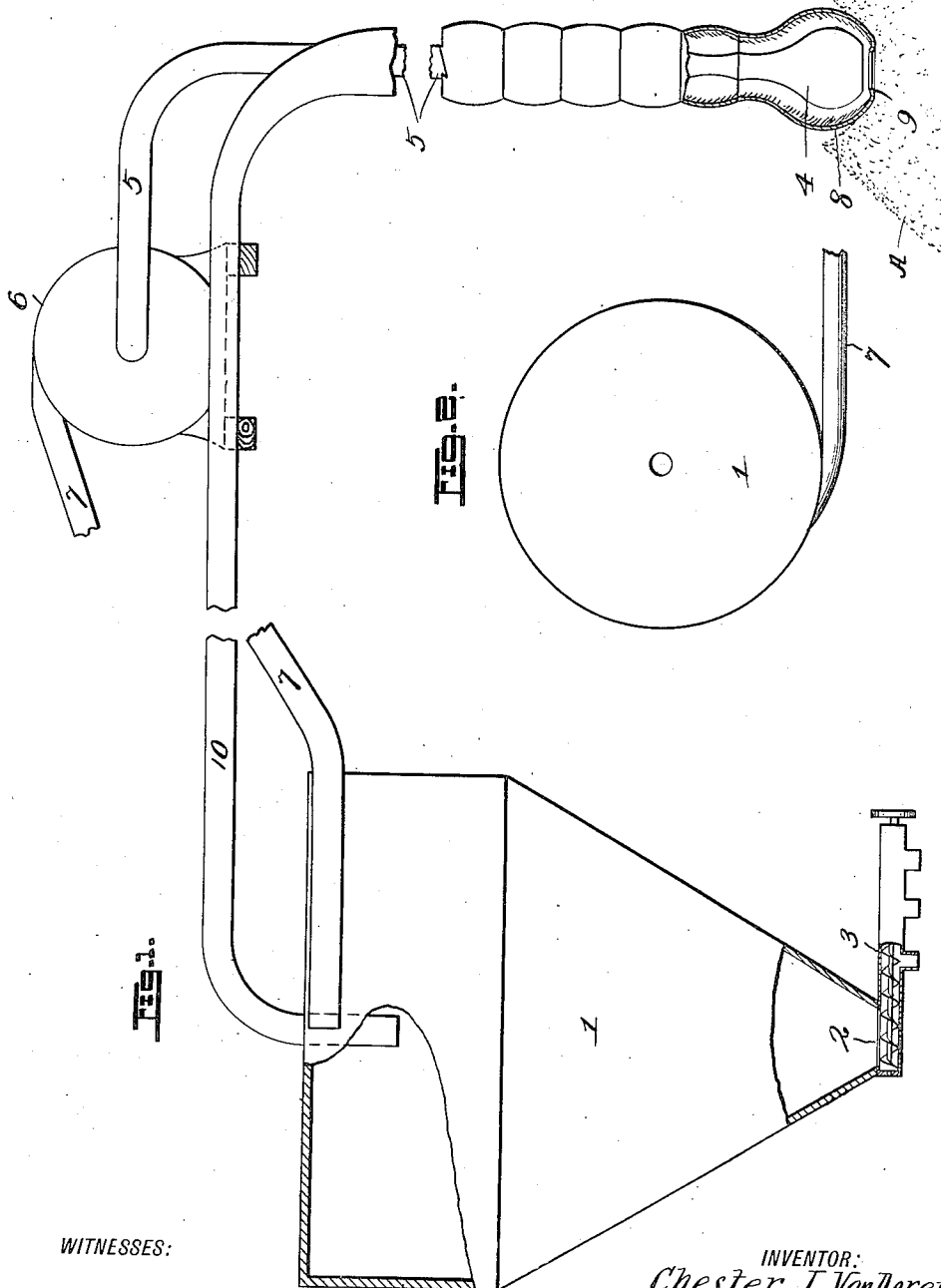


C. J. VAN DOREN.
PNEUMATIC APPARATUS FOR TRANSFERRING MATERIAL.
APPLICATION FILED APR. 18, 1912.

1,125,413.

Patented Jan. 19, 1915.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHESTER J. VAN DOREN, OF CHANUTE, KANSAS.

PNEUMATIC APPARATUS FOR TRANSFERRING MATERIAL.

1,125,413.

Specification of Letters Patent.

Patented Jan. 19, 1915.

Application filed April 18, 1912. Serial No. 691,753.

To all whom it may concern:

Be it known that I, CHESTER J. VAN DOREN, a citizen of the United States, residing at Chanute, in the county of Neosho and State of Kansas, have invented certain new and useful Improvements in Pneumatic Apparatus for Transferring Material, of which the following is a specification.

My invention relates to improvements in pneumatic apparatus for transferring material, such for instance, as cement, gypsum, slack coal, etc., and my object is to provide apparatus of this character whereby material may be economically and rapidly transferred from one point to another without loss or the discharge of dust into the surrounding atmosphere.

The apparatus embodies means for creating and economically maintaining a continuous circulation of air between the points where the material is taken up and discharged, and in order that the invention may be fully understood, reference will now be made to the accompanying drawing, in which:

Figure 1 is a broken side elevation partly in section of my improved apparatus, and Fig. 2 is a reduced plan view of a collector employed in carrying out the invention.

In carrying out the invention I employ a collector 1, which tapers toward its lower end and has an outlet 2 communicating with a spiral conveyer 3, whereby uniform discharge of material from said collector is assured.

4 designates a flexible suction-head communicating with a suction pipe 5 leading to a fan or other current creating device 6, having a discharge pipe 7 leading therefrom to the upper portion of the collector 1, at one side of which it enters, as shown on Fig. 2, to give the discharged material a whirling motion.

8 designates a flexible discharge head surrounding the suction-head 4, below which it slightly extends and has an upturned margin 9 for directing its blast upward and into the suction-head 4. Discharge-head 8 communicates with a return-pipe 10 leading from the central upper portion of the collector 1. The heads 4 and 8 being flexible, automatically accommodate themselves to the diminishing pile of material A, upon which they rest.

Operation: In practice a continuous circulation of air is maintained between the heads 4 and 8 and collector 1, through the intermediacy of the suction-pipe 5, fan 6, discharge-pipe 7, and the return-pipe 10, and as this current at no time discharges into the atmosphere, it will be comparatively easy to maintain and there will be no loss of material or escape of dust from said material. The suction-head 9 is lowered into the material, which acts as a seal against the discharge of air from said head into the atmosphere. The suction created in head 4 draws up the material which passes into the fan-casing 11 from the suction-pipe 5 and is discharged into the collector 1, which having no opening into the atmosphere, prevents the escape of the lighter particles of the material into the atmosphere. As the material is discharged into the collector 1, the bulk thereof settles down into said collector and is drawn off by the conveyer 3, the material in the conveyer and the collector serving to seal the outlet 2 against the escape of air current, which returns to suction-head 4 through the return-pipe 10 and the discharge-head 8. Any light particles of material which do not at first settle in the collector 1, pass out through the return-pipe 10 and back to the collector, continuing this cycle until they settle with the bulk of the material in the collector.

From the foregoing description it will be apparent that I have produced a new and useful apparatus for transferring material in bulk economically, without loss of material, and without filling the surrounding atmosphere with the dust or lighter particles of said material.

Having thus described my invention what I claim and desire to secure by Letters Patent, is:

In an apparatus of the character described, a flexible suction-head, and a flexible discharge-head surrounding said suction-head and provided with an upturned marginal flange directed toward the suction-head.

In testimony whereof I affix my signature, in the presence of two witnesses.

CHESTER J. VAN DOREN.

Witnesses:

P. B. MAC LAUER,
G. DORENTE.