



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

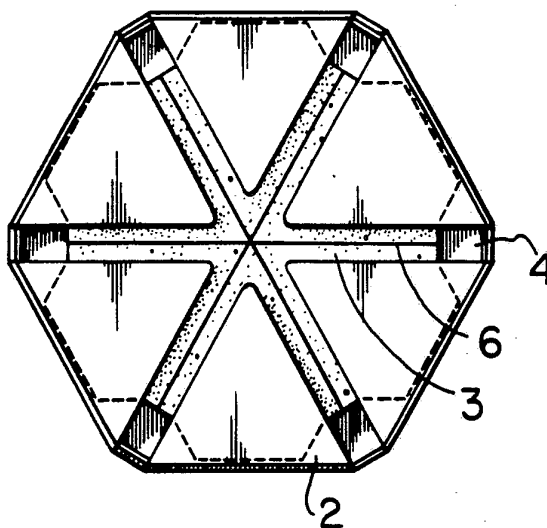
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2,052,638 2 October 1991 (02.10.91) CA(71) Applicant: THE DIPSTICK CLEANER LTD. [CA/CA];
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(54) Title: DIPSTICK WIPER



(57) Abstract

A device is disclosed for wiping fluid from automotive dipsticks. The device comprises a housing having a base member and a lid member. The housing contains therein an absorbent member. The lid is provided with slots in its surface extending in at least two different directions, and absorbent member within the housing has slits therein aligned with the slots in the lid. A dipstick may be drawn through a slit in the absorbent member to wipe it without opening the lid.

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TITLE OF INVENTION

DIPSTICK WIPER

FIELD OF INVENTION

5 The present invention relates to the field of automotive equipment. In particular, the present invention provides a device for wiping fluid level dipsticks of the sort used in connection with automobiles, trucks and industrial vehicles.

BACKGROUND OF THE INVENTION

10 Routine service of an automobile by the user thereof requires periodic monitoring of the engine oil level and the automatic transmission fluid level. This is usually done by the consumer or a service station attendant at a service station while fuelling the vehicle. Typically, the oil level dipstick for instance is pulled and wiped with a rag or a paper towel. It is then reinserted into its proper location, pulled out, and a reading taken to
15 ascertain whether or not oil is required to be added to the engine. The use of rags or paper towels can be somewhat messy, and it is not uncommon for a driver to find, especially at a self-service outlet, that the paper towel supply at the outlet is empty and they therefore have no convenient means to wipe the dipstick. Often, then, persons will resort to either not wiping the dipstick and
20 therefore not taking the reading, or wiping the dipstick on whatever they can find in the way of a bit of cloth or paper. This is certainly an inconvenience. There have been numerous devices developed in the past to provide a more convenient means for a consumer to wipe the dipstick of an automobile engine. These include the device shown in Canadian Patent No. 1,153,167
25 date 83/09/06, which is basically a folded-over foam lined sheet of plastic or metal. The dipstick is drawn between the folded-over halves of the sheet and wiped in this way. This is a reasonably efficient way of wiping a dipstick, but it has a drawback of being substantially disposable since there is no way to wipe the sponge between the sheets of folded-over plastic or metal.

30 In U.S. Patent No. 4,164,054 dated August 14, 1989, a dipstick wiper is disclosed which shows a block of foam which stands up from a solid base. The block of foam has on its ends means to compress it, and between the ends a slot from which the dipstick can be drawn. This is a fairly efficient means of wiping a dipstick, but it has a drawback of being quite messy since the
35 upstanding block of foam is entirely exposed to the atmosphere.

In U.S. Patent No. 4,023,231, dated May 17, 1977, an oil dipstick is disclosed which again comprises a block of foam in a resilient base. However,

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in this dipstick wiper, the base surrounds substantially the entire block of foam, and provides a single slot through which a dipstick can be drawn. This device, together with the last one mentioned, suffer from the drawback of having a single slot through which the dipstick can be drawn, therefore, it is essential that the dipstick wiper in each case be mounted in each case in such a position under the hood of an automobile that the dipstick can be drawn in one continuous motion through the slot. Misalignment of the slot renders the device substantially useless. Moreover, with such a device, its positioning will be dictated by the expected position of the user at the time a dipstick is to be wiped. It is not always possible that a convenient spot is located, and in any event, once a dipstick wiper is located in the engine compartment, it is convenient for only the one dipstick. If, for instance, one wishes to check the automatic transmission fluid of an automobile one must the after withdrawing such dipstick bring it to the location convenient for the different dipstick where the dipstick wiper is located. Moreover, it is generally not recommended to wipe two dipsticks in succession on the same surface, to prevent cross-contamination of fluids. Further examples of oil dipstick wipers are shown in the following United States Patents: 2,810,923, 2,453,452, 2,259,898, 1,992,423, 1,916,933, 3,686,702, 4,380,841, 1,947,833, 2,439,171, 1,839,026, 1,839,026, 1,652,875, 2,659,922, 4,245,367, 5,018,237, and 3,205,525.

SUMMARY OF THE INVENTION

It will be observed that in each of the aforementioned patents, there is one and only one way to utilize the dipstick wiper. That is, in each of these patents, there is one track through which the dipstick wiper must be drawn in order to utilize the device correctly. It has been observed by the applicant, that in each of these devices the single track through which the dipstick wiper must be drawn gets dirty very quickly and can make convenient positioning of the wiper unit difficult.

The object of the present invention is to provide a dipstick wiper which may be conveniently utilized from any one of several positions under the hood of an engine. It is a further object of the present invention to provide a dipstick wiper which requires less frequent wiping than those currently known.

It is yet a further object of the present invention to provide a dipstick wiper which is provided with readily identifiable indicia so that it and its associated dipstick can be easily located by an unskilled service person or inexperienced consumer.

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According to one aspect of the invention there is provided a device for wiping fluid from (preferably automotive) dipsticks, said device comprising a housing having a base member and a lid member, said housing containing therein an absorbent member, wherein said lid is provided with
5 slots extending in at least two different directions, said absorbent member having slits therewith aligned in use with the slots of said lid, wherein a dipstick may be drawn through a slit in said absorbent member to wipe it without opening said lid. Preferably the device may further comprise the underside of said base member being provided with means to removably affix
10 it to a desired location in the engine compartment of a motor vehicle, and preferably wherein said means to removably affix said base to a location in the engine compartment of a motor vehicle is a strip or disc of Velcro™ hook fastener adhesively affixed to the underside of said base, and a complementary strip or disc of Velcro™ pile fastener adhesively affixed to a said desired
15 location.

In one embodiment said absorbent member is a sponge that sits in said base and preferably wherein said absorbent member extends above said lid and encloses said sponge, said lid being provided with slots extending part-way down its side surfaces at the ends of the slots on the upper surface, and
20 preferably wherein said sponge, at its ends adjacent the ends of said slots in said lid, is formed to provide hollow spaces between said housing and said sponge, in which hollow fluid wiped off dipstick may accumulate.

In another embodiment said lid and base are formed as two pieces that snap together.
25 In another embodiment three said slots are provided in the upper surface of said lid, said slots intersecting substantially in the centre of said lid.

According to yet another aspect of the invention there is provided a device for wiping fluid from dipsticks, said device comprising a housing
30 having a base member and a lid member, said housing containing therein an absorbent member, wherein said lid is provided with at least one slot extending therein, said absorbent member having at least one slit therewith aligned in use with the at least one slot of said lid, wherein said absorbent member, at its ends adjacent the ends of said slots in said lid, is formed to
35 provide hollow spaces between said housing and said absorbent member, in which hollow fluid wiped off the dipstick may accumulate, wherein a dipstick may be drawn through the at least one slit in said absorbent member to wipe it

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without opening said lid.

According to yet another aspect of the invention there is provided an absorbent member adapted to be used with a dipstick wiper having a housing which includes at least one slot therewith, said absorbent member comprising at least one slit alignable with said at least one slot of said dipstick wiper in use to allow the dipstick to be drawn through said absorbent member through the at least one slit, the foam at its edge adjacent the end of each slit being recessed away from the member, in use to provide hollow spaces between said housing of said wiper and said absorbent member thereby in use ensuring that oil or other fluid that is wiped off a dipstick will remain inside the wiper. Preferably the absorbent member is made of foam, and preferably being dimensioned to fit snugly within the wiper.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will now be illustrated with respect to the following drawings illustrating embodiments of the invention in which:

Figure 1 is a top view of a preferred embodiment of the present invention;

Figure 2 is a side view of the embodiment of Figure 1, with the lid thereof closed;

Figure 3 is a side view of the embodiment of Figure 1, with the lid thereof open;

Figure 4 is a top view of a sponge suitable for use in the device of the present invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS OF THE INVENTION

Referring to the figures, the principle embodiment of the present invention is illustrated. The present invention provides an enclosure box including a base 1 and a lid 2. The box is preferably molded from a plastic material such as polypropylene. The base and lid may utilize an integral hinge molded between the two as a bridge of thinned material but is preferably made from two separate pieces. A finger recess 5 comprising a shallow cut out in the lower edge of the lid 2, allows easy opening of the lid. The lid 2 snaps onto the body 1 by means of a series of interlocking bumps and recesses (not illustrated) and thereby will remain closed until opened by a user thereof.

Extending the diameter of the top surface of the lid 2, and part-way down the sides thereof and located slots 4. The slots 4 are of a sufficient width to accommodate a dipstick, and extend down the sides of the lid 2 at least

the width of all commonly available fluid level dipsticks.

Located inside the body 1 is a foam sponge made of polyester material, dimensioned to fit snugly within the body and lid and which is provided with slits 6 aligned with the slots 4 on the lid 2. Accordingly, a
5 dipstick may be drawn through a slot 6 in the foam sponge by aligning it near its handle with a slot 4 on the lid, fitting it into a slit 6 and drawing it through the slit 6. This action thoroughly wipes the dipstick, which can then be reinserted into, for instance, the engine for a fluid level reading to be taken. As will be seen from Figures 1, 3, and 4 the foam sponge, at its edge adjacent
10 the end of each slot, is recessed away from the body 1, creating a shallow well in the base of the body 1. This ensures that oil or other fluid that is wiped off a dipstick will remain inside body 1, and not drip onto engine parts. Sponge 6 may be made of, for instance, double cell polyester.

As can be seen in Figure 2, a fastener 7 is provided on the
15 undersurface of the body. The fastener 7 may be a piece of self-adhesive foam or tape enabling one to affix the body to any desired location under the hood of an automobile. Preferably, though, fastener 7 is a self-adhesive disc of Velcro™ hook and mating self-adhesive disc of Velcro™ pile fastener material. The Velcro™ pile fastener may be situated in any convenient
20 location, such as on the air wiper cover, and the dipstick wiper of the present invention may be mounted thereon and removed when desired for wiping and so on. In this regard, it will be observed that the sponge 3 may be removed from the body 1 at any time for wiping. It has been found that the sponge may easily be wiped with a household dish detergent product, which
25 will be readily available to any consumer.

Alternate shapes for the dipstick wiper of the present invention other than the hexagon illustrated are, of course, possible. In any event, it is desired that at least two, and preferably three, slots be provide din the lid 2 of the dipstick wiper, with the slots aligned in at least two different directions to
30 permit easy use of the dipstick wiper from more than one angle.

The present invention also preferably provides one or more tags (not illustrated) affixable to dipsticks under the hood of an automobile, for easy identification of same. The tags, which may be simply fluorescent vinyl tape, are colour coded the same colour as the dipstick wiper, so as to provide a
35 means for a consumer to quickly locate a dipstick and a mean to wipe it.

It is to be understood that the examples described above are not meant to limit the scope of the present invention. It is expected that

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numerous variants will be obvious to the person skilled in the automobile accessory design field, without any departure from the spirit of the present invention. The appended claims, properly construed, from the only limitation upon the scope of the present invention.

- 5 As many changes can be made to the preferred embodiments of the invention without departing from the scope of the invention; it is intended that all material contained herein be interpreted as illustrative of the invention and not in a limiting sense.

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THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE
PROPERTY OR PRIVILEGE IS CLAIMED ARE AS FOLLOWS:

1. A device for wiping fluid from dipsticks, said device comprising
5 a housing having a base member and a lid member, said housing containing
therein an absorbent member, wherein said lid is provided with slots
extending in at least two different directions, said absorbent member having
slits therewith aligned in use with the slots of said lid, wherein a dipstick may
be drawn through a slit in said absorbent member to wipe it without opening
10 said lid.
2. A device as claimed in claim 1, wherein the underside of said base
member is provided with means to removably affix it to a desired location in
the engine compartment of a motor vehicle.
15
3. A device as claimed in claim 2, wherein said means to removably
affix said base to a location in the engine compartment of a motor vehicle is a
strip or disc of Velcro™ hook fastener adhesively affixed to the underside of
said base, and a complementary strip or disc of Velcro™ pile fastener
20 adhesively affixed to a said desired location.
4. A device as claimed in claim 1 or 2, wherein said absorbent
member is a sponge that sits in said base.
- 25 5. A device as claimed in claim 4, wherein said absorbent member
extends above said lid and encloses said sponge, said lid being provided with
slots extending part-way down its side surfaces at the ends of the slots on the
upper surface.
- 30 6. A device as claimed in claim 4 or 5, wherein said sponge, at its
ends adjacent the ends of said slots in said lid, is formed to provide hollow
spaces between said housing and said sponge, in which hollow fluid wiped off
dipstick may accumulate.
- 35 7. A device as claimed in claim 1 or 4, wherein said lid and base are
formed as two pieces that snap together.

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8. A device as claimed in claims 1, 4 or 6 wherein three said slots are provided in the upper surface of said lid, said slots intersecting substantially in the centre of said lid.

5 9. A device for wiping fluid from dipsticks, said device comprising a housing having a base member and a lid member, said housing containing therein an absorbent member, wherein said lid is provided with at least one slot extending therein, said absorbent member having at least one slit therewith aligned in use with the at least one slot of said lid, wherein said
10 absorbent member, at its ends adjacent the ends of said slots in said lid, is formed to provide hollow spaces between said housing and said absorbent member, in which hollow fluid wiped off the dipstick may accumulate, wherein a dipstick may be drawn through the at least one slit in said absorbent member to wipe it without opening said lid.

15

10. An absorbent member adapted to be used with a dipstick wiper having a housing which includes at least one slot therewith, said absorbent member comprising at least one slit alignable with said at least one slot of said dipstick wiper in use to allow the dipstick to be drawn through said absorbent
20 member through the at least one slit, the foam at its edge adjacent the end of each slit being recessed away from the member, in use to provide hollow spaces between said housing of said wiper and said absorbent member thereby in use ensuring that oil or other fluid that is wiped off a dipstick will remain inside the wiper.

25

11. The absorbent member of claim 10, wherein said member is made of foam.

12. The absorbent member of claim 10 or 11, wherein said member is
30 dimensioned to fit snugly within the wiper.

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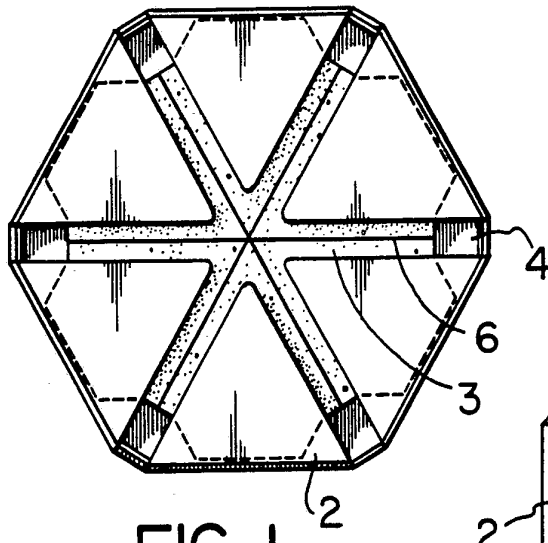


FIG. 1

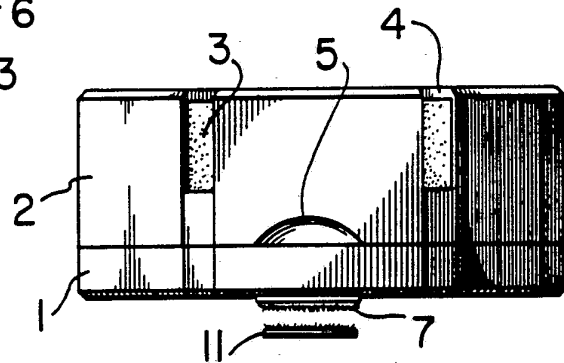


FIG. 2

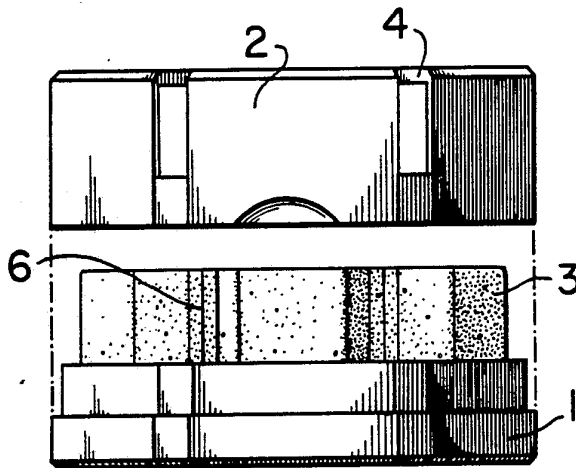


FIG. 3

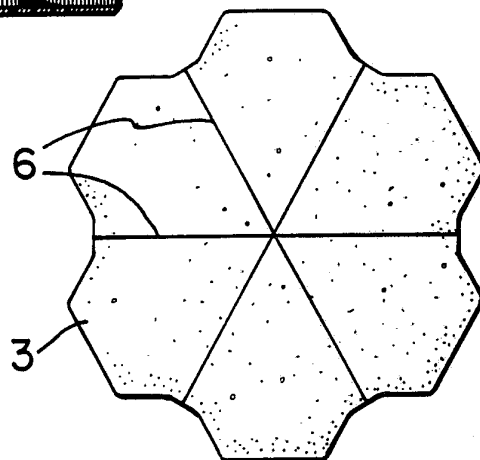
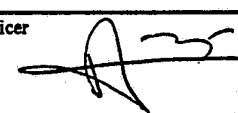


FIG. 4

INTERNATIONALER RECHERCHENBERICHT

International Application No

PCT/CA 92/00439

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ⁶		
According to International Patent Classification (IPC) or to both National Classification and IPC Int.Cl. 5 G01F23/04		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁷		
Classification System	Classification Symbols	
Int.Cl. 5	G01F	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁸		
III. DOCUMENTS CONSIDERED TO BE RELEVANT⁹		
Category ¹⁰	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
Y	US,A,4 023 231 (HABER) 17 May 1977 cited in the application see the whole document ---	1-7
Y	CH,A,332 276 (HOLLIGER) 28 February 1959 see the whole document ---	1
Y	EP,A,0 037 247 (KACHUR) 7 October 1981 see page 4, line 2 - page 4, line 13; figures ---	2,3
Y	CH,A,338 327 (BOUCHARD) 30 June 1959 see the whole document ---	4,5,7, 9-12
	-/--	
¹⁰ Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family		
IV. CERTIFICATION		
Date of the Actual Completion of the International Search 09 DECEMBER 1992		Date of Mailing of this International Search Report 23. 12. 92
International Searching Authority EUROPEAN PATENT OFFICE		Signature of Authorized Officer ROSE A.R.P. 

III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)		
Category *	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No.
Y	DE,A,2 831 596 (ERLEMANN) 31 January 1980 see figures -----	6,9-12

**ANNEX TO THE INTERNATIONAL SEARCH REPORT
ON INTERNATIONAL PATENT APPLICATION NO.**

CA 9200439
SA 64991

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.
The members are as contained in the European Patent Office EDP file on
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A-4023231	17-05-77	None	
CH-A-332276		None	
EP-A-0037247	07-10-81	CA-A- 1153167	06-09-83
		JP-A- 56151317	24-11-81
		US-A- 4374445	22-02-83
CH-A-338327		None	
DE-A-2831596	31-01-80	None	