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(56) Documents Cited:
DE 000354922 A **JP 580141295 U**
US 1241639 A **US 1131564 A**
Harpguitars.net, "Harp Guitar Composite Forms", see "Patrick Podpadeck, 2004", http://www.harpguitars.net/history/org/org-form_composite.htm
harpguitars.net, "Organology: Harp Guitar Form 2a", see "Unknown", 2007, http://www.harpguitars.net/history/org/org-form2a.htm

(58) Field of Search:
INT CL **G10D**
Other: **WPI, EPODOC, INTERNET**

(54) Abstract Title: **Harp guitar with two guitar necks and a harp section**

(57) A stringed musical instrument comprises a harp combined with a guitar. The harp guitar 10 comprises: a harp section 16, having a fingerboard 66; and two guitar sections 12 and 14, which may be tuned differently and may have nineteen and twenty one frets 24 respectively. The strings 17, 19 and 31 preferably incorporate nylon, and may include titanium fibres or may be wound with a metal. The harp section 16 may include a finger board 66 and a curved bridge 35, enabling it to be played with a bow. The harp section 16 preferably includes 5 strings while each guitar section 12, 14 ideally includes 6 strings. The harp strings 31 may be held by five pegs 36, located on the side of the instrument and inserted into holes in a block inside the body of the instrument.

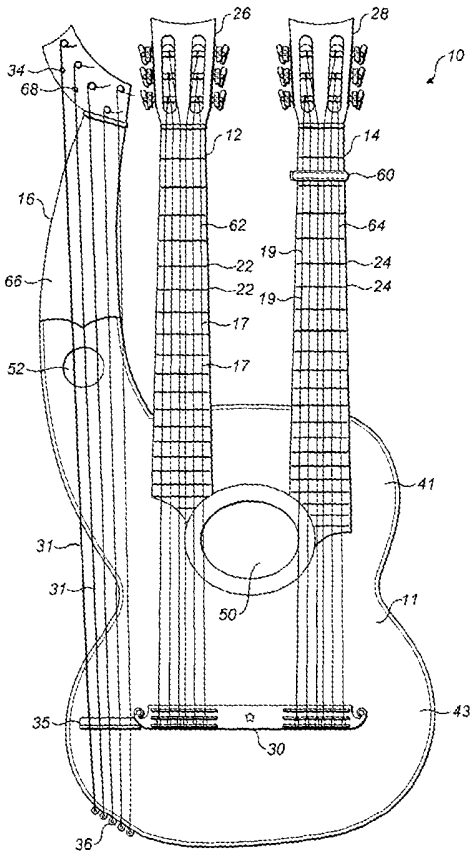

FIG. 1

The claims were filed later than the filing date but within the period prescribed by Rule 22(1) of the Patents Rules 2007.

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

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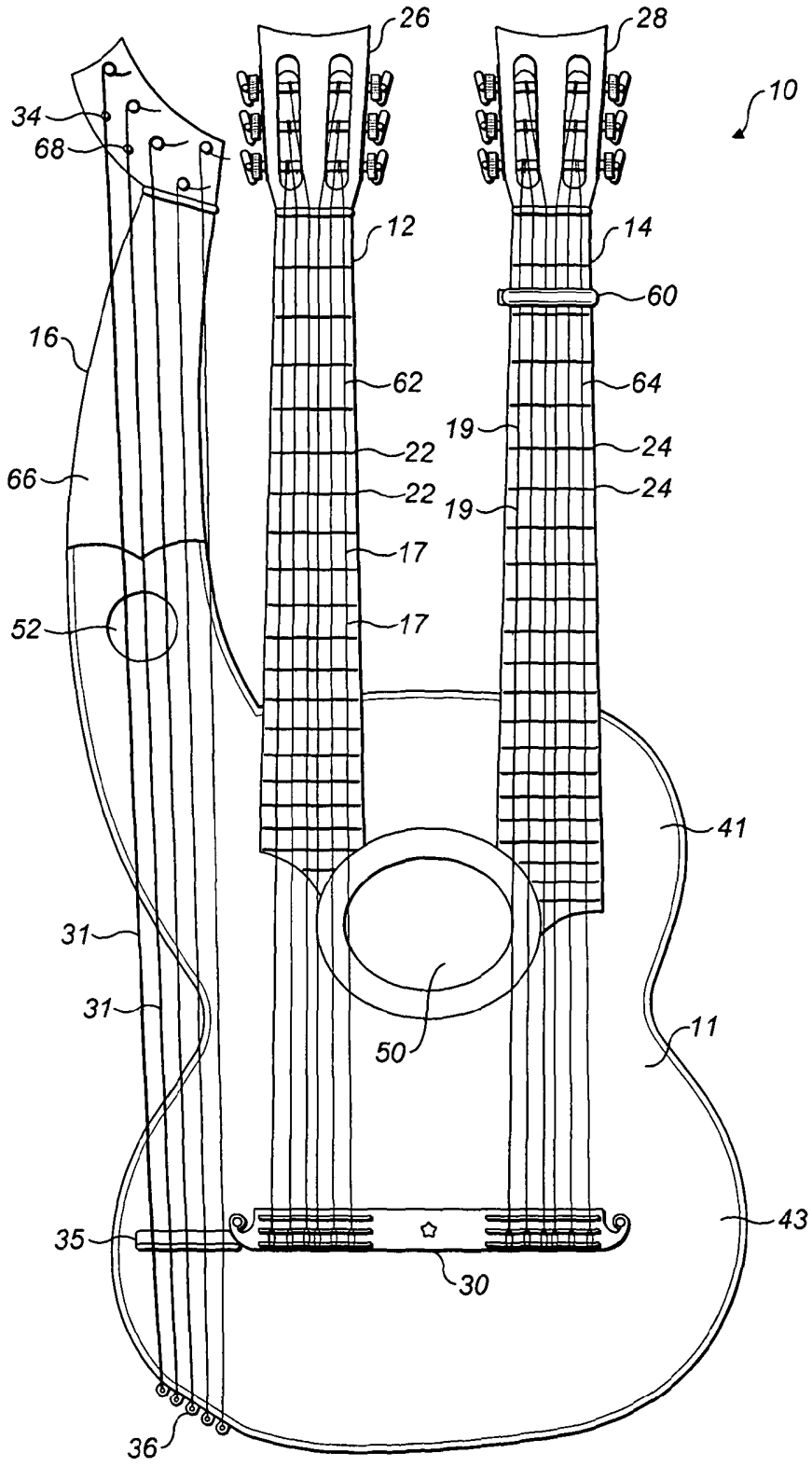
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FIG. 1

Stringed Instruments

The present invention relates to stringed instruments and in particular to harp guitars.

Harp guitars are known which combine the musical characteristics of harps and guitars. The present invention seeks to provide a more versatile musical instrument which enables a player to produce unique musical sounds, particularly of a classical nature, from a single instrument.

According to a first aspect of the present invention, there is provided a stringed instrument comprising a harp section and two guitar sections.

This provides an extremely versatile instrument. The two guitar sections can be tuned completely differently.

In a preferred embodiment the guitar sections have different numbers of frets. For example the guitar section nearer to the harp section may have nineteen frets and the other guitar section may have twenty one frets.

The guitar sections preferably have six strings each and the harp section preferably has five strings.

The harp section may have a bridge member which is curved. An advantage of this is that in addition to being played as a harp, the harp section may be played with a bow in the manner of a violin, to sound like a violin, a cello or another bowed stringed instrument.

According to a second aspect of the present invention, there is provided a stringed instrument comprising at least two guitar sections, the guitar sections having different numbers of frets, preferably at least nineteen and at least twenty one.

According to a third aspect of the present invention, there is provided a stringed instrument comprising a plurality of sections including a harp section, the harp section comprising a curved bridge member. The instrument may also comprise one or more guitar sections.

According to a fourth aspect of the present invention, there is provided a harp guitar comprising strings made of nylon. This provides the instrument with a more classical sound. The guitar strings are preferably of nylon incorporating titanium fibres. The harp strings are preferably of nylon wound with silver-plated copper or another metal.

According to a fifth aspect of the present invention, there is provided a harp guitar comprising a fingerboard on the harp section. This enables the harp strings to be stopped at desired spaced positions.

According to a sixth aspect of the present invention, there is provided a harp guitar comprising harp strings which are held at the bottom of the guitar by retaining means on the side of the guitar. This serves to reduce the forces exerted by the strings on the front of the guitar. The retaining means are preferably pegs hammered into holes in a block inside the casing of the instrument.

A preferred embodiment of the present invention will now be described, by ways of example only, with reference to the accompanying drawing which shows a harp guitar.

The sole Figure shows a stringed instrument 10 in the form of a harp guitar comprising a body 11 with three necks 12, 14 and 16 having respective fingerboards 62, 64 and 66. There are two six-stringed fretted necks 12 and 14 of which the upper neck 12 has nineteen frets 22 and the bottom neck 14 has twenty one frets 24. Both necks are straight and have a scale length of 65 cm corresponding to the vibrating extent of the strings as measured between a nut at the top of each neck and a saddle located adjacent to the opposite end.

The strings 17, 19 are tuned by respective tuning peg sections 26, 28. At their appropriate ends, the strings are attached to a bridge 30 which is 28.5 cm long and 3 cm wide.

A bass harp section is provided by a third neck 16 which is curved. Neck 16 has five bass strings 31 which are tuned by a tuning peg section 34. At their opposite ends, the strings 31 pass over a floating curved bridge 35 and are attached to the edge of the body by means of five pegs 66. To reduce forces on the front face of body 11, the pegs are located on the side of the body and are hammered through respective holes into holes in a wooden block (not shown) within the body of the instrument at this location.

The dimensions of floating bridge 35 are 7 cm x 1 cm. The scale lengths of the harp sections strings are:

String 1	68 cm
String 2	69 cm
String 3	69 cm
String 4	72 cm
String 5	75 cm

The nut of the harp section is engaged by the bottom three strings and is inclined relative thereto. At the top of the neck 16 the scale length of each of the top two strings is measured from a respective post 68.

The neck 16 is without frets, but the harp section fingerboard 66 enables the strings 31 to be stopped by a player's fingers at desired positions. In view of the curved nature of the neck 16, the top string can be stopped only from the so-called third position.

The body 11 has an upper bout 41 of width 40 cm and body depth 10 cm and a lower bout 43 of width 43 cm and a body depth of 11 cm. The entire length of harp neck 16 is

in the form of a sound box which also has a depth of 10 cm so that it merges into the top of body part 11.

The body has a main sound hole 50 in the shape of a rounded ellipse with major and minor diameters of 12 cm and 8.5 cm. A secondary sound hole 52 for the harp section is a circle of diameter 5.2 cm.

In contrast to existing harp guitars with steel strings, the strings 17, 19, 31 of the instrument 10 are of nylon material. The strings 17, 19 of the guitar sections are preferably reinforced with titanium fibres. Such strings are sold under the trade name "Titanyl" by the firm Hannabach GmbH, Germany. The strings 31 of the harp section are preferably wound with silver-plated copper or another metal.

In addition to the internal block for holding pegs 36, a further wooden block (not shown) is provided within the top of body 11 to hold necks 12 and 14 firmly in their positions.

The strings of instrument 10 are tuned as follows. The string numbering is from the top of the instrument, i.e. from the left of the Figure.

Bass Harp- neck 16- one octave below middle c

String 1	d
String 2	b
String 3	a
String 4	g
String 5	f sharp

Upper neck 12

String 1	e
String 2	b
String 3	f sharp
String 4	d
String 5	g
String 6	b

Lower neck 14

String 1	f sharp
String 2	c sharp
String 3	a
String 4	c
String 5	e
String 6	b

The above-described instrument has numerous advantages. The tuning schedule, including two necks with different number of frets, enables unique chords and harmonic structures to be achieved. A harmonic gamut is obtained which matches that of a grand piano.

At the same time, the selected tuning of the strings does not impose excess stresses on the instrument.

With suitable playing with two hands, all three necks can be played simultaneously. It is quite possible in view of the curved bridge 35, for the harp section to be played with a bow to obtain sounds like a bass cello or violin.

The fingerboard 66 in the harp section enables the harp strings to be stopped at desired positions. This is not possible with harp guitars without such a fingerboard.

In a modified method of playing, a capo 60 is fixed on the second fret of the lower neck 14 of the instrument. In this case the tuning of necks 16 and 12 remain the same, but neck 14 is tuned as follows (starting above middle c):

String 1	e
String 2	b
String 3	g
String 4	c (i.e middle c)
String 5	e
String 6	a (bass)

Various modifications may be made to the above-described stringed instrument. For example, the number of strings in each section may be varied as desired. The number of frets in each of the guitar sections may also be varied. For example, the number of frets in each guitar section can vary between fifteen and twenty five, but any number less than those of the preferred embodiment leads to a limitation of the playing capabilities. In all cases the number of frets on the two necks are preferably different.

The number of strings of the various sections and their tuning may be selected as desired to suit a particular player and/or method of playing. Bridge 35 may be straight instead of curved, particularly if playing with a bow is not required. The various dimensions and shapes given are only exemplary.

The strings may be made of pure nylon material if desired.

CLAIMS

1. A stringed instrument comprising a harp section and two different guitar sections.

2. A stringed instrument according to claim 1, wherein the guitar sections have different numbers of frets.

3. A stringed instrument according to claim 1 or 2, wherein the guitar sections are arranged to be tuned differently.

4. A stringed instrument according to any preceding claim, wherein the harp section has a bridge member which is curved.

5. A stringed instrument according to any preceding claim having strings incorporating nylon.

6. A stringed instrument according to any preceding claim, wherein the guitar strings are made of nylon incorporating titanium fibres.

7. A stringed instrument according to any preceding claim, wherein the harp strings are made of nylon wound with a metal.

8. A stringed instrument according to any preceding claim, wherein the harp section incorporates a finger board.

9. A stringed instrument according to any preceding claim, wherein the harp strings are held at the bottom of the instrument by retaining means on the side of the instrument.

10. A stringed instrument according to claim 9, wherein the retaining means comprise pegs inserted into respective holes in a block inside the instrument.

11. A stringed instrument according to any preceding claim, wherein the guitar sections have six strings and the harp sections has five strings.

12. A stringed instrument comprising a plurality of sections including a harp section, the harp section comprising a curved bridge member.

13. A harp guitar comprising strings made of nylon.

14. A harp guitar comprising a fingerboard on the harp section.

15. A harp guitar comprising harp strings which are held at the bottom of the guitar by retaining means on the side of the guitar.

16. A stringed instrument comprising at least two guitar sections, the guitar sections having different number of frets.

17. A stringed instrument substantially as herein described with reference to the accompanying drawing.

Application No:	GB0815900.6	**Examiner:**	Rhiannon Jenkins
Claims searched:	1-11	**Date of search:**	9 December 2009

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-11	Harpguitars.net, "Harp Guitar Composite Forms", see "Patrick Podpadeck, 2004", http://www.harpguitars.net/history/org/org-form_composite.htm [accessed 07 December 2009]
X	1-7 & 9-11	harpguitars.net, "Organology: Harp Guitar Form 2a", see "Unknown", 2007, http://www.harpguitars.net/history/org/org-form2a.htm [accessed 07 December 2009]
X	1-10	US 1131564 A (SHUTT) - See figures 1 & 2 and pages 1 & 2
X	1-7, 9 & 10	DE 354922 A (REHBACH) - See figures 1 to 3
X	1-3, 5-7 & 9-11	JP 58141295 U See figure 1
X	1, 3, 5-7, 9 & 11	US 1241639 A (LUIS) - see figure 1 and pages 1 & 2

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^{X} :

Worldwide search of patent documents classified in the following areas of the IPC

G10D

The following online and other databases have been used in the preparation of this search report

WPI, EPODOC, INTERNET

International Classification:

Subclass	Subgroup	Valid From
G10D	0015/00	01/01/2006
G10D	0001/00	01/01/2006
G10D	0001/04	01/01/2006
G10D	0001/08	01/01/2006