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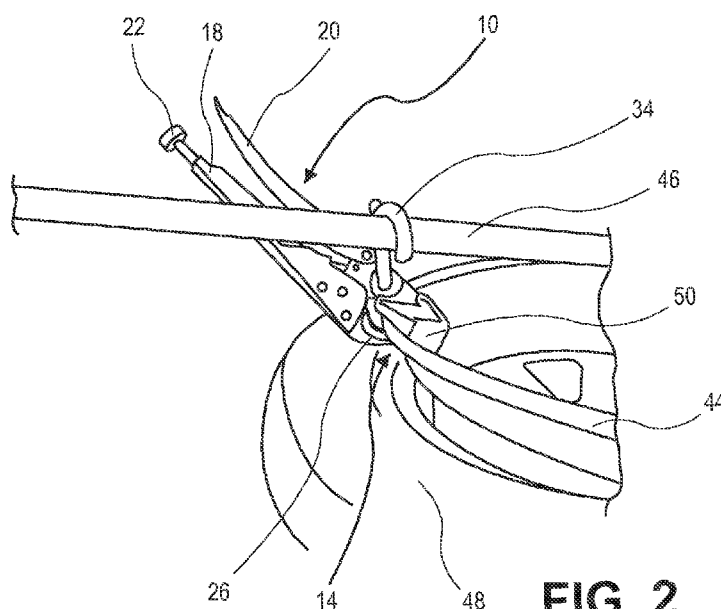
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[Continued on next page]

(54) Title: TIRE SPOON HOLDER AND METHOD OF OPERATION



**FIG. 2**

(57) Abstract: A tire spoon holder is provided. The tire spoon holder may include: a first and second handle; a first and second jaw, each jaw connected to at least one of the handles wherein the jaws are configured to come together when the handles are moved toward each other; and a loop attached to at least one jaw or handle. A method of attaching a tire spoon to a wheel rim may be provided. The method may include: attaching a tire spoon holder to a wheel rim; slipping a tire spoon through a loop in the tire spoon holder; and inserting a flat portion of the tire spoon between a tire and the wheel rim.



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- *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))* (88) **Date of publication of the international search report:**  
27 February 2014

**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:

\*\*\*-Please See Supplemental Page-\*\*\*

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.:  
1-13, 20

**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.

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(8) - B60C 25/02 (2013.01)

USPC - 157/1.38

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)

IPC(8) Classification(s): B60C 25/02, 25/01, 25/04 (2013.01)

USPC Classification(s): 157/1, 81/368

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

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

MicroPatent (US Granted, US Applications, EP-A, EP-B, WO, JP, DE-G, DE-A, DE-T, DE-U, GB-A, FR-A); Google, Google Scholar; DialogPro (Derwent, INSPEC, NTIS, PASCAL, Current Contents Search, Dissertation Abstracts Online, Inside Conferences); ip.com  
KEYWORDS: tire, mounting, rim, frame, device, apparatus, spoon, bar, lever, vice grip pliers, loops, rings**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                             | Relevant to claim No. |
|-----------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| X         | US 5,339,507 A (COX R. L.) August 23, 1994; column 4, lines 12 to 20, 24 to 28, 35, 36, column 6, lines 33 to 37, figures 1, 2 | 1-3, 8-13, 20         |
| -----     |                                                                                                                                |                       |
| Y         |                                                                                                                                | 4-7                   |
| Y         | US 3,842,696 A (WAYNE K.) October 22, 1974; column 1 line 36, column 3, lines 3 to 5                                           | 4-7                   |
| A         | US 3,908,490 A (DURHAM J. L.) September 30, 1975; entire document                                                              | 1-13, 20              |
| A         | US 3,746,069 A (BLOMGREN O.C. Sr. et al.) July 17, 1973; entire document                                                       | 1-13, 20              |
| A         | US 3,584,672 A (DUQUESNE V.) June 15, 1971; entire document                                                                    | 1-13, 20              |

☐ Further documents are listed in the continuation of Box C.

\* 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 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

"&amp;" document member of the same patent family

Date of the actual completion of the international search

16 December 2013 (16.12.2013)

Date of mailing of the international search report

03 JAN 2014

Name and mailing address of the ISA/US

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Facsimile No. 571-273-3201

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\*\*\*-Continued from Box No. III: Observations where unity of invention is lacking-\*\*\*

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 1-13 and 20 are directed toward a tire spoon holder.

Group II: Claims 14-19 are directed toward a method of attaching a tire spoon to a wheel rim.

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.

The special technical features of Group I include a first and second handle (means for gripping; claim 20), a first and second jaw (means for clamping; claim 20), each jaw connected to at least one of the handles wherein the jaws are configured to come together when the handles are moved toward each other, and a loop (means for attaching; claim 20) attached to at least one jaw or handle, which are not present in Group II.

The special technical features of Group II include attaching a tire spoon holder to a wheel rim, slipping a tire spoon through a loop in the tire spoon holder, and inserting a flat portion of the tire spoon between a tire and the wheel rim, which are not present in Group I.

The common technical features of Groups I and II are a tire spoon holder, a loop, and a tire spoon.

These common technical features are disclosed by US 5,339,507 A (COX). Cox discloses a tire spoon holder, a loop, and a tire spoon (inserting hook 13 (tire spoon) into ring loop 49 (loop) mounted to handle 41 on clamp 40 (tire spoon holder); figure 1; column 4, lines 35-40).

Because Cox discloses the common technical features, these features are not special. Therefore, Groups I and II lack unity.