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(54) Article draining rack.

(57) The rack comprises a main frame (11, 12, 13, 14), two leg members (26, 27), and an article draining platform ("A"), said main frame, said leg members, and said article draining platform being inter-connected whereby, in a folded or inoperative position for the rack, said main frame, said leg members, and said platform lie in adjacent substantially parallel planes and, in an operative position for the rack, when the main frame lies in a substantially vertical plane, the leg members are outstanding from one major face of the main frame adjacent the side edge regions of the said main frame and the article draining platform is supported in a substantially horizontal plane between said main frame and said leg members. The rack thus forms a stable support for the articles to be dried, but is of simple structure and readily folds.

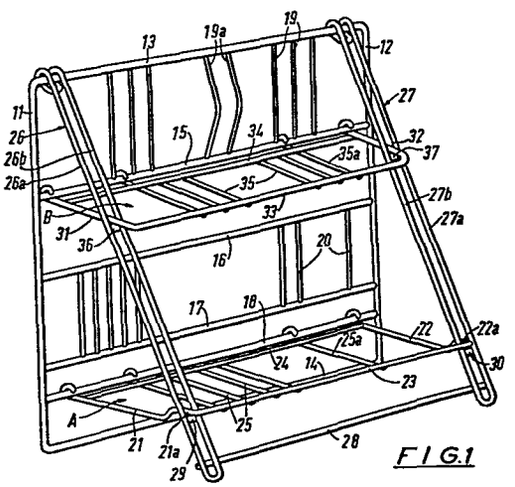

FIG.1

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ARTICLE DRAINING RACK

DESCRIPTION

This invention relates to article draining racks and more specifically to an article draining rack for crockery.

Article draining racks for crockery are well known in the art and conventionally comprise rigid or foldable wire or perforated structures. Rigid article draining racks have the serious disadvantage that, when in use, they occupy a substantial area of kitchen worktop surface or storage space. Foldable article draining racks have the advantage that, when not in use, they can be folded from their open conditions of use to a relative compact form for storage.

Conventional foldable article draining racks comprise two substantially identical rectangular frames pivoted together at or near their mid-height regions so that, in the open working condition, such a rack presents an "X"-like configuration with the planes of the two frames inclined to one another, generally at an angle of 90°, and from which open condition the frames can be pivotally displaced so as to lie in close relationship with the planes of the two frames inclined at a small angle, such as an angle between 3 or 7 degrees depending upon the dimensions of the frames.

Such conventional "two-frame" article draining racks may include wire or perforated article support platforms, pivotally attached to the main frame so as to adopt a substantially horizontal position when the frame is in its open position for use, and pivotal from said position of use to a plane generally parallel with its supporting frame when the foldable draining rack is in its condition for storage. One example of such a foldable draining rack is disclosed in British Patent Specification No. 1,580,003.

The present invention seeks to provide a foldable article draining rack which is not based on the pivoted "two-frame" construction and which can be free-standing, or wall mounted, as required.

According to the present invention there is provided a foldable article draining rack comprising a main frame, two leg members, and an article draining platform, said main frame, said leg members, and said article draining platform being inter-connected whereby, in a folded or inoperative position for the rack, said main frame, said leg members, and said platform lie in adjacent substantially parallel planes and, in an operative position for the rack, when the main frame lies in a substantially vertical plane, the leg members are outstanding from one major face of the main frame adjacent the side edge regions of the said main frame and the article draining platform is supported in a substantially horizontal plane between said main frame and said leg members.

Preferably said leg members are pivotally displaceable relative to said main frame such that, when the rack is in its operative position, the upper regions of each leg member are pivotally attached to the main frame and the pivotal axes for said leg members lie on a common substantially horizontal axis.

Preferably the main frame is of substantially rectangular configuration intended, in use, to define two generally parallel side elements and two generally parallel transverse elements.

Preferably the main frame includes a plurality of transverse members, extending between the said side frame elements parallel to the said two transverse elements of the frame, said transverse members being in spaced apart relationship.

Conveniently the main frame comprises a length of metal wire or rod with four right angle bends therein, the ends of the wire or rod being secured together to close the rectangular frame and preferably said transverse members comprise metal wire or rods and the ends of said transverse members are welded to the side elements of the main frame.

In a preferred embodiment the article draining platform is pivotally attached to the main frame.

Preferably the article draining platform comprises a generally rectangular frame defining, in the operative position for the frame, two generally parallel side frame elements connected by two generally parallel transverse elements, with article supporting means within said

frame.

In a preferred embodiment the said frame for the article supporting platform comprises a length of metal wire or rod with four right angle bends therein, to define two generally parallel side frame elements connected by two generally parallel transverse frame elements, the ends of the wire or rod being secured together to close the frame and conveniently the article supporting means within said frame comprise metal wire or rods extending between the said generally parallel transverse elements, in spaced apart relationship, generally parallel to the side frame elements.

Preferably the article draining platform is pivotally attached to a transverse member of the main frame.

In a preferred embodiment the main frame presents article support elements, conveniently, said article support elements extend between two adjacent transverse members, in spaced apart relationship, generally parallel with the side elements of the main frame.

Preferably said article support elements extend between that transverse member to which the article draining platform is pivotally attached and the next transverse member above said transverse member to which the article draining platform is attached when the rack is in its operative position and, conveniently, at least the mid-regions of the article support elements are deflected out of the plane of the main frame towards that face of the main frame presenting the article draining platform.

In one embodiment in accordance with the invention each leg member presents an abutment member, engageable by the article draining platform when the rack is in its operative position, said abutment members serving to support the regions of the article draining platform remote from the main frame.

In a preferred embodiment in accordance with the invention each leg member comprises two spaced apart generally parallel members and each side frame element of the article draining platform lies between the parallel members of its adjacent leg and each abutment member comprises a member rigidly connecting the two parallel members of its respective leg, the side frame elements of the article draining platform being always above said abutment members so as to rest on said abutment members, when the rack is in its operative position.

Preferably the end regions of each side frame element of the

article draining platform is deflected from the general axis of that side element whereupon, when the rack is in its operative position, the deflected ends of the said side elements rest on said abutment members and the general axis of each side element lies below the upper surface of each abutment member.

Preferably the leg members are rigidly linked together by a transverse member.

In a preferred embodiment in accordance with the invention one or more additional article draining platforms are provided the, or each, being arranged to be supported in a substantially horizontal plane between said main frame and said leg members when the rack is in an operative position and to lie in a plane adjacent and substantially parallel with the plane of the main frame when the rack is in its folded condition and, more preferably, when the rack is in its operative position, said article draining platforms are in vertically spaced relationship.

The invention will now be described further by way of example with reference to the accompanying drawings in which:-

Fig. 1 shows, in perspective view, an article draining rack in accordance with the invention in the open or operative condition.

Fig. 2 shows, diagrammatically, an end view of the rack shown in Fig. 1 and,

Fig. 3 shows, diagrammatically, an end view of the rack illustrated in Fig. 1 in a partially closed condition.

In the illustrated example a main frame for an article draining rack is made from a single piece of wire or rod bent and with the ends butt-welded together, to define two parallel side elements 11 and 12 connected by two parallel transverse elements 13 and 14, at right angles to elements 11 and 12, the transverse element 13 being the intended upper element for the frame and the element 14 being the intended lowermost element of the frame. The frame further includes transverse members 15, 16, 17 and 18 extending between side elements 11 and 12 parallel to, and spaced apart between, the transverse elements 13 and 14. The main frame is completed by wire elements 19 which extend between the transverse element 13 and transverse member 15 in equally spaced apart parallel relationship, parallel with the side elements 11 and 12, and wire elements 20 which extend between transverse members 16 and 17, in equally spaced parallel relationship,

parallel to the side elements 11 and 12.

A pricipal article draining platform, generally indicated by reference "A", comprises parallel side elements 21 and 22 connected by parallel transverse elements 23 and 24, substantially at right angles to the side elements 21 and 22. The side elements 21 and 22 extend beyond transverse elements 24 and the free ends of said elements 21 and 22 are bent to form hook-like ends by which the platform "A" is attached to the transverse member 18 of the main frame in such manner as to allow the platform "A" to pivot about the member 18.

The end regions of the elements 21 and 22 remote from the pivotal connection with member 18 are bent such that the extreme end regions 21a and 22a respectively remote from member 18 lie generally parallel with, but above (as viewed in Fig. 1) the main axes of the elements 21 and 22, whereupon the transverse element 23 also lies above that plane passing through the main axes of the elements 21 and 22.

The platform "A" is completed by wire elements 25 which extend between the transverse elements 23 and 24 in equally spaced apart parallel relationship, parallel its side elements 21 and 22, and selected ones 25a, of said wire elements extend beyond the transverse element 24 and have their ends turned around the member 18, thus to strengthen and support the pivotal attachment of platform "A" with element 18.

Two leg members, generally indicated by reference numerals 26 and 27, have their upper ends (as viewed in Fig. 1) pivotally attached to the transverse element 13 and their lower free ends connected together by transverse member 28.

The leg member 26 is formed from a single length of wire or rod bent, and with the ends butt-welded together, to define two spaced apart parallel elements 26a and 26b connected together at their ends with the intended upper regions of the elements 26a and 26b bent over to form a hook-like end which is snapped on to the transverse element 13, whereby the leg 26 is captive with the element 13 and pivotally displaceable relative thereto. The leg 27 is constructed in identical manner to the leg 26 to present parallel elements 27a and 27b and the leg 27 has a hook-shaped upper end which is attached to the transverse element 13 in identical manner to the leg 26. The side element

21 of the platform "A" lies between the elements 26a and 26b, the side element 22 of the platform "A" lies between elements 27a and 27b, whereby the elements 26b and 27b are captive between transverse members 23 and 24 of the platform "A", and the engagement of said elements 26b and 27b with transverse member 23 limits the angular displacement of the legs 26 and 27 out of the plane of the main frame 11 to 20.

The leg member 26 includes an abutment member 29 which extends between the elements 26a and 26b, the leg 27 includes an abutment member 30 which extends between elements 27a and 27b, and said elements 29 and 30 are so spaced from the pivotal connection of the legs 27 and 27 with element 13 that when the legs 26 and 27 are so displaced from the main frame that elements 26b and 27b are in abutment with transverse element 23 the deflected end regions 21a and 22a of side elements 21 and 22 respectively rest on abutments 29 and 30 respectively and the wire elements 25 of the platform "A" lie substantially in a plane at right angles to the plane of the main frame 11 to 20. Thus, when the main frame is upstanding from a supporting surface in a substantially vertical plane and the lower regions of the legs 26 and 27 are engaging said supporting surface and the deflected ends of elements 21 and 22 are resting on the abutment members 29 and 30, the mean axes of the side elements 21 and 22 pass through, or below, the axes of the elements 29 and 30 respectively, whereupon the frame is locked in its open condition, and the article draining platform "A" lies in a substantially horizontal position to support articles thereon.

The rack includes a second article draining platform, generally indicated by reference "B", and comprising two parallel side elements 31 and 32 connected by transverse elements 33 and 34, the side elements 31 and 32 extending beyond transverse element 34 and the free ends of elements 31 and 32 being turned around the transverse member 15, so that the platform "B" is pivotally attached to the transverse member 15. The platform "B" includes wire elements 35, extending in equally spaced apart parallel relationship between elements 33 and 34 so as to lie parallel with side elements 31 and 32, and selected ones 35a of said wire elements 35 extend beyond the element 34 and the free ends of said elements 35a are turned around the member 15 to assist the

pivotal support of the platform "B" with member 15.

The side elements 31 and 32 of platform "B" pass respectively between elements 26a and 26b of the leg 26 and elements 27a and 27b of leg 27 and the said legs 26 and 27 present abutment members 36 and 37 repsectively upon which the elements 31 and 32 respectively rest when the frame is in its open position, whereupon the platform "B" lies generally parallel to the platform "A".

In the open condition for the rack, illustrated in Fig. 1, the rack may be supported by a substantially horizontal work top, whereupon the main frame 11 to 20 will lie in a substantially vertical plane, the legs 26 and 27 will be extending at their maximum angle to the plane of the frame 11 to 20, and the platforms "A" and "B" will lie in substantially horizontal spaced apart planes. As the maximum angle of displacement of the legs 26 and 27 from the plane of the main frame 11 to 20 is determined by the front to rear length of the platform "A"; the front to rear dimension of the platform "B" (the distance between transverse member 15 and transverse element 33) may be equal to the front to rear dimension of platform "A" but is preferably slightly less, to improve the stability of the rack.

With the rack in the open condition articles to be drained are supported on the platforms "A" and "B", in the case of cups and the like bowl-shaped crockery the articles will normally be inverted, and in the case of plates, large plates will be supported by the platform "A" and small plates by the platform "B", the mode of support being identical. Thus, when a large plate is supported by the platform "A", the plate will have its lower regions entered between two wire elements 25 of the platform "A" and its edge region adjacent the plane of the main frame entered between two wire elements 20, whereupon the plane of the plate lies in a substantially vertical plane at right angles to the plane of the main frame 11 to 20 and is therefore in an attitude particularly suited to draining.

Whilst the wire elements 19 and 20 described above can lie in the plane of the main frame the mid-regions of said wire elements 19 and 20 may be deflected out of the plane of the main frame in the direction of articles supported on the platform "A" or "B", as shown by the elements 19a in Fig. 1, thus to increase the support afforded to plates draining on the platform "A" or "B".

To fold the rack from its condition of use to its folded condition for storage it is only necessary to rotate the platform "A" anticlockwise (as viewed in Figs. 2 and 3) by raising the transverse element 23 whereupon, as platform "A" rotates about its pivotal axis with transverse member 18, the transverse element 23 is rotated into close proximity with the plane of the main frame, the said transverse element 23 causes the legs 26 and 27 to rotate so as to lie close to the plane of the main frame and, when the platform "A" and legs 26 and 27 lie in their closest position to the plane of frame 11, the platform "B" can be readily rotated upwardly about the axis of the transverse member 15 so that the frame adopts a substantially small front to rear dimension, as will be evident from Fig. 3.

Although the rack has been described above in its open condition as being free-standing on a work top it will be appreciated that the rack can be wall mounted, conveniently by having the transverse element 13 supported by wall brackets, and in which case when the rack is in its open position the deflected ends 21a and 22a of side elements 21 and 22 of platform "A" will be resting on the abutment members 29 and 30 respectively thus locking the legs 26 and 27 in their extreme positions from the plane of the main frame and the platforms "A" and "B" are therefore supported in generally parallel horizontal planes.

To improve the "degree" of locking between the article draining platform "A" and the legs of the frame, the side elements 21 and 22 of platform "A" may conveniently include extensions or "spurs", extending along the axis of the major part of the length of said side elements so as to lie parallel to, but spaced from, the deflected ends 21a, 22a of said side elements, whereupon each abutment 29 and 30 will lie between the deflected end of its respective side element, said deflected end resting on the said abutment member, and the extension or spur which passes beneath the said abutment member, whereupon the platform "A" is locked against accidental vertical displacement of that end supported by the legs. With such an arrangement it will be obvious that the length of each extension or spur will be such as to allow the platform "A" to be pivoted about its connection with the main frame when the legs are in their fully extended position and the transverse element 23 of platform "A" is in contact with the leg elements 26b

and 27b of the said legs - i.e. to engage the spurs, the leg elements are displaced slightly inwardly.

The foldable article draining rack described hereinbefore may conveniently be used in combination with a tray, located beneath the platform "A", and serving to collect liquid draining from articles supported by the rack. When the rack is intended to be free-standing on a substantially horizontal surface the tray may conveniently be independent of the rack but, when the rack is in a wall mounted condition, with the main frame 11, 12, 13, 14 attached to a wall, a tray may include a hooked flange along one edge, engageable over the transverse element 14 of the main frame of the rack and a parallel hooked flange engageable over the transverse member 28 connecting the free edges of the legs, whereupon the tray is supported by the rack in its open condition, the rack is folded by simply elevating the tray, to allow the tray to disengage from the transverse element of the main frame, and thereafter elevating the platform "A" as described hereinbefore.

It will be appreciated by persons skilled in the art that when the rack is to be used in combination with a drainage tray one flange of the tray, engageable with the element 14 or the element 28, may be so shaped as to permanently engage with said element, whilst being pivotable thereon, so that the tray is not detachable from the rack and, with such a construction, when the side walls of the tray are to lie between the elements 14 and 28 when the rack is in its operative condition the said tray may be relied upon to retain the rack in its open operative condition, whereupon the need to deflect the ends of the side elements 21 and 22 of platform "A" may be avoided.

It will also be appreciated that the, or each, article draining platform could be pivoted to a member carried by the leg elements and have extensions at the opposite side of the platform to rest on the frame member 18 or 15 as the case may be. In this case, the, or each, platform could be allowed to drop to bring the rack to the folded condition.

CLAIMS.

1. A foldable article draining rack comprising members pivotable in relation to one another between one position, the operative position, in which they provide support for an article to be drained and an inoperative position in which they are folded in relation to one another so that the rack occupies a lesser volume than it does in the one condition characterised in that the rack comprises a main frame (11, 12, 13, 14), two leg members (26, 27) and an article draining platform (A), said main frame, said leg members, and said article draining platform being interconnected whereby, in the folded or inoperative position of the rack (Fig. 3), said main frame, said leg members, and said platform lie in adjacent substantially parallel planes and, in said operative position for the rack (Fig. 1), when the main frame lies in a substantially vertical plane, the leg members are outstanding from one major face of the main frame adjacent the side edge regions of the said main frame and the article draining platform is supported in a substantially horizontal plane between said main frame and said leg members.

2. A foldable article draining rack as claimed in claim 1 in which said leg members are pivotally displaceable relative to said main frame such that, when the rack is in its operative position, the upper regions of each leg member are pivotally attached to the main frame and the pivotal axes for said leg members lie on a common substantially horizontal axis.

3. A foldable article draining rack as claimed in claim 1 or 2 in which the article draining platform (A) is pivotally attached to the main frame.

4. A foldable article draining rack as claimed in claim 3 in which the main frame is of substantially

rectangular configuration intended, in use, to define two generally parallel side elements (11, 12) and two generally parallel transverse elements (13, 14) and in which the article draining platform comprises a generally rectangular frame defining, in the operative position for the frame, two generally parallel side frame elements (21, 22) connected by two generally parallel transverse elements (23, 24), with article supporting means (25) within said frame.

5. A foldable article draining rack as claimed in claim 3 or 4 in which each leg member (26, 27) presents an abutment member (29, 30) engageable by the article draining platform (A) when the rack is in its operative position, said abutment members serving to support the regions of the article draining platform remote from the main frame.

6. A foldable draining rack as claimed in claim 5 in which each leg member (26, 27) comprises two spaced apart generally parallel members (26a, 26b; 27a, 27b) and each side frame element (21, 22) of the article draining platform (A) lies between the parallel members of its adjacent leg and each abutment member (29, 30) rigidly connects the two parallel members of its respective leg, the side frame elements (21, 22) of the article draining platform (A) being always above said abutment members so as to rest on said abutment members, when the rack is in its operative position.

7. A foldable article draining rack as claimed in claim 6 in which the end region (21a, 22a) of each side frame element (21, 22) of the article draining platform (A) is deflected from the general axis of that side element whereupon, when the rack is in its operative position, the deflected ends of the said side elements rest on said abutment members and the general axis of each side element lies below the upper surface of each

abutment member.

8. A foldable draining rack as claimed in claim 7 in which each side frame element (21, 22) of the article draining platform, adjacent said end regions (21a, 22a) thereof comprises a respective spur such as to underlie a respective abutment (29, 30) of the leg elements (26, 27) in the operative position of the rack when the leg elements are slightly displaced towards the main frame but such as to permit the platform (A) to be raised when the leg displacement is reversed.

9. A foldable draining rack as claimed in claim 1 or 2 in which the article draining platform (A) is pivotally attached to a member supported by the leg elements (26, 27).

10. A foldable article draining rack as claimed in any preceding claim including one or more additional article draining platforms, each arranged to be supported in a substantially horizontal plane between said main frame and said leg members when the rack is in an operative position and to lie in a plane adjacent and substantially parallel with the plane of the main frame when the rack is in its folded condition.

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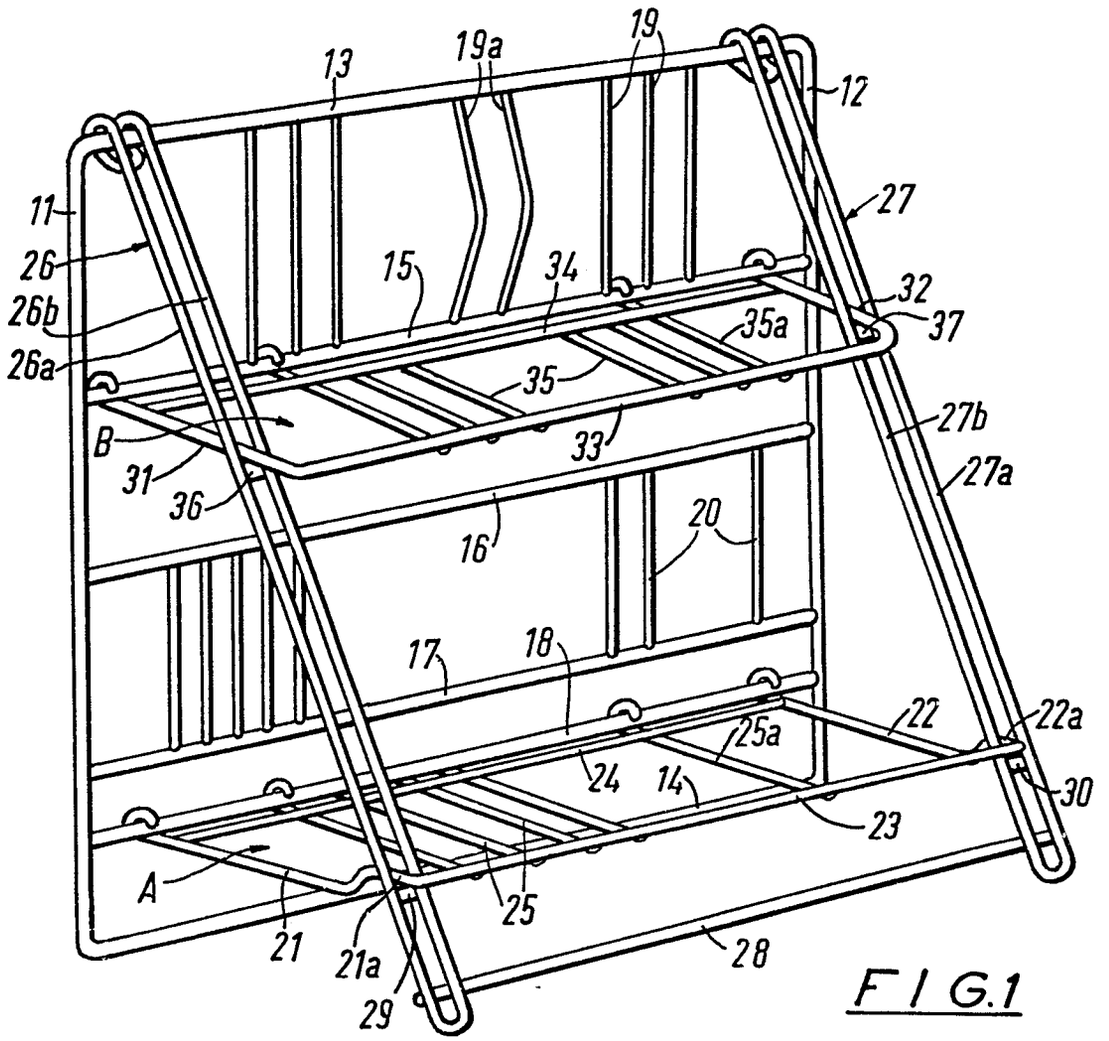

FIG.1

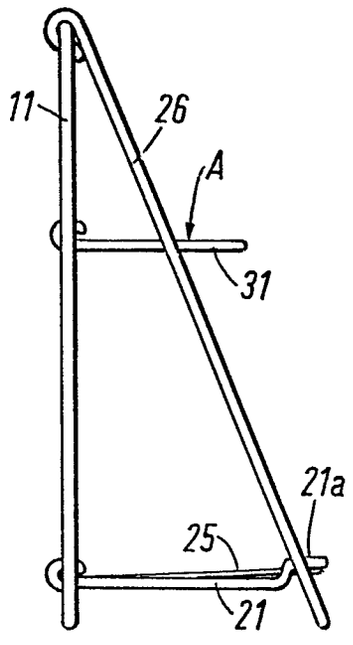

FIG.2

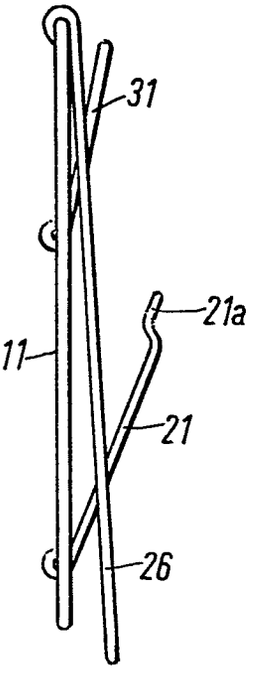

FIG.3

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EUROPEAN SEARCH REPORT

0074786
Application number

EP 82 30 4700.6

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
Y	US - A - 2 958 424 (BIGATTI) * fig. 1 *	1
Y	FR - A - 633 857 (FITZGERALD) * fig. 1 *	1
A	DE - C - 884 228 (ELFA) * fig. 2, 4 *	1
A	US - A - 1 712 342 (FITZGERALD)	
D,A	GB - A - 1 580 003 (BUCHSTEINER)	

CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)

A 47 L 19/04

TECHNICAL FIELDS SEARCHED (Int.Cl. 3)

A 47 L 19/00

CATEGORY OF CITED DOCUMENTS

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
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 The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Berlin	27-10-1982	KLITSCH

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