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(54) **Porszívó tartószerkezettel egy szívóeszköz parkolási helyzetben történő felvételéhez**

VACUUM CLEANER WITH HOLDER FOR HOLDING A SUCTION TOOL IN A PARKED POSITION

DESCRIPTION

The invention relates to a vacuum cleaner, in particular a floor-type vacuum cleaner, comprising a housing on which at least one retaining device is arranged for receiving a suction tool when in a parked position.

Document DE 40 36 314 C2 discloses, for example, that in floor-type vacuum cleaners retaining means cooperating in the housing and in the suction tube or the base unit must be provided, with which the suction tube is retained in a parked position in the housing after finishing the suction operation.

The applicant produces and markets a floor-type vacuum cleaner S5311, for example, which is equipped with three retaining devices; see "Miele - Bodenpflege-Geräte, Fachhandels-Programm, Stand: 1. Oktober 2009", pages 17/18 and 32/33. In this respect, a first retaining device is arranged in the rear housing region, which retaining device receives in the operating position of the vacuum cleaner (standing on the wheels) an engagement element at a floor nozzle, which is coupled through a suction hose and a suction tube to the vacuum cleaner. This retaining device is envisaged for short pauses in suction operation. Two further retaining devices are provided at the housing sides which receive the floor nozzle in a storage position of the vacuum cleaner (standing on the rear housing side). The vacuum cleaner is often stored in this position after use.

The invention is based on the problem of improving a vacuum cleaner of the abovementioned type in the sense that it becomes easier for the user to insert the suction tool into the retaining device.

According to the invention, this problem is solved by means of a vacuum cleaner with the features of claim 1. Advantageous configurations and improvements of the invention are obtained from the dependent claims that follow.

The advantages that can be achieved with the invention result from the retaining device being assigned at least one illumination means. The user can hereby clearly see the retaining device also in a dark environment, which simplifies the insertion into the retaining device of the engagement element located at the suction tool.

The illumination means can be advantageously arranged in the retaining device, acting here directly at the critical place. If the retaining device is divided into an insertion region and a retaining region, it is convenient if the illumination means are arranged in both the insertion region and the retaining region.

Additionally or alternatively, one illumination means can be arranged adjacent to the retaining device. The floor region can hereby be illuminated during suction. In particular, when one illumination means is arranged both in the retaining device and adjacent to same, good illumination in dark rooms is obtained.

Greater flexibility when parking the vacuum cleaner is achieved when illuminated retaining devices are arranged on either side of the vacuum cleaner.

In a particularly advantageous embodiment, the illumination means comprises at least one light source that is arranged in the housing and an optical fibre that is assigned to the light source and protrudes as far as the housing surface. A protected, areally flush arrangement is hereby achieved.

It is furthermore advantageous if the illumination means is assigned a switching means which allows for at least brief illumination of the retaining device after the vacuum cleaner has been switched off or after the vacuum cleaner has been disconnected from the mains voltage. In general, parking of the vacuum cleaner at its storage location takes place with the fan being switched off by means of a main switch. The delayed switching-off of the illumination element ensures that the user still sees the retaining device also when parking same and that he/she is able to not insert the suction tool into the parked position until then. Here, times between 30 and 60 seconds are convenient. Activation of the switched-off fan (vacuum cleaner), but contacted mains plug, and subsequent switching-off delay of the illumination element when pulling out the mains plug are also technically possible, but rather unfavourable due to energy saving reasons.

An embodiment of the invention is depicted in a merely schematic manner in the drawings and is described in further detail below.

Figure 1 shows a top perspective view of a vacuum cleaner comprising a retaining device in the operating position,

Figure 2 shows the vacuum cleaner according to Figure 1 in the storage position,

Figure 3 shows a detail of the vacuum cleaner in the region of

a retaining device,

Figure 4 shows the illumination means of the vacuum cleaner as a detail,

Figure 5 shows a partial section through the vacuum cleaner in the region of a retaining device.

Figure 1 shows a floor-type vacuum cleaner 1 in the operating position, i.e., with the non-depicted wheels on the floor. The housing 2 of the vacuum cleaner 1 is equipped in its right region 3 in the direction of travel with a retaining device 4. This retaining device 4 is provided to receive a corresponding engagement element at a suction tool (not depicted), in particular at a floor nozzle. A so-called parked position is hereby obtained. A vacuum cleaner comprising a floor nozzle, connected through a suction hose and a suction tube and received in the parked position, is disclosed in document DE 40 36 314 C2 mentioned at the beginning and the also mentioned brochure and is therefore not described here in further detail. Figure 2 shows the vacuum cleaner 1 standing on the rear housing side 5 in a so-called storage position. In Figures 1 and 2, the retaining device 4 is in the right housing region, and in Figure 1 a further retaining device 6 can also be seen in the rear housing region. A third retaining device is present on the left housing side, although it cannot be seen in the drawings. In the vacuum cleaner shown, both retaining devices 4 are equipped in the lateral region according to the invention with illumination means; see also Figures 2 and 4.

As can be seen in Figure 2 and in particular in Figure 3, the lateral retaining devices 4 comprise an insertion region 7 and a retaining region 8 for the non-depicted engagement element

at the floor nozzle. Both regions 7 and 8 are equipped in each case with a rather punctually acting illumination means, referred to below as spot illumination elements 9 and 10, respectively. Below the lateral retaining devices there is arranged in each case a further strip-shaped illumination means, referred to below as illumination strip 11. The spot illumination elements 9 and 10 make it easier for the user to insert the engagement element, in addition, the illumination strip 11 further serving for illuminating the suction region and even for illuminating the space for storing the vacuum cleaner 1.

Figure 4 shows the illumination means 9-11 with the lateral retaining devices as a detail. Illumination plates 12 can be seen on both sides, which are located inside the housing in the assembled state. They are connected with a supply and control electronic system 14 through a line 13. On each illumination plate there are arranged several LEDs 15 as light sources; see Figure 5. Optical fibres 16 lead from the light sources at each illumination plate into the insertion region and into the retaining region, and there form the spot illumination elements 9 and 10. Further LEDs 15 are assigned to a vision panel 17 which also acts as optical fibre and forms the illumination strip 11. The surfaces of the optical fibres 16 and 17 are flush with the surface of the housing 2.

The supply and control electronic system 14 is equipped with a switching means 18 which also switches the illumination means 9-11 on when actuating the main switch 19 (see Figure 1). The switching means 18 furthermore comprises two capacitors 20 which maintain a power supply of 30 to 60 seconds to the illumination plates 12 after the main switch has been actuated and the vacuum cleaner 1 has been thereby switched off. This is enough time for further illumination in order to pull out

the mains plug (not depicted), park the vacuum cleaner 1 and insert the engagement element.

PORSZÍVÓ TARTÓSZERKEZETTEL EGY SZÍVÓESZKÖZ PARKOLÁSI HELYZETBEN TÖRTÉNŐ FELVÉTELÉHEZ

SZABADALMI IGÉNYPONTOK

1. Porszívó (1), különösen padlóporszívó, olyan házzal (2), amelyen legalább egy tartószerkezet (4, 6) van elhelyezve parkolási helyzetben egy szívóeszköz felvételére **azzal jellemezve, hogy** a tartószerkezethez (4) legalább egy megvilágítóberendezés (9 - 11) van hozzárendelve.

2. Az 1. igénypont szerinti porszívó (1) **azzal jellemezve, hogy** a tartószerkezetben (4) legalább egy megvilágítóberendezés (9, 10) van elhelyezve.

3. Az 1. igénypont szerinti porszívó (1) **azzal jellemezve, hogy** a tartószerkezet (4) bevezetőtartományra (7) és tartótartományra (8) van felosztva, és a megvilágítóberendezések (9, 10) bevezetőtartományban (7) és tartótartományban (8) is el vannak helyezve.

4. Az 1. - 3. igénypont legalább egyike szerinti porszívó (1) **azzal jellemezve, hogy** a tartószerkezet (4) közelében egy megvilágítóberendezés (11) van elhelyezve.

5. Az előző igénypontok legalább egyike szerinti porszívó (1) **azzal jellemezve, hogy** a porszívó (1) mindkét oldalán megvilágított tartószerkezetek (4) vannak elhelyezve.

6. Az előző igénypontok legalább egyike szerinti porszívó (1) **azzal jellemezve, hogy** a megvilágítóberendezés (9 - 11) legalább egy, a házban (2) elhelyezett fényforrást (15) és a fényforráshoz (15) hozzárendelt, a ház külső felületéig kinyúló fényvezetőt (16, 17) foglal magában.

7. Az előző igénypontok legalább egyike szerinti porszívó (1) **azzal jellemezve, hogy** a megvilágítóberendezéshez (9 - 11) olyan kapcsolóberendezés (18) van hozzárendelve, amellyel a tartószerkezet (4) legalább rövid idejű megvilágítása érhető el a porszívó (1) kikapcsolása vagy a porszívó (1) hálózati feszültségről való leválasztása után.

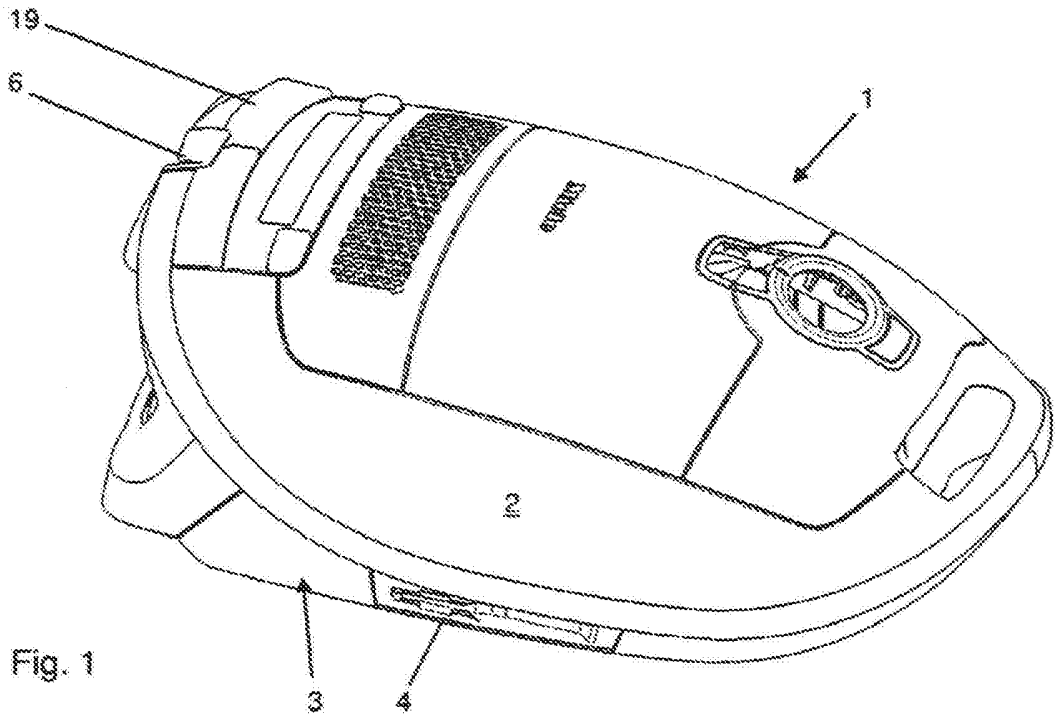

Fig. 1

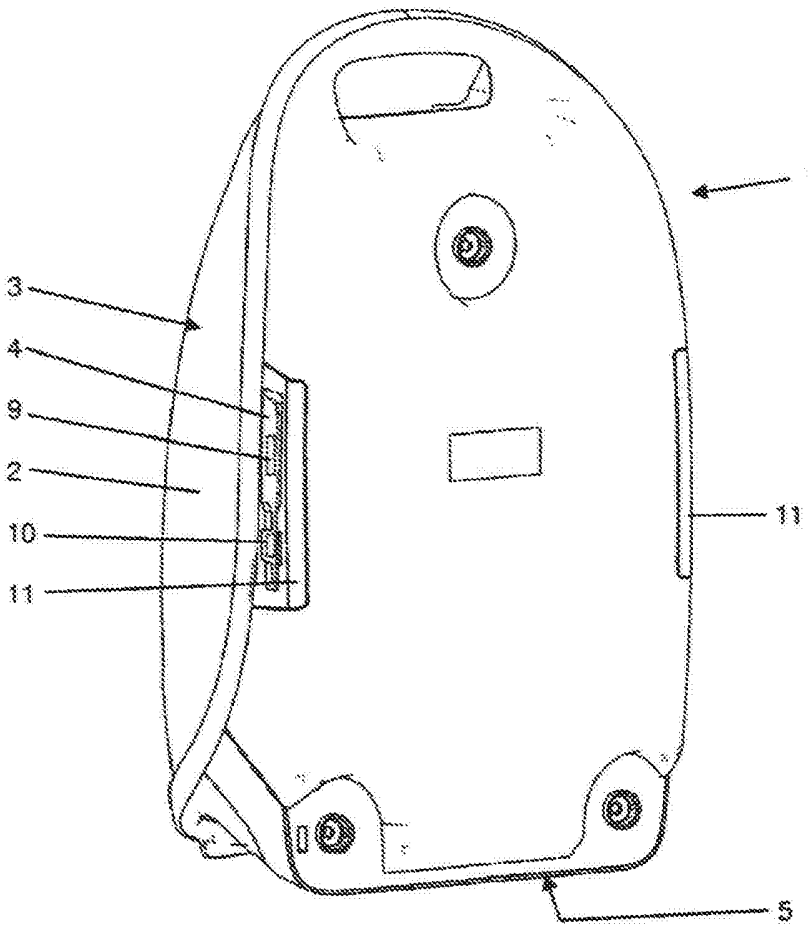

Fig. 2

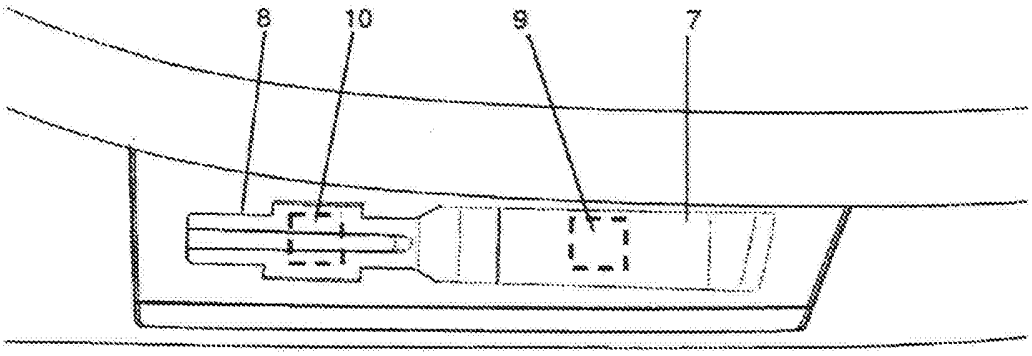

Fig. 3

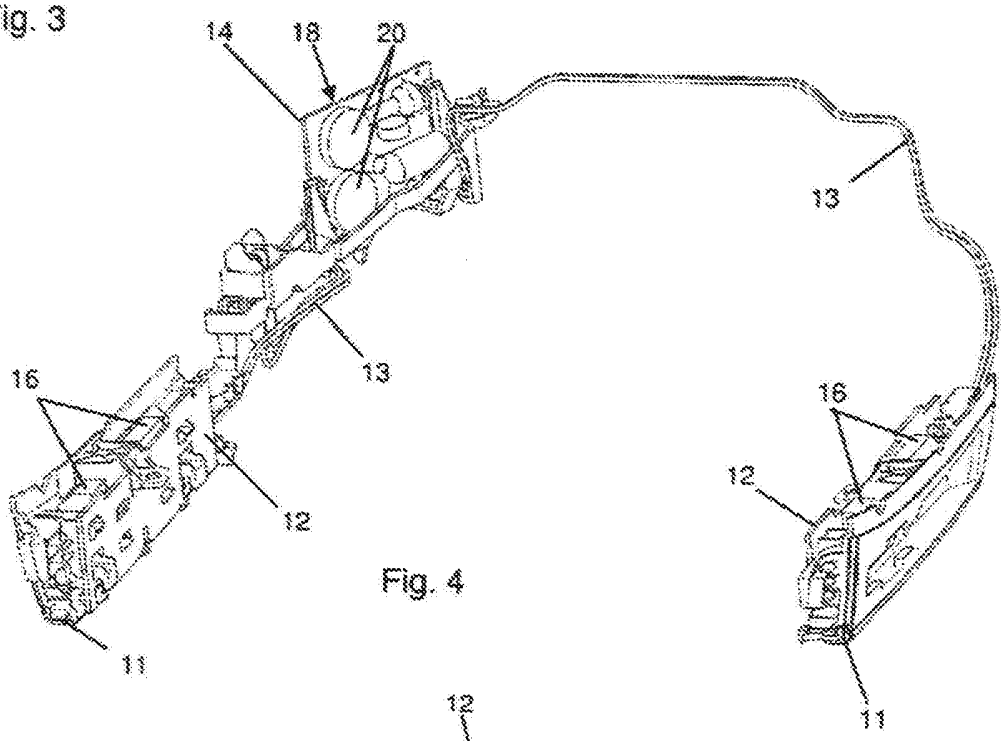

Fig. 4

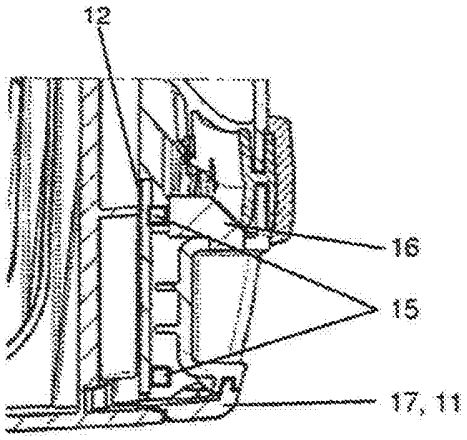

Fig. 5