United States Patent [19]

Zaidan

[11] **3,797,066**

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[54] **SHAG RUG VACUUM HEAD**

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[21] Appl. No.: **286,209**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 94,235, Dec. 1, 1970, abandoned.

[52] **U.S. Cl.** **15/369,** 15/371, 15/402

[51] **Int. Cl.** **A47l 9/06**

[58] **Field of Search** 15/369, 402, 368, 371

[56] **References Cited**

UNITED STATES PATENTS

2,716,773	9/1955	Meyerhoefer	15/369

FOREIGN PATENTS OR APPLICATIONS

165,488	2/1934	Switzerland	15/369
1,259,032	1/1968	Germany	15/402

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Assistant Examiner—C. K. Moore
Attorney, Agent, or Firm—Blair & Brown

[57] **ABSTRACT**

A head for a vacuum shag rug cleaner in which a comb or brush is mounted in the head on a transverse pivot to swing the comb or brush from a position upright and projecting from the bottom of the head to be effective in combing, to a position with the comb or brush swung to one side with the teeth nearly encompassed in the head. As the vacuum head is moved across a shag rug the teeth will comb the shag rug in one direction and will slide thereover when moved in the opposite direction on the return stroke so that all of the combing is in a single direction to give the surface of the rug a uniform appearance. The comb or brush is spring biased to its upright position and is moved to its non-effective position by action of movement of the comb across the rug in a direction to compress the springs therein.

4 Claims, 7 Drawing Figures

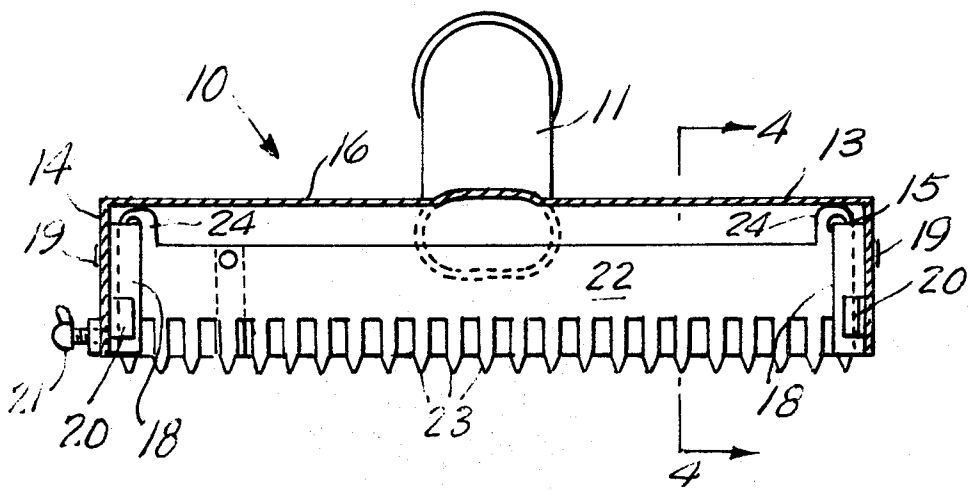


FIG. 1.

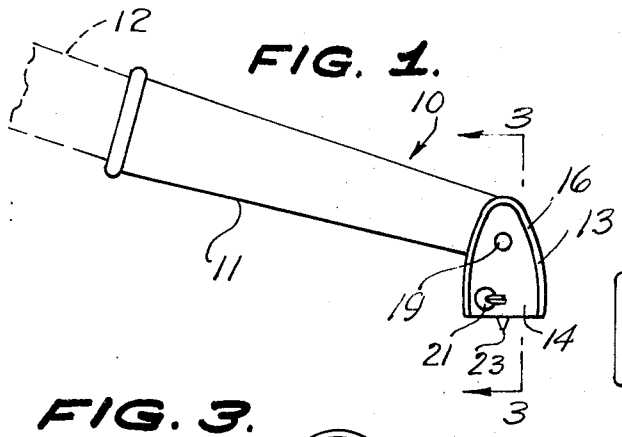


FIG. 2.

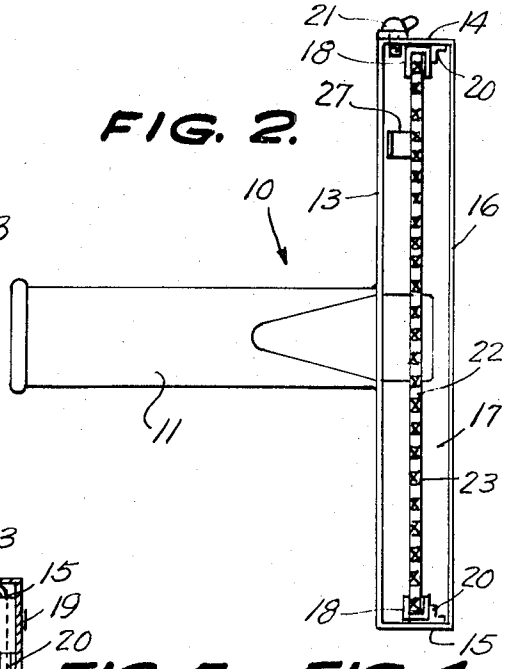


FIG. 3.

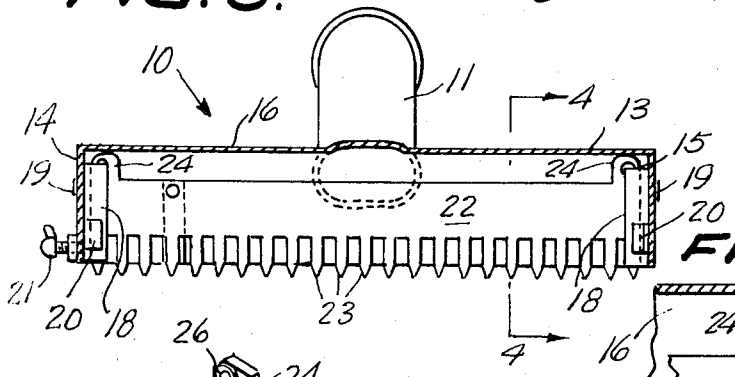


FIG. 5.

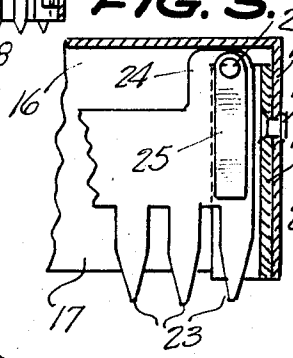


FIG. 4.

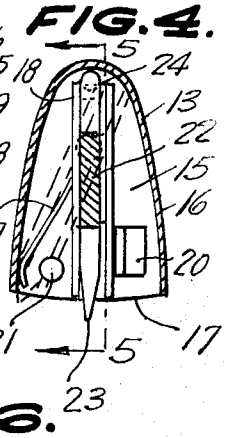


FIG. 6.

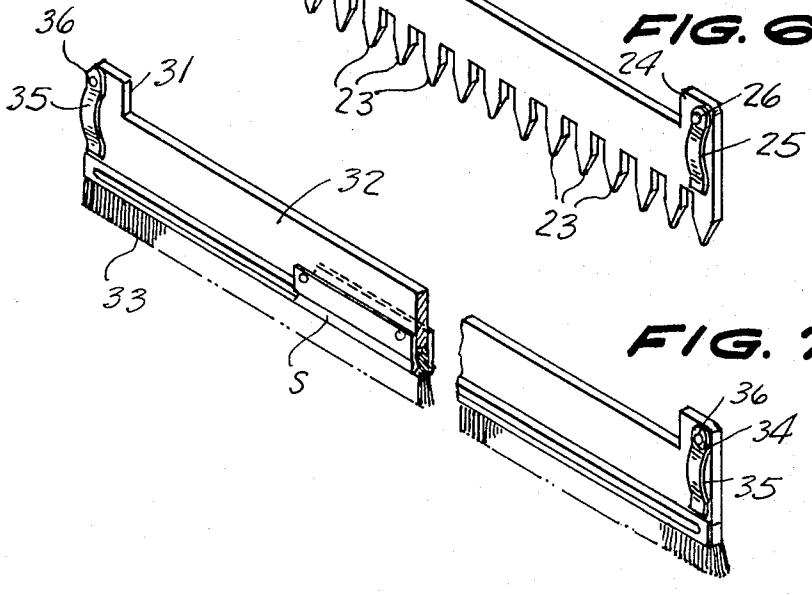


FIG. 7.

SHAG RUG VACUUM HEAD

CROSS REFERENCE TO RELATED APPLICATION

This application is a continuance-in-part of my co-pending application Ser. No. 94235, filed Dec. 1, 1970, entitled "Shag Rug Vacuum" (now abandoned).

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to vacuum cleaning heads for shag rug cleaning.

2. Summary of the Invention

A cleaning head is provided with a connection for connecting to the vacuum conduit of a vacuum cleaner. The cleaning head has a transverse hood within which is releasably secured a comb or brush spring biased to an upright central position with the brush or comb extending below the open bottom face of the hood. The comb or brush is spring biased to its upright position and can swing to the rear of the hood to an ineffective position with the teeth nearly completely contained within the hood. The comb or brush is effective in combing the nap of a shag rug in one direction of the pass of the head thereover with no combing taking place on the return pass as the comb or brush swings to one side in the return pass.

The primary object of the invention is to provide a vacuum head which will comb a shag rug uniformly in one direction while the head is passed over the shag rug in two directions.

Other objects and advantages will become apparent in the following specification when considered in the light of the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a side elevation of the invention;

FIG. **2** is a bottom plan view of the structure illustrated in FIG. **1**;

FIG. **3** is a vertical sectional view, taken along the line **3—3** of FIG. **1**, looking in the direction of the arrows;

FIG. **4** is an enlarged fragmentary transverse sectional view, taken along the line **4—4** of FIG. **3**, looking in the direction of the arrows;

FIG. **5** is a fragmentary vertical sectional view, taken along the line **5—5** of FIG. **4**, looking in the direction of the arrows;

FIG. **6** is a perspective view of the comb removed from the head; and

FIG. **7** is a perspective view of a brush used with the invention shown removed from the head.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in detail, wherein like reference characters indicate like parts throughout the several figures, the reference numeral **10** indicates generally a shag rug vacuum cleaning head constructed in accordance with the invention.

The vacuum cleaning head **10** includes a tubular conduit **11** adapted to be secured to a vacuum cleaning hose extending from any conventional vacuum cleaner. The tubular conduit **11** is rigidly secured centrally of a transversely extending elongate hood **13.** The hood **13** has opposite end walls **14, 15** connected at opposite ends of a continuous arcuate wall **16** as can be best

seen in FIG. **4.** The arcuate wall **16** and the end walls **14, 15** are arranged so as to be opened at **17** completely across the bottom portion thereof.

A generally U-shaped bracket **18** is mounted in each end of the hood **13** on the end walls **14, 15** respectively by a pivot **19** extending therethrough. A stop **20** is rigidly secured to each of the end walls **14, 15** in a position to engage the brackets **18** to prevent them from swinging about their pivots **19** toward the front of the head **10** beyond a position of upright relation midway of the opposite front and rear sides of the hood **13.**

A removable stop **21** is threaded into the end wall **14** when desired to lock the brackets **18** in upright position if such be desired.

In FIG. **6** a rigid comb **22** is illustrated and is formed of an elongate flat piece of material having a plurality of sharpened comb teeth **23** formed along the lower edge thereof. A boss **24** extends upwardly from each end of the comb **22** on the upper side thereof opposite the teeth **23.** A spring member **25** is secured to each of the bosses **24** by a securing pin **26** as can be seen in FIG. **6.** A leaf spring **27** is secured to the comb **22** by a securing element **28** and is positioned intermediate the opposite ends of the comb **22.** The comb **22** is adapted to be inserted in the channel brackets **18** at opposite ends of the hood **13** with the springs **25** being compressed slightly as the comb **22** is inserted in the channels **18** so as to provide frictional securement of the comb **22** in the channel brackets **18.** The leaf spring **27** is adapted to engage against the rear portion of the continuous wall **16** to urge the comb **22** and the brackets **18** into an upright position with the brackets **18** against the stops **20.** With the stop **21** removed the comb **22** can by compressing the leaf spring **27** swing to the rear position shown in broken lines in FIG. **4** to retract the teeth **23** inwardly of the hood **13.**

A brush **32** is illustrated in FIG. **7** as a replacement for the comb **22** under certain conditions. The brush **32** is similarly formed of an elongate flat piece of material and has a brush **33** secured to its lower edge by spring securing elements S. Bosses **34** extend upwardly on opposite ends of the brush **32** and have spring elements **35** secured thereto by securing elements **36.** A leaf spring (not shown) identical to the leaf spring **27** used with the comb **22** is provided for the brush **32** to permit its use in the same manner as the comb **22.**

In the use and operation of the invention the head **10** is moved across a rug with either the comb **22** or brush **32** attached thereto and with the stop **21** disconnected. The head **10** is moved in a line parallel to the axis of the conduit **11** and perpendicular to the transverse hood **13.** As the head **10** is pushed forwardly the comb **22** or brush **32** swings rearwardly so that no combing or brushing action occurs then as the head **10** is pulled rearwardly the spring **27** pushes the comb **22** or brush **32** into an upright position so that the rug is combed on the return trip. Since combing only takes place in one direction while the head is moved in two directions it can be seen that all of the combing effect on the shag rug will be in the same direction so as to uniformly comb the rug while moving the head back and forth across the rug.

Having thus described the preferred embodiment of the invention it should be understood that numerous structural modifications and adaptations may be resorted to without departing from the spirit of the invention.

What is claimed is:

1. A shag rug vacuum cleaning head comprising an elongate housing having an open bottom, spaced parallel end walls secured in opposite ends of said housing, a channel bracket pivotally mounted to each of said end walls within said housing, an elongate substantially flat rug treating member engageable in said channel brackets at opposite ends of said member, means on opposite ends of said member for detachably securing said member in said channel brackets, said member being adapted for swinging movement with said brackets in said hood, stop means in said hood for limiting the swinging movement of said brackets in one direction to an upright position of said member within said hood, a resilient leaf spring secured to said member and engaging said housing for normally urging said member and said brackets into stop means engaging position of said brackets while permitting said member to swing away from said stop means on movement of said hood in one direction and disengageable means on one of said end walls to engage the side of said bracket opposite said stop means to prevent the movement of said bracket in a direction opposite to said stop means.

2. A device as claimed in claim 1 wherein the means for securing said member in said bracket includes spring members secured to opposite ends of said member and engaging in said brackets to resiliently secure said member in said brackets.

3. A device as claimed in claim 1 wherein said rug treating member includes a plurality of rigid teeth secured thereto in depending relation along the lower edge thereof.

4. A device as claimed in claim 1 wherein said rug treating member comprises a brush having bristles detachably secured to the lower edge thereof.

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