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(54) Title: SCRAPER SPONGE

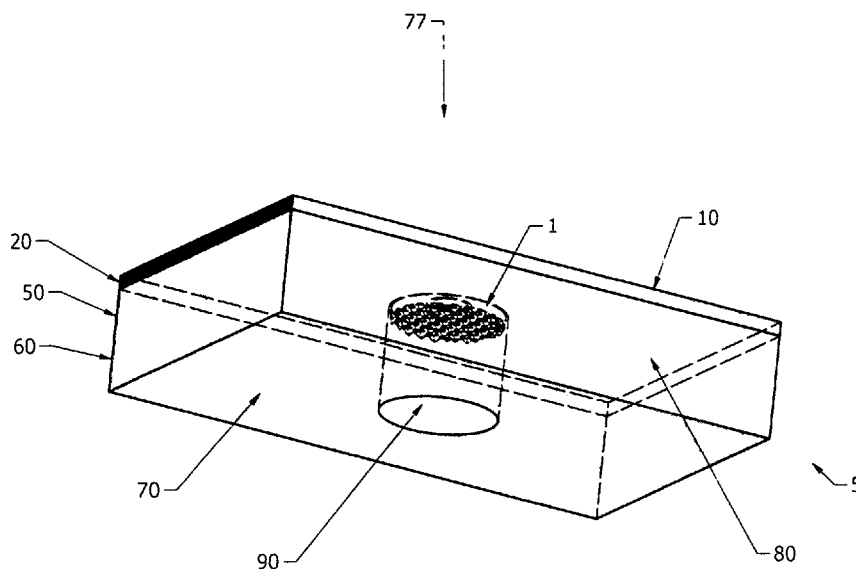


FIG. 1

(57) Abstract: A scraper sponge for cleaning and scraping away unwanted substances from an object or surface comprising a sponge body and a scraper. The sponge body has three layers and two surfaces available with a circular aperture in the middle where the scraper is inserted and attached to the first layer. The front surface of the scraper is covered with pyramid shaped edges extending outwardly in the direction of the second surface of the sponge body and is made level with the second surface of the sponge body when forces are applied to the first surface and subsequent back of scraper to manipulate the rigid scraper on a hard surface.



Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
- *of inventorship (Rule 4.17(iv))*
- *as to non-prejudicial disclosures or exceptions to lack of novelty (Rule 4.17(v))*

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 19/00057

A. CLASSIFICATION OF SUBJECT MATTER

IPC - A47L 13/12, A47L 13/16, A47L 17/00, A47L 13/08, A47L 13/022 (2020.01)

CPC - A47L 13/12, A47L 13/16, A47L 17/00, A47L 13/08, A47L 13/022

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

See Search History document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y --- A	US 2,066,420 A (Reysa) 5 January 1937 (05.01.1937), entire document, especially Figs 1-5; col 1 ln 1-3, 52	17-23, 25-32 --- 24
Y --- A	DE 101 59 793 A1 (Ruttiger) 10 July 2003 (10.07.2003), entire document, especially Figs 11-12; para [0021] and [0025]; claim 26	17-23, 25-32 --- 24
Y --- A	US 5,806,135 A (Earle) 15 September 1998 (15.11.1998), entire document, especially Fig 2; col 2 ln 19-21	17-23, 25-32 --- 24
A	US 4,866,806 A (Bedford) 19 September 1989 (19.09.1989), entire document, especially Figs 1-2; col 1 ln 7-8, col 2 ln 57-58, col 3 ln 8-11, col 4 ln 13-15	1-16
A	US 2,113,452 A (Long) 5 April 1938 (5.04.1938), entire document	1-32
A	US 2013/0091648 A1 (Frigo, Jr.) 18 April 2013 (18.04.2013), entire document	1-32
A	US 7,284,293 B1 (Holder et al.) 23 October 2007 (23.10.2007), entire document	1-32

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"D" document cited by the applicant in the international application

"E" earlier application or patent 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 when the document is taken alone

"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

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 19/00057

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I: Claims 1-16, directed to a back of a scraper secured to a first layer opposite a first surface.

Group II: Claims 17-32 directed to a back of a scraper secured to a second layer adjacent to a third layer.

The inventions listed as Groups I-II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

-*-Continued in Supplemental Box-*-

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

-Continuation of Box No. III - Observations where unity of invention is lacking (Continuation of item 3 of first sheet)-

SPECIAL TECHNICAL FEATURES

The invention of Group I includes the special technical feature of a back of a scraper secured to the first layer opposite the first surface, not required by the claims of Group II.

The invention of Group II includes the special technical feature of a back of a scraper secured to the second layer adjacent to the third layer, not required by the claims of Group I.

COMMON TECHNICAL FEATURES

Groups I-II share the common technical features of a scraper sponge. However, this shared technical feature does not represent a contribution over prior art as being anticipated by US 4,866,806 A to Bedford in view of US 5,806,135 A to Earle.

Regarding claim 1, Bedford teaches a scraper sponge (Fig. 1) for cleaning and scraping away unwanted substances from an object or surface (col 1 in 7-9) comprising
a sponge body (11, 13, 15 collectively Fig. 1) defining
a first surface (unlabeled bottom surface of 11 Fig. 1),
a first layer (11 Fig. 1),
a second layer (13 Fig. 1),
a third layer (15 Fig. 1),
a second surface opposite the first surface (unlabeled top surface of 15 Fig. 1),
a continuous side surface around a perimeter (unlabeled sides of 11, 13, 15 Fig. 1);
and a back of a scraper (unlabeled bottom surface 27 Fig. 2) secured to the first layer opposite the first surface (unlabeled bottom surface 27 is secured to top surface 11 in Fig. 2),
and an aperture through and approximately in the middle of the second layer, the third layer and the second surface of the sponge body (17 Figs. 1 & 2). Bedford further teaches the scraper is made level with the second surface of the sponge body when forces are applied to the first surface and the subsequent back of the scraper to manipulate the scraper on a hard surface (top surface of 27 is not level with top surface 15, pressure needs to be applied to unlabeled bottom 11 to make top surface of 27 level with top surface 15 Fig. 2).

Bedford does not specifically teach wherein the aperture is circular in shape. However, optimizing size, shape, and angle(s) is within the ordinary skill of one in the art. Accordingly, it would have been obvious to a person having ordinary skill in the art to have optimized the shape as claimed in order to allow a more even distribution when force is applied to the second surface.

Bedford does not specifically teach an entire surface area of the scraper, on a front surface, is covered with pyramid shaped edges extending outwardly in the direction of the second surface of the sponge body. Earle teaches an entire surface area of the scraper, on a front surface, is covered with pyramid shaped edges (unlabeled pyramid shaped edges on top part of 20 Fig. 2). Accordingly, it would have been obvious to one of ordinary skill in the art to cut 20 Fig. 2 into a circle and fit it inside the aperture in the sponge body in order to provide a harder and thus more effective scraper surface.

As the common technical features were known in the art at the time of the invention, these cannot be considered special technical feature that would otherwise unify the groups.

Therefore, Groups I-II lack unity under PCT Rule 13 because they do not share a same or corresponding special technical feature.