

Table

Field of the invention

- 5 The present invention relates to a table, in particular to a table incorporating one or more moveable leaves.

Background art known to the applicant

- 10 Offices tend to dedicate particular rooms for particular purposes for example dining rooms, conference rooms and individual offices for employees, each of which will tend to include dedicated table fit for purpose. With the high cost of rental for office space, possessing such rooms dedicated to particular functions may be too expensive, especially for a small start-up business. Accordingly, to reduce the number of rooms and thus the amount of rent, rooms
15 normally dedicated for a particular function would need to serve multiple functions.

- This however, may cause problems as a dedicated conference table for example, on account of its shape, may be unsuitable for use as a dining or office table and it would be impractical to shift tables from one room to another during the course of a day. One solution would be to
20 dispense with for example a dedicated cafeteria with the result that dining tables and office space for a cafeteria would not be required. However, if the office was located in an industrial park, where there may not be easily accessible places to eat lunch outside the office, employees would have little option but to eat lunch at their desks. This is likely to be impractical as food or drinks can easily contaminate documents or files especially if for
25 example the latter is spilt.

Accordingly, given the confines dictated by affordable office space, a need exists to provide at least one table in the office that can serve multiple functions throughout the working day.

30 Statements of the invention

With the foregoing in view, the invention in one aspect resides broadly in a table including:

 a table top having one or more supports;

 one or more table leaves, moveable between first and second positions relative to the

table top; and

one or more pairs of co-operating guide members operatively linking the or each table leaf to the table top;

5 their arrangement being such that the plane defined by the upper surface of the or each table leaf remains the same as it moves from the first to the second position and the distance separating the or each leaf from the table top during the movement remains substantially the same.

Such an arrangement of table top and table leaf would enable the general shape of the table to
10 be variable enabling it to be multi-functional, especially if there are several leaves, for example, allowing the table to serve as a conference table in one position and a dining table in another. As the reader will also appreciate, the movement of the or each table leaf is not from a normally stowed to a deployed position intended to alter the surface area of the table top but rather from a first deployed to a second deployed position.

15 In addition, the fact that the distance separating the or each leaf from the table top during the translational movement of the or each leaf relative to the table top remaining substantially the same means that such a table can be used within a confined space. In real terms this means that potentially even smaller office space could be rented for the same size of table, with
20 some leeway for walking space/movement.

Preferably, the upper surface of the or each table leaf in its normal attitude of operation lies in the same plane as the upper surface of the table top in either the first or second position.

25 Although the movement could be rotational, preferably the movement is a translational movement.

Preferably the or each pair of co-operating guide member includes:

30 a first member in the form of a roller adapted to be fitted to one of the table top or the leaf; and

a second member in the form of a track adapted to receive the roller, the track being adapted to be fitted to the other of the table top or the leaf. This has the advantage of allowing ease of movement of a leaf relative to the table top. In such form, the roller includes a pair of wheels linked by an axle and the track is a pair of parallel linear tracks each adapted to

receive opposing wheels of the roller. Yet further in such form, opposing ends of the axle are connected to opposing sides of a frame, the frame being so adapted as to be connectable to either a leaf or the table top. Having the axle set in the frame in this manner locks it into place and adds strength to the frame.

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Preferably the or each track is located within the table top. If the tracks are in the table top, they could potentially run down the longest length or lengths of the table enabling several leaves to be fitted to each side of the table top. Additional tracks and leaves could, in principle, be fitted to the shortest length or lengths of the table as well however, this would

10 depend on the overall size of the table top.

In principle, opposing sides of the table top could incorporate a pair of opposed leaves, linked to the table top by a single pair of co-operating guide members. However, to enable completely independent movement of the or each table leaf with respect to the table top,

15 preferably, only one pair of co-operating guide members operatively connects a single leaf and the table top.

Preferably, the or each co-operating guide member includes at least a pair of rollers. This is advantageous as at a least a pair of rollers will provide greater stability to the movement of

20 the table leaf. In such form, two pairs of spaced apart rollers could be used that lie in the same plane.

Using an additional roller wheel or roller wheels so connected to the frame as to enable it or them to engage the lower surface of the table top, will assist in the movement of the table leaf

25 relative to the table top. The roller wheel or roller wheels could possess a parallel axis of rotation to the or each roller axis of rotation in the same plane as the plane mentioned in the previous paragraph.

However, preferably, the frame further includes one or more roller wheels possessing a

30 parallel axis of rotation to the or each roller axis of rotation, the axis of rotation of the or each roller wheel not being within the same plane as (or otherwise 'off-set' from) the or each roller. Such an off-set roller wheel would enable the diameter of the wheel to be less than that of a roller (rather than greater) and thus negate the need for the presence of cut-out track to be present in the table leaf to prevent a roller wheel from contacting the table leaf during

movement of the table leaf.

The invention in another aspect resides broadly in an office incorporating a table as specified herein.

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Brief description of the drawings

In order that the invention may be more readily understood and put into practical effect, reference will now be made to the accompanying sheets of drawings wherein:

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Fig 1 shows respectively an end (1A), side (1B) and top (1C) view of one embodiment of a table according to the invention, each co-operating guide member being shown in dashed lines, connecting each table leaf to the table top, together with the central support member for the table top also being shown in dashed lines.

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Fig 2 is an isometric view of the embodiment of the table shown in Fig 1.

Fig 3 is a top view of the embodiment of the table shown in Figs 1 and 2 showing a possible arrangement of table leaves relative to the table top.

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Fig 4 is a top view of the embodiment of the table shown in Figs 1-3 showing another possible arrangement of table leaves relative to the table top.

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Fig 5 is a top view of the embodiment of the table shown in Figs 1-4 showing yet another possible arrangement of table leaves relative to the table top.

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Fig 6 is an underside view of part of the table top of the embodiment of the table shown in Figs 1-5 showing two pairs of parallel tracks that form one of the co-operating guide members mentioned in the description associated with Fig 1.

Fig 7 is a top view of the complementary co-operating member adapted for use with the embodiment of the table shown in Figs 1-6 and also mentioned in the description associated with Fig 1.

Description of the preferred embodiments

Fig 1 respectively shows end, (Fig 1A) side (Fig 1B) and top (Fig 1C) views of a table formed mostly from plastics material and generally referenced 10.

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The table 10 includes a rectangular table top 11 on a floor contacting support 12 with eight moveable rectangular table leaves 13, operatively connected to the table top, four located along each of the longest sides of the table top 11.

10 As can be seen from Figs 1 and 2, the upper surface of each table leaf 13 in its normal attitude of operation lies in the same plane as the upper surface of the table top 11 irrespective of where each table leaf 13 is located relative to the table top 11.

The relationship between the table top 11 and each table leaf is such that each leaf 13 can
15 each move translationally within the same plane between a first and a second position relative to the table top 11. This relative movement is made possible as a result of a pair of co-operating guide members 14,15, the first guide member being integral with a leaf 13 and the complementary guide member being integral with the table top 11.

20 Each of the guide members 14,15 will now be described in more detail.

The first guide member 14 includes a metal rectangular outer frame 16,17,18 where one of the shorter sides 18 of this outer frame forms one of the longer sides for another inner rectangular frame 17,18,19.

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A roller 20 comprising a pair of spaced apart wheels 21 linked by a linear sheathed axle 22 is fitted within and towards each end of the inner rectangular frame 17,18,19. Screw threaded ends of the axle pass through opposing holes formed in the longer sides of the inner rectangular frame 18,19 and nuts 23 and washers 24 secure each roller 20 to the inner
30 rectangular frame 17,18,19. The principal axis of each roller 20 is parallel to the longest side 16 of the outer frame 16,17,18.

In addition, located between the rollers 20 on the shorter side 18 of the outer frame 16,17,18 forming the longer side of the inner rectangular frame 17,18,19 are a pair of spaced apart

polymer (nylon) roller wheels 25.

Each roller wheel 25 is connected by a nut 26 and washer (not visible) to the inner frame 17,18,19 via a screw-threaded axle 27 that passes through a hole in the inner frame 17,18,19
5 each roller wheel 25 being located on the outermost face of the inner rectangular frame 18.

The principal axis of each roller wheel 25 is parallel with the principal axis of each roller 20 but the horizontal plane linking the principal axis of each roller wheel 25 is parallel to but different from the horizontal plane linking the principal axis of each roller 20. This
10 arrangement enables the 'reach' of the circumferential periphery of each roller wheel 25 to extend beyond that of the corresponding periphery of the wheels 21 on the roller 20 which enables the wheels 21 of the roller 20 to move freely in the tracks 28 (see below).

Each table leaf 13 is so molded as to be provided with an elongate rectangular mortise recess
15 that extends into the edge face of one of the shortest sides of the leaf 13. The mortise is so sized and shaped as to receive the outer frame 16,17,18 of the first guide member 14 up to but not including the innermost longest side 19 of the inner rectangular frame 17,18,19 in a close tolerance fit. The inner rectangular frame 17,18,19 now 'juts out' from the shortest side of the table leaf 13 and the frame 16,17,18 contained within the mortise is secured to the table leaf
20 13. The inner rectangular frame 17,18,19 serves the purpose of a tenon in a mortise and tenon arrangement which has yet to be described.

The second guide member 15 comprises a pair of twin parallel linear metal tracks 28, provided with metal; flanged edges 29 to enable the tracks 28 to be securely fastened to the
25 table top 11. Each pair of tracks 28 extend down each of the longest sides of the table top 11 for the majority of the length of the table top 11. The tracks 28 are located within the base of an elongate rectangular mortise recess 30 (in the table top's normal attitude of operation), that extend into the edge face 31 of each of the longest sides of the table top 11.

30 The inner rectangular frame 17,18,19 acts as a 'tenon' of each table leaf 13 and this tenon is coupled with the mortise 30 of the table top 11, the wheels 21 of each roller 20 being slotted into the tracks 28 and the roller wheels 25 each contacting the corresponding top of the elongate rectangular mortise recess 30. Once all of the table leaves 13 have been fitted, the table 10 is now fully adjustable, as each tenon is slidable within the mortise 30 it is connected

to (see Figs 3-5). The table top 11 is assembled in three stages, the base (as shown in Fig 6) is first constructed and the tracks 28 fitted, then the 'walls' of the mortise are fitted and finally a Corian top is fitted which completely overlies the base.

5 The use of the rollers 20 in the tracks 28 and roller wheels 25 has the advantage that despite the weight of a table leaf 13, relative ease of sliding to move the table leaf 13 from one position to another is possible. Without the roller wheels 25, movement would only be possible by 'lifting' the free end of the table leaf 13 prior to sliding it to the new position.

10 Furthermore, with the present arrangement the gap 32 separating each table leaf 13 from the table top 11 is extremely small and with the design of the table top 11 and leaves 13 being the way they are, not only will the plane of the upper surface of the or each table leaf 13 in its normal attitude of operation remain within the same plane as the upper surface of the of the table top 11 as the or each leaf 13 moves, the distance separating the or each leaf 13 from the
15 table top 11 during translational movement will remain substantially the same as well.

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Claims

1. A table including:

a table top having one or more supports;

5 one or more table leaves, moveable between first and second positions relative to the table top; and

one or more pairs of complementary guide members operatively linking the or each table leaf to the table top and located within the or each table leaf and the table top;

10 their arrangement being such that the plane defined by the upper surface of the or each table leaf remains the same as it/they move(s) from the first to the second position and the distance separating the or each leaf from the table top during the movement remains substantially the same; and

15 wherein the upper surface of the or each table leaf in its normal attitude of operation lies in the same plane as the upper surface of the table top in either the first or second position.

2. The table as claimed in claim 1, wherein the or each pair of complementary guide member includes:

20 a first member in the form of a roller adapted to be fitted to one of the table top or the leaf; and

a second member in the form of a track adapted to receive the roller, the track being adapted to be fitted to the other of the table top or the leaf.

25 3. The table as claimed in claim 2, wherein the roller includes a pair of wheels linked by an axle and the track is a pair of parallel linear tracks each adapted to receive opposing wheels of the roller.

30 4. The table as claimed in claim 3, wherein opposing ends of the axle are connected to opposing sides of a frame, the frame being so adapted as to be connectable to either a leaf or the table top.

5. The table as claimed in claim 4, wherein the frame further includes one or more roller wheels possessing a parallel axis of rotation to the or each roller axis of rotation, the axis of

rotation of the or each roller wheel not being within the same plane as (or otherwise 'off-set' from) the or each roller.

5 6. The table as claimed in any one of the preceding claims, wherein only one pair of complementary guide members operatively connects a single leaf and the table top.

7. The table as claimed in any one of the preceding claims, wherein the or each complementary guide member includes at least a pair of rollers.

10 8. The table as claimed in claim 7, wherein two pairs of spaced apart rollers are used and lie in the same plane.

9. The table as claimed in any one of the preceding claims wherein the movement is a translational movement.

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10. An office incorporating a table as claimed in any one of the preceding claims.