G. A. BAUER.

DUST COLLECTOR.

APPLICATION FILED JUNE 24, 1909.

956,270.

Patented Apr. 26, 1910.

Fig. 1.

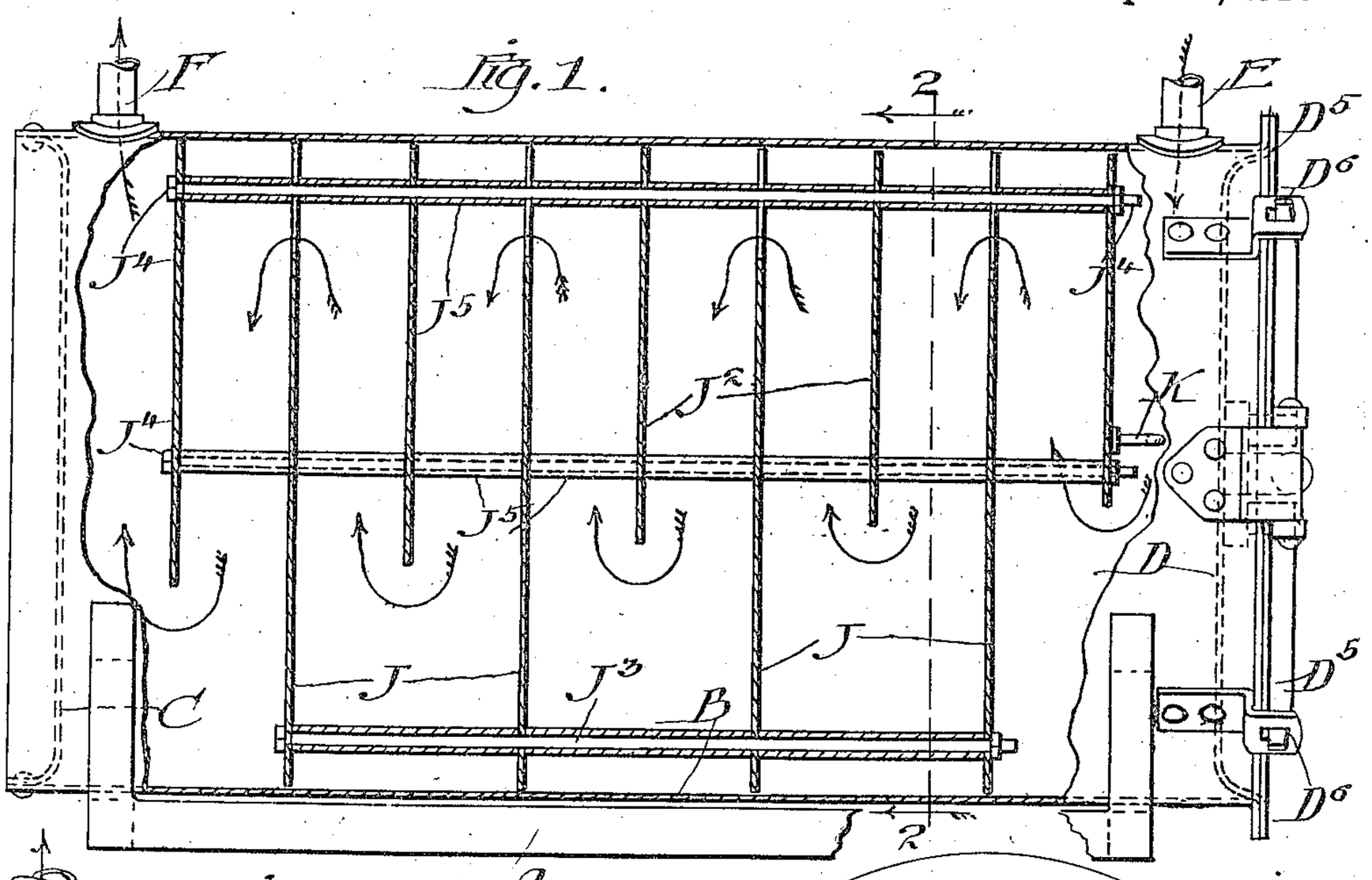


Fig. 2.

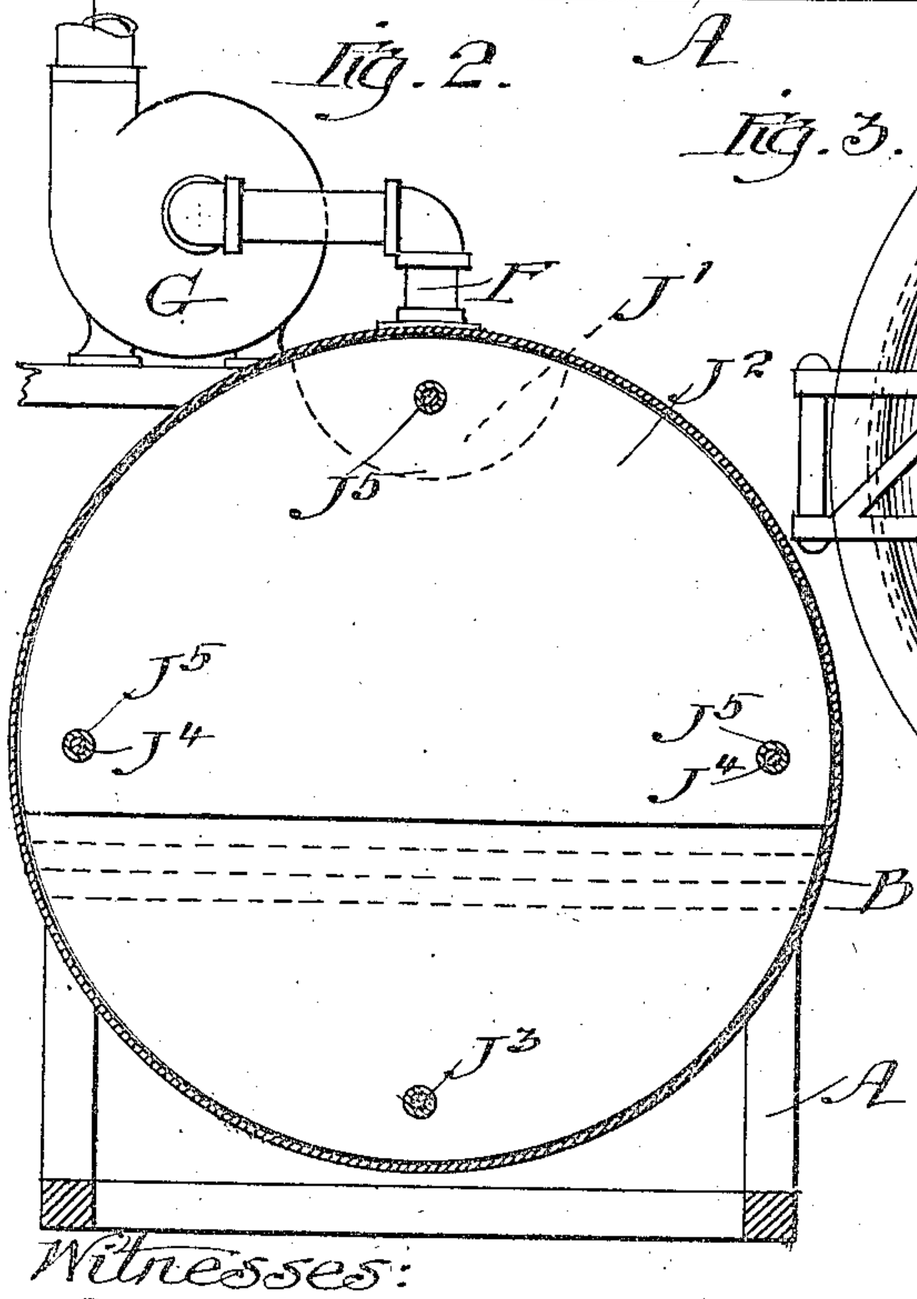
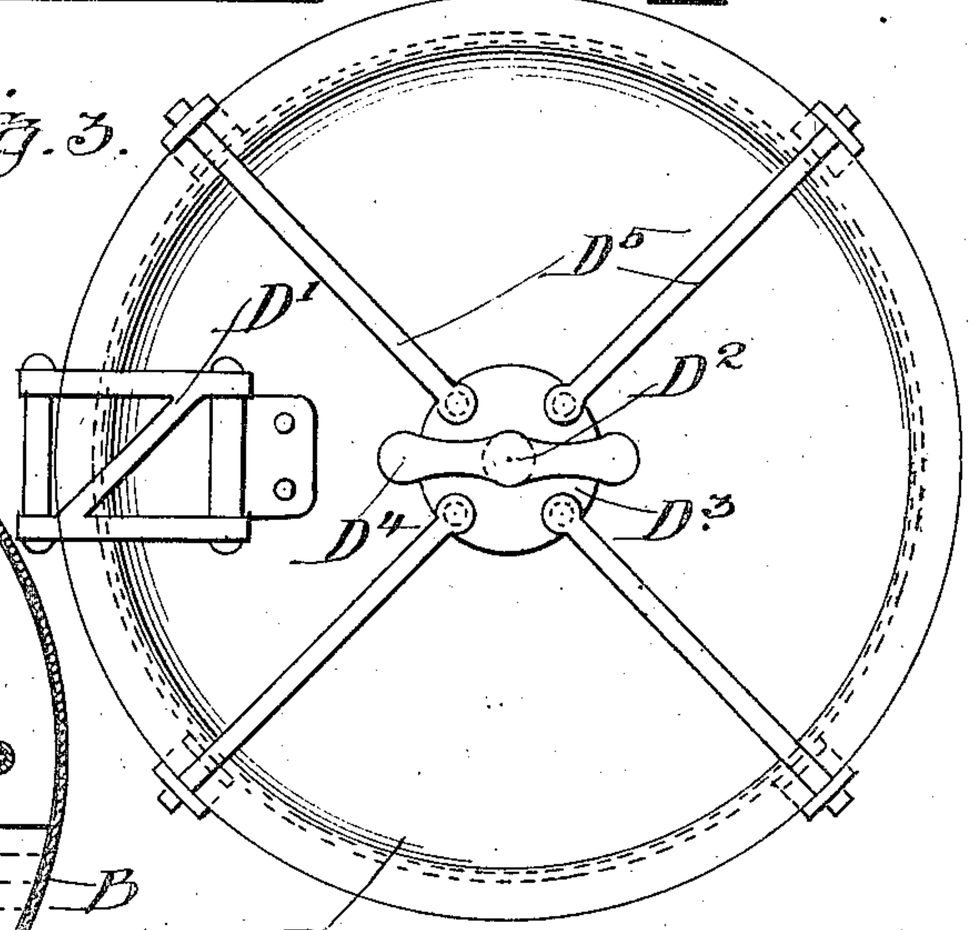


Fig. 3.



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UNITED STATES PATENT OFFICE.

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DUST-COLLECTOR.

956,270. Specification of Letters Patent. Patented Apr. 26, 1910.

Application filed June 24, 1909. Serial No. 504,002.

To all whom it may concern:

Be it known that I, GUSTAVUS A. BAUER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Dust-Collectors, of which the following is a specification.

My invention relates to dust collectors and may be best illustrated in connection with the device for collecting the dust derived from the operation of a pneumatic sweeping apparatus.

One form of my invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a longitudinal section through the collector, Fig. 2, a cross section on the line 2—2 of Fig. 1; Fig. 3, a front elevation.

Like parts are indicated by the same letter in all the figures.

A is a base or bed on which rests the cylindrical case B closed at one end by the fixed end C and at the other by the removable end D. This removable end D is hinged to the wall of the case by means of the hinge D^1. Centrally mounted upon it by means of the bolt D^2 is the disk D^3 provided with a handle D^4 and four radially extended eccentrically pivoted rods D^5 D^5. The outer end of each of these rods is adapted to pass through a loop D^6 secured to the end of the case. Thus this end cover of the case becomes a door adapted to be swung on the hinge and be locked in position when closed.

E is the supply pipe and F the discharge pipe whereby the current of air charged with dust is introduced into the collector and removed therefrom. The current of air is kept in circulation by means of the fan G diagrammatically shown in connection with the discharge pipe.

Within the case is a removable core consisting of the disks J, J each open near its upper side, as for example, at the point J^1 and a series of disk sections J^2 J^2. These several disks are held together by the longitudinal rods J^3 J^3, each disk being held in position by the set nuts J^4 J^4. At the end of the rod are the intermediate short pipe sections J^5 J^5 which surround the rod and lie between the several disks. By this means the air introduced into the collector is compelled to pass therethrough along the circuitous route indicated by the arrows. This passage takes place through and along the upper part of the case so that the lower part of the case, by means of the full sized disk, is divided into a series of settling chambers or compartments where the air is relatively free from motion. The heavier particles of dust fall into these chambers and are there collected. When the current has been running through the collector for a sufficient time to cause the deposit of a considerable amount of dust the flow of the current may be arrested, the door opened and the core removed. The front end of the core is provided with a handle K as indicated, for this purpose. The core, of course, operates to draw the collected dust out of the case where it may fall into any convenient receptacle.

I do not wish, of course, to be limited to the particular form, shape and proportion of the various elements forming my invention but I shall point out in my claims the particular things which I consider new. Of course the case could be any cross section and the disks could be of any desired shape or number and the apertures through the large disk at the top could be arranged as desired.

I claim:

1. A dust collector comprising a case having an inlet at one end and an outlet at the other, and a series of transverse diaphragms within forming relatively still settling chambers at the bottom, and a circuitous air passage at the top, said diaphragms secured together some of them adapted to scrape the bottom and removable from the case to scrape out the dirt.

2. A dust collector comprising a case having an inlet at one end and an outlet at the other, a series of transverse diaphragms within forming relatively still settling chambers at the bottom and a circuitous air passage at the top, the alternate diaphragms extending to the bottom of the case and perforated near their tops, said diaphragms secured together some of them adapted to scrape the bottom and removable from the case to scrape out the dirt.

3. A dust collector comprising a case having an inlet at one end and an outlet at the other, and a series of transverse diaphragms within forming relatively still settling chambers at the bottom and a circuitous air passage at the top, alternate diaphragms imperforate at the top but with lower edges above the bottom, said diaphragms secured

together some of them adapted to scrape the bottom and removable from the case to scrape out the dirt.

4. A dust collector comprising a case having an inlet at one end and an outlet at the other, and a series of transverse diaphragms within forming relatively still settling chambers at the bottom and a circuitous air passage at the top, alternate diaphragms extending to the bottom but perforated at the top, and the other diaphragms imperforate at the top but not extending to the bottom, said diaphragms secured together some of them adapted to scrape the bottom and removable from the case to scrape out the dirt.

5. A dust collector comprising a case having an inlet at one end and an outlet at the other, and a series of transverse diaphragms within forming relatively still settling chambers at the bottom and a circuitous air passage at the top, alternate diaphragms of practically the same size as the cross section of the case, perforated near the top and the remaining diaphragms approximately half the cross section of the case and filling the upper portion thereof, said diaphragms secured together some of them adapted to scrape the bottom and removable from the case to scrape out the dirt.

6. A dust collector comprising a case having an inlet at one end and an outlet at the other, a series of transverse diaphragms within forming relatively still settling chambers at the bottom and a circuitous air passage at the top, said diaphragms secured together some of them adapted to scrape the bottom and removable from the case, to scrape out the dirt and a door at one end of the case.

7. A dust collector comprising a case having an inlet at one end and an outlet at the other, a series of transverse diaphragms within forming relatively still settling chambers at the bottom and a circuitous air passage at the top, the alternate diaphragms extending to the bottom of the case and perforated near their tops, said diaphragms secured together some of them adapted to scrape the bottom and removable from the case to scrape out the dirt, and a door at one end of the case.

8. A dust collector comprising a case having an inlet at one end and an outlet at the other, a series of transverse diaphragms within forming relatively still settling chambers at the bottom and a circuitous air passage at the top, alternate diaphragms imperforate at the top but with lower edges above the bottom, said diaphragms secured together some of them adapted to scrape the bottom and removable from the case to scrape out the dirt, and a door at one end of the case.

9. A dust collector comprising a case having an inlet at one end and an outlet at the other, a series of transverse diaphragms within forming relatively still settling chambers at the bottom and a circuitous air passage at the top, alternate diaphragms extending to the bottom but perforated at the top, and the other diaphragms imperforate at the top but not extending to the bottom, said diaphragms secured together some of them adapted to scrape the bottom and removable from the case to scrape out the dirt, and a door at one end of the case.

10. A dust collector comprising a case having an inlet at one end and an outlet at the other, a series of transverse diaphragms within forming relatively still settling chambers at the bottom and a circuitous air passage at the top, alternate diaphragms of practically the same size as the cross section of the case, perforated near the top and the remaining diaphragms approximately half the cross section of the case and filling the upper portion thereof, said diaphragms secured together some of them adapted to scrape the bottom and removable from the case to scrape out the dirt, and a door at one end of the case.

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