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(54) Improved saxophone with high simplicity of use

(57) Improved saxophone with high simplicity use comprising a metal body (2) having a reed at its mouthpiece, a plurality of holes (3) and a corresponding plurality of caps (4) for opening or closing said holes (3), said caps (4) being operatively associated to a plurality of keys (6), some of said keys being grouped in an upper platform (8) and a lower platform (9), wherein means are provided to mutually connect some keys (16, 25, 26) of the upper platform (8) and of the lower platform (9), and one or more supplemental keys (19) of the lower platform (9), said means being adapted to open and/or close one or more of said caps (13, 18, 22) upon pressure on said keys (16, 19, 25, 26).

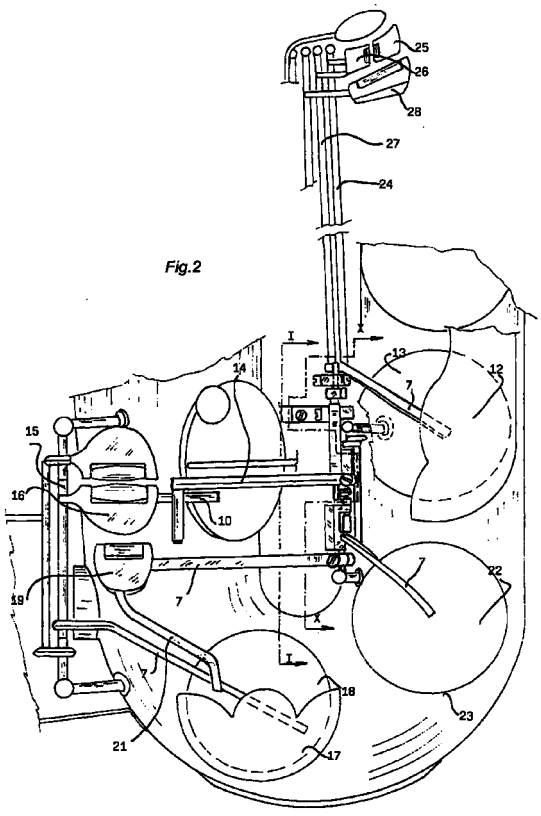

Fig.2

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Description

[0001] The present invention relates to an improved saxophone with high simplicity of use.

[0002] The term saxophone is intended in this context to include any one of the instruments belonging to the saxophone family, thus comprising each of the following seven types: sopranino, soprano, contralto, tenor, barytone, bass and double bass.

[0003] The known saxophone is a musical wind instrument with simple reed having technical features similar to clarinet, but made of metal and with conical tube, mainly used for jazz and light music.

[0004] The player, expiring inside the instrument through a mouthpiece connected to the instrument pipe, produces a set of pressure waves by means of the vibration of the reed or blade inside the instrument so as to generate sound. The sound acquires the desired frequency according to the instrument keys pressed by the player, setting the air outlet points and therefore the frequency of the produced sound and consequently the desired notes.

[0005] Although the known saxophones meet the musical requirements of the players practicing the musical genres that can be played with this instrument, they show however some drawbacks.

[0006] The known saxophones have a pair of platforms on which there is a plurality of keys that through some levers, are actuated to open or close several caps so as to cause air to pass or not to pass at several points through holes underlying said caps.

[0007] The keys of different platforms are however totally independent from each other and in order to play some notes such as C# or B and the player must use at least two fingers at the same time, one for each hand. In view of this requirement, there is the need of a long sequence of practise to acquire a sufficient velocity to perform a trill or other speedy musical figures involving a rapid movement of fingers, which is still more difficult because of the structural characteristics of the instrument.

[0008] Moreover the functional separation of keys arranged on different platforms obliges to perform some notes like B only in a determined way, often preventing the player from choosing the hand to be used, or even obliging often to use both hands like in the last mentioned case.

[0009] Thus even apparently simple musical passages may result difficult to be performed in view of the position of the platforms and their actual indipendence.

[0010] The object of the present invention is to remove the drawbacks belonging to the present state of the art.

[0011] Thus the present invention relates to an improved saxophone with high simplicity of use, easy and cheap to be manufactured, allowing to perform easily complicated musical passages, avoiding to be compelled to effect long practise for a correct performance of various pieces, but at the same time maintaining a full compatibility with the known saxophones, thus allowing to play the notes also in the conventional way.

[0012] Briefly according to the invention an improved saxophone with high simplicity of use is obtained, comprising a metal body with a reed at its mouthpiece, having a plurality of holes and a corresponding plurality of caps to open and close said holes, said caps being operatively associated with a plurality of keys, some of these keys being grouped in an upper platform and a lower platform, wherein means are provided to mutually connect some of the keys of the upper and lower platform, and one or more supplemental keys of the lower platform, said means causing one or more of said caps to open and/or to close upon pressure on said keys.

[0013] The improved saxophone with high simplicity of use according to the invention is characterized by the features recited in Claim 1.

[0014] Further advantageous features of the improved saxophone with high simplicity of use are indicated in the dependent claims.

[0015] The features, objects and advantages of the improved saxophone with high simplicity of use according to the invention will be more apparent by reading the following description and making reference to the accompanying drawings in which a preferred embodiment is shown as an illustrative but non-limiting example.

Fig. 1 is a perspective view of the saxophone according to the invention;
Fig. 2 is a partial front view of the lower part of the saxophone shown in Fig. 1;
Fig. 3 is a partial perspective view according to arrow A of Fig. 1, of some keys in the upper part of the saxophone according to the invention;
Fig. 4 is a partial lateral view according to arrow B of Fig. 1, of the lower part of the saxophone;
Fig. 5 is a sectional view taken along line I-I of Fig. 2; and
Fig. 6 is a sectional view taken along line X-X of Fig. 2.

[0016] With reference now to the above listed figures, the improved saxophone 1 with high simplicity of use has a metal body 2 of conventional type, in which there is a plurality of holes 3 and a corresponding plurality of caps 4 adapted to close or open said holes 3.

[0017] The body 2 at its upper end has a circular opening 5 adapted to lodge a mouthpiece and a connection pipe, while inside the opening a reed or blade of known type (not shown) is conventionally adapted to generate vibrations at the passage of air and therefore sound producing pressure waves.

[0018] Said caps 4 are controlled and actuated by keys 6 connected to the caps 4 by one or more levers 7 hinged to each other. More particularly some of said

keys 6 are grouped in an upper platform 8 and some others in a lower platform 9.

[0019] More particularly the saxophone 1 according to the invention has one key 16 of the lower platform 9, that is provided with a tubular extension 10 allowing a mechanical connection with a bridge 11 placed in front of the platform 9 near the hole 12 that together with its dedicated cap 13 is designed to perform the B note.

[0020] This connection is made by a supplemental key preferably consisting of an L-shaped rod 14 hinged on the bridge 11 and opposed at the other free end by the extension 10. Such a connection allows determined musical performances as it will be described hereinafter. Moreover said key 16 is connected in a traditional way through its bridge 15 and a lever 7 to the hole 17 that together with its dedicated cap 18 is designed to perform the C note.

[0021] The lower platform 9 is completed by a supplemental key 19, which is also added to the traditional saxophone, connected to a bridge 20 arranged parallel to bridge 11 in a more internal position. Said key 19 by its tubular extension 21 is associated also to a conventional lever 7 actuating the cap 18 of the C note associated to the key 16 as already described.

[0022] The bridge 20 by elastic and mechanical means connected to it, preferably by metal levers and one or more needle springs connected to said levers, allows to connect the key 19 with the cap 22 arranged on the hole 23 dedicated to the C# note.

[0023] Indeed the key 19 through a lever similar to said levers 7, is hinged on the bridge 20 and is connected to a needle spring. When the key 19 is pressed, it overcomes the spring strength and lifts the cap 22, while at the same time actuates the cap 18 as above described.

[0024] The bridge 20 is also connected by a rod 24 to a key 25 of the upper platform 8 so that the keys 25 and 19 are coupled in a synchronous way, namely pressure exterted by the player on one of these keys will lower also the other key and generates the same configuration of open and closed caps, not only for the above mentioned caps, but also for the other caps along the body 2, that were already connected to key 19 in the saxophones of the prior art.

[0025] A further key 26 of the upper platform in a similar way not only actuates in the usual way the cap 13 of the B note through another rod 27 with levers and needle springs annexed thereto, but actuates also the cap 18 of the C note through the rod 14 connected to key 16 as previously described.

[0026] Also in this case there is a mutual movement of keys and related effects. Indeed in view of the shape of rod 14, for instance the L-shape whose part contacting the tubular extension 10 preferably is a revolving roller, the pressure exerted on the rod with one finger of the hand acting on the lower platform 9, corresponds to the effect of the pressure exerted on key 26 with one finger of the hand acting on the upper platform 8.

[0027] All the other connections of the other keys 6 of the saxophone 1 according to the invention correspond to those known in the art, but it has to be noted that in view of the previously described connections, any key acting on the previously illustrated keys 16, 19, 25, 26 or keys 13, 18, 22 causes the additional and mutual movements hereinbefore described through the illustrated kinetic members.

[0028] For instance, as the key 28 belonging to the upper platform 8 is connected to key 26 by a little lever (not shown) arranged behind key 26, a pressure exerted on key 28 actuates also the caps connected to key 26 in the above described way.

[0029] When performing musical pieces, the player may decide not to use key 19 of the lower platform 9, for instance playing the C# note in a traditional way by engaging the little finger of both hands on both platforms 8 and 9 and the same considerations apply to the B note.

[0030] Alternatively the player however may play the C# and B notes by the single pressure on key 19 or key 26 or conversely on key 25 or rod 14 synchronized thereto, respectively, so as to keep one hand totally free in an advantageous way.

[0031] In this way performances comprising musical figures like trill may be effected in a easier way, while for other passages the player may choose at will whether to use the supplemental mechanics of the saxophone 1 according to the invention or the conventional preserved mechanics already existing in the known saxophones.

[0032] It is apparent that several modifications, adaptations, additions, variations and substitutions may be resorted to the above embodiment described only as an illustrative, non limiting example, without departing however from the scope of the invention as defined in the appended claims.

Claims

1. Improved saxophone with high simplicity of use comprising a metal body (2) having a reed at its mouthpiece, a plurality of holes (3) and a corresponding plurality of caps (4) for opening or closing said holes (3), said caps (4) being operatively associated to a plurality of keys (6), some of said keys being grouped in an upper platform (8) and a lower platform (9), characterized in that means are provided to mutually connect some keys (16, 25, 26) of the upper platform (8) and of the lower platform (9) and one or more supplemental keys (19) of the lower platform (9), said means being adapted to open and/or close one or more of said caps (13, 18, 22) upon pressure on said keys (16, 19, 25, 26).

2. Improved saxophone with high simplicity of use according to Claim 1, characterized in that said connection means of said keys (16, 19, 25, 26)

comprise a plurality of levers operatively connected to the keys (16, 19) of the lower platform (9), said levers being hinged to bridges (11, 15, 20) and connected to elastic means, so as to be coupled to levers (7) connected to said caps (13, 18, 22) and rods (24, 27) operatively associated to said keys (25, 26) of the upper platform (8).

3. Improved saxophone with high simplicity of use according to Claim 2, characterized in that the supplemental key (19) of the lower platform (9) is connected to a bridge (20) arranged in front of it on the body (2) of the saxophone (1), said supplemental key (19) through a tubular extension (21) being also associated to a lever (7) actuating the cap (18) dedicated to the C note.

4. Improved saxophone with high simplicity of use according to Claim 3, characterized in that said bridge (20) connected to the supplemental key (19) through levers and one or more associated needle springs, allows a connection between said supplemental key (19) and a cap (22) arranged in a hole (23) dedicated to the C# note.

5. Improved saxophone with high simplicity of use according to Claim 2, characterized in that a key (16) of the lower platform (9) has a tubular extension (10) allowing a mechanical connection with a bridge (11) arranged in front of the lower platform (9) near a hole (12) and an associated cap (13) dedicated to the B note.

6. Improved saxophone with high simplicity of use according to Claim 5, characterized in that said mechanical connection is made by a supplemental key consisting of an L-shaped rod (14) hinged on said bridge (11) and opposed at the other free end by the tubular extension (10) of said key (16) of the lower platform (9).

7. Improved saxophone with high simplicity of use according to Claim 5, characterized in that said key (16) of the lower platform (9) is connected through another bridge (15) and a lever (7) to a cap (18) corresponding to a hole (17) dedicated to the C note.

8. Improved saxophone with high simplicity of use according to Claim 3, characterized in that the bridge (20) is connected by a rod (24) to a key (25) of the upper platform (8) so that said key (25) of the upper platform (8) and said supplemental key (19) of the lower platform (9) are coupled in a synchronous movement.

9. Improved saxophone with high simplicity of use according to Claim 6, characterized in that a further key (26) of the upper platform (8) is connected through a further rod (27), levers and related needle springs to the cap (13) dedicated to the B note, and through said rod (14) connected to said key (16) of the lower platform (9) to said cap (18) dedicated to the C note.

10. Improved saxophone with high simplicity of use according to Claim 9, characterized in that a further key (28) of the upper platform (8) is connected to said key (26) of the upper platform (8) by a little lever arranged behind said key (26) of the upper platform (8).

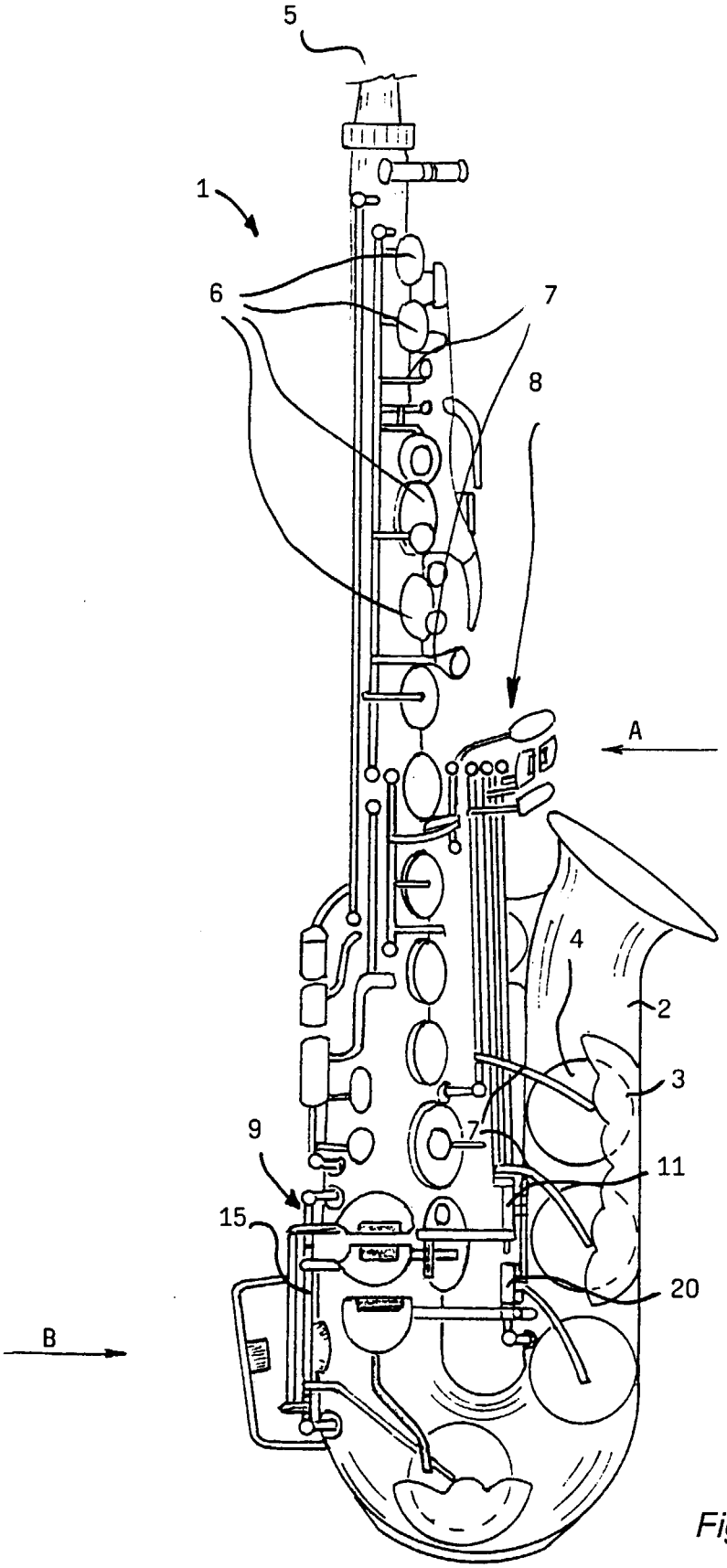


Fig.1

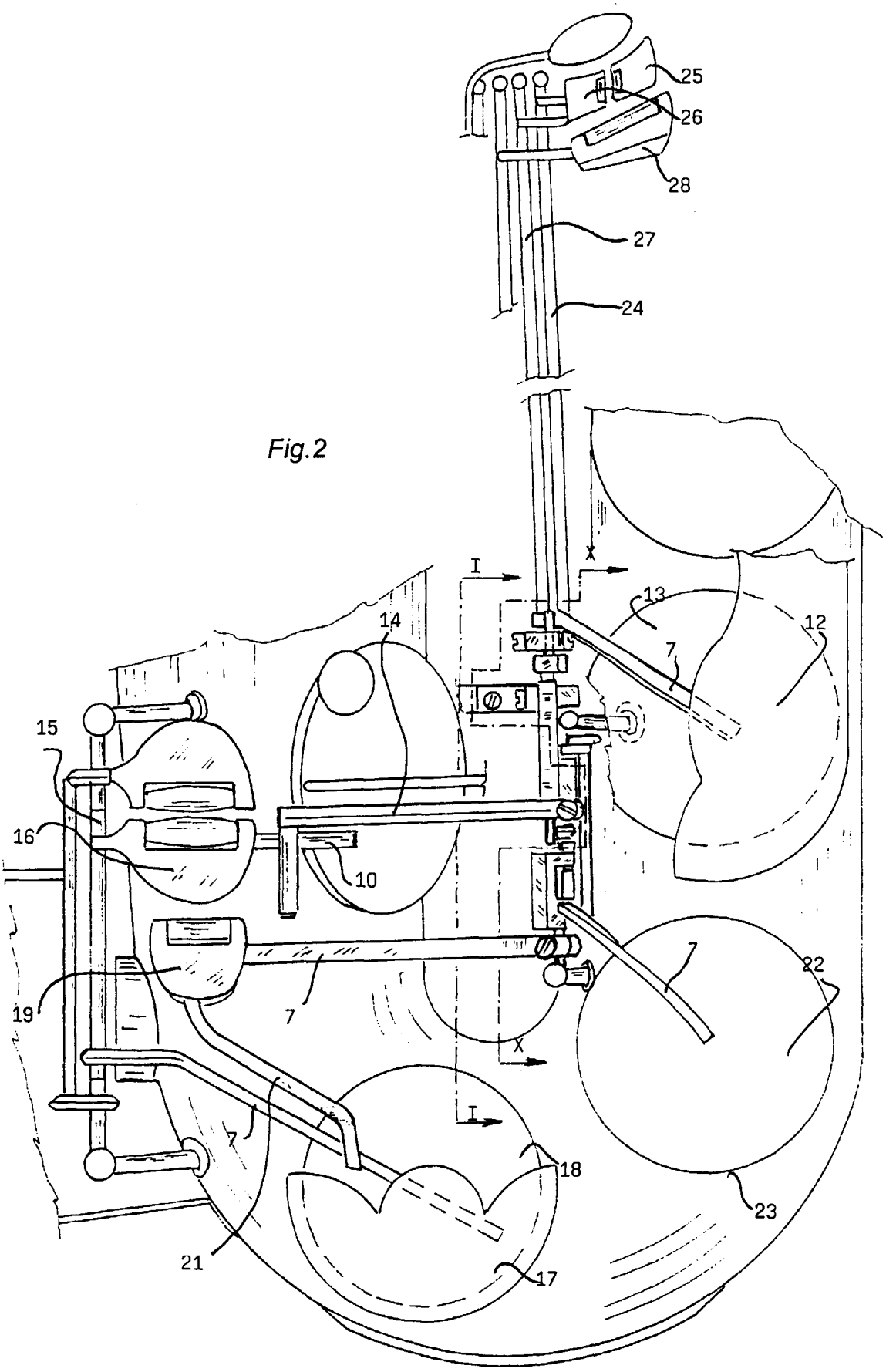


Fig.2

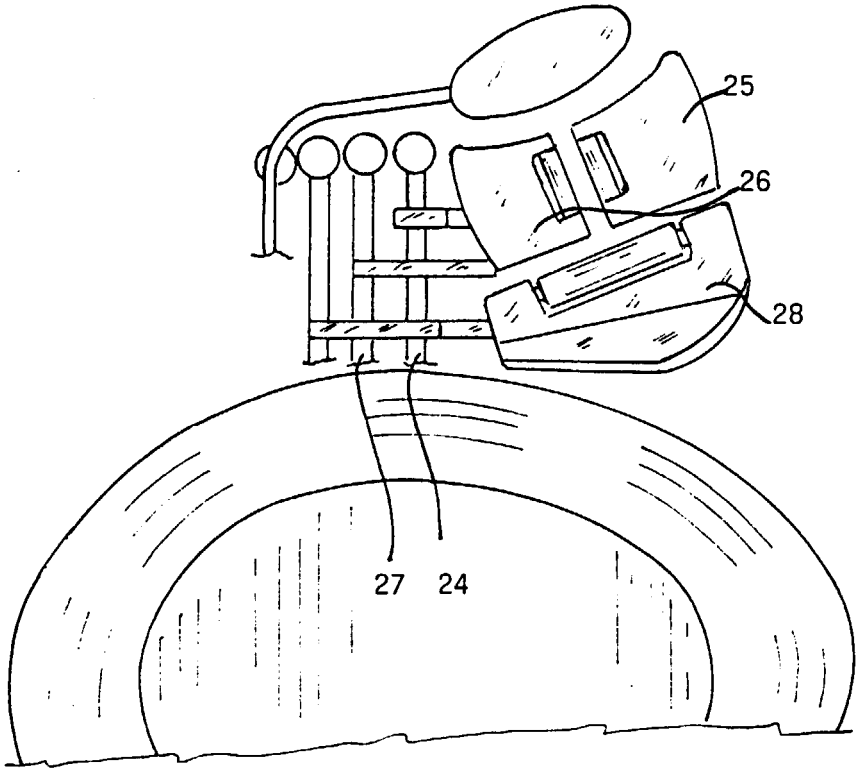
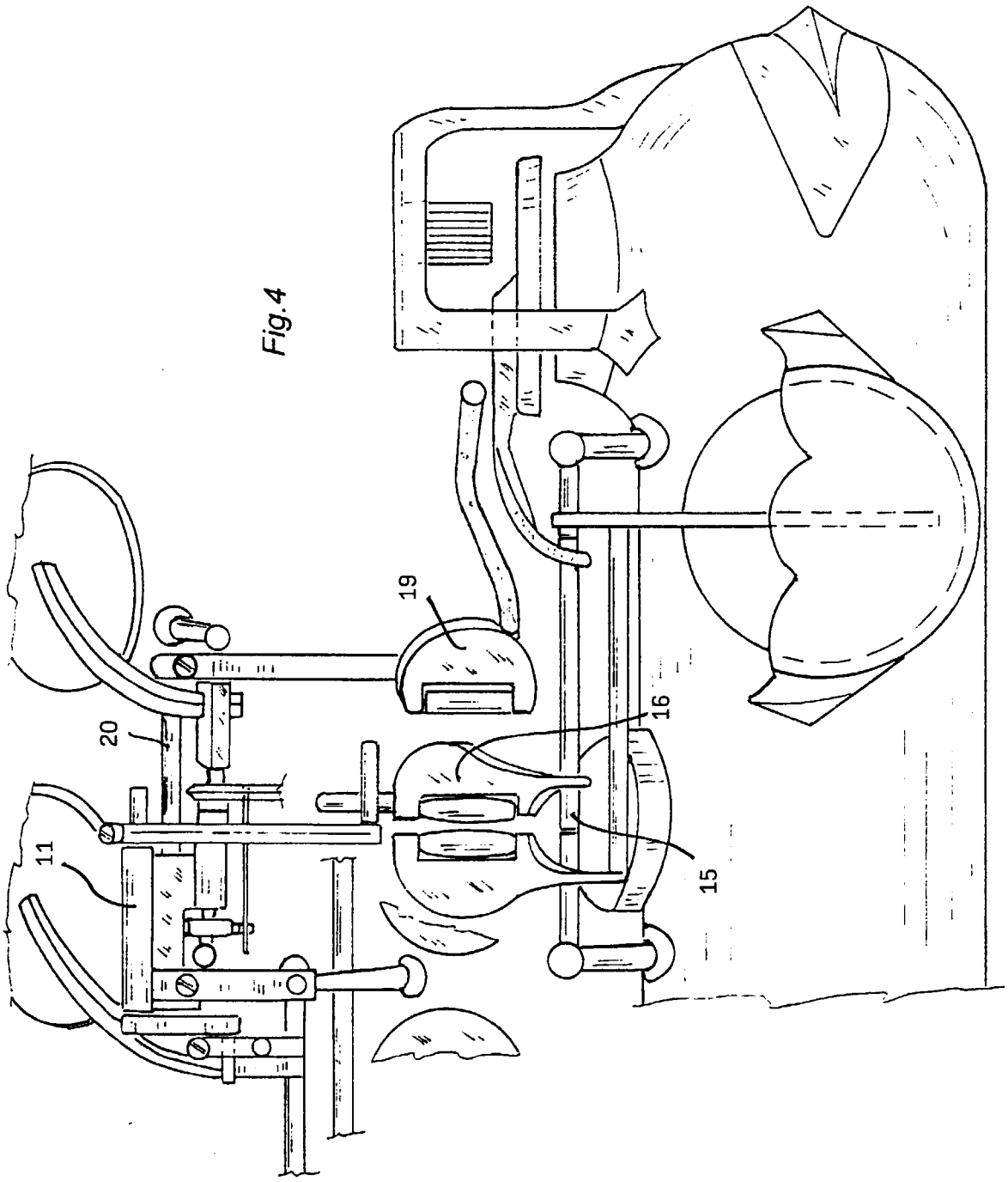


Fig.3

Fig.4



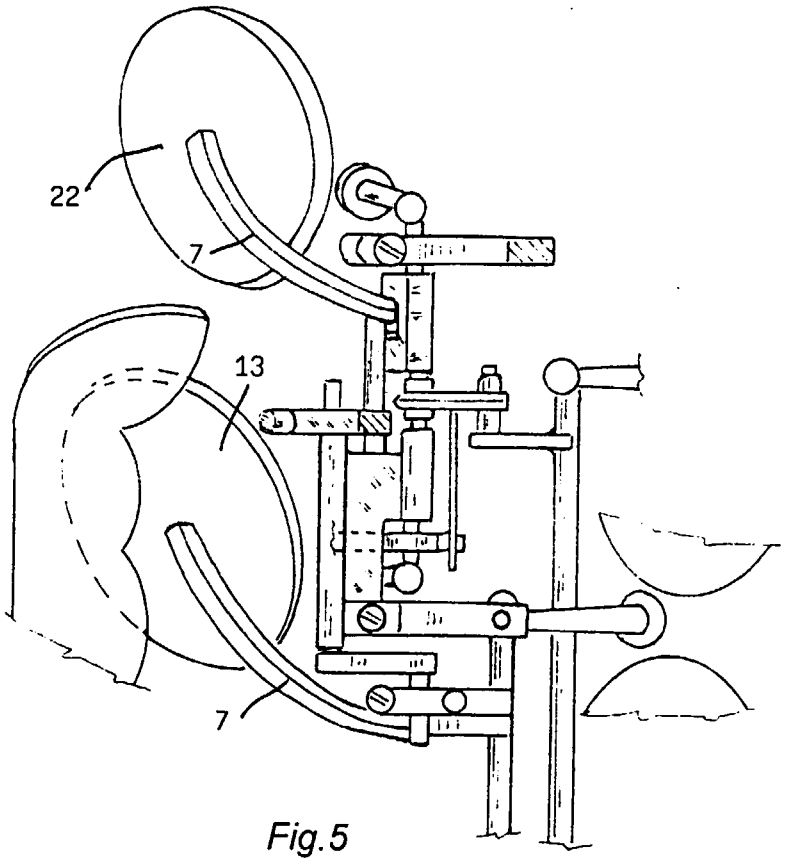


Fig.5

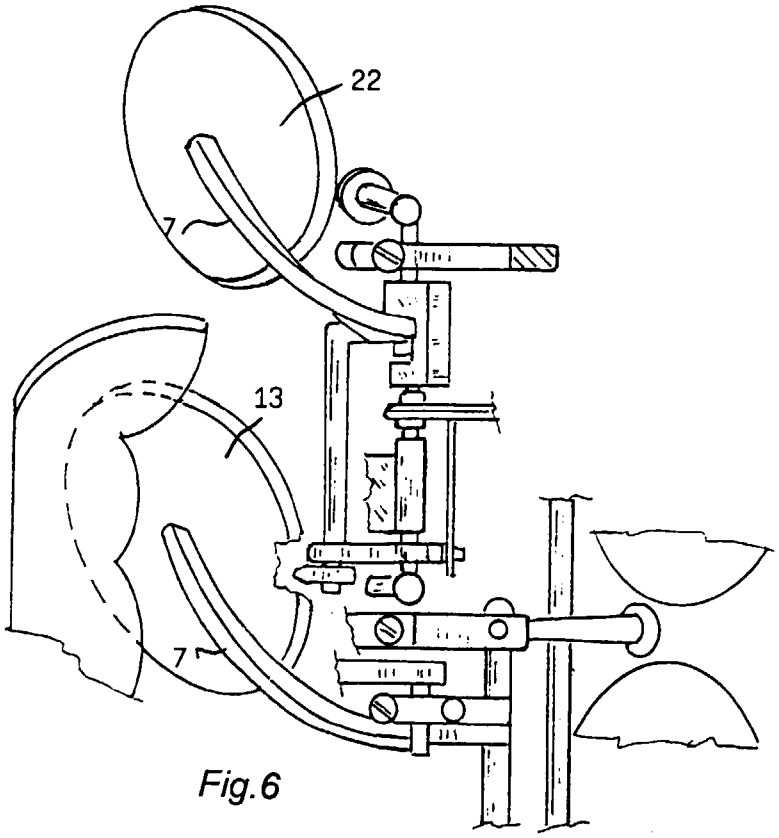


Fig.6