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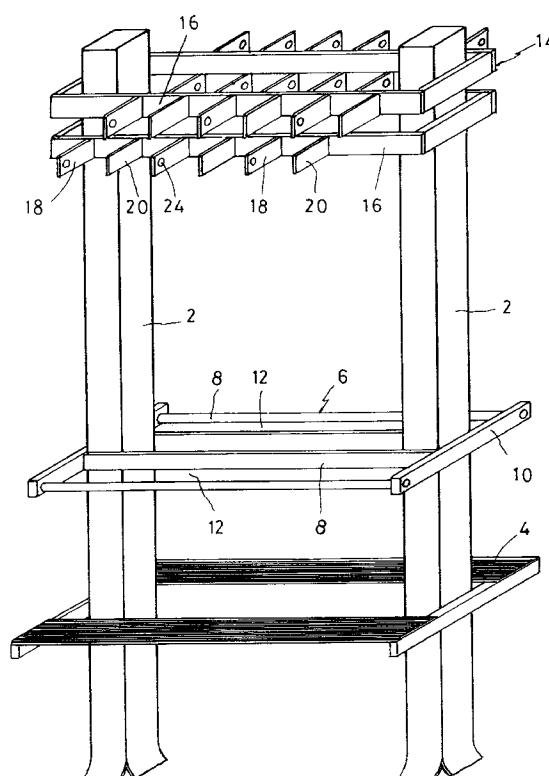
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(54) **Ski stand.**

(57) A ski stand, the skis passing through a void space bounded by a retaining frame (14). This comprises a back wall (16), first arms (18), second arms (20) and locking members (22). Each arm (18) is provided with a through hole (24) and each arm (20) is provided with a cavity (26). The locking members (22) may pass through the hole (24) and be inserted in the cavity (26). They comprise a tubular body member (32) having lateral bores (40), a shaft (42) in the body member (32) with a narrowing (44) and a slot (52) in the opposite ends. Free body members (60) in the body member (32) adapted to project from the bores (40) and a lock (54), having a boss (56) which may be inserted in the slot (52) of the shaft (42) to cause the latter to rotate.

FIG. 1



The present invention pertains to a ski stand, for receiving skis disposed substantially vertically which rest at one end on a support surface, at an intermediate portion pass through a first void space closed laterally by a containment device and at an upper portion pass through a second void space laterally bounded by a retaining frame.

The known stands have several drawbacks, due mainly to the lack of security they generally involve, and the fact that they are wasteful in space.

It is an aim of the invention to overcome these drawbacks and this aim is achieved with a stand of the type mentioned at the beginning which is characterized in that said retaining frame comprises a back wall, at least one pair of arms, each pair being formed by a first arm and a second arm and a locking member for each pair, so that the arms of each pair emerge from said back wall to which they are fixedly attached and are substantially on one same level; in that the first arm of each pair is provided with a through hole and the second arm of each pair is provided with a blind hole defining a cavity having a mouth and an internal widening; and in that each of said locking members is adapted to pass through said through hole and be inserted in said cavity, each locking member comprising: a tubular body member open at least at one end and having at least one side bore spaced apart from said one end; a shaft coaxial with the tubular body member, rotatably housed within said tubular body member and having one end provided with at least one narrowing and a second end provided with a slot; at least one free body member housed in said tubular body member, adapted to engage said narrowing and to project out through one of said side bores; and a lock rotatably housed inside said tubular body member and having a boss inserted in said slot of said shaft.

Further advantages and features of the invention will be appreciated from the following description in which one preferred embodiment of the invention is described as a non-limitative example, with reference to the drawings, in which:

Figure 1 is a perspective view of the ski stand of the invention from which the locking members have been omitted.

Figure 2 is a perspective view of part of the retaining frame of the stand, from which the locking members have also been omitted.

Figure 3 is a cross section view on an axial plane of the tubular body member forming part of the locking member.

Figure 4 is an elevation view of reduced length of the shaft of the locking member.

Figure 5 is a front view of the shaft showing the shaft tongue.

Figure 6 is a cross section view on an axial plane of the locking member.

Figure 7 is a cross section view on an axial plane

of the blind hole provided in the second arm of a pair of arms of the retaining frame.

Figure 8 is a partial view of the locking member engaged in the said blind hole.

Figure 9 is a front view of part of the retaining frame, showing also some locking members and a portion of a ski.

Figures 10 and 11 are, respectively, partial cross section and plan views of the tubular body member, showing the retaining burrs formed on the bores of the said body member.

The ski stand of the invention comprises a vertical structure formed by two or more uprights 2 which may be fixed in the ground or rest thereon, although the former option is preferable. Preferably said vertical structure supports a lower platform 4 on which the lower portion of the skis is to be supported, although the invention contemplates the possibility of the skis resting directly on the floor.

Above the platform (or, as the case may be, at a certain distance from the floor) there is a containment device 6 formed by a series of laths 8 and cross members 10 laterally bounding one or more void spaces 12 through which intermediate portions of the ski are to pass.

At a higher level relative to the containment device 6 there is the retaining frame 14 comprising a back wall 16, a plurality of pairs of arms (each of which is formed by a first arm 18 and a second arm 20), and a locking member 22.

Each of the first arms 18 is provided with a preferably circular through hole 24 adapted for the locking members to pass through; in turn each of the second arms 20 is provided with a blind hole forming a cavity 26 having a mouth 28 and a widened portion 30, the axial section of which is preferably an arc of a circumference, as may be seen in Figure 7. Said mouth 28 is adapted for one end of the locking member 22 to pass through, the latter being housed in the cavity 26. The arms 18, 20 of the same pair are substantially at one same level and are preferably oriented substantially parallelly.

Each locking member is formed by a preferably cylindrical tubular body member 32 and the hollow of the body member 32 is also preferably cylindrical. At one end portion 34 said hollow has a larger diameter and at least the end 36 immediately adjacent the portion 34 is open. In one preferred embodiment, the opposite end is closed by a cover 38 (Figures 6 and 8) attached by welding. The tubular body member 32 is provided with at least one lateral bore 40 at a place spaced apart from the one end 36. Usually there are two bores 40 situated oppositely on the ideal axis of symmetry of the body member 32; further reference will be made to the bores 40.

A shaft 42 is rotatably housed in the hollow of the tubular body member 32. At the one end of this shaft 42 there is at least one narrowed portion 44 whereby

said one end has different dimensions in different directions. Preferably there are two symmetrical narrowed portions forming a tongue 46 which from left to right of Figure 5 has the same dimension as the shaft 42, while in the up and down direction of the same Figure the dimension is noticeably smaller than the corresponding dimension of the shaft 42. In a particularly preferred way, the tongue 46 is bounded by two mutually parallel planes 50. The other end of the shaft 42 is provided with a slot 52 preferably orientated substantially diametrically relative to the shaft 42 in which it is formed.

In the larger diameter hollow of the portion 34, there is housed a lock 54 having a boss 56 which is inserted in the slot 52 of the shaft 42, such that a rotation of the lock 54 implies rotation of the shaft 42. The lock 54 is obviously formed by a fixed casing attached to the locking member by way of a pin 56 (Figure 6) passing through a passage 58 (Figure 3) and an internal part, not shown, which may rotate when an appropriate key is inserted.

The locking member comprises also at least one free body member 60, preferably a sphere, each of which may engage one of the narrowings 44 and which may also project through one of the bores 40. To prevent the free body member 60 from escaping through the corresponding bore 40, it is contemplated that the mouth of the latter be provided with a flashing 62 reducing their size at least in one direction.

As stated above, the locking member 22 may pass through the mouth 28 of the cavity 26 formed in each second arm 20, provided that the free body members 60 are retracted within the locking member. This obviously occurs when the free body members (Figure 6) are resting on the respective flat surfaces 50.

To use the stand as described, one starts out from an inoperative position of the retaining frame 14, in which the corresponding locking member 22 is not in place, leaving therefore one pair of arms 18, 20 mutually unassociated. The skis to be stored are disposed substantially vertically, so that they rest at the lower end thereof on the platform 4 (or on the floor, as the case may be), respective lateral portions of the skis pass through the first void space 12 and an upper portion of the skis is disposed between the arms 18, 20 of the said pair (Figure 9). Then the locking member 22 is passed through the through hole 24 of a first arm 18 and the other end of the locking member 22 is inserted in the cavity 26 of the blind hole of the second arm 20.

In this position the lock 54 is operated and rotation thereof causes the shaft 42 to rotate, whereby the free body members 60 cease to bear on the flats 50 and these body members are forced out of their centered position, to project through the bores 40 and engage in the widening 30. If the position of the lock is not varied, the widening acts as a retainer, whereby

a person not having the lock key is prevented from removing the skis.

To take better advantage of the space, it is contemplated that the pairs of arms are at two different levels, either extending from one same back wall 16 (Figures 2 and 9), or from two parallel back walls 16 (Figure 1). In this case, it is also contemplated that both arms 18, 20 of one same pair are arranged in a way that the first arm 18 is aligned vertically with an arm (preferably a second arm 20) of another pair of arms, while the second arm 20 is aligned with another arm (preferably a first arm 18) of a third pair of arms. In this way the space that has to exist in front of the through hole of a first arm and which is necessary for the movement of the locking member 22 is not wasted.

The only purpose of the reference symbols inserted after the technical features mentioned in the claims is to facilitate the intelligibility of the latter and not to restrict the scope thereof in any way.

Claims

1.- A ski stand, for receiving skis disposed substantially vertically which rest at one end on a support surface, at an intermediate portion pass through a first void space (12) closed laterally by a containment device (6) and at an upper portion pass through a second void space laterally bounded by a retaining frame (14), characterized in that said retaining frame (14) comprises a back wall (16), at least one pair of arms, each pair being formed by a first arm (18) and a second arm (20) and a locking member (22) for each pair, so that the arms (18,20) of each pair emerge from said back wall (16) to which they are fixedly attached and are substantially on one same level; in that the first arm (18) of each pair is provided with a through hole (24) and the second arm (20) of each pair is provided with a blind hole defining a cavity (26) having a mouth (28) and an internal widening (30); and in that each of said locking members (22) is adapted to pass through said through hole (24) and be inserted in said cavity (26), each locking member (22) comprising: a tubular body member (32) open at least at one end (36) and having at least one side bore (40) spaced apart from said one end (36); a shaft (42) coaxial with the tubular body member (32), rotatably housed within said tubular body member (32) and having one end provided with at least one narrowing (44) and a another end provided with a slot (52); at least one free body member (60) housed in said tubular body member (32), adapted to engage said narrowing (44) and to project out through one of said side bores (40); and a lock (54) rotatably housed inside the said tubular body member (32) and having a boss (56) inserted in said slot (52) of said shaft (42).

2.- The stand of claim 1, characterized in that it

is provided with a vertical structure (2) to which said containment device (6) and said retaining frame (14) are fixed.

3.- The stand of claim 2, characterized in that said supporting surface belongs to a lower platform (4) also fixed to said vertical structure (2). 5

4.- The stand of any one of claims 1 to 3, characterized in that said back wall (16) of the retaining frame (14) is common to a plurality of pairs of arms (18,20). 10

5.- The stand of any one of claims 1 to 4, characterized in that at least one pair of arms (18,20) has the first arm (18) thereof aligned vertically with one arm of another pair and the second arm (20) thereof is aligned vertically with an arm of a third pair. 15

6.- The stand of any one of claims 1 to 5, characterized in that both arms (18,20) or one same pair are substantially parallel one with the other.

7.- The stand of any one of claims 1 to 6, characterized in that said internal widening (30) has an axial section in the form of an arc of circumference. 20

8.- The stand of any one of claims 1 to 7, characterized in that said shaft (42) is provided with two symmetrical narrowed portions (44) forming a centrally disposed tongue (46) limited by two parallel planes (50). 25

9.- The stand of any one of claims 1 to 8, characterized in that said slot (52) is diametrically orientated relative to the shaft (42) in which it is formed. 30

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FIG. 1

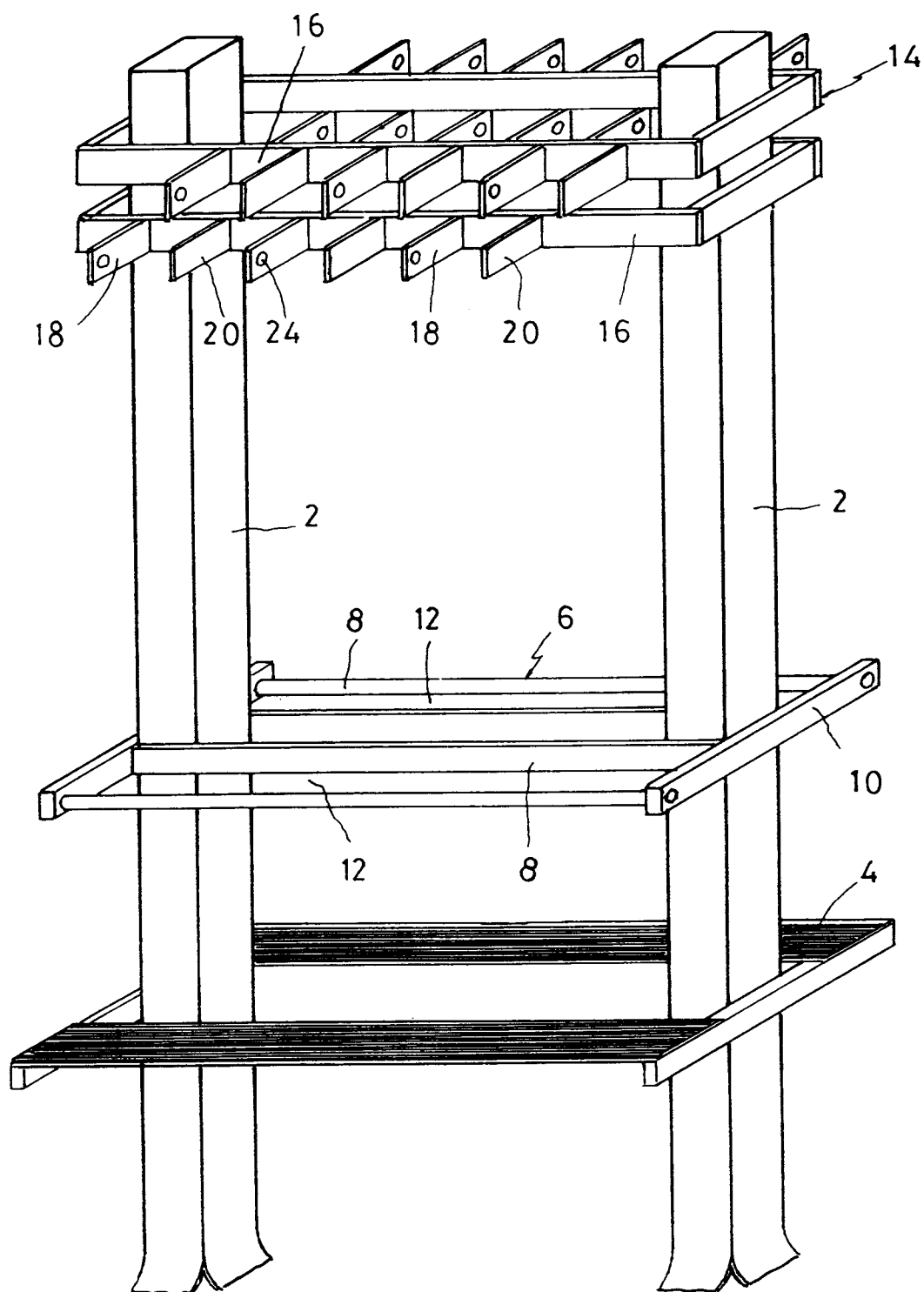


FIG. 2

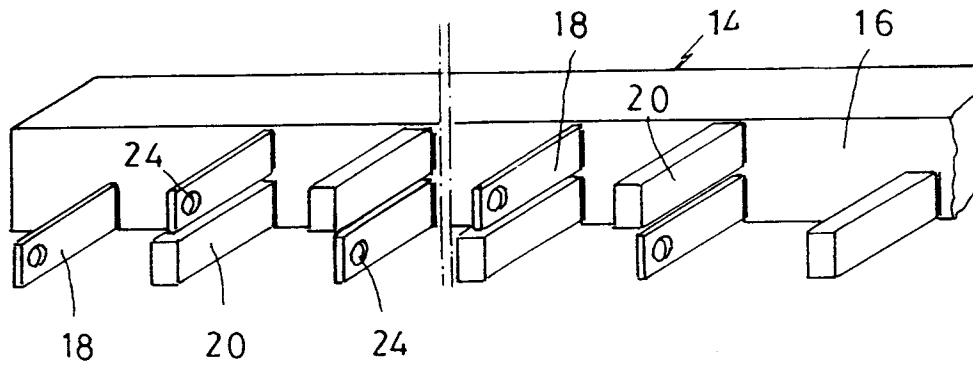


FIG. 3

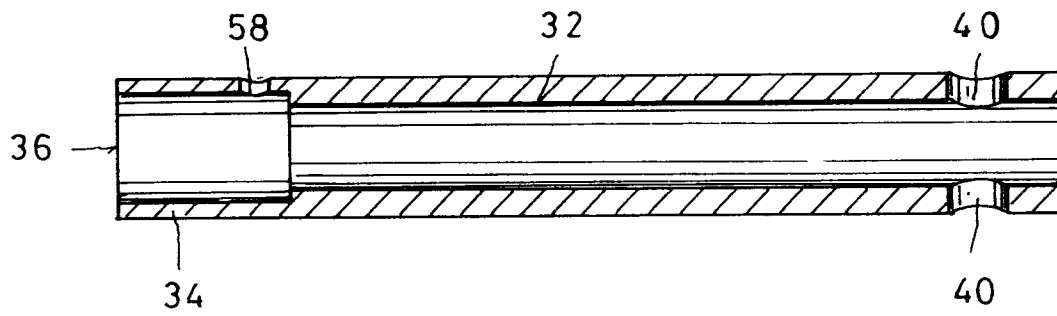


FIG. 4

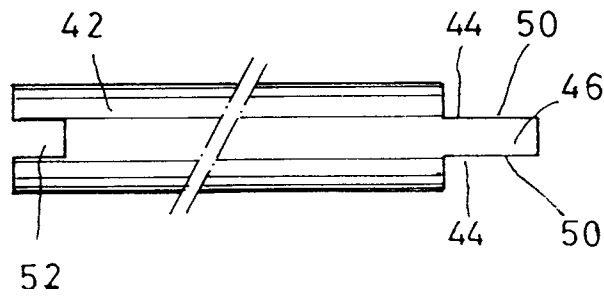


FIG. 5

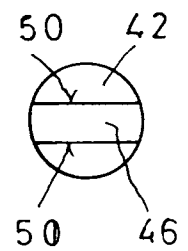


FIG.6

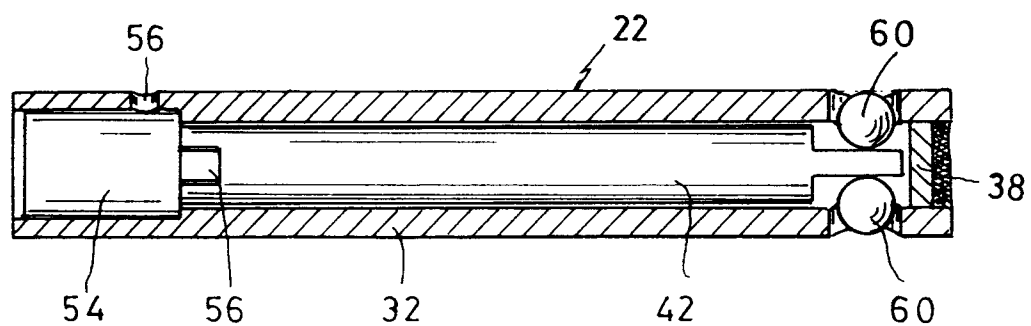


FIG.7

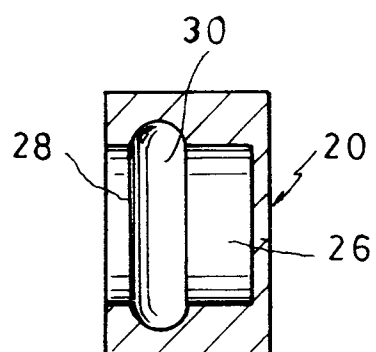


FIG.8

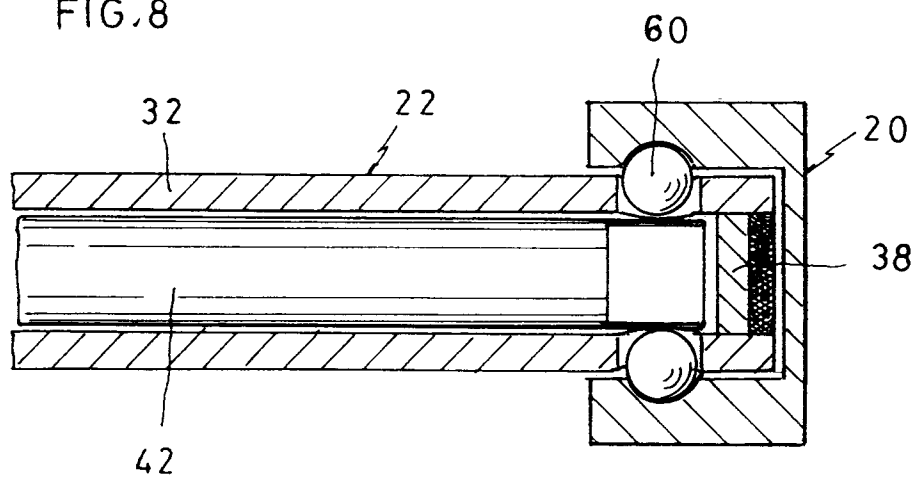


FIG. 9

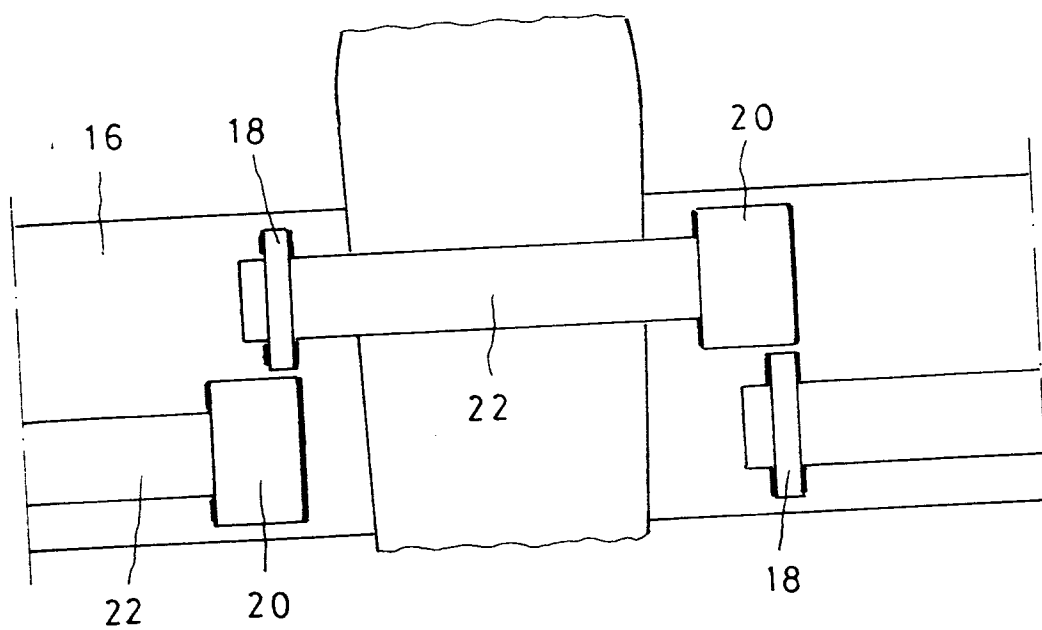


FIG. 10

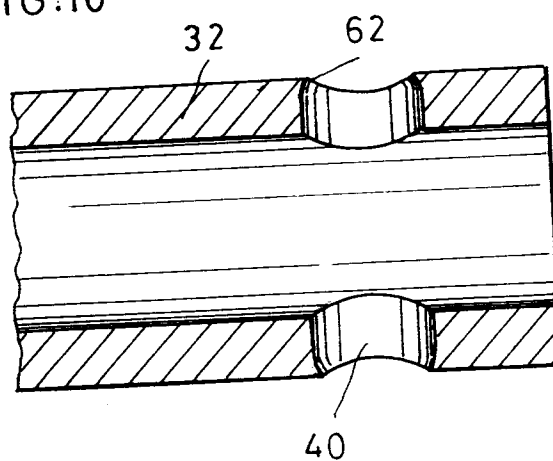


FIG. 11

