

A WRITING TABLET ASSEMBLY WITH IMPROVED CONNECTIONS

FIELD OF INVENTION

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The present invention relates to a writing tablet assembly. In more particular, the present invention relates to a writing tablet assembly that prevents loosening of connecting parts over a period of usage.

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BACKGROUND OF THE INVENTION

Writing tablets are desirable to be used with chairs in seminar halls, classrooms and even meeting rooms for saving space and cost. The writing tablet usually is fixed to the chair and designed to conveniently rotate between a horizontal writing position and a vertical storage position.

There are some patented technologies over the prior arts relating to various assembly of writing tablets. Of interest is a United States Patent Application No. US 5845964 which discloses a writing tablet assembly with a swivel joint to permit rotational movement of a writing tablet to a chair. However, this prior art did not disclose any locking pins or screws to prevent the writing tablet from dislodging from the chair.

In order to overcome the disadvantage of the writing tablet being easily detachable from the chair over a period of usage, it is highly desirable for the present invention to provide an innovative solution to include a locking pin or screw to secure the writing tablet to the chair. The writing tablet will be secured to the chair even after a period of continuous usage or rotational movement of the writing tablet.

SUMMARY OF INVENTION

The primary object of the present invention is to provide a solution to prevent a
5 writing tablet from detaching from a connected chair over a period of usage.

It is another object of the present invention to provide a writing tablet assembly that has a prolonged functionality.

10 At least one of the proceeding objects is met, in whole or in part, by the present invention, in which the preferred embodiment of the present invention describes a writing tablet assembly for use with a chair comprising a writing tablet; a frame in connection with the writing tablet and the chair; and a swivel joint linking the writing tablet to the frame for enabling the writing tablet to rotate between a storage position
15 to a use position, the swivel joint comprises a first planar surface and a second planar surface at 45° from the first planar surface, each of the first and second planar surfaces has a first and second cylindrical projections protruding from the surfaces to engage with the writing tablet and the frame respectively, characterized in that the first cylindrical projection from the first planar surface has a first indentation formed
20 around the outer perimeter of the first cylindrical projection to readily engage with a screw that projects perpendicularly from the writing tablet towards the first indentation and functions to prevent the writing tablet from separating from the swivel joint upon repeating rotational movement of the writing tablet over time.

25 A more detailed description of this technology, consisting novel features and a combination of parts, is hereinafter fully described and illustrated in the accompanying drawings and particularly pointed out in the appended claims; it being understood that various changes in the details may be effected by those skilled in the arts but without departing from the scope of the invention or sacrificing any of the

advantages of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

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For the purpose of facilitating an understanding of the invention, there is illustrated in the accompanying drawing the preferred embodiments from an inspection of which when considered in connection with the following description, the invention, its construction and operation and many of its advantages would be readily understood and appreciated.

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Figure 1 shows an exploded view of a writing tablet assembly in accordance to the preferred embodiments of the present invention.

15 Figure 2 shows an enlarged view taken at A of Figure 1.

Figure 3 shows a side view of a swivel joint (105) in accordance to the preferred embodiments of the present invention.

20 Figure 4 shows a front view of the swivel joint (105) in accordance to the preferred embodiments of the present invention.

Figure 5 shows a perspective view of a supporting frame (117) in accordance to another preferred embodiment of the present invention.

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DETAILED DESCRIPTION OF THE INVENTION

Hereinafter, the invention shall be described according to the preferred embodiments

of the present invention and by referring to the accompanying description and drawings. However, it is to be understood that limiting the description to the preferred embodiments of the invention and to the drawings is merely to facilitate discussion of the present invention and it is envisioned that those skilled in the art may devise
5 various modifications without departing from the scope of the appended claim.

Referring to Figure 1 and Figure 2, an exploded view of a writing tablet assembly for use with a chair is shown. The writing assembly comprising a writing tablet (101) connected to a frame (103) through a swivel joint (105). The swivel joint (105) links
10 the writing tablet (101) to the frame (103) for enabling the writing tablet (103) to rotate between a storage position to a use position. The storage position refers to a vertical position of the writing tablet (101) adjacent to the longitudinal side of the frame (103), while the in use position refers to the horizontal position of the writing tablet (101) that extends away from the frame (103), forming a horizontal planar
15 surface in relative to the chair.

Now referring to Figure 3 and 4, the swivel joint (105) comprises a first planar surface (107) and a second planar surface (109) at 45° from the first planar surface (107), each of the first and second planar surfaces (107, 109) has a first and second cylindrical
20 projections (111, 113) protruding from the surfaces (107, 109) to engage with the writing tablet (101) and the frame (103) respectively. Essentially, the first cylindrical projection (111) from the first planar surface (107) has a first indentation (115) formed around the outer perimeter of the first cylindrical projection (111), while the second cylindrical projection (113) from the second planar surface (109) selectively
25 has a second indentation (121) formed around the outer perimeter of the second cylindrical projection (113). Each of the first (111) and second (113) cylindrical projections preferably has a threaded centre bore for receiving a fastener or a screw (137, 139) to lock in the swivel joint (105) to the writing tablet (101) and the frame (103) respectively.

In another embodiment of the present invention, a supporting frame (117) can be located between the writing tablet (101) and the first planar surface (107) of the swivel joint (105). As shown in Figure 5, a first threaded through hole (119) can be
5 formed at a connecting end of the supporting frame (117). The supporting frame (117) may comprise a contact face (125), a first hollow (127) at the contact face (125) and a stopping means (131). The first hollow (127) is configured to receive the first cylindrical projection (111). Preferably, the first planar surface (107) has a semi-circular slot (133) so that the stopping means (131) is slidable within the slot to limit
10 the rotation of the writing tablet (101).

Innovatively, a screw or locking pin is preferred to be extended perpendicularly from inner sidewalls of the first threaded through hole (119) towards the first indentation (115). The perpendicularly extended screw permits rotation of the swivel joint (105),
15 where the screw may slide within the first indentation (115). However, the repeating rotational movement of the writing tablet (101) tends to loosen the fastener (139) that is screwed to the centre bore (135) of the first cylindrical projection (111). As a result, the screw or locking pin comes in place to restrict linear movement of the swivel joint (105) from the connected writing tablet (101) when the fastener (139) is loosen, thus
20 preventing the writing tablet (101) to detach from the swivel joint (105).

Accordingly, the above mentioned advantage applies similarly to the frame (103), where the frame (103) can be designed with a second threaded through hole (123), which extends through sidewalls of a second hollow (129) formed at a connecting end
25 of the frame (103). The screw projects perpendicularly from the connecting end of the frame (103) towards the second indentation (121), thus engaging within the second indentation (121) to prevent the swivel joint (105) from separating from the frame (103) when a fastener (137) is loosen from the centre bore of the second cylindrical projection (113).

During assembly of the writing tablet assembly, the swivel joint (105) is preferred to be attached to the frame (103) by inserting the second cylindrical projection (113) into the second hollow (129) and subsequently lock in place with the fastener (137). The locking pin or screw is then screwed into the second threaded through hole (123). Following, the writing tablet (101) or optionally the supporting frame (117) can be connected to the swivel joint (105) by inserting the first cylindrical projection (111) into the first hollow (127) of either the writing tablet (101) or the supporting frame (117). The fastener (139) is then secured to the centre bore (135) to lock the writing tablet (101) or the supporting frame (117) in place. Next, the screw or locking pin is inserted into the first threaded through hole (119) to perpendicularly contact the first indentation (115).

Preferably, the first and second indentation (115, 121) are annular depressions formed around the outer perimeter of the respective first and second cylindrical projections (111, 113). Depth of the indentations may vary depending on diameter of the cylindrical projections. However, it should be understood that the depth of the indentations is configured to substantially engage the perpendicularly extended screw or locking pin and restrict linear movement of the cylindrical projections from the hollows. Besides, the first and second indentation (115, 121) may be provided with a layer of anti-friction lining to promote smooth rotational movement of the writing tablet (101) between the storage position and the in use position.

While the invention has been disclosed in connection with the preferred embodiments shown and described in detail, various modifications and improvements thereon will become readily apparent to those skilled in the art. Accordingly, the spirit and scope of the present invention is not to be limited by the foregoing examples, but is to be understood in the broadest sense allowable by law.

CLAIMS

1. A writing tablet assembly for use with a chair comprising
 - 5 a writing tablet (101);
 - a frame (103) in connection with the writing tablet (101) and the chair; and
 - a swivel joint (105) linking the writing tablet (101) to the frame (103) for enabling the writing tablet (103) to rotate between a storage position to a use position, the swivel joint (105) comprises a first planar surface (107) and a
 - 10 second planar surface (109) at 45° from the first planar surface (107), each of the first and second planar surfaces (107, 109) has a first and second cylindrical projections (111, 113) protruding from the surfaces (107, 109) to engage with the writing tablet (101) and the frame (103) respectively,
 - characterized in that
 - 15 the first cylindrical projection (111) from the first planar surface (107) has a first indentation (115) formed around the outer perimeter of the first cylindrical projection (111) to readily engage with a screw that projects perpendicularly from the writing tablet (101) towards the first indentation (115) and functions to prevent the writing tablet (101) from separating from the swivel joint (105) upon
 - 20 repeating rotational movement of the writing tablet (101) over a period of usage.
2. A writing tablet assembly according to claim 1 further comprising a supporting frame (117) in between the writing tablet (101) and the first planar surface (107) of the swivel joint (105).
- 25 3. A writing tablet assembly according to claim 1, wherein the writing assembly (101) has a first threaded through hole (119) at its connecting end for receiving the screw.

4. A writing tablet assembly according to claim 1, wherein the second cylindrical projection (113) has a second indentation (121) formed around the outer perimeter of the second cylindrical projection (113) to engage to a screw that projects perpendicularly from a connecting end of the frame (103) towards the indentation (121).
5. A writing tablet assembly according to claim 4, wherein the connecting end of the frame (103) has a second threaded through hole (123) for receiving the screw to prevent the swivel joint (105) from separating from the frame (103).
6. A writing tablet assembly according to claim 1, wherein the first indentation (115) is provided with a layer of anti-friction lining.
7. A writing tablet assembly according to claim 4, wherein the second indentation (121) is provided with a layer of anti-friction lining.