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(54)

Auxiliary cleaning tool for vacuum cleaner

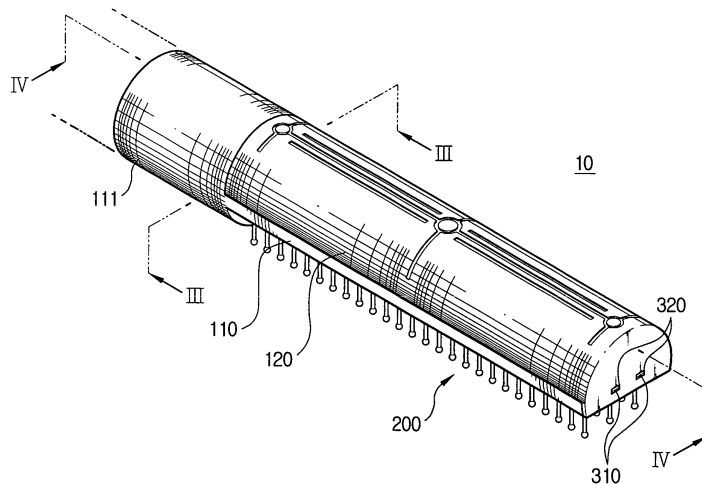
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Disclosed is an auxiliary cleaning tool for vacuum cleaner which can be used in the cleaning operation of fur clothes such as a fur coat. The auxiliary cleaning tool for vacuum cleaner is selectively connected to the inlet passage extended from a cleaner body according to the cleaning surface condition and sucks in the dust and debris from cleaning places. The auxiliary cleaning tool for vacuum cleaner includes an auxiliary cleaning tool body (100) and at least one brush member

(200)

detachably mounted to the auxiliary cleaning tool body (100). According to this, a user can remove the dust and debris from fur clothes without damaging them, and also perform a cleaning operation while smoothing the texture of the clothes because the cleaning operation is taken like combing. As a result, the present invention contributes to the convenience the user enjoys by expanding the scope of the usage of a vacuum cleaner.

FIG.1



Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention is generally related to a vacuum cleaner, and more specifically, to an auxiliary cleaning tool for vacuum cleaner connected to an extension pipe or a hand grip of the vacuum cleaner, capable of cleaning a fur coat or the like.

2. Description of the Prior Art

[0002] Generally, a vacuum cleaner performs a cleaning operation by sucking in the dust on the floor or carpet using suction force of a vacuum motor. The vacuum cleaner includes an extension pipe forming an inlet passage in the vacuum cleaner body, an operation hand grip, and a flexible hose assembly, and various cleaning tools are mounted on the extension pipe in order for the dust and debris to be easily sucked in.

[0003] In other words, a floor nozzle of generally wide width is used for cleaning flat space such as a floor, a crevice tool having a blade-shaped long and narrow intake port is used for cleaning narrow places like crack or corner, and a dusting tool having a plurality of brush member around the intake port is used for cleaning bed-clothes or carpets.

[0004] However, when a vacuum cleaner having the crevice tool is used for intaking and removing the dust and debris from clothes, clothes might be damaged by a strong suction force, and in the case of the dusting tool, the dust can be effectively sucked in, whereas clothes might be tangled. Therefore, it is not preferable to clean expensive fur coats using a vacuum cleaner having the conventional auxiliary cleaning tools that another type of auxiliary cleaning tool is required which is easily operated by a user and not damages a fur.

SUMMARY OF THE INVENTION

[0005] The present invention has been made to overcome above-mentioned problems of the prior art. The main object of the invention is to provide an improved auxiliary brush tool capable of intaking the dust and debris without damaging clothes, especially like a fur coat.

[0006] An auxiliary cleaning tool for vacuum cleaner according to the present invention to achieve the above objects are selectively connected to a leading end of an inlet passage extended from a vacuum cleaner body according to the cleaning surface condition and sucks in the dust and debris from cleaning places. The auxiliary cleaning tool for vacuum cleaner includes an auxiliary cleaning tool body and at least one brush member detachably mounted to the auxiliary cleaning tool body.

[0007] According to a preferred embodiment of the present invention, the auxiliary cleaning tool body preferably

includes a brush plate having a connecting part which fits into the leading end of the inlet passage, to which the brush member is connected, and at least one inlet port passing therethrough; and; and a cover detachably connected to the connecting part and the brush plate by a connecting means. The cover is preferably in the form of half-cylinder in order to easily attach to the connecting part which is generally in the form of a pipe.

[0008] The connecting means comprises at least one hook protruding from the end of the brush plate in the length direction and a hooking hole bored in the cover corresponding to the hook.

[0009] Moreover, the connecting means further includes a separation preventive projection formed at the end of the brush plate and a receptive hole formed in correspondence with the separation preventive projection.

[0010] The brush member can include a brush holder attached to the auxiliary cleaning tool body and a plurality of bristles planted in the length direction of the brush holder.

[0011] The brush member is formed when the brush holder is slid-fit into the guide groove formed on the brush plate. The end of the guide groove is blocked by one end of the cover, thereby preventing the separation of the brush holder.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012]

FIG.1 is a perspective view showing an auxiliary cleaning tool for vacuum cleaner according to the present invention,

FIG.2 is an exploded perspective view of FIG. 1, FIG. 3 is a sectional view taken along III-III of FIG. 1, and

FIG. 4 is a sectional view taken along IV-IV of FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0013] Hereinafter, an auxiliary cleaning tool for vacuum cleaner according to the present invention will be presented in great detail referring to the accompanying drawings.

[0014] FIG. 1 to FIG 4 are views showing the auxiliary cleaning tool for vacuum cleaner according to the present invention.

[0015] As shown, the auxiliary cleaning tool for vacuum cleaner includes an auxiliary cleaning tool body 100 and a brush member 200 which is detachably connected to the auxiliary cleaning tool body 100.

[0016] The auxiliary cleaning tool body 100 includes a brush plate 110 and a cover 120.

[0017] The brush plate 110 has a connecting part 111 and an inlet port 112. The connecting part 111 is generally in the form of a pipe, and fitted into one of the three,

i.e. an operation hand grip, an extension pipe, or a flexible hose forming an inlet passage by extending from a vacuum cleaner body(not shown). The inlet port 112 is formed through the brush plate 110. The inlet port 112 draws the dust and debris into the vacuum cleaner by forming a leading end of the inlet passage which is formed inside the vacuum cleaner body. The inlet port 112, as shown in FIGS. 2 and 3, can be in the form of at least one through-hole and is preferably in the form of a slit which is cut along in the length direction of the brush plate 110 between later-mentioned plurality of guide grooves 113.

[0018] According to this, when the dust and debris are knocked loose while the brush member 200 performs a cleaning operation like combing, the dust and debris are easily sucked in through the inlet port 112,.

[0019] The brush plate 110 including the connecting part 111 and the inlet port 112 can be form with the connecting part 111 either as one body or as a separate body. However, it should not be considered as limiting.

[0020] As shown in FIGs. 3 & 4, the cover 120 is detachably combined with the brush plate 110 by a connecting means 400.

[0021] The cover 120 is in the form of a half cylinder, with one end connected to the connecting part 111 and the other end to the brush plate 110.

[0022] The connecting means 400 includes at least one hook 310 protruding from the end of the brush plate 110 in the length direction and a hooking hole 320 bored in the cover 120 corresponding to the hook 310.

[0023] Further, at least one locking hole 330 and locking projection 340 are respectively formed on the other end across from the hook 310 and the hooking hole 320, each on the joining portion between the connecting part 111 and the cover 120 in order to prevent the upward opening of the cover 120.

[0024] In case that the hook 310 and the hooking hole 320 can not firmly lock the cover 120 and let the cover move in the length direction, the connecting means 400 can further include a separation preventive projection 350 and a receptive hole 360, respectively formed at the hook 310 and the hooking hole 320.

[0025] It is preferable that the separation preventive projection 350 protrudes from the end of the brush plate 110 and the receptive hole 360 is formed in correspondence to the separation preventive projection 350.

[0026] The brush member 200 comprises a brush holder 210 and a plurality of bristles 220 which are planted in the brush holder 210.

[0027] Hereinafter, the operation of the auxiliary cleaning tool for vacuum cleaner 10 is explained referring to the accompanying drawings.

[0028] As described above, the auxiliary cleaning tool for vacuum cleaner 10 according to the present invention includes the auxiliary cleaning tool body 100 and the brush member 200 which is detachably connected to the auxiliary cleaning tool body 100.

[0029] The brush member 200, as shown in FIG. 2, is

formed when at least one brush holder 210 is slid-fit into the guide groove 113 of the auxiliary cleaning tool body 100.

[0030] When the brush member 200 is combined with the brush plate 110, the cover 120 is combined with the auxiliary cleaning tool body 100.

[0031] The cover 120 provides a space between the connecting part 111 and the brush plate 110, defining a predetermined passage therein. The space allows the dust and debris to be easily sucked in through the predetermined passage, i.e. the inlet port 112.

[0032] Moreover, the cover 120 prevents the brush member 200 separation from the guide groove 113 by blocking the joining portion where the brush holder 201 is slid-fit.

[0033] In order for the cover 120 to connect with the brush plate 110, the cover 120 is half-assembled with the brush plate 110 as the locking projection 340 is inserted into the locking hole 330 of the connecting part 111. Then the cover 120 is completely fit in the brush plate 110 as the other end of the cover 120, where the hooking hole 320 is formed, is pushed, and thus the hook 310 is locked in the hooking hole 320. The hook 310 preferably has a sliding incline which offers easy connection with the cover 120.

[0034] The present invention described above enhances the level of convenience by letting users remove the dust and debris from their fur clothes safely and simply using the detachably attached brush member 200.

[0035] Meanwhile, a user takes above steps in the reverse order in order to replace the brush member 200, in other words, firstly to remove the cover 120, and secondly to slide the brush holder 210 out from the brush plate 110. In order to remove the cover 120, the user releases the hooking of the hooking hole 350 and the receptive hole 360 by pulling the end of the cover 120 where the hooking hole 320 is formed to an extend that pull the hook 310 is elastically deformed enough to be separated from the hooking hole 320 after making the projection flexible enough to be separated from the hooking hole 320.

[0036] According to the auxiliary cleaning tool for vacuum cleaner 10, a user can remove the dust and debris from fur cloths without damaging them, and also perform a cleaning operation while smoothing the texture of the clothes because the cleaning operation is taken like combing. As a result, the present invention contributes to the convenience the user enjoys by expanding the scope of the usage of a vacuum cleaner.

[0037] Although the present invention has been described by giving examples of the preferred embodiment, it will be understood by those skilled in the art that the present invention should not be limited to the described preferred embodiments. Various changes and modifications can be made within the spirit and scope of the present invention as defined by the appended claims or the like.

Claims

blocked by one end of the cover, thereby preventing the separation of the brush holder.

1. An auxiliary cleaning tool for vacuum cleaner which sucks in the dust and debris from cleaning places, while selectively connected to a leading end of an inlet passage extended from the vacuum cleaner body according to the cleaning surface condition, including:

an auxiliary cleaning tool body; and 5

at least one brush member detachably mounted to the auxiliary cleaning tool body. 10

2. The auxiliary cleaning tool for vacuum cleaner in claim 1, wherein the auxiliary cleaning tool body includes:

a brush plate having a connecting part which fits into the leading end of the inlet passage, to which the brush member is connected, and at least one inlet port passing therethrough; and 20

a cover detachably connected to the connecting part and the brush plate by a connecting means. 25

3. The auxiliary cleaning tool for vacuum cleaner in claim 2, wherein the cover is in the form of half-cylinder. 30

4. The auxiliary cleaning tool for vacuum cleaner in claim 2, wherein the connecting means comprises at least one hook protruding from the end of the brush plate in the length direction; and

a hooking hole bored in the cover in correspondence with the hook. 35

5. The auxiliary cleaning tool for vacuum cleaner in claim 4, wherein the connecting means further comprises a separation preventive projection formed at the end of the brush plate; and

a receptive hole corresponding to the separation preventive projection. 40

6. The auxiliary cleaning tool for vacuum cleaner in claim 1, wherein the brush member comprises a brush holder attached to the auxiliary cleaning tool body; and

a plurality of bristles planted in the length direction of the brush holder. 45

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7. The auxiliary cleaning tool for vacuum cleaner in claim 6, wherein the brush member is formed when the brush holder is slid-fit into a guide groove formed on the brush plate. 55

8. The auxiliary cleaning tool for vacuum cleaner in claim 7, wherein the end of the guide groove is

FIG. 1

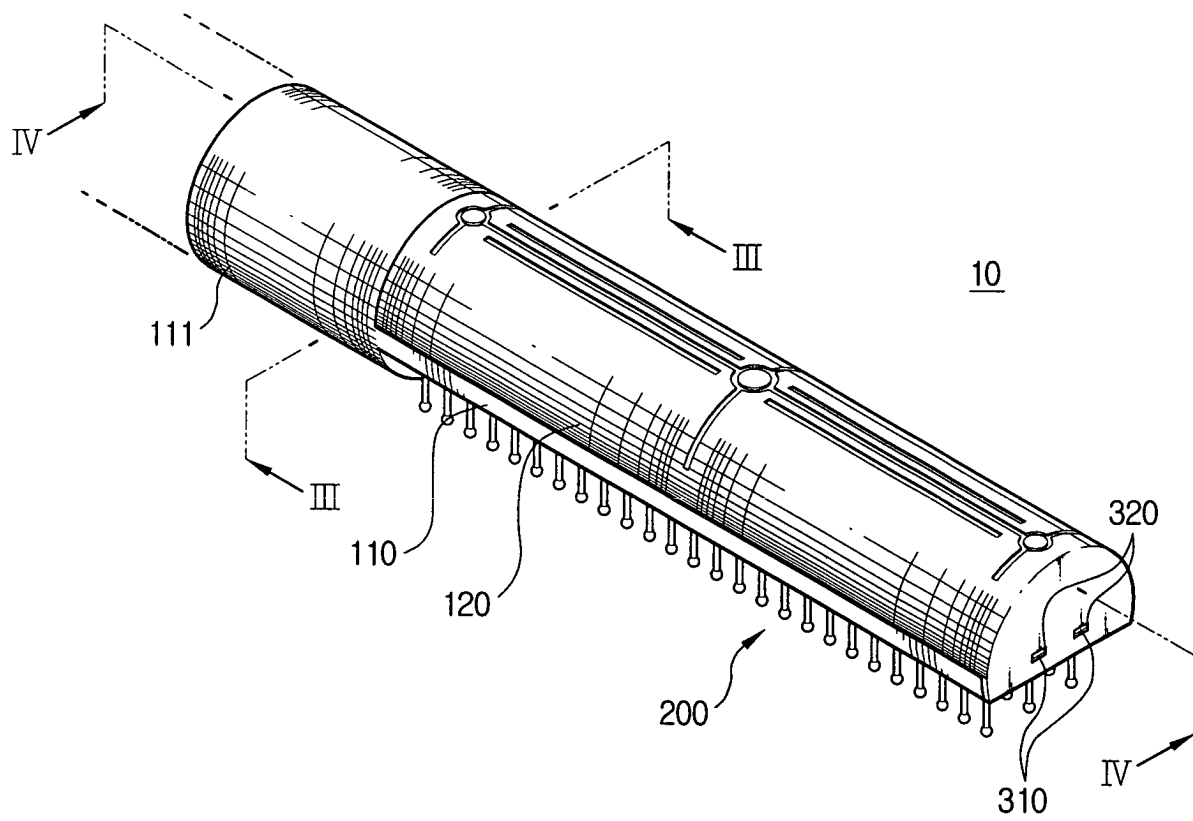


FIG. 2

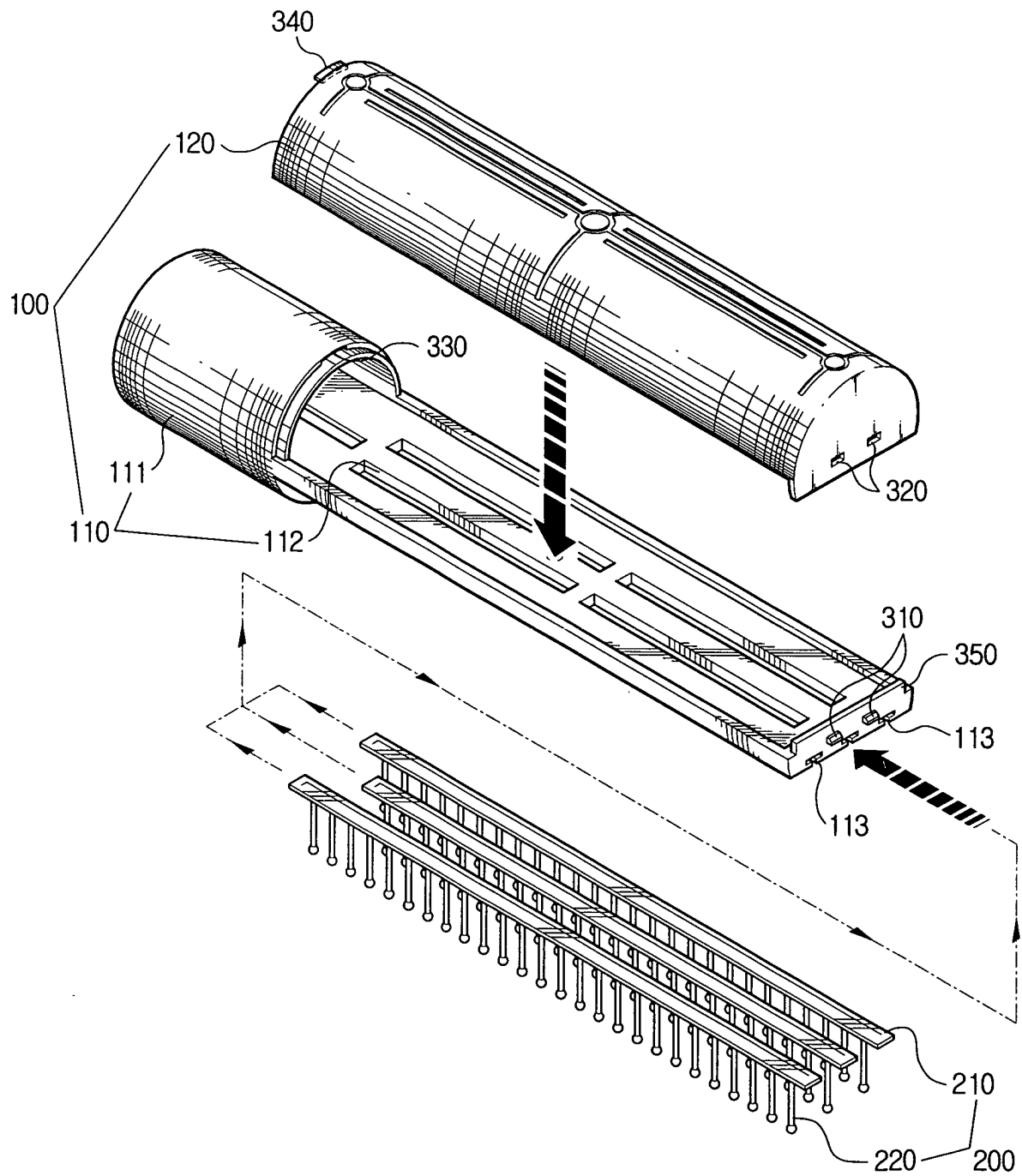


FIG. 3

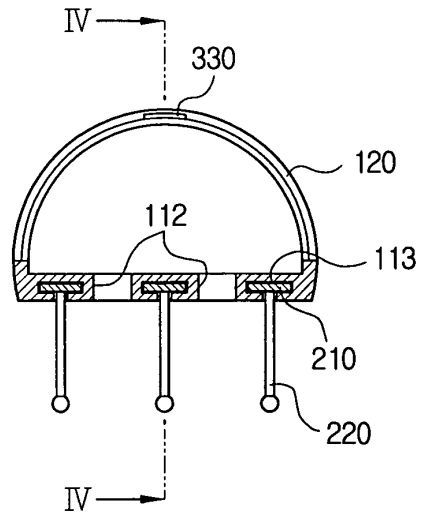
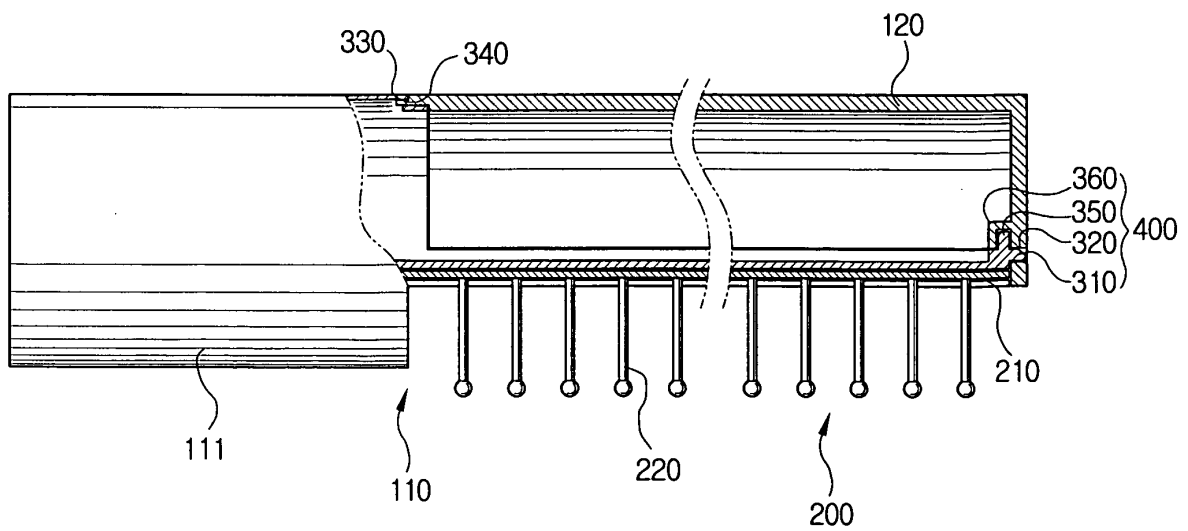


FIG. 4





European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 03 01 1528

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 7 June 2004	Examiner Bourseau, A-M
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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