E. HEARING.

VACUUM CREATOR.

APPLICATION FILED OCT. 9, 1911.

**1,067,653.** **Patented July 15, 1913.**

Fig. 1.

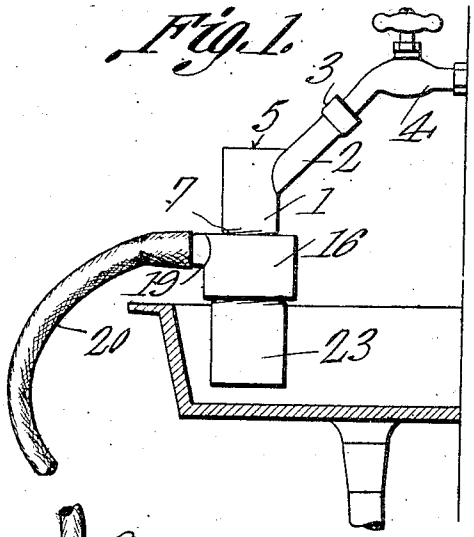



Fig. 2.

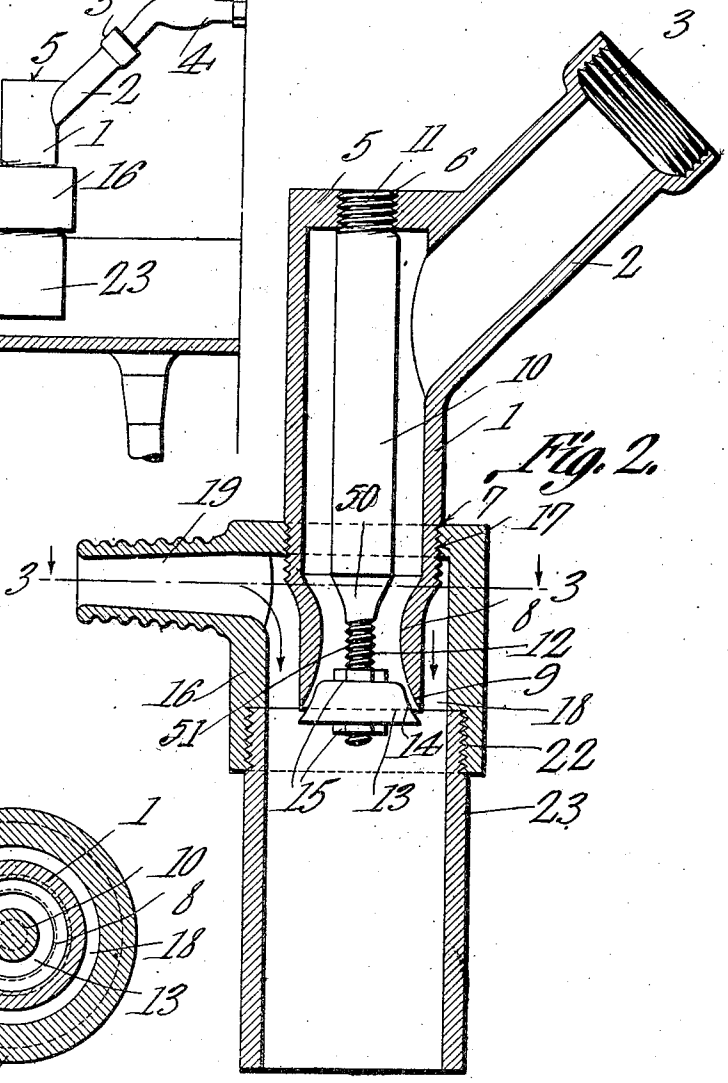
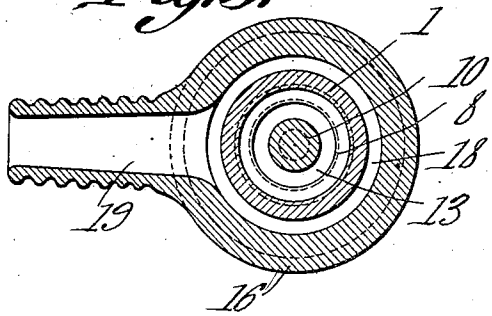



Fig. 3.




Witnesses

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# UNITED STATES PATENT OFFICE.

EDWARD HEARING, OF KELLOGG, IDAHO, ASSIGNOR OF ONE-HALF TO TOM R. MOORE, OF KELLOGG, IDAHO.

## VACUUM-CREATOR.

1,067,653. Specification of Letters Patent. Patented July 15, 1913.

Application filed October 9, 1911. Serial No. 653,626.

*To all whom it may concern:*

Be it known that I, EDWARD HEARING, a citizen of the United States, residing at Kellogg, in the county of Shoshone and State of Idaho, have invented a new and useful Vacuum-Creator, of which the following is a specification.

The present invention relates to improvements in vacuum creators, the primary object of the invention being the provision of a vacuum forming device adapted to be attached to a faucet and provided with means for attaching a cleaning tool thereto, the said device being provided with a concentrically disposed means whereby the water flowing therethrough is regulated to be sprayed to create the proper vacuum within an enlarged discharge chamber, the tool conduit emptying thereinto so that the dust and dirt, collected by the tool and conduit, will be commingled with the discharge of water and carried to the sewer pipe, thus dispensing with an air filtering means and the necessity of the dust and dirt carried to a distant place.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a side elevation of the complete vacuum creating device in the position it assumes when in operation. Fig. 2 is a vertical central sectional view through the complete vacuum creating device detached from its hose and faucet. Fig. 3 is a section taken on line 3—3 of Fig. 2.

Referring to the drawings, the numeral 1 designates the main supporting tubular casing provided with the angularly and upwardly extending water entrance pipe or inlet member 2, the upper end 3, of which is enlarged and threaded, or provided with other means whereby the same may be connected to the faucet 4, as illustrated in Fig. 1. The upper end of member 1 is sealed as at 5 and is provided with the concentric threaded opening 6, while at 7 near its lower end are provided a plurality of threads the purpose of which will presently appear. This tubular member 1 is provided with an hour-glass bore 8 which is curved inwardly as shown and finally outwardly as at 9, to produce a spraying nozzle or mouth at the lower end of the tubular casing 1, while mounted adjustably and concentrically of the casing 1 in the threaded opening 5 thereof is a stem or rod 10, the upper threaded end 11 of which engages the threads of the opening 6 and thereby holds the stem concentrically of the bore of the casing 1 so that the reduced threaded end 12 of said stem will project concentrically through and below the reduced portion 8 of said member 1. Adjustably mounted upon the lower reduced threaded portion of this stem is a valve 13, whose inclined face 14 is adapted to co-act with the inclined mouth 9 of the said tubular member 1 and thereby provide a spraying means which will spray the flow of water entering the duct 2 through the body 1 outwardly against the walls of the draining pipe or discharge duct 23. In order to lock the said valve 13 in adjusted position upon the threaded end 12 of the stem, two nuts 15 are employed as shown in Fig. 2.

A supplemental casing 16 is provided and has a concentric threaded aperture 17 which engages the threads 7 of the tubular member 1, the bore of said casing being larger than the exterior bore of the reduced lower end of the member 1 and providing a concentric space therearound which is in communication with the bore of the tool connecting nipple 19 of the member 16 to which is connected the cleaning tool conduit or hose 20 carrying at its end the usual cleaning tool 21. The lower end of the member 16 is interiorly threaded to receive the upper end of the draining pipe or conduit 23, whose bore is substantially the same diameter as the bore of the casing 18.

From the foregoing description taken in connection with the drawings, the operation of this device will be fully understood, but in order to clearly bring out its advantages it is thought necessary to describe in detail the various connections between the sections and their use. The member 1 forms the supporting member which is connected to the faucet and is provided with the lower threaded and reduced end for adjustable and removable connection to the intermediate casing 16, whereby the operator is permitted access to the valve 13 so that the said

valve may be adjusted upon the reduced stem 12 to provide the proper outlet between the wall of the valve at 14 and the outwardly flaring wall 9 of the casing 1, thus producing the desired spraying effect against the wall of the drain or conduit 23 and thereby creating the proper vacuum in the chamber 18 to cause the air displaced therein to be brought through the tool 21 with the dust and dirt, the said dust and dirt commingling with the water sprayed out of the outlet formed by the valve 13 and the lower end of the tubular casing 1 and thereby be commingled with said water and carried through the drain or discharge pipe 23 to the desired source. Thus by reason of the threaded connection between the casings 16 and 1 the direction of projection of the conduit or nipple 19 may be changed to accommodate the proper use of the tool within the room.

By means of the connection of the stem 10 to the upper concentric threaded aperture of the casing 1, the said stem may be adjusted up and down and removed at will for replacement or cleaning. The rod 10 is provided with a tapered part 50 terminating in a reduced, threaded tip 51 upon which the valve 13 is mounted. By rotating the threaded end 51 of the rod 10 in the upper end of the main casing 1, the position of the tapered part 50 with respect to one end of the hour-glass bore 8 may be adjusted. By rotating the frusto-conical valve 13 upon the threaded tip 51, the position of the valve with respect to the other end of the hour-glass bore 8 may be adjusted, independently of the position of the tapered part 50 with respect to the first specified end of the bore 8. In this manner, the character of the discharge may be adjusted to a fine degree. Owing to the fact that the main casing 1 is threaded as shown at 17 into the supplemental casing 16, the position of the lower end of the main casing 1 with regard to the air inlet member 19 may be adjusted. Owing to the fact that the air inlet member 19 projects from the side wall of the supplemental casing 16, and owing to the fact that this member and the liquid inlet member 2 lie in different planes, relative rotation between the casings 1 and 16 may be effected without bringing the members 2 and 19 into contact.

What is claimed is:

In a device of the class described, a main casing having an inlet member adjacent one end and provided at its other end with an hour glass bore; a rod in the main casing and provided with a tapered part terminating in a reduced, threaded tip, one end of the rod being threaded into the casing to permit an adjustment of the tapered part in one end of the hour-glass bore; a frusto-conical valve mounted upon the threaded tip and adjustable in the other end of the hour-glass bore independently of the position of the tapered part in the first specified end of the hour-glass bore; a supplemental casing having an air inlet member, the main casing being threaded into the supplemental casing to permit an adjustment of the end of the main casing with respect to the air inlet member, the two inlet members lying in different planes to permit relative rotation between the casings.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

EDWARD HEARING.

Witnesses:
TOM R. MOORE,
JOHN F. MOORE.