(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 362 539 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
19.11.2003 Bulletin 2003/47

(51) Int Cl.[7]: **A47K 1/00**, A47K 3/00, E03D 11/14

(21) Application number: **03011262.7**

(22) Date of filing: **16.05.2003**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR
Designated Extension States:
AL LT LV MK

(30) Priority: **17.05.2002 IT MI20021067**

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(54) Structural member of a recessed supporting frame for bathroom fixtures, frame compising such a structural member, and relative production method

(57) A structural member (1) of a recessed supporting frame for bathroom fixtures is defined by a straight bar (2) having two weakened transverse portions (5) defining respective bend lines (6) along which the bar (2) can be bent by hand to form a U-shaped frame (13); each portion (5) has a succession of perforations (7) defined by respective slots (8) elongated longitudinally along the respective bend line (6).

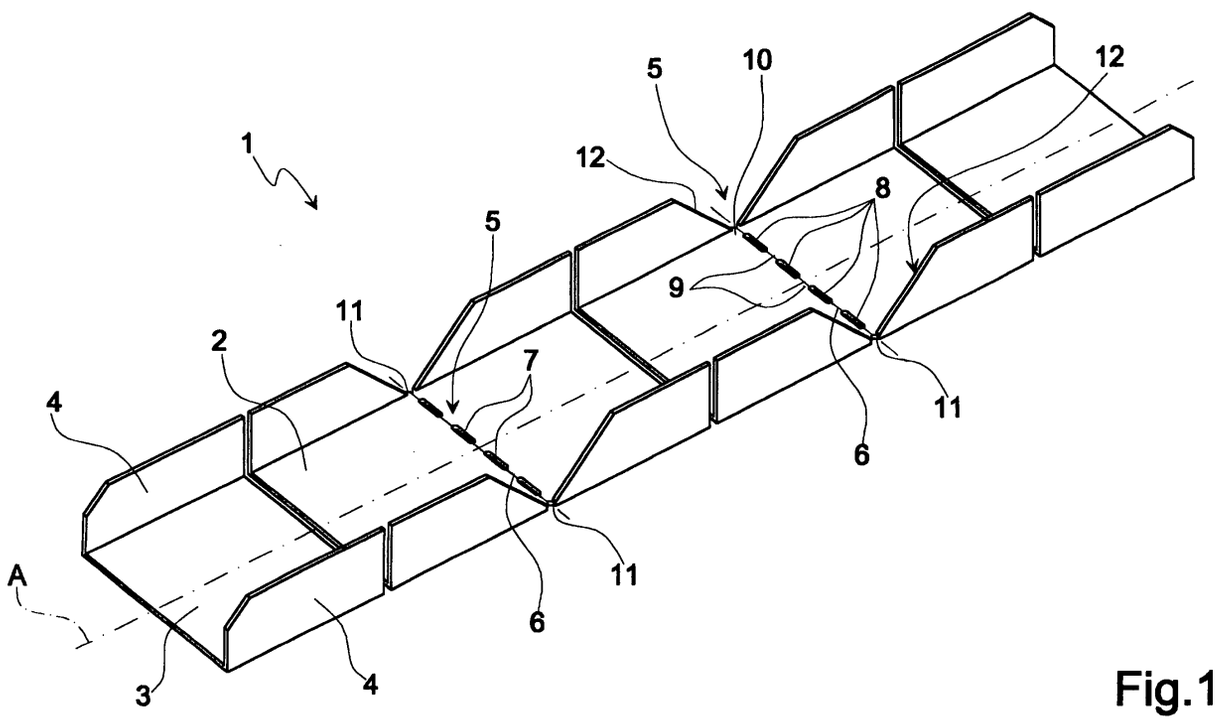


Fig.1

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Description

[0001] The present invention relates to a structural member for a recessed supporting frame for bathroom fixtures, to a frame comprising such a structural member, and to the relative production method.

[0002] As is known, bathroom fixtures, particularly suspended types, can be installed by means of supporting frames recessed into the wall. In particular, frames are known which are formed by folding into a U a sheet metal section or bar, normally with a U-shaped cross section. The bending operations involved in forming such frames cannot be done by hand by the fitter, and must be performed on a special machine at the factory, thus increasing overall production cost and time. Moreover, the frames must be stored and transported in the finished as-fitted form, which is fairly bulky.

[0003] It is an object of the present invention to provide a structural member of a recessed supporting frame for bathroom fixtures, designed to eliminate the aforementioned drawbacks.

[0004] According to the present invention, there is provided a structural member of a recessed supporting frame for bathroom fixtures, characterized by comprising a straight bar having at least one weakened transverse portion defining a corresponding bend line along which the bar can be bent by hand.

[0005] The invention also extends to a recessed supporting frame for bathroom fixtures, comprising such a structural member.

[0006] According to the present invention, there is also provided a method of producing a recessed supporting frame for bathroom fixtures, characterized by comprising the steps of forming a structural member in the form of a straight bar; forming at least one weakened transverse portion in said bar to define a corresponding bend line; and bending said bar along said bend line by hand.

[0007] The structural member according to the invention enables the supporting frame to be formed at the installation site from a straight bar, which is much easier to store and transport than a frame in the finished as-fitted form.

[0008] No mechanical bending operations using special machines or tools are involved; the bar can be bent into the frame at the installation site by the fitter; and overall production cost and time are reduced, as well as storage and transport costs, by storing and transporting substantially straight, relatively compact members.

[0009] A non-limiting embodiment of the present invention will be described by way of example with reference to the accompanying drawings, in which:

Figure 1 shows a schematic view in perspective, with parts removed for simplicity, of a structural member of a recessed supporting frame for bathroom fixtures in accordance with the present invention;

Figure 2 shows a larger-scale detail of the Figure 1 structural member;

Figure 3 shows a schematic front view of a recessed supporting frame for bathroom fixtures, as formed from the Figure 1 structural member.

[0010] Number 1 in Figure 1 indicates a structural member of a recessed supporting frame for suspended bathroom fixtures. Structural member 1 comprises a straight bar 2 preferably made of metal material. More specifically, bar 2 is a box bar having a U-shaped cross section and extending along an axis A, is made in known manner, e.g. by blanking and bending a strip or sheet of sheet metal of roughly 0.5-2 mm, and preferably about 1-1.5 mm, thickness, and comprises a flat, rectangular base plate 3, the centreline axis of which is defined by axis A, and two longitudinal sides 4 bent 90° with respect to base plate 3.

[0011] Bar 2 has two weakened transverse portions 5, which define respective bend lines 6 extending across base plate 3, between sides 4, and perpendicular to axis A.

[0012] As shown in the Figure 2 detail, each portion 5 comprises a succession of spaced perforations 7 formed through base plate 3 along corresponding bend line 6.

[0013] In the example shown perforations 7 comprise slots 8 elongated longitudinally along bend line 6; slots 8 are the same shape and size, are equally spaced, and are separated by solid portions 9 of base plate 3; and each portion 9 is shorter in length than each slot 8, both lengths being measured along relative bend line 6.

[0014] Slots 8 of each bend line 6 extend over a total length, measured along bend line 6, equal to or greater than 50% of the length of bend line 6.

[0015] At respective opposite ends 10 of relative bend line 6, i.e. at sides 4, each portion 5 also comprises two V-shaped notches 11 formed in base plate 3, with their respective vertices facing each other.

[0016] At ends 10 of bend lines 6, sides 4 in turn comprise respective roughly 90° V-shaped notches 12.

[0017] By way of example, with a base plate 3 of a total width L = 82 mm, each portion 5 has four substantially rectangular slots 8 with rounded corners and of length L1 = 12 mm and width H = 2.5 mm; slots 8 are spaced apart by a distance L2 = 6.8 mm, and are arranged symmetrically with respect to the centreline axis A of base plate 3; and notches 11 are roughly 2.5 mm deep along bend line 6.

[0018] Structural member 1 is produced extremely easily by forming portions 5 in straight bar 2 to define corresponding bend lines 6 (bar 2 being produced in known manner); portions 5 are formed by punching or slotting perforations 7; and structural member 1 is then stored in the compact form described and as shown in Figures 1 and 2.

[0019] Structural member 1 is transported to the installation site, where the fitter bends bar 2 by hand along

bend lines 6; slots 8 and notches 11, in fact, reduce the resistance to bending of base plate 3, so that very little effort is required to bend bar 2 along bend lines 6.

[0020] The end result is a frame 13, as shown in Figure 3. Frame 13 is U-shaped, and comprises two parallel uprights 14, and a cross member 15 perpendicular to and connecting respective longitudinal ends of uprights 14; and uprights 14 and cross member 15 are defined by respective portions of bar 2 bounded by bend lines 6. Frame 13 is designed to receive a number of functional components supporting respective auxiliary members; for which purpose, base plate 3 and sides 4 of bar 2 have known seats 16 of various configurations.

[0021] Clearly, changes may be made to what is described and illustrated herein without, however, departing from the scope of the present invention.

Claims

1. A structural member (1) of a recessed supporting frame for bathroom fixtures, **characterized by** comprising a straight bar (2) having at least one weakened transverse portion (5) defining a corresponding bend line (6) along which the bar (2) can be bent by hand.

2. A structural member as claimed in Claim 1, **characterized in that** said portion (5) comprises a succession of perforations (7) spaced apart and formed through said bar (2) along said bend line (6).

3. A structural member as claimed in Claim 2, **characterized in that** said perforations (7) comprise slots (8) elongated longitudinally along said bend line (6).

4. A structural member as claimed in Claim 3, **characterized in that** said slots (8) extend over an overall length, along the bend line (6), equal to or greater than roughly 50% of the length of said bend line (6).

5. A structural member as claimed in one of the foregoing Claims, **characterized in that**, at respective opposite ends (10) of said bend line (6), said portion (5) comprises two V-shaped notches (11) with their respective vertices facing each other.

6. A structural member as claimed in one of the foregoing Claims, **characterized in that** said bar (2) has two weakened transverse portions (5) defining respective bend lines (6), so that said bar (2) can be bent into a U along said bend lines (6).

7. A structural member as claimed in one of the foregoing Claims, **characterized in that** said bar (2) is a box bar having a U-shaped cross section and comprising a flat base plate (3), and two longitudinal sides (4) bent 90° with respect to the base plate (3).

8. A structural member as claimed in one of the foregoing Claims, **characterized in that** said bar (2) is made of sheet metal of roughly 0.5-2 mm, and preferably of about 1-1.5 mm, in thickness.

9. A recessed supporting frame (13) for bathroom fixtures, **characterized by** being formed from a structural member (1) as claimed in any one of the foregoing Claims.

10. A method of producing a recessed supporting frame (13) for bathroom fixtures, **characterized by** comprising the steps of forming a structural member (1) in the form of a straight bar; forming at least one weakened transverse portion (5) in said bar (2) to define a corresponding bend line (6); and bending said bar (2) along said bend line (6) by hand.

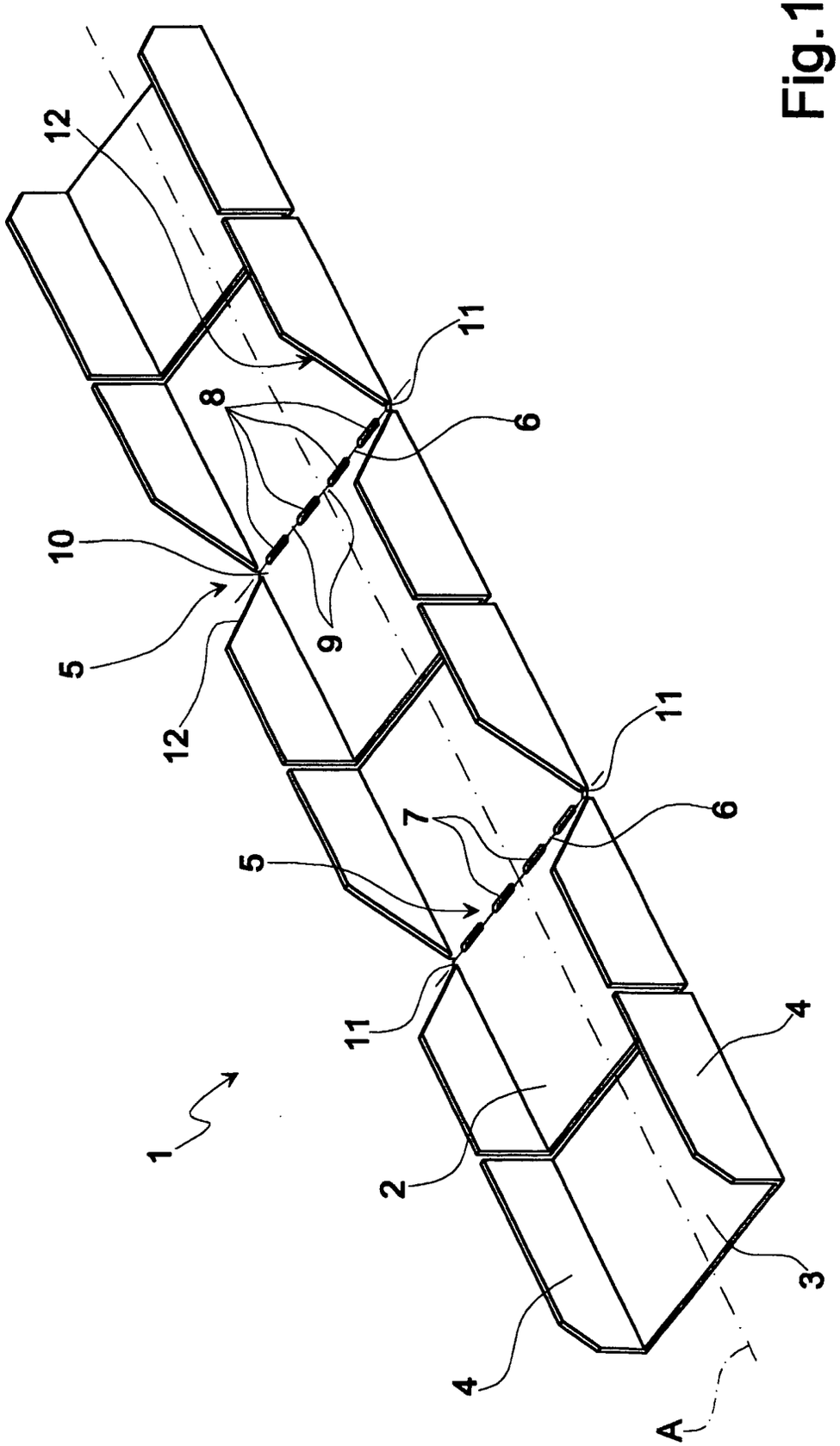


Fig.1

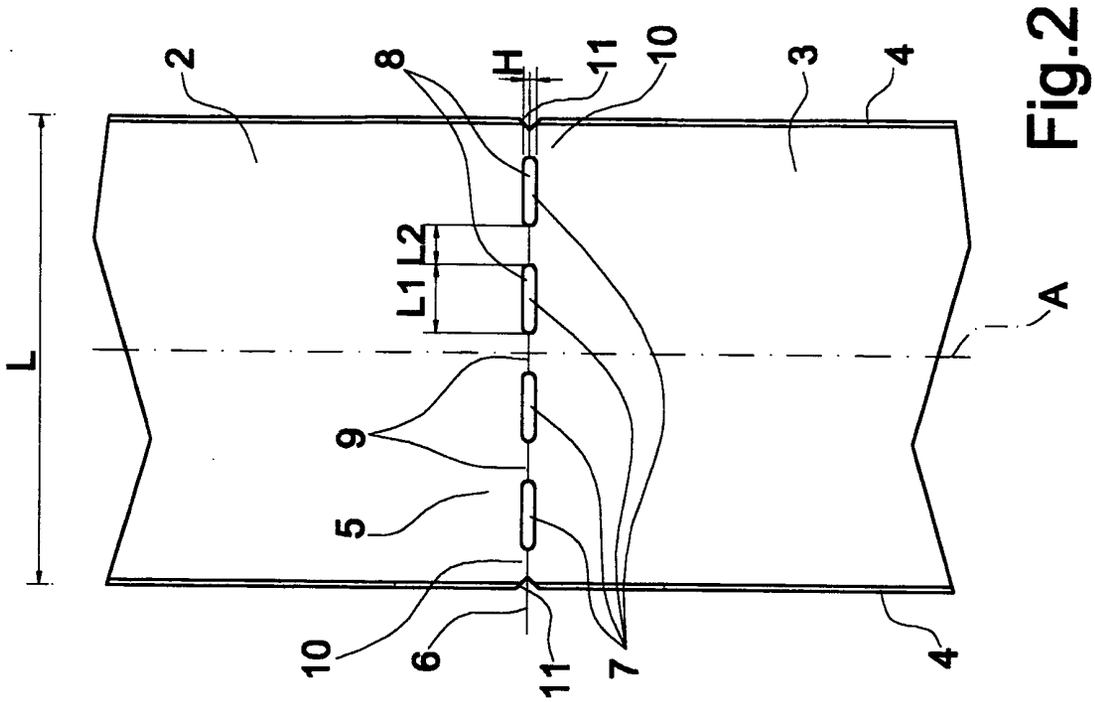


Fig.2

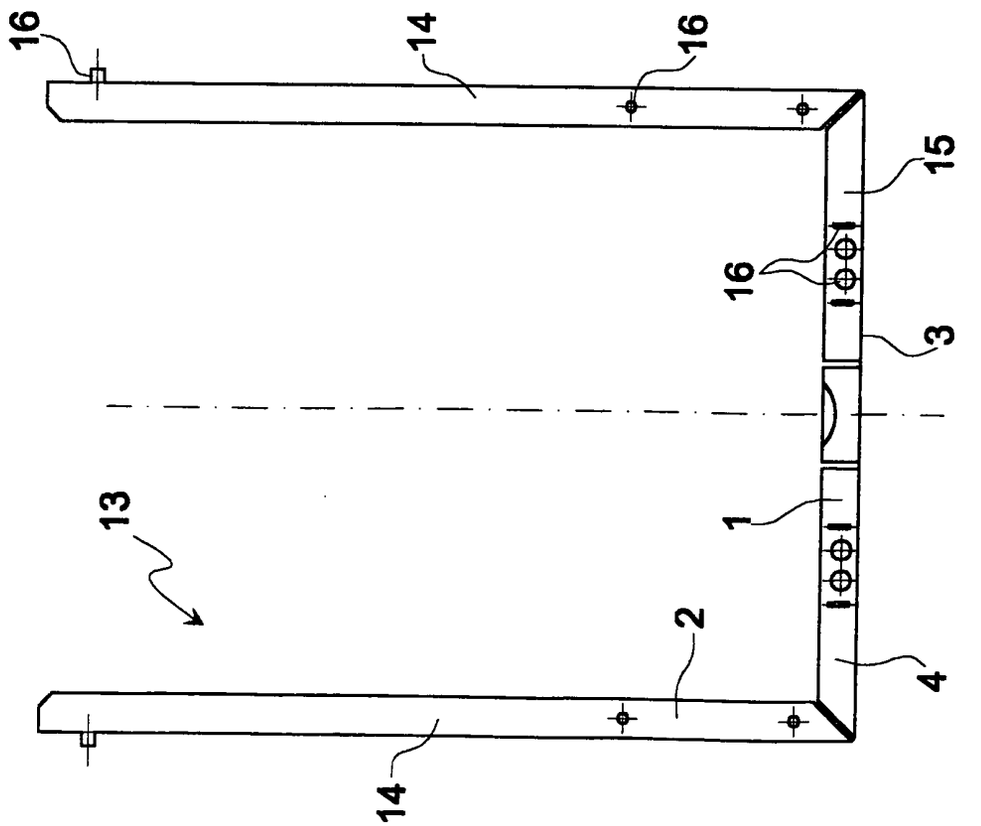


Fig.3