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2,861,586

CONNECTOR FOR VACUUM CLEANERS

Filed Feb. 26, 1957

2 Sheets-Sheet 1

Fig. 1.

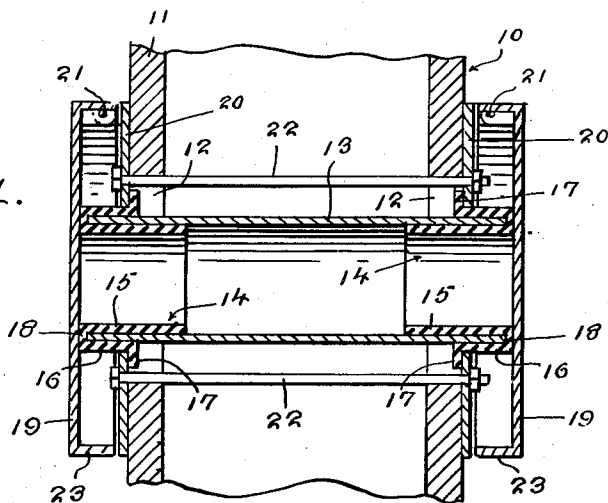


Fig. 2.

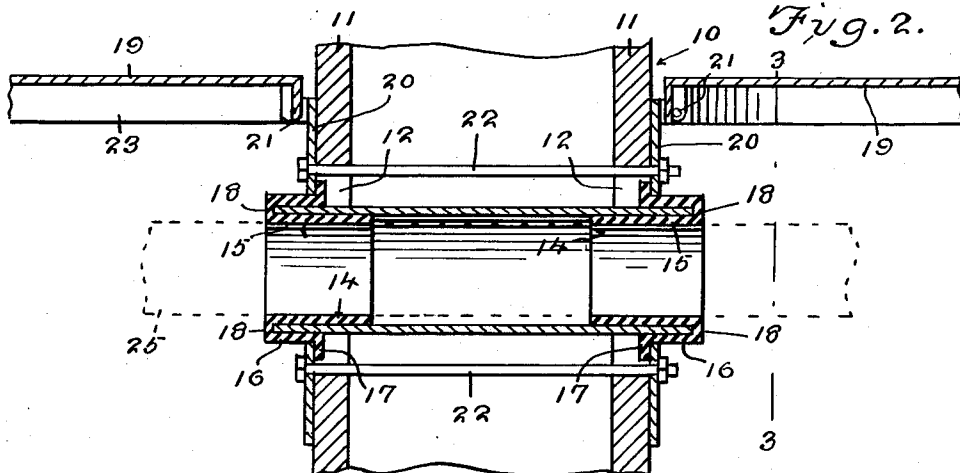
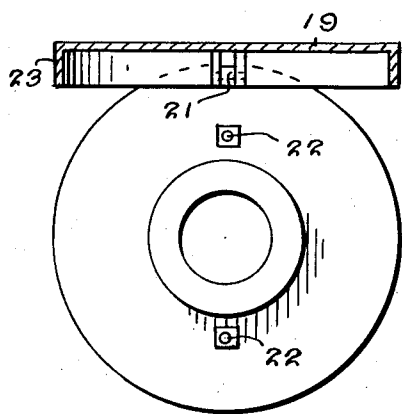


Fig. 3.



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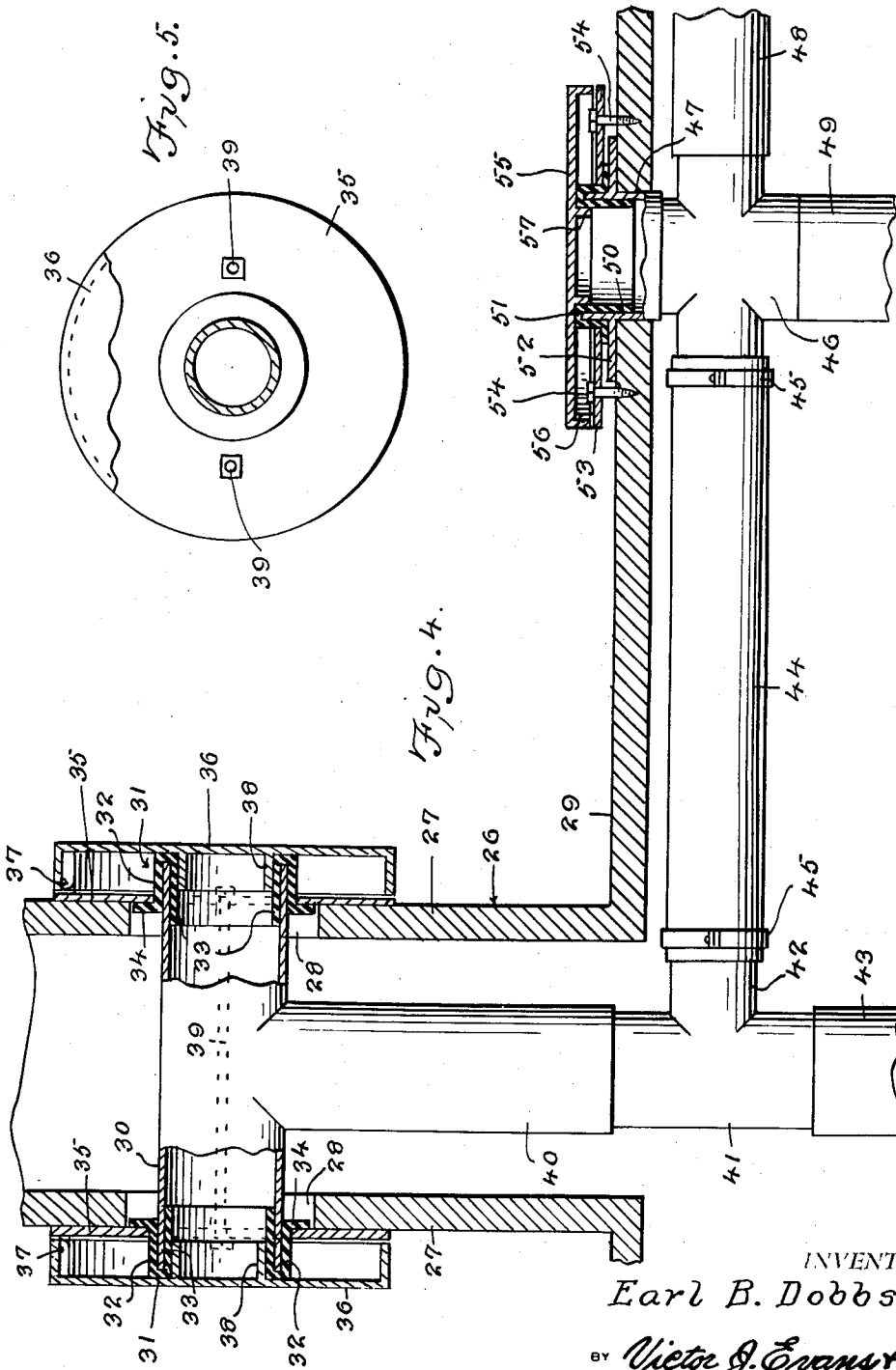
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CONNECTOR FOR VACUUM CLEANERS

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Application February 26, 1957, Serial No. 642,619

1 Claim. (Cl. 137—360)

This invention relates to suction apparatus, and more particularly to a wall or floor connection for suction apparatus such as a vacuum cleaner.

The object of the invention is to provide a connector which is adapted to be mounted in a wall or floor surface whereby a vacuum cleaner can be positioned in one room or area of a home or other building, while the vacuum cleaner hose can be positioned in a remote location or different area or room.

Another object of the invention is to provide a connector for suction apparatus or vacuum cleaners which permits a cleaning or suction hose to be used in one area or room without the necessity of moving the vacuum cleaner itself to that particular room since the connector is mounted in the wall or floor surface of the building so that the vacuum cleaner hose can be readily connected through the wall or floor surface to the source of supply of vacuum pressure.

A further object of the invention is to provide a connecting system for vacuum cleaners which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are used to designate like parts throughout the same.

Figure 1 is a fragmentary sectional view showing the connector of the present invention mounted in a portion of a wall.

Figure 2 is a view similar to Figure 1, but showing the covers in raised position, as when hoses or conduits are arranged in engagement with the connector.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a fragmentary sectional view illustrating a modification.

Figure 5 is a fragmentary elevational view illustrating a portion of the apparatus of Figure 4, and with parts broken away and in section.

Referring in detail to the drawings, and more particularly to Figures 1, 2 and 3 of the drawings, the numeral 10 indicates a portion of a wall which may be a wall in a home or other building, and the wall 10 includes spaced apart portions 11 which are provided with diametrically opposed openings 12. Extending through the openings 12 and projecting beyond the portions 11 of the wall 10 is a cylindrical tube 13.

Arranged in engagement with each end of the tube 13 is a sleeve 14 which may be made of a suitable resilient material such as rubber. Each sleeve 14 includes an inner portion 15 which snugly engages the inner surface of the tube 13, and each sleeve 14 further includes an outer portion 16, the outer portion 16 being shorter than the inner portion 15. Extending outwardly from the portion 16 of the sleeve 14 and secured thereto or formed

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integral therewith is a circular lip 17, and the portions 15 and 16 of the sleeve 14 are connected together by a connecting section or portion 18.

There is further provided cover members 19, and each cover member 19 is hingedly or pivotally connected to a respective plate 20 by means of a hinge connection 21. The pair of plates 20 are interconnected together by suitable securing elements such as bolt and nut assemblies 22. Each cover member 19 is provided with an annular rim 23, and the cover members 19 are mounted for movement into and out of closing relation with respect to the sleeves 14. There is illustrated in Figure 2 in dotted lines a portion of a suction or vacuum cleaner hose which is indicated by the numeral 25, and it will be seen that by means of the connection of the present invention, a vacuum cleaner can be positioned in a room on one side of the wall 10, and then a hose or conduit can be extended from the vacuum cleaner to the tube 13, the resilient sleeve 14 serving to frictionally engage the hose leading from the vacuum cleaner so that the hose will not accidentally work loose from the connection. It is to be understood that when the connector of the present invention is being used, that the cover members 19 are moved to the raised position as shown in Figure 2, and when the connector is not being used, the cover members 19 are in the closed position as shown in Figure 1. With the device being used, and with a hose leading from a vacuum cleaner to one end of the tube 13, it will be seen that a different hose section or conduit section 25 can be extended from the other end of the tube 13 so that the vacuum cleaner nozzle can be mounted on the end of this last named hose whereby it will be seen that a vacuum cleaner can be positioned in one room so that the cleaning unit or nozzle can be positioned in another room or locality whereby it will not be necessary to move the vacuum cleaner or pump to each room where the suction nozzle is being used. Thus, the connectors of the present invention form a permanent installation so that any time that it is desired to use a suction nozzle in any area or room, it is only necessary to connect the conduit as previously described.

Referring to Figures 4 and 5 of the drawings, there is shown a modified construction wherein the numeral 26 indicates a portion of a wall which includes spaced apart portions 27, and in Figure 4 there is indicated a portion of a floor surface 29, and the floor surface 29 may be in a home, or any other suitable dwelling or building. The portions 27 of the wall 26 are provided with diametrically opposed openings or cut-outs 28, and a cylindrical tube 30 extends through the openings 28. A resilient sleeve 31 is mounted on each end of the tube 30, and the sleeve 31 serves the same purpose as the previously described sleeves 14 and have the same construction. Thus, each sleeve 31 includes an outer portion 32, an inner portion 33, and a lip 34.

There is further provided a pair of spaced parallel plates 35, and a cover member 36 is hingedly connected to each plate 35 by means of a hinge 37. Each cover member 36 carries a circular collar 38 that is mounted for movement into and out of engagement with the corresponding sleeve 31. The plates 35 are interconnected together by means of suitable securing elements such as bolt and nut assemblies 39.

Extending from the tube 30 and connected thereto, is a first conduit 40 which leads to a T-fitting 41, the fitting 41 including a branch 42. A conduit 43 may also be connected to the fitting 41, and a conduit 44 is connected to the branch 42 by means of a clamp 45. The conduit 44 is adapted to extend beneath the floor sur-

face 29, and the conduit 44 extends to a fitting 46 and is connected thereto by means of a clamp such as the clamp 45. The fitting 46 is positioned contiguous to and beneath an opening 47 in the floor 29, and conduits 48 and 49 are connected to the fitting 46.

Extending through the opening 47 in the floor 29 and connected to the fitting 46 is a tube 50, and mounted on the upper end of the tube 50 is a rubber or resilient sleeve 51 which has the same construction and serves the same purpose as the previously described sleeve 31 or the sleeve 14. Formed integral with the tube 50 or secured thereto is a circular plate 52 which defines a shoulder so as to insure that the adjacent parts of the apparatus will not accidentally slip through the opening 47. A plate 53 is further provided, and the plate 53 is connected to the floor surface 29 by means of suitable securing elements such as screws 54. A cover member 55 is hingedly connected to the plate 53 by means of a hinge connection 56, and the cover member 55 carries a circular collar 57 that is mounted for movement into and out of engagement with the sleeve 51.

From the foregoing, it is apparent that there has been provided a device which will permit a vacuum cleaner nozzle to be used in one room or location, while the vacuum cleaner itself is positioned in a remote location or different room. In Figures 1, 2 and 3 there is shown one form of the invention, wherein the connector is adapted to be permanently mounted in a wall such as the wall 10, and when the device is not being used, the cover members 19 are in the closed position shown in Figure 1. When the device is to be used, the cover members 19 are raised to the position shown in Figure 2 from the position shown in Figure 1, and the hose 25 leads from the vacuum cleaner to one end of the tube 13, the resilient sleeve 15 serving to maintain the hose 25 in its proper position. Then, another hose 25 can be connected to the opposite end of the tube 13 and this hose will also be retained in place by means of the rubber sleeve 14, and the last named hose 25 can have a vacuum cleaner nozzle connected thereto. Thus, it will be seen that the vacuum cleaner nozzle can be used for any desired purpose, and the vacuum pressure will be generated in the vacuum cleaner wherever it is positioned, and this pressure will be transmitted through the pair of conduits 25 and through the tube 13. When the system is not being used, the hoses 25 can be detached from the tube 13 and then the covers 19 can be permitted to move to their closed positions.

In Figures 4 and 5 there is shown a modification wherein it will be seen that there has been provided a means for permanently installing the connectors in a wall such as the wall 26 as well as the floor 29. In using the set-up shown in Figures 4 and 5, the vacuum cleaner can be connected to any of the conduits previously described such as the conduit 43, 49 or 48 or else the vacuum cleaner can be connected to the tube 30. Then, by opening one of the cover members such as the cover members 36 or 55, a hose can be arranged in engagement with one of the tubes such as the tubes 30 or 50 whereby the vacuum cleaner nozzle can be used for any desired purpose and the vacuum cleaner nozzle can be arranged at a remote location from the vacuum cleaner itself. After the vacuum cleaner is finished with, the various hoses can be disconnected from the tubes and then the cover members such as the cover members 36 and 55 can be moved to their closed positions.

The parts can be made of any suitable material and in any desired shape or size.

Suitable gaskets can be used wherever required or desired. Thus, it will be seen that there has been provided a set-up or apparatus which permits a vacuum cleaner to be used in different rooms or areas without the necessity of moving the vacuum cleaner from room to room. Thus, the vacuum cleaner can be located in

a room or hallway and the hose from the vacuum cleaner can be plugged into the connector without the necessity of pulling or moving the vacuum cleaner from room to room. Thus, an additional hose is attached to the connector inside of the room which is being cleaned or demothed, vaporized or the like and the connector is separate from the vacuum cleaner and can be used with any model or make of vacuum cleaner that uses a hose for cleaning purposes. The cover members close the opening when the device is not being used, and the resilient sleeve holds the hoses in place. The bolt and nut assemblies serve to maintain the parts in their proper assembled positions, and the length of the hoses being used can be varied as desired. By means of the present invention, there will result in a saving of effort as well as time since the vacuum cleaner can be positioned in one room or hallway and a connection can be made to different rooms or from a central hallway to one or more rooms without the necessity of carrying or pulling the vacuum cleaner from room to room. Also, by means of the present invention, corners of doorways, walls and furniture will not be marred or damaged and the mechanism also permits a room to be demothed without the necessity of entering the room. Furthermore, the set-up can be used for vaporizing a sick room without the noise of the vacuum cleaner motor.

As shown in Figures 4 and 5, the apparatus can also be used for connecting a vacuum cleaner to one or more rooms and/or a hallway or to rooms or to a closet to rooms through the floor 29. Thus, by means of the connections such as the T 41 and 46, the various parts can be connected together so that the conduits can be arranged below the floor 29 and between the wall portions 27. The plate 52 provides a shoulder which prevents the apparatus from slipping through the opening 47 in the floor 29. Also, the plate 53 is adapted to be screwed to the floor 29 by means of the securing elements or screws 54. The cover such as the cover 55 is provided with a circular bushing or collar 57 which fits tightly against the rubber sleeve 51 so as to prevent a suction through that opening when a vacuum cleaner is in use. Furthermore, a wall or floor surface may be provided with more than one opening and the various parts can be connected together in any suitable manner and by using clamps such as the clamps 45, the parts can be readily separated as when they are to be cleaned or replaced.

I claim:

In a device of the character described, a horizontally disposed floor surface, a vertically disposed wall arranged at right angles with respect to said floor surface, and said wall including spaced apart portions provided with diametrically opposed openings therein, a cylindrical open ended tube extending through said openings, a sleeve made of resilient material mounted on each end of said tube and each sleeve including an inner portion snugly seated within the end of the tube, an outer portion arranged on the outer surface of the tube and said outer portion being of less length than the inner portion, a connecting portion extending between said inner and outer portions, an annular lip extending outwardly from said outer portion, said sleeves adapted to receive suction hoses therein, a pair of plates positioned in spaced parallel relation with respect to each other and said plates being provided with central openings for the projection therethrough of said sleeves, securing elements extending through said plates and through the spaced apart portions of said wall, a cover hingedly connected to each of said plates and said covers being mounted for movement into and out of closing relation with respect to said sleeves, a circular rim extending inwardly from each of said covers, a circular collar carried by each cover and said collars being mounted for movement into and out of engagement with said sleeves,

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a first conduit extending from said tube, a T-fitting connected to said first conduit, a second conduit connected to said T-fitting and extending beneath a portion of the floor surface, a fitting connected to said second conduit, there being an opening in the floor surface adjacent said last named fitting, a tube extending from said last named fitting and projecting through the opening in the floor surface, a resilient sleeve connected to the upper end of said last named tube, a plate extending outwardly from said last named tube and defining a shoulder, a plate surrounding said last named sleeve and secured to the floor surface, and a cover hingedly connected to said last named plate.

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