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(54) **A glazing support**

Tragvorrichtung für Glasscheiben

Système de support de vitrage

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Description

[0001] The invention relates to a glazing support of the type comprising a boss for mounting to a structural support, the boss having a number of support arms for mounting to suspended glazing panels. Glazing supports of this type are widely used in providing large uninterrupted glass surfaces.

[0002] BE-A1009254 describes a suspended glazing panel support of the type comprising a boss for mounting to a structural support, a fixing element for mounting a glazing panel, and support means extending between the boss and the fixing element. The fixing element consists of a first plate placed against a surface face or intermediate face of a glazing unit and firmly fixed to a threaded rod, by a cylindrical nut firmly fixed to a single plate of the same diameter as the plate of the fixing element.

[0003] A problem arises in use of such glazing supports in that a very large number of separate support types must be available to cater for the wide variation in the application of such supports. This is not only expensive but also leads to potential problems if the correct support for a particular structural requirement is not available on site.

[0004] Currently available supports comprise either fully casted support or a combination of part machined and part cast supports. These castings, even when of good quality require some fine machining and polishing to bring them to an acceptable standard both technically and aesthetically.

[0005] This invention is therefore directed providing a glazing support which will overcome at least some of these problems.

Statements of Invention

[0006] According to the invention there is provided a suspended glazing panel support comprising a boss for mounting to a structural support at least a fixing element for mounting a glazing panel and a support means extending between the boss and the fixing element wherein the support means comprise a support arm having a boss spigot at one end and a fixing element spigot at an opposite end; the boss has a through hole for receiving a boss fixing for mounting the boss to the structural support and having an arm receiving socket; and wherein the boss spigot of the support arm is engageable in the arm-receiving socket of the boss, and the fixing element spigot of the support arm is engageable in the support arm-receiving socket of the fixing element on assembly of the fixing element to the support arm to form a suspended glazing panel in which the support arm is fixed relative to the boss and the fixing element is fixed relative to the support arm characterised in that the fixing element is a single piece mounting disc having a support arm-receiving socket and having a through hole for receiving a fixing for mounting to the foot of a glazing panel. Preferably the boss has a number of sockets, each for receiving a support arm, most preferably the support arm is threadingly engagable in the socket. In one embodiment of the invention the support arm is a single piece support arm. Ideally the support arm includes a threaded spigot for engaging a correspondingly threaded socket of the boss. In one embodiment of the invention the boss is a single piece boss.

[0007] In one embodiment of the invention the sockets are substantially equi-spaced circumferentially around the boss.

[0008] In a further embodiment of the invention at least some of the support arms have an outer mounting disc for attachment to glazing. Preferably the mounting disc is releasably mounted to the support arm.

[0009] The invention further provides a glazing support assembly comprising a boss for mounting to a structural support, and a number of support arms which are releasably engagable with the boss, preferably the glazing support assembly includes a number of outer glazing mounting discs which are releasably engagable to the support arms.

Brief Description of the Drawings

[0010] The invention will be more clearly understood from the following description thereof given by way of example only with reference to the accompanying drawings in which:-

Fig. 1 is a perspective view of a glazing support of the invention;

Fig. 2 is a plan view of the glazing support;

Fig. 3 is a cross sectional view of the glazing support;

Fig. 4 is a perspective view of a boss forming part of the glazing support;

Fig. 5 is a top plan view of the boss;

Fig. 6 is a cross sectional view of the boss;

Fig. 7 is a side elevational view of the boss;

Fig. 8 is an elevational view of a support arm forming part of the glazing support;

Fig.9 and Fig. 10 are end views of the arm of Fig. 8;

Fig. 11 and Fig. 12 respectively are cross sectional and elevational views of a mounting disc of the glazing support;

Fig. 13 and Fig. 14 respectively are cross sectional and elevational views of another mounting disc;

Fig. 15 and Fig. 16 respectively are cross sectional and elevational views of a further mounting disc; and

Fig. 17 is a perspective view of the glazing support, in use.

Detailed Description

[0011] Referring to the drawings there is illustrated a glazing support 1 according to the invention for use in supporting suspended glazing panels 5. The support 1 comprises a boss 6 having a central through hole 7 for mounting a support bar 8 which is attached to a structural support 10. A number, in this case four, support arms 11, 12, 13, 14 extend from the boss 6. Mounting discs 15, 16, 17, 18 are mounted at the ends of the respective arms 11, 12, 13, 14 and these discs are used in a conventional manner as washers in bolting attachment to the glazing panels 5.

[0012] In this case the boss 6 is of generally frustroconical shape and has four threaded sockets 20 which are equi-spaced circumferentially around the conical portion of the boss 6.

[0013] Each of the support arms 11, 12, 13, 14 has a spigot 25 at one end for screw threading engagement in a socket 20 of the boss 6. A spigot 30 at an opposite end of the support arm is screw threadingly engagable in a corresponding socket 35 of a mounting disc 15, 16, 17, 18.

[0014] It will be noted that there are a number of different mounting discs 15, 16, 17, 18 one with a relatively small hole, others with larger holes and one with an elongate slot. The arrangement of Fig. 2 is typical to facilitate attachment to four adjacent glazing panes as illustrated in Fig. 17.

[0015] A kit comprising a single boss type, a single arm type and a number of different mounting discs may be used to assemble either on site or off site, appropriate glazing supports for a given structure. This is achieved by simply screwing the support arms to the boss and screwing the appropriate discs to the ends of the support arms.

[0016] This arrangement has considerable advantages in that a relatively simple kit may be used to assemble the very large number of different glazing supports required. On-site assembly is also optimised as the supports can be very quickly assembled as required.

[0017] All the individual parts of the support assembly of the present invention are manufactured by machining process and therefore they are capable of achieving acceptable standard both technically and aesthetically directly from the machine without any further enhancement by polishing or otherwise.

[0018] Other advantages include the more economical stocking arrangement where bosses, arms and mounting discs can be procured in economical quantities and taken from stock and assembled as required.

[0019] Similarly - lead in times for procurement are much improved as the raw material (solid SS tube) is a standard off the shelf item. Castings must be produced in large quantities to be economical due to set up charges involved. With the present invention, even small quantities can be procured quickly and at economic cost.

[0020] It will be appreciated that while it is preferred that the mounting discs be releasably mounted to the support arms it may be possible to achieve some of the advantages of the invention by providing a plurality of different arms, each provided with a disc type.

[0021] The invention is not limited to the embodiments hereinbefore described which may be varied in construction and detail, within the terms of the claims.

Claims

1. A suspended glazing panel support comprising:-

a boss (6) for mounting to a structural support (10);
at least a fixing element (15,16,17,18) for mounting a glazing panel (5); and
support means (11,12,13,14) extending between the boss (6) and the fixing element (15,16,17,18)

wherein:-

the support means comprises a support arm (11,12,13,14) having a boss spigot (25) at one end and a fixing element spigot (30) at an opposite end;
the boss (6) has a through hole (7) for receiving a boss fixing (8) for mounting the boss (6) to the structural support (10) and having a support arm - receiving socket (20);
and wherein the boss spigot (25) of the support arm (11,12,13,14) is engagable in the support arm-receiving socket (20) of the boss (6) on assembly of the support arm (11,12,13,14) to the boss (6), and the fixing element spigot (30) of the support arm (11,12,13,14) is engagable in the support arm-receiving socket (35) of the fixing element (15,16,17,18) on assembly of the fixing element (15,16,17,18) to the support arm (11,12,13,14) to form a suspended glazing panel support assembly in which the support arm (11,12,13,14) is fixed relative to the boss (6) and the fixing element (15,16,17,18) is fixed relative to the support arm (11,12,13,14),

characterised in that the fixing element is a single piece mounting disc (15,16,17,18) having a support arm-receiving socket (35) and having a through hole for receiving a fixing for mounting the glazing panel (5).

2. A glazing panel support, as claimed in claim 1 wherein the support arm (11,12,13,14) is a single piece support arm (11,12,13,14)

3. A glazing panel support as claimed in any preceding claim wherein the boss spigot (25) of the support arm (11,12,13,14) is screw threaded and the arm-receiving socket (20) of the boss (6) is correspondingly threaded for screw threading engagement of the support arm (11,12,13,14) to the boss (6).

4. A glazing panel support as claimed in any preceding claim wherein the mounting disc spigot (30) of the support arm (11,12,13,14) is screw threaded and the arm-receiving socket (35) of the mounting disc (15,16,17,18) is correspondingly threaded for screw threading engagement of the support arm (11, 12, 13, 14) to the mounting disc (15, 16, 17, 18).

5. A glazing panel support as claimed in any preceding claim wherein the boss (6) comprises a plurality of arm-receiving sockets (20).

6. A glazing panel support as claimed in claim 5 wherein the arm-receiving sockets (20) are equi-spaced circumferentially around the boss (6).

Patentansprüche

1. Stütze für hängende Verglasungselemente, die Folgendes umfasst:

   eine Nabe (6) zum Befestigen an einem Tragwerk (10);
   wenigstens ein Befestigungselement (15, 16, 17, 18) zum Befestigen eines Verglasungselements (5) und
   ein sich zwischen der Nabe (6) und dem Befestigungselement (15, 16, 17, 18) erstreckendes Stützmittel (11, 12, 13, 14),

   wobei:

   das Stützmittel einen Stützarm (11, 12, 13, 14) mit einem Nabenzapfen (25) an einem Ende und einem Befestigungselementzapfen (30) an einem entgegengesetzten Ende umfasst;
   die Nabe (6) ein durchgehendes Loch (7) zum Aufnehmen einer Nabenbefestigung (8) zur Befestigung der Nabe (6) an dem Tragwerk (10) und mit einer Stützarmaufnahme (20) hat;
   und wobei der Nabenzapfen (25) des Stützarms (11, 12, 13, 14) bei der Montage des Stützarms (11, 12, 13, 14) an der Nabe (6) in der Stützarmaufnahme (20) der Nabe (6) in Eingriff gebracht werden kann und der Befestigungselementzapfen (30) des Stützarms (11, 12, 13, 14) bei der Montage des Befestigungselements (15, 16, 17, 18) am Stützarm (11, 12, 13, 14) in der Stützarmaufnahme (35) des Befestigungselements (15, 16, 17, 18) in Eingriff gebracht werden kann zum Bilden einer Stützbaugruppe für hängende Verglasungselemente, bei der der Stützarm (11, 12, 13, 14) relativ zur Nabe (6) befestigt ist und das Befestigungselement (15, 16, 17, 18) relativ zum Stützarm (11, 12, 13, 14) befestigt ist,

   dadurch gekennzeichnet, dass das Befestigungselement eine einteilige Lagerscheibe (15, 16, 17, 18) mit einer Stützarmaufnahme (35) und mit einem durchgehenden Loch zum Aufnehmen einer Befestigung zur Montage des Verglasungselements (5) hat.

2. Verglasungselementstütze nach Anspruch 1, bei der der Stützarm (11, 12, 13, 14) ein einteiliger Stützarm (11, 12, 13, 14) ist.

3. Verglasungselementstütze nach einem der vorhergehenden Ansprüche, bei der der Nabenzapfen (25) des Stützarms (11, 12, 13, 14) mit einem Schraubgewinde versehen ist und die Armaufnahme (20) der Nabe (6) mit einem entsprechenden Gewinde versehen ist für den Schraubgewindeeingriff des Stützarms (11, 12, 13, 14) mit der Nabe (6).

4. Verglasungselementstütze nach einem der vorhergehenden Ansprüche, bei der der Lagerscheibenzapfen (30) des Stützarms (11, 12, 13, 14) mit einem Schraubgewinde versehen ist und die Armaufnahme (35) der Lagerscheibe (15, 16, 17, 18) mit einem entsprechenden Gewinde versehen ist für den Schraubgewindeeingriff des Stützarms (11, 12, 13, 14) mit der Lagerscheibe (15, 16, 17, 18).

5. Verglasungselementstütze nach einem der vorhergehenden Ansprüche, bei der die Nabe (6) eine Mehrzahl von Armaufnahmen (20) umfasst.

6. Verglasungselementstütze nach Anspruch 5, bei der die Armaufnahmen (30) in gleichmäßigem Abstand zueinander umfangsmäßig um die Nabe (6) angeordnet sind.

Revendications

1. Support pour panneau de vitrage suspendu comprenant :-

   un bossage (6) destiné à être monté sur un support structurel (10) ;
   au moins un élément de fixation (15, 16, 17, 18) pour monter un panneau de vitrage (5) ; et
   un moyen de support (11, 12, 13, 14) s'étendant

entre le bossage (6) et l'élément de fixation (15, 16, 17, 18)

dans lequel :-

le moyen de support comprend un bras de support (11, 12, 13, 14) ayant un ergot de bossage (25) à une extrémité et un ergot d'élément de fixation (30) à une extrémité opposée ;
le bossage (6) a un trou traversant (7) pour recevoir une fixation de bossage (8) pour monter le bossage (6) sur le support structurel (10) et ayant une douille de réception de bras de support (20) ;
et dans lequel l'ergot de bossage (25) du bras de support (11, 12, 13, 14) est engageable dans la douille de réception de bras de support (20) du bossage (6) lors de l'assemblage du bras de support (11, 12, 13, 14) sur le bossage (6), et l'ergot d'élément de fixation (30) du bras de support (11, 12, 13, 14) est engageable dans la douille de réception de bras de support (35) de l'élément de fixation (15, 16, 17, 18) lors de l'assemblage de l'élément de fixation (15, 16, 17, 18) sur le bras de support (11, 12, 13, 14) pour former un ensemble de support de panneau de vitrage suspendu dans lequel le bras de support (11, 12, 13, 14) est fixé par rapport au bossage (6) et l'élément de fixation (15, 16, 17, 18) est fixé par rapport au bras de support (11, 12, 13, 14),

caractérisé en ce que l'élément de fixation est un disque de montage monobloc (15, 16, 17, 18) ayant une douille de réception de bras de support (35) et ayant un trou traversant pour recevoir une fixation pour monter le panneau de vitrage (5).

2. Support de panneau de vitrage selon la revendication 1, dans lequel le bras de support (11, 12, 13, 14) est un bras de support monobloc (11, 12, 13, 14).

3. Support de panneau de vitrage selon l'une quelconque des revendications précédentes, dans lequel l'ergot de bossage (25) du bras de support (11, 12, 13, 14) a un filetage de vis et la douille de réception de bras (20) du bossage (6) est filetée de manière correspondante pour permettre l'engagement par filetage de vis du bras de support (11, 12, 13, 14) avec le bossage (6).

4. Support de panneau de vitrage selon l'une quelconque des revendications précédentes, dans lequel l'ergot de disque de montage (30) du bras de support (11, 12, 13, 14) a un filetage de vis et la douille de réception de bras (35) du disque de montage (15, 16, 17, 18) est filetée de manière correspondante pour permettre l'engagement par filetage de vis du bras de support (11, 12, 13, 14) avec le disque de montage (15, 16, 17, 18).

5. Support de panneau de vitrage selon l'une quelconque des revendications précédentes, dans lequel le bossage (6) comprend une pluralité de douilles de réception de bras (20).

6. Support de panneau de vitrage selon la revendication 5, dans lequel des douilles de réception de bras (20) sont équidistantes circonférentiellement autour du bossage (6).

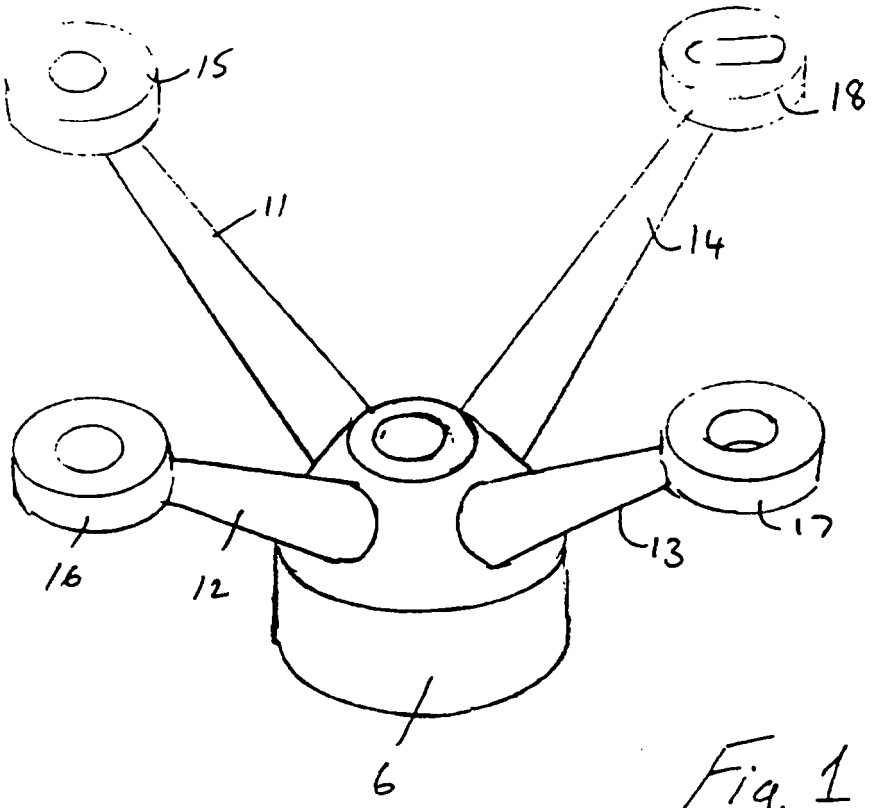

Fig. 1

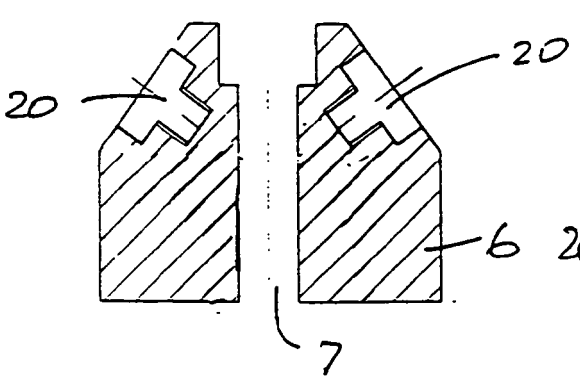

Fig. 6

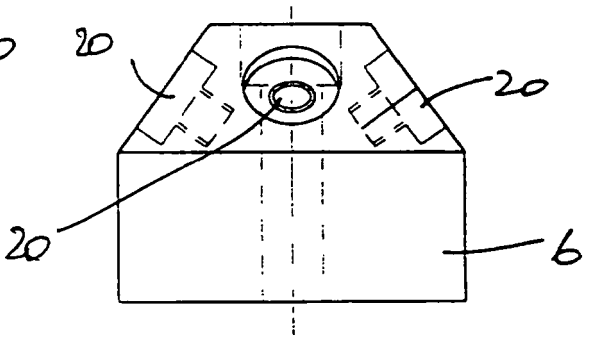

Fig. 7

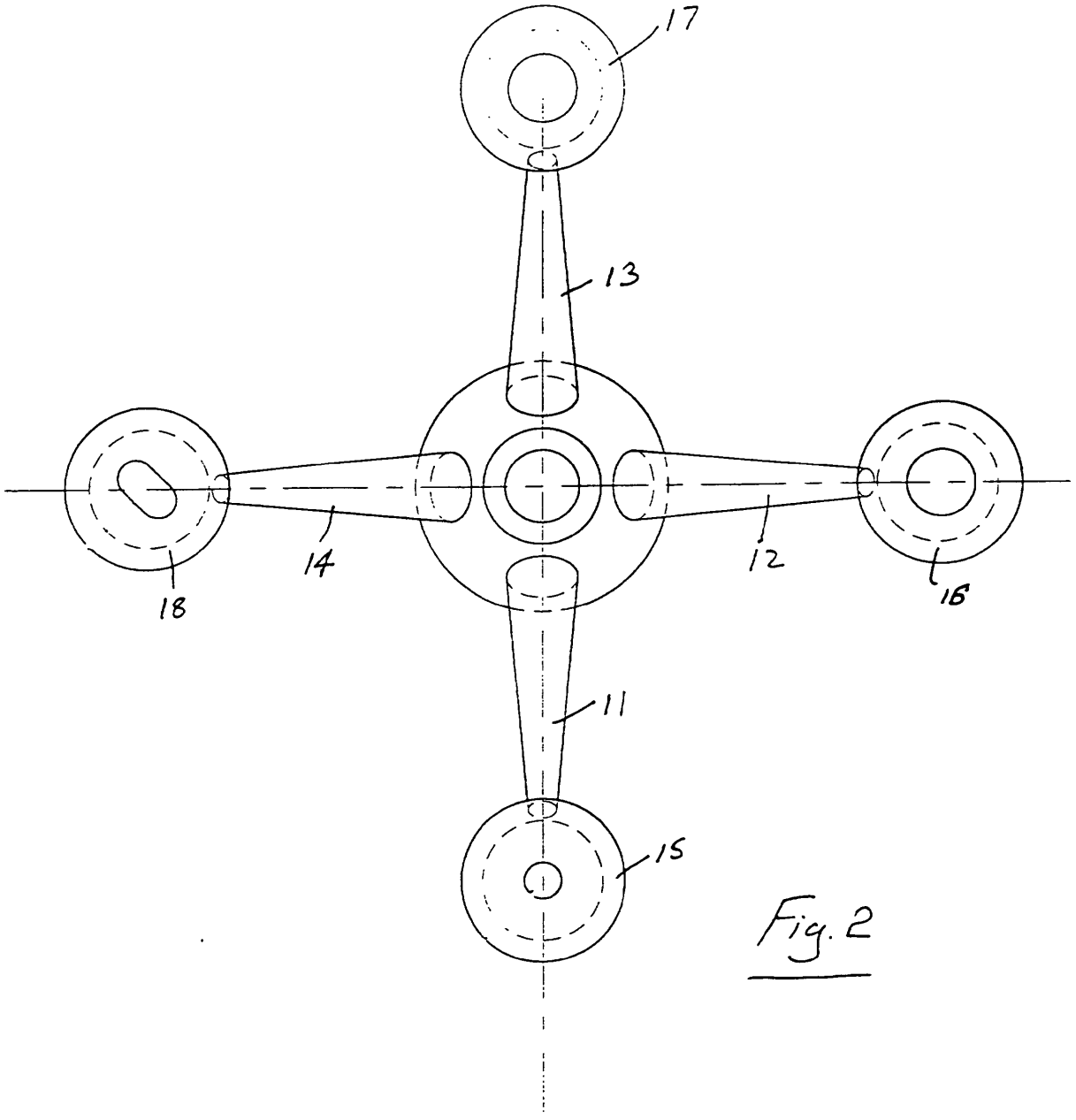

Fig. 2

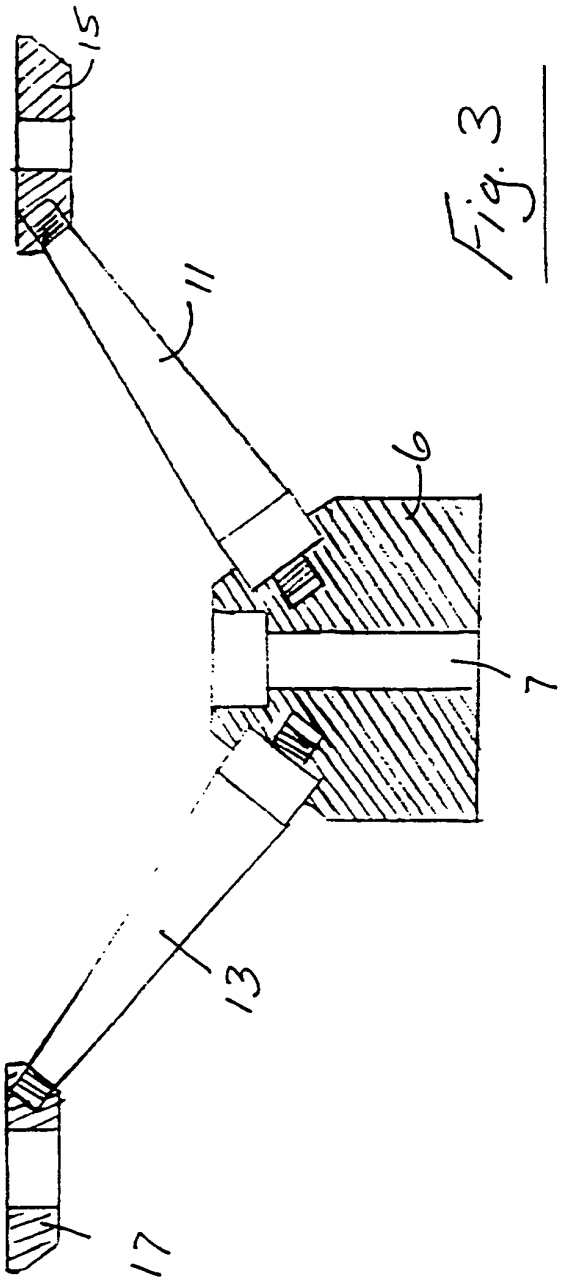

Fig. 3

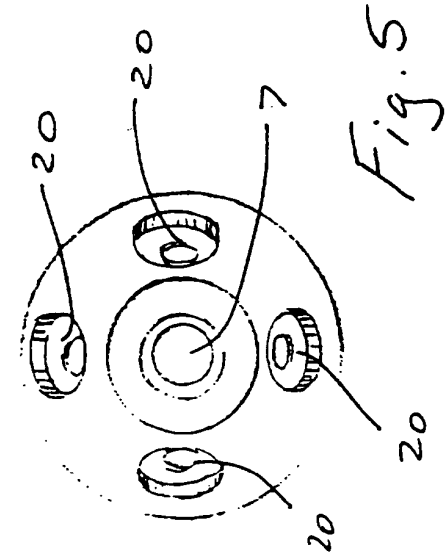

Fig. 5

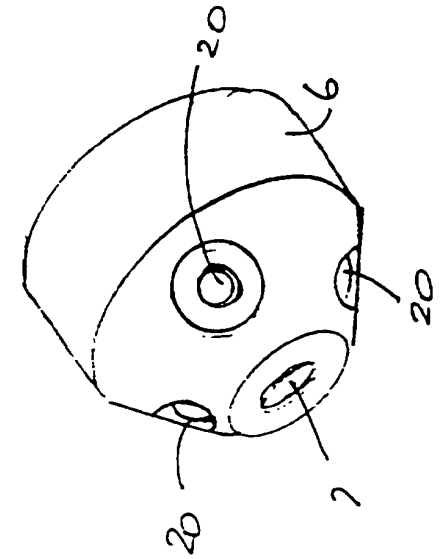

Fig. 4

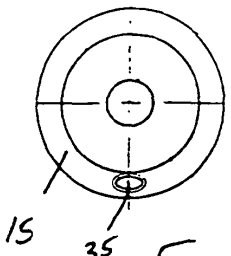

Fig. 11

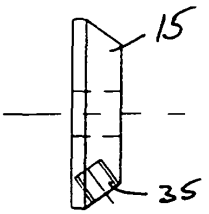

Fig. 12

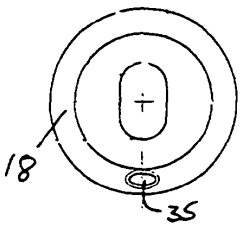

Fig 13

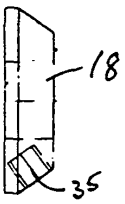

Fig. 14

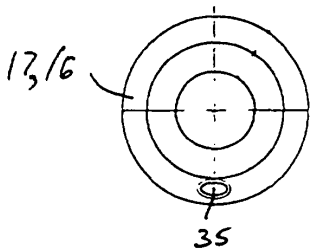

Fig. 15

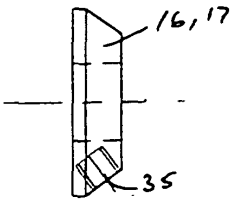

Fig. 16

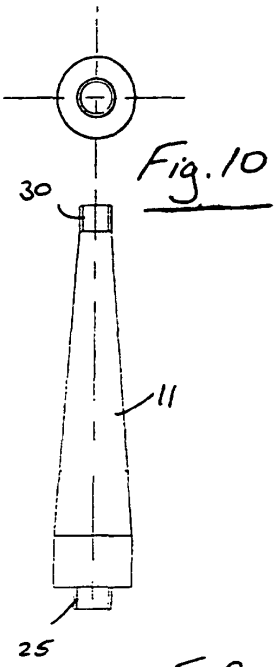

Fig. 10

Fig. 8

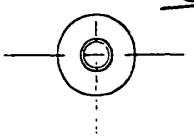

Fig. 9

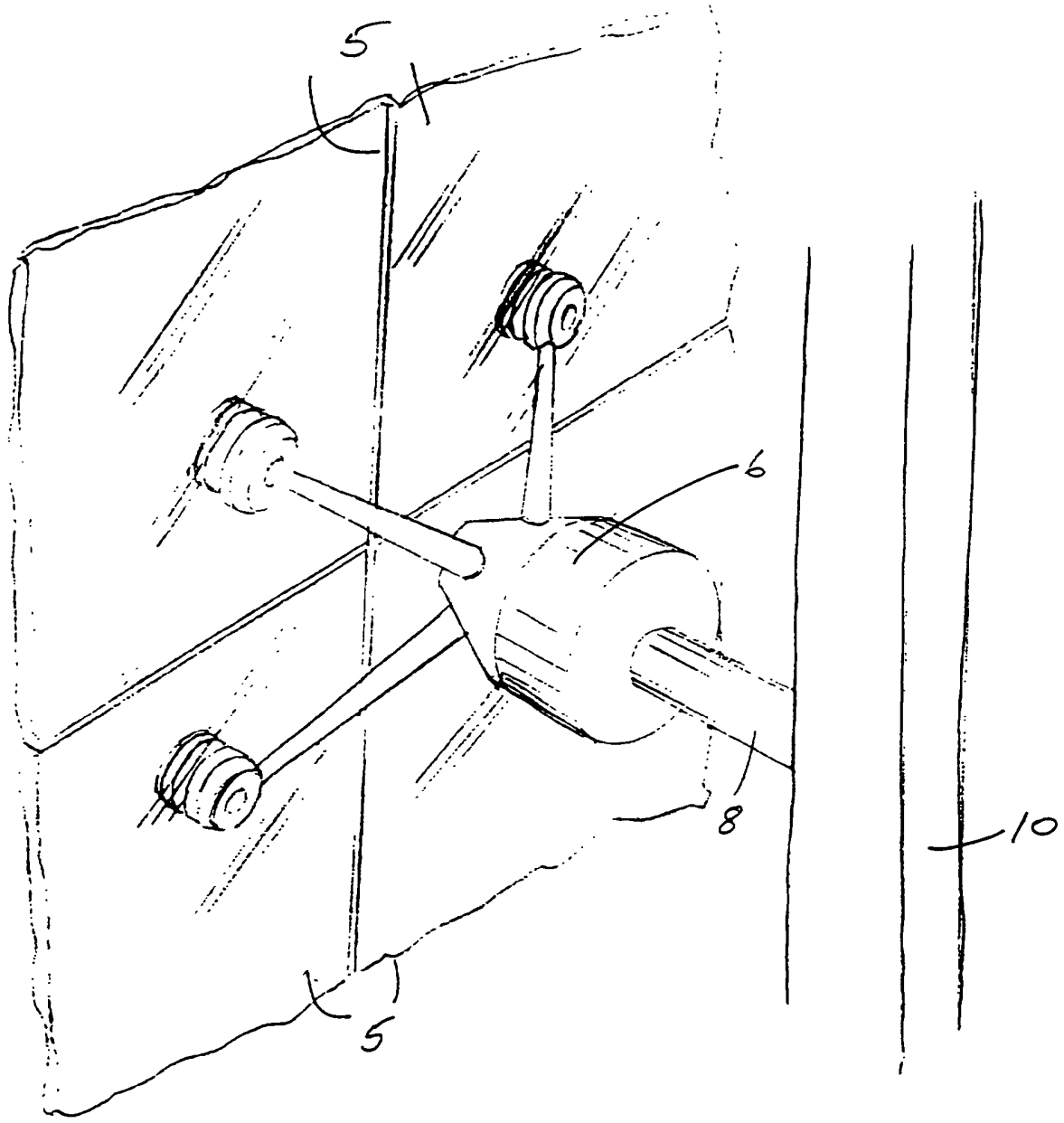

Fig. 17

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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