A collapsible bed base includes a plurality of elongate frame members (10) and a plurality of frame supporting members (12) each comprising a foot portion (16) for resting on a floor and at least two openings (18) sized to receive an end of one of the elongate members (10) therein. The frame supporting members (12) together hold frame members (10) parallel to the floor to thereby form an assembled frame for the bed base. A plurality of mattress supporting members (14) each have a flat upper surface (20) for receiving a mattress thereon. A plurality of frame engaging formations (22) enable the mattress supporting members (14) to be held securely in a horizontal position by the assembled frame thereby to receive a mattress on top of the mattress supporting members (14).
A COLLAPSIBLE BED BASE

BACKGROUND OF THE INVENTION

The present application relates to a collapsible bed base.

There are many sorts of beds and bed bases which can be used in various scenarios. However, there are not portable bed bases which can be easily assembled and disassembled for transportation and storage.

The present invention addresses this and provides a collapsible bed base.
SUMMARY OF THE INVENTION

According to one example embodiment, a collapsible bed base includes:

- a plurality of elongate frame members;
- a plurality of frame supporting members each comprising a foot portion for resting on a floor and at least two openings sized to receive an end of one of the elongate members therein so that frame supporting members thereby together hold a frame member which is parallel to the floor when the foot portion is resting on the floor, wherein in use a plurality of elongate members are connected to a plurality of frame supporting members to thereby form an assembled frame for the bed base; and
- a plurality of mattress supporting members each having a flat upper surface for receiving a mattress thereon and a plurality of frame engaging formations so that the plurality of mattress supporting members can be held securely in a horizontal position by the assembled frame thereby to receive a mattress on top of the mattress supporting members.

The elongate frame members may include at least one groove formed therein.

In one example, the frame engaging formations are shaped to engage with the grooves formed in the frame members thereby to hold the plurality of mattress supporting members securely to the frame members.

The openings in the frame supporting members may have a protrusion formed therein sized to fit into the grooves in the frame members.

In addition, each of the mattress supporting members may have a frame engaging formation on at least three sides thereof.
The collapsible bed base may including four corner frame supporting members having two openings therein and two middle frame supporting members having three openings therein.

In addition, the collapsible bed base may further include a central frame supporting member having four openings therein.

**BRIEF DESCRIPTION OF THE DRAWINGS**

Figures 1-3 show a plurality of frame supporting members for use with a collapsible bed base according to the present invention;

Figure 4 is a perspective view of a frame member for use with a collapsible bed base according to the present invention;

Figure 5 is a perspective view of two mattress supporting members for use with a collapsible bed base according to the present invention;

Figure 6 shows an exploded view of one example embodiment of a collapsible bed base according to the present invention;

Figure 7 shows the collapsible bed base of Figure 6 in an assembled position;

Figure 8 shows an exploded view of another example embodiment of a collapsible bed base according to the present invention;

Figure 9 shows the collapsible bed base of Figure 8 in an assembled position; and

Figure 10 shows a collapsible bed base in a collapsed position ready for transport and/or storage.
DESCRIPTION OF EMBODIMENTS

Referring to the accompanying Figures, a collapsible bed base includes a plurality of elongate frame members 10, a plurality of frame supporting members 12 and a plurality of mattress supporting members 14.

These components in use can be assembled together to form a bed base onto which a mattress can be placed, as will be described in more detail below.

Referring to Figures 1 to 3, the frame supporting members 12 each have a foot portion 16 for resting on a floor when in use.

At least two openings 18 are sized to receive an end of one of the elongate members 10 therein so that frame supporting members thereby join together at least two frame members which are parallel to the floor when the foot portion is resting on the floor.

In use a plurality of elongate frame members 10 are connected to a plurality of frame supporting members 12 to thereby form an assembled frame for the bed base (best seen in Figures 6-9).

Figures 1-3 show various configurations of frame supporting members where Figure 1 shows a corner frame supporting member having two openings 18 therein, Figure 2 shows a central frame supporting member having four openings 18 therein and Figure 3 shows a middle frame supporting members having three openings 18 therein.

The collapsible bed base also includes a plurality of mattress supporting members 14 each having a flat upper surface 20 for receiving a mattress thereon and a plurality of frame engaging formations 22 so that the plurality of mattress supporting members 14 can be held securely in a horizontal position by the assembled frame thereby to receive a mattress on top of the mattress supporting members as will be described in more detail below.
In the illustrated embodiment, each of the mattress supporting members 14 has a frame engaging formation 22 on three sides thereof.

Referring back to Figure 4, the elongate frame members 10 have at least one groove 24 formed therein.

In the illustrated embodiment, the elongate frame members 10 have two grooves 24 formed therein on opposite sides of the frame member.

The frame engaging formations 22 are shaped to engage with these grooves 24 thereby to hold the plurality of mattress supporting members securely to the frame members when the bed base is assembled.

In addition, the openings 18 in the frame supporting members 12 have a protrusion 26 formed therein sized to fit into the grooves in the frame members.

It will be appreciated that this prevents the frame members 10 from rotating once inserted into the openings 18.

It will also be appreciated that further braces could be added as required to further stabilise the frame.

In use, the collapsible bed base operates as follows. Firstly, the collapsible base is stored and transported in the contracted position illustrated in Figure 10.

When the base is in a position in which a user wishes to erect the base, the user firstly connects together the frame members 10 and the frame supporting members 12. This is done by sliding the frame members 10 into the opening 18 in the frame supporting members 12 in the correct orientation so that the protrusions 26 slide into the groove 18.
Once these are assembled, the mattress supporting members 14 are placed on top of the assembled frame structure with the frame engaging formations 22 also engaging with the groove 24 to prevent the mattress supporting members 14 from moving.

Alternatively or in addition, holes can be formed through the members 14 and the relevant frame member 10 and a fastener can be inserted through the holes when they are aligned to connect the two together.

One example of a fastener that could be used is a male/female type fastener where the male fastener has a screw thread and the female fastener has a complimentary screw thread so that the two can be connected together.

The base is now able to receive a mattress (Figures 7 or 9, where Figure 7 is for a double bed mattress and Figure 9 is for a single bed mattress).

It will be appreciated that the collapsible bed base provides a base that is easily collapsed into a storage/transport form and can be moved around as required by a user or stored more easily taking up less room than traditional bed bases.

Furthermore, no tools are required to assemble the bed base.
CLAIMS:

1. A collapsible bed base includes:

   a plurality of elongate frame members;

   a plurality of frame supporting members each comprising a foot portion for resting on a floor and at least two openings sized to receive an end of one of the elongate members therein so that frame supporting members thereby together hold a frame member which is parallel to the floor when the foot portion is resting on the floor, wherein in use a plurality of elongate members are connected to a plurality of frame supporting members to thereby form an assembled frame for the bed base; and

   a plurality of mattress supporting members each having a flat upper surface for receiving a mattress thereon and a plurality of frame engaging formations so that the plurality of mattress supporting members can be held securely in a horizontal position by the assembled frame thereby to receive a mattress on top of the mattress supporting members.

2. A collapsible bed base according to claim 1 wherein the elongate frame members include at least one groove formed therein.

3. A collapsible bed base according to claim 2 wherein the frame engaging formations are shaped to engage with the grooves formed in the frame members thereby to hold the plurality of mattress supporting members securely to the frame members.

4. A collapsible bed base according to claim 2 or claim 3 wherein the openings in the frame supporting members have a protrusion formed therein sized to fit into the grooves in the frame members.
5. A collapsible bed base according to any preceding claim wherein each of the mattress supporting members have a frame engaging formation on at least three sides thereof.

6. A collapsible bed base according to any preceding claim including four corner frame supporting members having two openings therein and two middle frame supporting members having three openings therein.

7. A collapsible bed base according to claim 6 further including a central frame supporting member having four openings therein.
**INTERNATIONAL SEARCH REPORT**

A. CLASSIFICATION OF SUBJECT MATTER

INV. A47C19/00  A47C19/02  A47C17/64  A47C5/10

ADD.

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)
A47B  A47C

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)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Further documents are listed in the continuation of Box C.

See patent family annex.

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**O** document referring to an oral disclosure, use, exhibition or other means.

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**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**

26 January 2016

**Date of mailing of the international search report**

02/02/2016

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Amghar, Norddin
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