

2. A sand-trap for a pneumatic sander, comprising a casing having discharge-passages, a chamber communicating with one of the passages by a port, and a second chamber in communication with the first chamber and the other passage, and an adjustable partition in the casing adapted to close the said port and to extend over the entrance to the said second chamber.

3. A pneumatic sander, comprising a casing having connected discharge-passages, connected at one end with the sand-box and at the other end with discharge-pipes leading to the track, at the front and rear of the drive-wheel, and nozzles held on the casing and connected with an air-supply, the nozzles discharging into the said passages.

4. A pneumatic sander, comprising a casing having a discharge-passage, a chamber communicating with the said passage by a port, and a second chamber communicating with the first chamber, the discharge-passage and the first-named chamber being connected with the sand-box, and the said discharge-passage and the second-named chamber being connected with discharge-pipes, and nozzles, one discharging into the said port and the other into the second chamber.

5. A pneumatic sander, comprising a casing having connected passages, connected at one end with the sand-box and at the other end with discharge-pipes leading to the track, at the front and rear of the drive-wheel, nozzles held on the casing and connected with an air-supply, the nozzles discharging into the said passages, and an adjustable partition in the said casing, for connecting or disconnecting the passages.

6. A pneumatic sander, comprising a casing having connected passages, connected at one end with the sand-box and at the other end with discharge-pipes leading to the track, at the front and rear of the drive-wheel, nozzles held on the casing and connected with an air-supply, the nozzles discharging into the said passages, and an adjustable partition in the said casing, for connecting or disconnecting the passages, the said casing having a removable cover adapted to clamp the said partition in place.

7. In a pneumatic sander, a casing having a chamber and a discharge-passage, the chamber and passage being connected with each other by a port, and each adapted to be connected with a sand-supply, and a nozzle connected with an air-supply and discharging into the said port.

8. A pneumatic sander, comprising a casing having a vertical passage, a chamber at one side of the said passage and communicating



with the passage by a port, and a second chamber communicating with the first chamber, the passage and first chamber being adapted to be connected with a sand-supply and said passage and second chamber being each adapted to be connected with a discharge-pipe, a pivoted partition between the passage and first chamber, and adapted to close the port between the same and to extend over the entrance to the said second chamber, and noz-

zles adapted to be connected with an air-supply, one nozzle discharging into the said port and the other into the second chamber.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT BETHENY POTTS.

Witnesses:

L. M. STONG,  
O. P. STEWART.