

Description

Technical field:

[0001] The present invention relates to a neck of a guitar, especially the neck of a classical guitar.

[0002] It is to be noted that the term guitar is to be interpreted broadly and is intended to include any appropriate instrument having a body with a sound table; a neck carrying a fingerboard with frets; and strings held tightly over the sound table and finger board for creating the desired sounds.

Background of the invention:

[0003] The neck of the classical guitar connects the head of the guitar with the soundbox. Strings are arranged above the upper surface along the neck from the head towards the bridge of the guitar. The neck of the guitar is full and inside there are some rods or other stiffening materials. In the cross section the neck has a semicircular shape creating the base. At the top it is connected with the fingerboard in the form of a flat or slightly convex board.

[0004] In the description of the CN 205302910 utility model we can find a guitar with the neck created from the bottom base where there are reinforcing rods arranged alongside. The top surface of the neck is covered with the fingerboard.

[0005] In the US 4084476 patent specification there is a guitar whose neck resembles a semicircle in the cross section where we can find stiffening elements in the form of thin wooden strips. The neck in the lower part has got an oblong hollow open at the bottom where there is a stiffening element in the form of an insert.

[0006] The WO 2016 / 154006 A1 registration form depicts the stiffening of the neck of an acoustic guitar in the form of an oblong board arranged along the neck of the guitar. This board is located in the hollow from above and resembles a semicircle. In the central part of the board there is an empty oblong hollow and in its vicinity thin elements of the reinforcement made of glass fiber are embedded.

The inconveniences of the known solutions:

[0007] The known solutions undoubtedly strengthen and stiffen the neck of the guitar, which is essential in increasing the life of the guitar itself. However, they do not contribute to the improvement in the sound transmission from the first fret through the neck to the soundbox. Generally, it is only the soundbox that has influence on the quality of the sound coming out of an acoustic guitar.

The aim of making the invention:

[0008] In order to eliminate the above inconveniences an invention has been drawn up the essence of which is

displayed in the construction of the neck of the guitar improving the sound transmission from the first fret through the neck to the sound box.

Nature of the invention:

[0009] According to the invention, the front part of the neck of the guitar features the head at one end, and on the other the base with which it is connected to the soundbox. The characteristic thing is that it contains acoustic tubes in the form of acoustic through holes located in both sides of the base of the neck in the vicinity of the place where the front part of the neck changes into the base of the neck. In addition, in the front part of the neck there is a hollow where a stiffening element is placed and in the front part of the base of the neck there are hollows open from above limited by the bow-shaped sides, forming chambers.

[0010] Each of the sound holes has the shape similar to an ellipse.

[0011] The hollow in the front part turns from the base into the tilted area located in the base changing into sound through holes.

[0012] The stiffening element is empty inside and open at the top, and the shape of the stiffening element in the cross section corresponds to the shape of the hollow in the cross section.

[0013] The upper part of the base has a flat surface constituting an extension of the flat framing of the front part.

Virtues (beneficial effects of applying the invention):

[0014] Using the neck built in accordance with the invention enables to get high acoustic properties, much better than those applied in the traditional guitar. The invention enables sound transmission from the first fret through the neck of the guitar onto the sound board, which is better than the one in the traditional guitar. Inside the neck of the guitar acoustic pressure is created which finds its way out through the two sound through holes located behind the twelfth fret. These holes constitute acoustic tubes. A musician playing the guitar can hear sounds coming not only from the acoustic box but from the neck as well.

Brief description of the figures :

[0015] The subject of the invention is shown in the example of execution in the drawing wherein:

fig.1 shows the general view of the guitar,
fig.2 -general view of the neck of the guitar,
fig.3 perspective view of the neck of the guitar with acoustic tubes,
fig.4 - side view of the neck of the guitar,
fig.5 - overhead view of the neck of the guitar,
fig.6 -another side view of the neck of the guitar,

fig.7 - the A-A diameter of the neck of the guitar,
 fig.8 - the B-B diameter of the neck of the guitar,
 fig.9 - scattered view of the guitar with acoustic tubes,
 fig. 10 - side view of the neck of the guitar without
 the fingerboard,
 fig.11 - overhead view of the neck of the guitar with-
 out the fingerboard,
 fig.12 - the view of the other side of the neck of the
 guitar without the fingerboard,
 fig. 13 -bottom view of the neck of the guitar without
 the fingerboard,
 fig.14 - front view of the neck of the guitar without
 the fingerboard (side A)

Detailed description of the invention:

[0016] The neck of the guitar in accordance with the invention also called the guitar neck is equipped with the head 1 located on one end of the neck, connected with the soundbox on the other end 2 where we can find a sound hole 6. The strings 5 are arranged above the upper surface along the neck 3 from the head 1 towards the guitar bridge 4. The neck 3 contains acoustic tubes 7, each featuring an acoustic through hole 14.

[0017] The neck 3 features a single element made of wood, preferably maple or any other hardwood and consists of the front part 8 changing into the base 9 where it is attached to the soundbox 2. In the front part 8 from the front side and on both sides there is a flat frame 10 changing into a hollow 11 situated along the entire length of the front part 8. The hollow 11 from the base 9 forms a tilted area 12 located in the base 9 changing into acoustic through holes 14. The acoustic holes 14 forming acoustic tubes 7 are located on both sides 13 of the base 9 near the place where the front part 8 creates the base 9. Each of the sound holes 14 has a shape resembling an elongated, asymmetrical ellipse. Acoustic inserts 18 are placed in acoustic through holes 14. The shape of the acoustic insert 18 corresponds to the shape of the sound hole 14. The upper part 15 of the base 9 is flat. In the base 9 from the front part 8 there are *hollows/grooves* open from above 16 limited by the sides 17 in the shape of bows. In the neck 3 covered with the fingerboard 21 the *hollows/grooves* 16 form chambers. In front view from side A the front part 8 has the shape of a circular segment. In side view the base 9 has a shape of a narrow extended unilateral trapezium with one straight side 22 located at the frame 10 and the other tilted side 23 rising towards the end 24 of the neck 3.

[0018] In the hollow 11 of the neck 3 we find a stiffening element 19 which in cross section corresponds to the shape of the hollow 11 in the cross section. The stiffening element 19 is empty inside and open from the top and its surface 20 shapes a bow. The stiffening element 19 is made of aluminium, fibre glass or any other material with stiffening properties. The neck 3 along with the stiffening element 19 is covered with the fingerboard 21 with metal frets 25.

Claims

1. A guitar neck having a front part with the head at one end, and on the other with the base which connects it with the soundbox, **characterized in that** it contains acoustic tubes (7) in the form of acoustic through holes (14) situated in both sides (13) of the base (9) of the neck (3) near the place where the front part (8) of the neck (3) changes into the base (9) of the neck (3); additionally, in the front part (8) of the neck (3) there is a hollow (11) where the stiffening element (19) is placed, and in the base (9) of the neck (3) at the front (8) there are *grooves/hollows* (16) open at the top limited by the sides (17) in the shape of bows, forming chambers.
2. The guitar neck according to claim 1, **characterized in that** it each of the sound through holes (14) has a shape similar to an ellipse.
3. The guitar neck according to claim 1, **characterized in that** it the hollow (11) located in the front part (8) changes from the side of the base (9) into a tilted place (12) located in the base (9) changing into acoustic through holes (14).
4. The guitar neck according to claim 1, **characterized in that** it the stiffening element (19) is empty inside and open at the top, and the shape of the stiffening element (19) in cross section corresponds to the shape of the hollow (11) in the cross section.
5. The guitar neck according to claim 1, **characterized in that** it the upper part (15) of the base (9) has a flat surface extending the flat frame (10) of the front part (8).

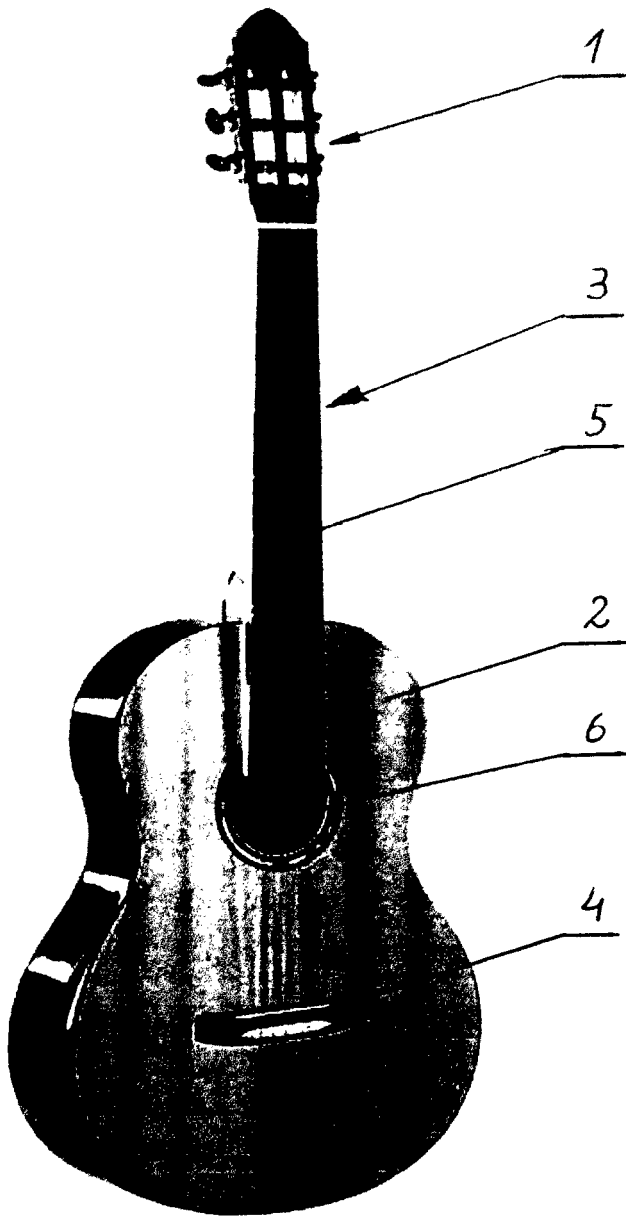


Fig. 1

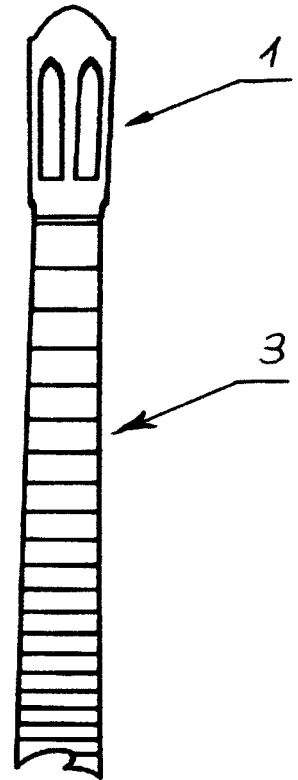
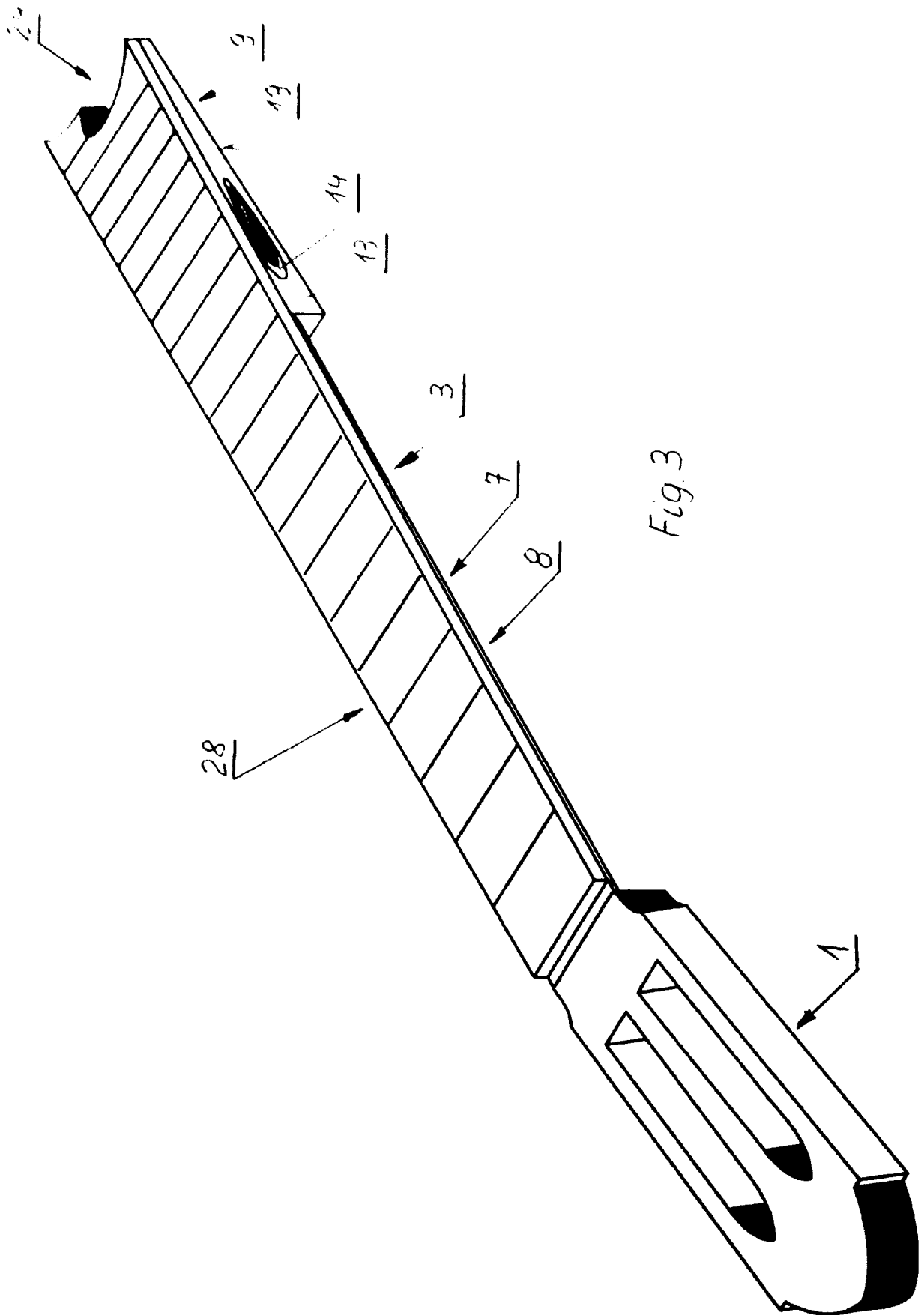
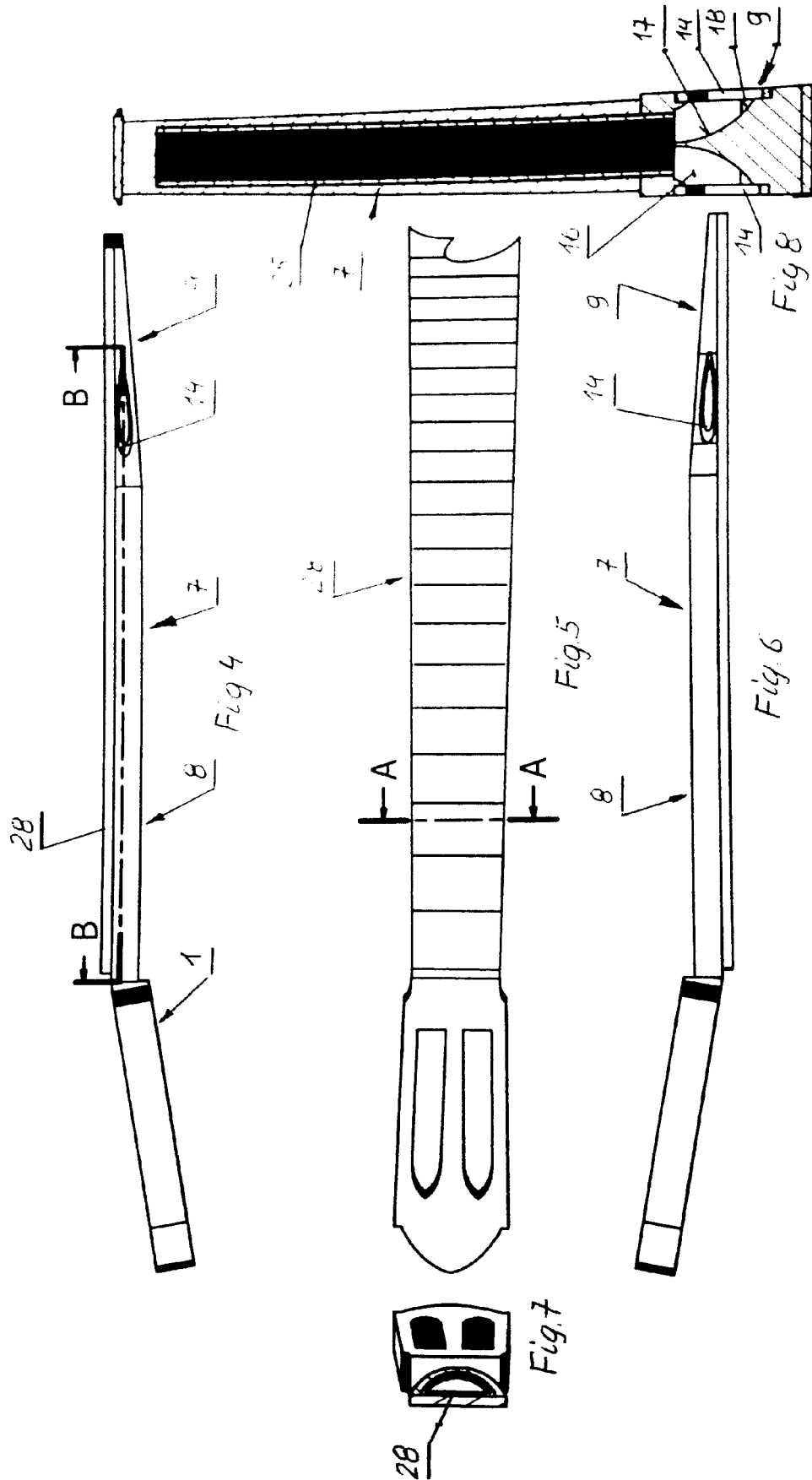
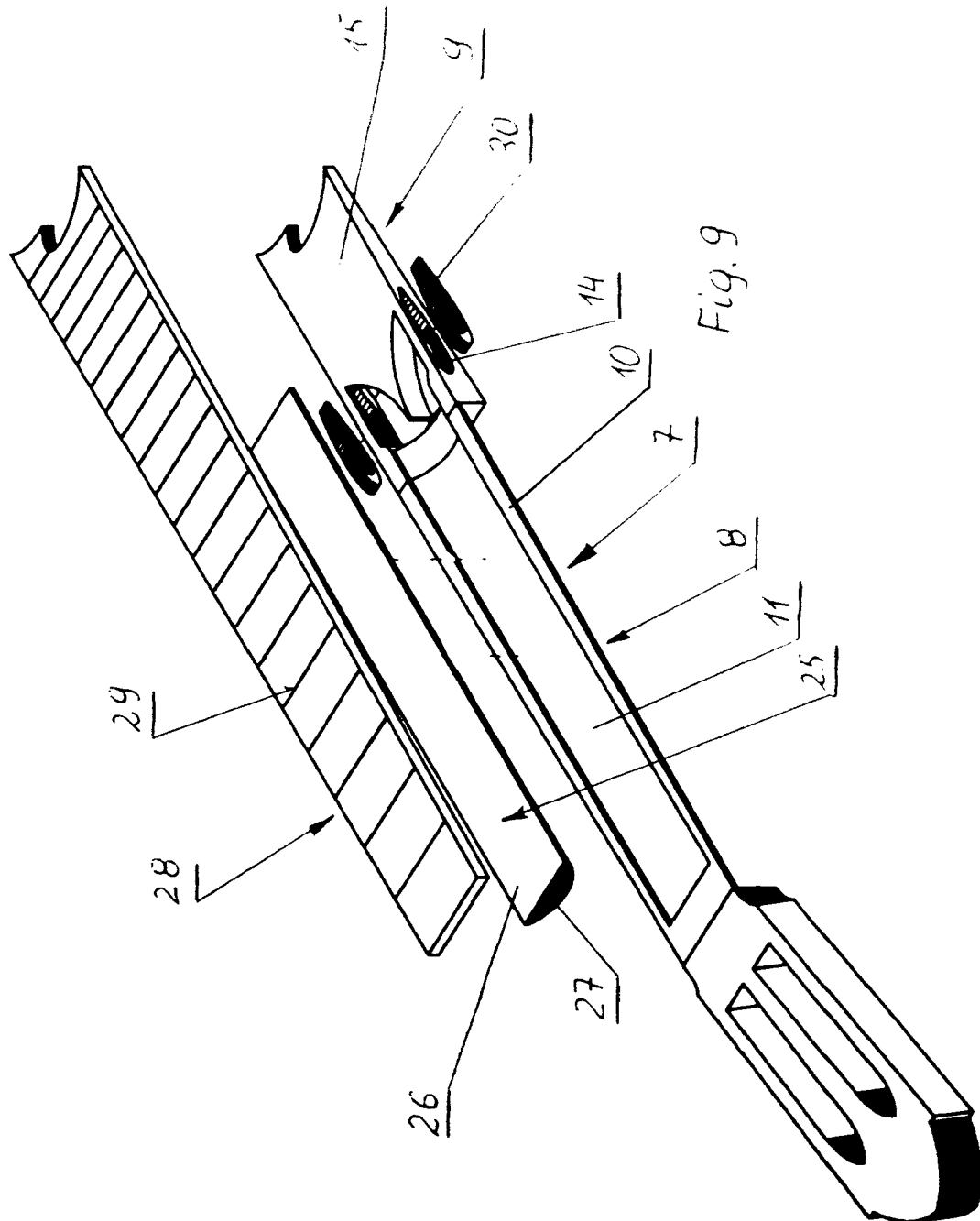
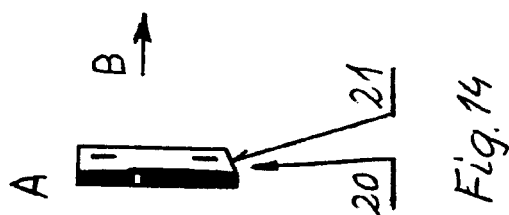
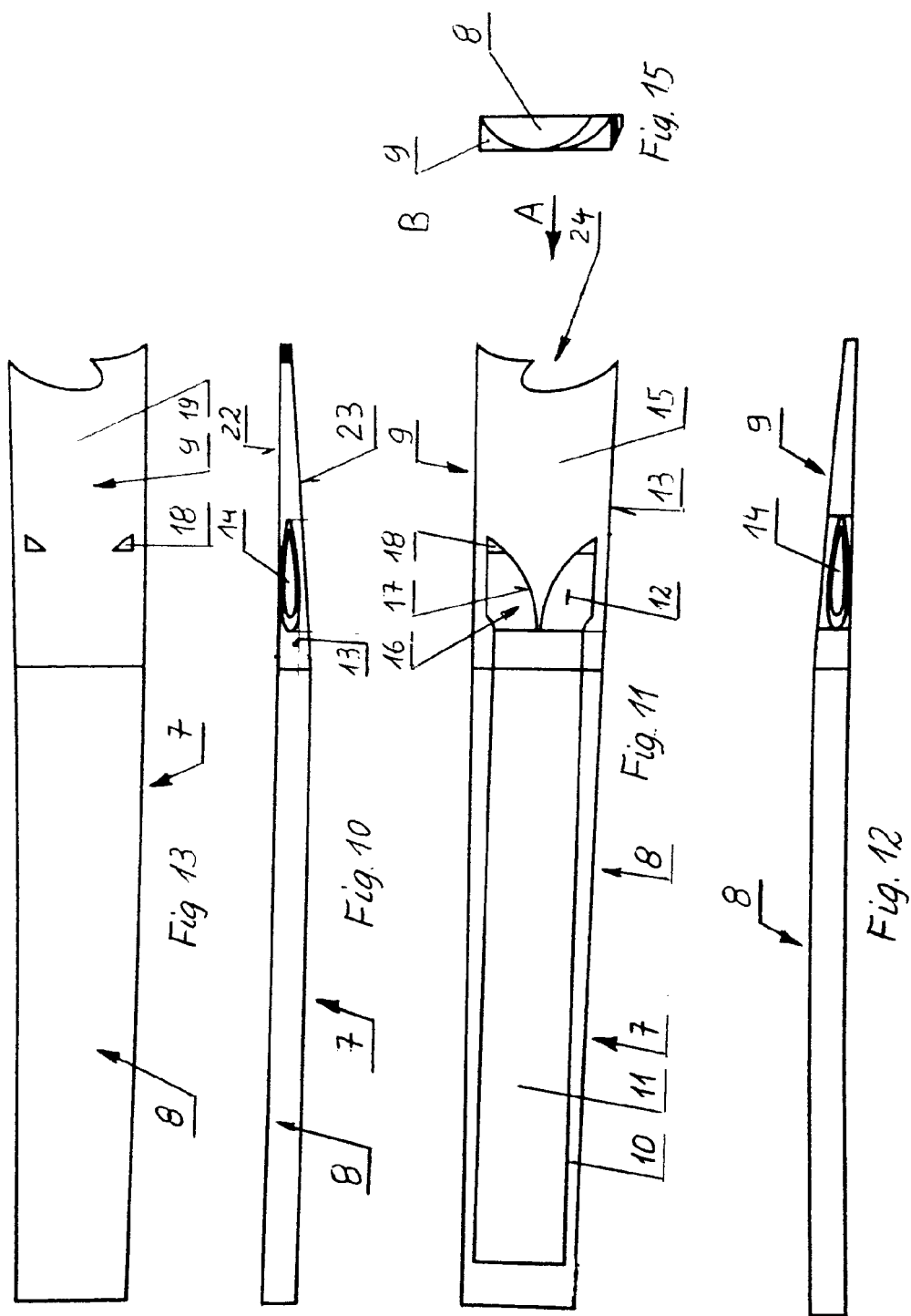


Fig. 2











EUROPEAN SEARCH REPORT

Application Number
EP 17 00 1980

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 647 173 A (ALMCRANTZ GERHARD [US]) 10 April 1900 (1900-04-10) * figures 1-3 * * page 1, line 49 - page 2, line 12 * -----	1-5	INV. G10D3/06 G10D3/02 G10D1/08
A	US 6 103 961 A (KAUFMAN WILLIAM [US]) 15 August 2000 (2000-08-15) * figures 1-5 * * column 2, line 34 - line 67 * * column 3, line 16 - column 4, line 4 * -----	1-5	
A	JP H05 333852 A (MATSUMOTO YOSHIHIRO) 17 December 1993 (1993-12-17) * figures 1-13 * * paragraphs [0007] - [0018] * -----	1-5	
A	WO 03/094146 A1 (URBANSKI CLAUDIO MARIO [AR]; SCHERER FERNANDO MIGUEL [AR]; XAUS EUGENI) 13 November 2003 (2003-11-13) * figures 1-3,5,6 * * page 6, line 5 - page 7, line 6 * * page 8, line 15^6 - page 10, line 33 * -----	1-5	TECHNICAL FIELDS SEARCHED (IPC) G10D
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 14 May 2018	Examiner Sartoni, Giovanni
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			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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- CN 205302910 [0004]
- US 4084476 A [0005]
- WO 2016154006 A1 [0006]