Oct. 20, 1959 J. TODD, JR., ET AL 2,908,933

VACUUM APPARATUS FOR PICKING UP PARTICLES OF CLIPPED HAIR

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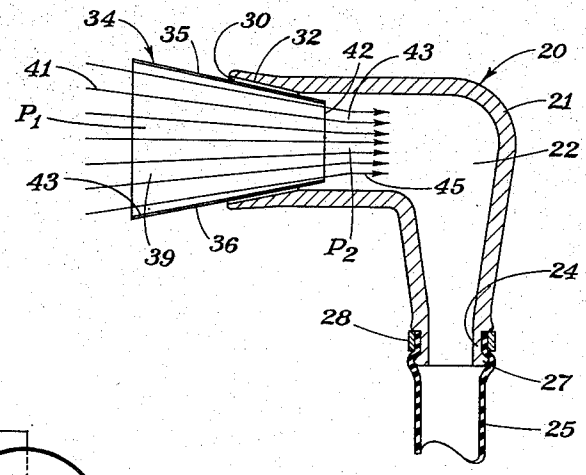

Fig. 1

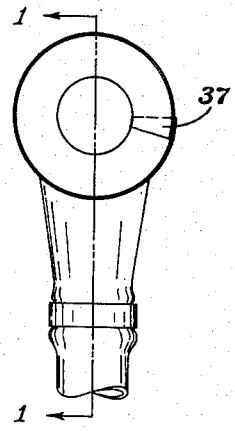

Fig. 2

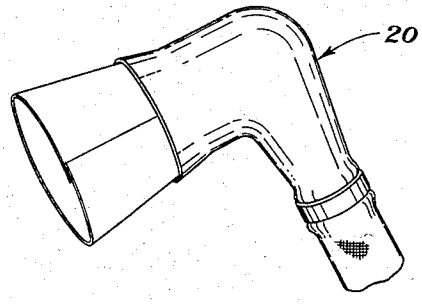

Fig. 3

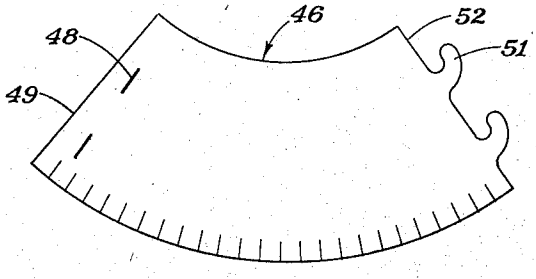

Fig. 4

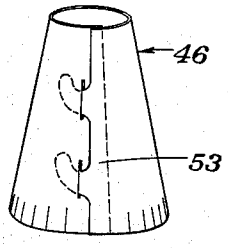

Fig. 5

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VACUUM APPARATUS FOR PICKING UP PARTICLES OF CLIPPED HAIR

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3 Claims. (Cl. 15—414)

The present invention relates generally to tonsorial apparatus and particularly to a novel device for collecting loose clippings of hair.

In general, the present invention consists of a new and useful vacuum apparatus which includes a head member adapted to be connected to a source of vacuum. The head member is constructed to removably receive disposable sanitary members formed of flexible material such as paper or the like. Moreover, for the convenience of the barber, the head member is adapted to readily receive and retain the sanitary members in a novel way whereby force exerted by air entering the apparatus constantly urges retention of a sanitary member in the head member. After the barber has used a sanitary member for collecting particles of hair from a particular customer, it can be readily and economically disposed of and a new sanitary member inserted in the head for use with the next customer. Since the sanitary member is the only portion of the apparatus which ever comes in contact with a customer, and since it is only used once, the sanitary aspects of the present invention will be readily appreciated.

It is therefore an object of the present invention to provide apparatus of the type described whereby particles of hair can efficiently and conveniently be removed from the head and neck of the customer, and which apparatus is completely sanitary as compared to prior devices for the same purpose and which apparatus may be produced at low cost and maintained at only slight expense.

It is another object of the present invention to provide apparatus of the type described wherein disposable sanitary members are utilized with a vacuum device for collecting particles of hair with such sanitary members being of a simple and inexpensive construction which may be readily packaged in compact form.

It is another object of the present invention to provide an apparatus of the type described wherein disposable sanitary members are insertably retained in a head member adapted to receive same in a novel manner whereby the sanitary members are retained in the head member so as to be readily removable without the necessity of locking mechanisms for effecting such retention.

It is still another object of the present invention to provide apparatus of the type described wherein disposable sanitary members can be readily attached, retained and detached with respect to a head member adapted to receive same in a novel manner whereby the force exerted by air, on the sanitary member, entering the apparatus serves to constantly urge retention of the sanitary member in the head member.

Other objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings wherein preferred forms of embodiments of the invention are clearly shown.

In the drawings:

Figure 1 is a side sectional view of an apparatus constructed according to the present invention with the section being taken along the line 1—1 of Figure 2;

Figure 2 is a front elevational view of the apparatus of Figure 1;

Figure 3 is a side perspective view illustrating the apparatus of the preceding figures;

Figure 4 is a plan view of the disposable sanitary member which forms a part of a second embodiment of the present invention, with such figure showing the sanitary member in plan form prior to assembly thereof into a conical configuration; and

Figure 5 shows the sanitary member of Figure 4 after it has been assembled into conical configuration.

Referring next to the drawings, and particularly to Figure 1, an apparatus constructed according to the present invention is illustrated in section, with a head member thereof being indicated generally at 20 and adapted to form an air passage 22. The lower portion of a casing 21, as seen in Figure 1, is provided with an end portion 24, of reduced diameter, for receiving a flexible hose 25 which is connected with a suitable source of vacuum not illustrated. The casing end portion 24 is provided with a shoulder or lip 27, and a ring 28 is disposed around the end of a flexible hose 25 whereby the end of the hose is clamped between the under surface of the ring 28 and the annular outer surface of the casing portion 24.

At the inlet end of the passage 22, the casing 21 is provided with an intake opening 30, and an inwardly tapered surface 32 which extends inwardly from the intake opening 30. The surface 32 is adapted to receive a disposable sanitary member, indicated generally at 34, since the outer surface 35 of the sanitary member is tapered at the smaller end thereof to register with the tapered surface 32 in the casing. The wall 36 of the sanitary member 34 is formed of thin flexible material, such as paper, which may be shaped to the cylindrical form illustrated by rolling a flat sheet and by lap-joining the edges thereof along a longitudinally extending seam 37 as is best seen in Figure 2. With this arrangement, the sanitary member 34 forms an outwardly diverging extension of the air passage 39 which communicates with air passage 22.

With further reference to Figure 1, when the apparatus illustrated is connected with an operating vacuum producing apparatus, air will be drawn inwardly in a pattern substantially as illustrated by the converging flow lines 41. The frictional force of air passing along the inner wall 43 of the sanitary member will produce an inwardly directed force on the member which urges retention of the member in contract with the tapered surface 32 of the head member. Moreover, inwardly of the inner end 42 of the sanitary member 34, the diameter of the jet of flowing air will continue to contract to some point 43 lying in the passage 22 inwardly of the inner end 42 of the sanitary member 34. Inwardly of the point 43, the air flow becomes substantially parallel and is therefore properly represented by the parallel flow lines 45 which illustrate the jet formed in passage 22 by the incoming air. It should be noted that the pressure P_2 at point 43 is substantially less than the pressure P_1 existing in the passage formed by the sanitary member 34 outwardly from the inner end 42 thereof. Due to the fact that pressure P_1 is greater than the pressure P_2, an inwardly directed resultant force is exerted by air pressure on the sanitary member 34, with such force serving to constantly urge retention of the member 34 in mounted relationship with the head 20.

Referring next to Figures 4 and 5, another aspect of the present invention is illustrated in the form of a different type of sanitary member which is indicated generally at

46 in Figure 5 wherein such member is illustrated in assembled disposition ready for use with the casing 21 in the manner previously described. This sanitary member 46 is formed from a plane sheet of flexible material, such as paper or the like, which is die cut at low cost, to a plan form substantially as illustrated in Figure 4. The die cut blank of Figure 4 is provided with slit means 48 located along one edge 49 thereof, and with tongue means 51 formed at another edge 52 thereof. To form the die cut sheet of Figure 4 into the conically shaped member of Figure 5, the blank of Figure 4 is rolled to the conical shape wherein the edges 49 and 52 form a lap-joined seam 53 at which the tongue means 51 is retained in inserted locked relationship with the slit means 48. With this arrangement, the sanitary members 46 can be compactly packaged, in quantity, for convenience in shipping and storing, yet such members can be readily assembled for use as needed.

In summary, from the foregoing it is seen that the present invention provides a new and useful tonsorial apparatus which serves to efficiently collect loose clippings of hair from the head and neck of the customer. The apparatus is entirely sanitary since the portion thereof which contacts the customer is a sanitary disposable member. Moreover, the apparatus, as well as the disposable sanitary members used therewith, are of simple and inexpensive construction and convenient to use.

While the forms of embodiments of the present invention as herein disclosed constitute preferred forms, it is to be understood that other forms might be adopted, all coming within the scope of the claims which follow.

We claim:

1. A tonsorial apparatus for collecting loose clippings of hair comprising, in combination, a head member forming an air passage adapted to be connected to a source of vacuum and having an air intake opening, said head including a supporting portion provided with an inner tapered surface extending inwardly from said opening; a disposable hollow conical member supported by said supporting portion and engageable with said surface, said member extending outwardly from said head and including an inlet and an outlet forming a tapered continuation of said air passage of outwardly increasing cross sectional area, the force of air moving through said passage serving to constantly urge and retain said hollow member against said surface.

2. A tonsorial apparatus for collecting loose clippings of hair comprising, in combination, a head member forming an air passage adapted to be connected to a source of vacuum and having an air intake opening, said head including a supporting portion provided with an inner tapered surface extending inwardly from said opening; a disposable hollow member removably supported by said supporting portion and engageable with said surface, said member extending outwardly from said intake opening and head and including an inlet and an outlet forming a continuation of said air passage, the force exerted by air moving through said passage serving to constantly urge said hollow member against said surface, and said member being formed of a sheet of flexible material having two opposite edges thereof disconnectedly joined together in a passage forming configuration.

3. A tonsorial apparatus for collecting loose clippings of hair comprising, in combination, a head member forming an air passage adapted to be connected to a source of vacuum and having an air intake opening, said head including a supporting portion provided with an inner tapered surface extending inwardly from said opening, a disposable hollow member removably supported by said supporting portion and engageable with said surface, said member extending outwardly from said intake opening and head and including an inlet and an outlet forming a continuation of said air passage, the force exerted by air moving through said passage serving to constantly urge said hollow member against said surface, said member being formed of a sheet of flexible material having two opposite edges thereof joined by groove means formed through said sheet at one of said edges and tongue means formed at the other of said edges, said tongue means being lockingly insertable in said groove means whereby said sheet is retained in a passage forming configuration.

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