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[56] **References Cited**

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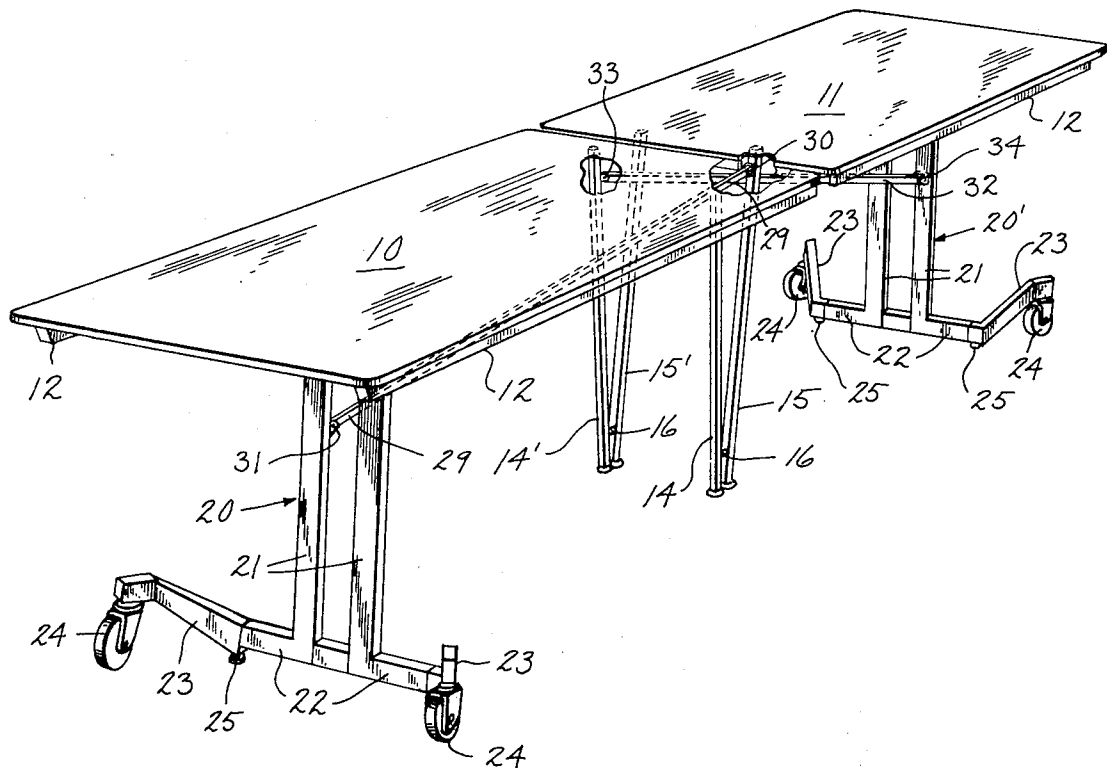
[54] **PORTABLE FOLDING TABLES**
5 Claims, 7 Drawing Figs.

[52] U.S. Cl. **108/113**

[51] Int. Cl. **A47b 3/00**

[50] Field of Search **108/38,**
 111, 112, 113, 114

ABSTRACT: A portable folding table with specially designed leg units including casters adapted to support the table when it is in its upright, folded condition to permit said table to be readily wheeled to or from its storage location, and wherein said leg units are adapted to be acted upon by link means operatively associated with the hinged top sections of the table when said table is unfolded and arranged in its outstretched condition to cause nonslip foot elements on said legs to engage the floor while simultaneously pivoting said casters to a raised position, thereby eliminating the possibility of said table inadvertently rolling or shifting while it is in use.



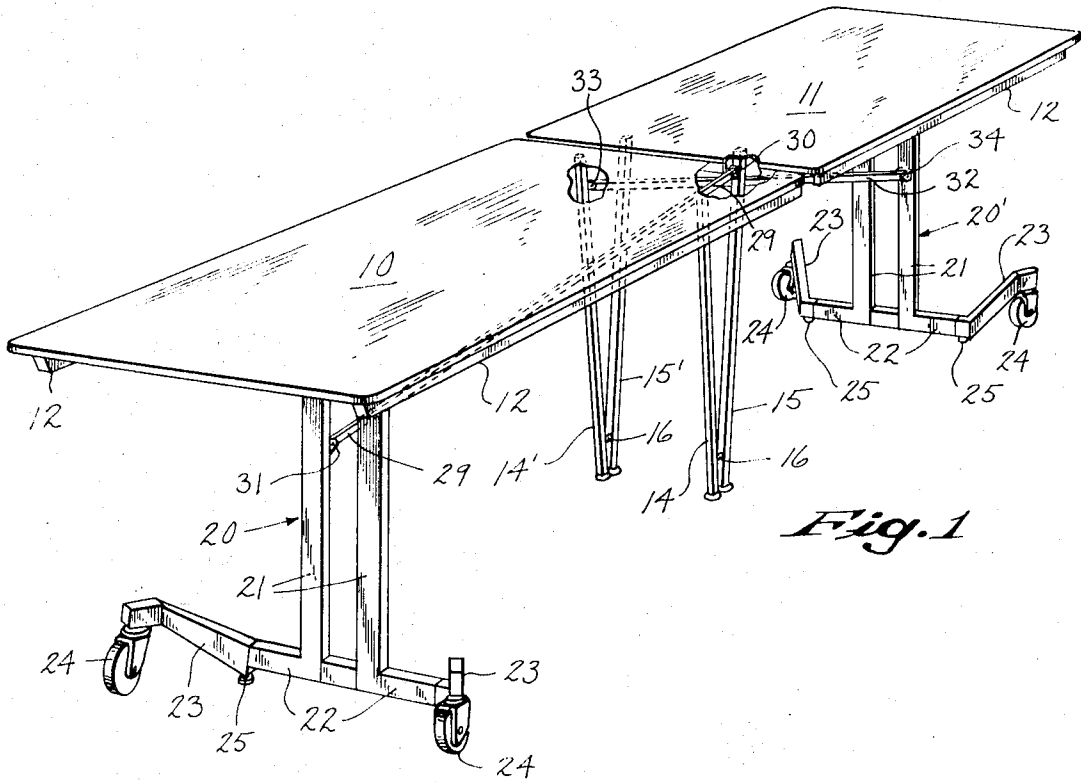


Fig. 1

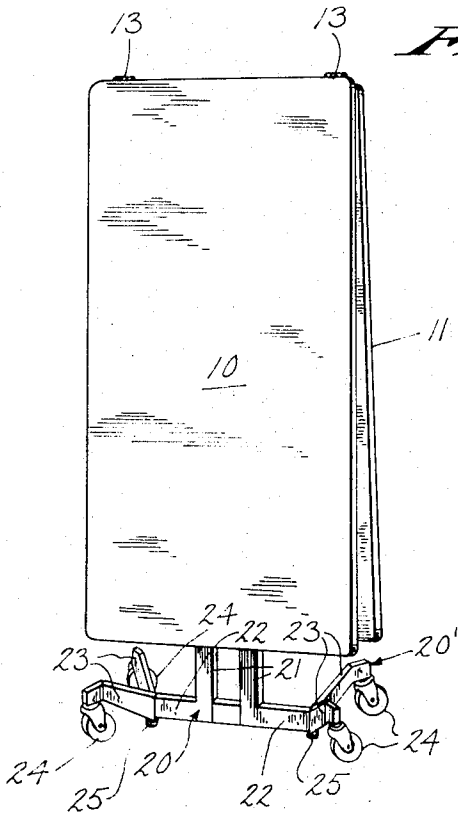


Fig. 2

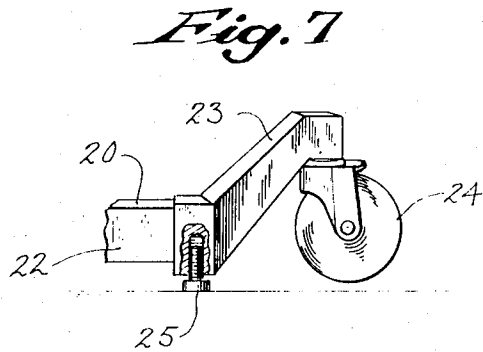


Fig. 7

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Fig. 3

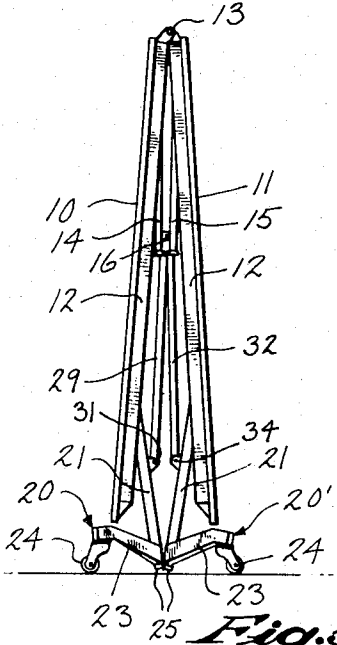


Fig. 4

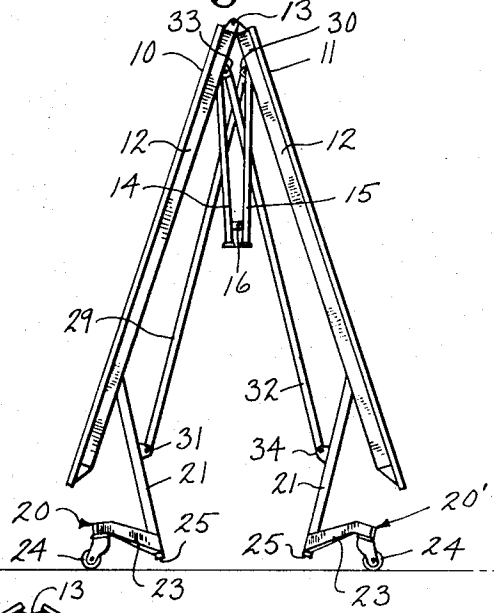


Fig. 5

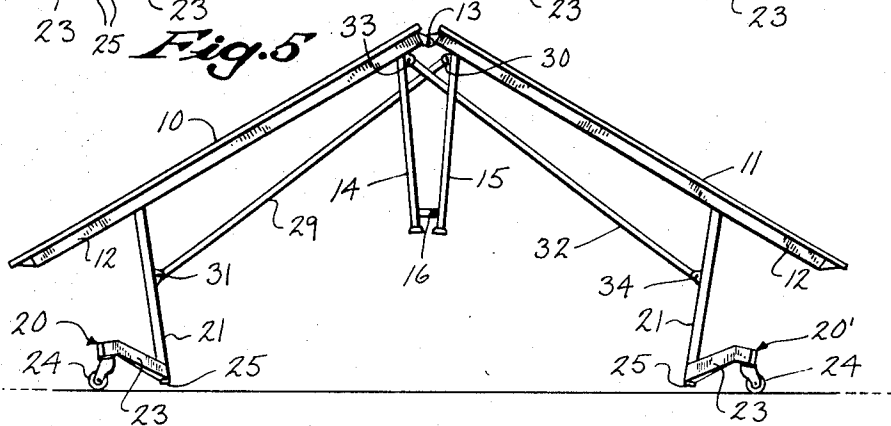
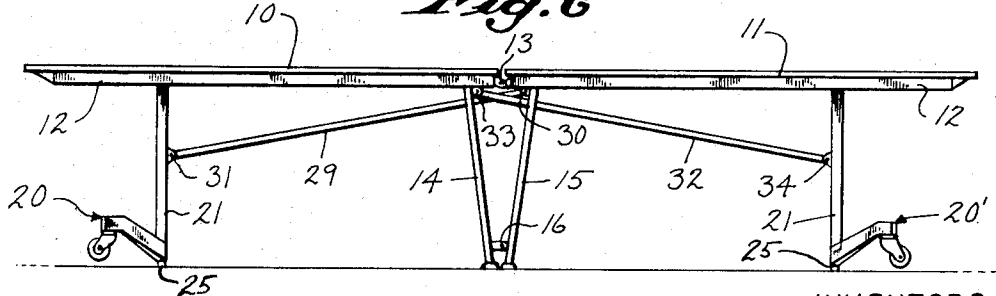


Fig. 6



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PORTABLE FOLDING TABLES

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to portable sectional tables of the type used in school cafeterias, church banquet rooms, auditoriums, etc., which tables can be arranged in a folded, upright condition for storage in a relatively small, out-of-the-way location when they are not in use to permit the room or hall to be utilized for other purposes.

2. Description of the Prior Art

Heretofore various types of portable folding tables have been designed for the same general purposes as the present invention. Moreover, many of said prior tables have been provided with caster-equipped legs in order to obtain mobility when the tables are in their upright folded condition to permit them to be rolled to or from their storage location. Unfortunately, however, the mounting of the tables on casters or wheels has heretofore also resulted in inadvertent shifting movement or drifting of said tables when they are in their operative, fully extended condition, which is highly undesirable. Numerous attempts have been made in the past to solve this problem by means of caster brake devices or wheel-locking mechanisms, as well as other means, but said devices have all proven either too complex and expensive, impractical, or otherwise unsatisfactory for their intended purpose.

Examples of prior portable folding tables of the type described are disclosed in the following U.S. Pat. Nos. 2,747,958; 2,766,089; 2,650,146; 2,514,319; 2,699,978; 2,708,961; 2,717,631; 2,721,778; 2,771,937; 2,777,742; and 2,723,890.

SUMMARY OF THE INVENTION

The present invention provides a new, improved folding sectional table structure of the type utilized in school cafeterias as well as numerous other multiple-purpose rooms or halls wherein it is necessary to be able to readily remove the tables and store them in a convenient out-of-the-way location when it is desired to use the room for other purposes. More specifically, the principal object of the present invention is to provide a folding sectional table of the type described which includes casters carried on the lower end portions of the legs to facilitate the transporting of the folded table to and from its storage location, but wherein the leg assemblies are so designed that said casters are automatically pivoted off the floor and the table supported by nonslip feet associated with said table legs when the table is unfolded and arranged in its outstretched, horizontal condition. The result is that with the present table any undesirable shifting or movement of the table when it is being used for dining or other purposes is eliminated.

A further object of the present invention is to provide a portable folding table featuring a novel pivotal caster-equipped leg assembly, as described, which table can be folded for storage or arranged in its outstretched operative condition by one person without difficulty.

Further objects of the present invention are to provide an improved portable folding table as described which is simple and efficient in operation, which is attractive in appearance, which is relatively inexpensive to manufacture, which is rugged and durable in construction, and which is otherwise particularly well adapted for its intended purposes.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings, wherein the same reference numerals designate the same parts in all of the views:

FIG. 1 is a perspective view of the improved portable folding table in its outstretched, operative condition;

FIG. 2 is a perspective view of the table in its folded, upright storage condition;

FIG. 3 is a side elevational view of the folded table;

FIG. 4 is a side elevational view of the table showing the same partially unfolded;

FIG. 5 is a similar view showing the table further unfolded;

FIG. 6 is a similar side elevational view of the table in its fully extended condition; and

FIG. 7 is an enlarged fragmentary view of a leg unit showing the ground-engaging foot and caster members.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now more particularly to the drawings, the improved folding table comprising the present invention includes a pair of flat top sections 10 and 11 which are arranged in coplanar end-to-end relationship when the table is in its extended, operative condition, as shown in FIGS. 1 and 6. In the illustrated form of the invention said top panels are rectangular in shape and are provided with elongated bars or channels 12 on their undersides adjacent their longitudinal edges to provide strength and rigidity. In this respect, however, it is to be understood that the exact design and construction of said top sections, as well as the size and shape thereof, can be varied as desired and the invention is not to be limited in this respect. The adjacent ends of said top sections 10, 11, hereinafter referred to as the inner ends, are closely spaced, as illustrated, and are joined by suitable conventional hinge means 13.

Pivotaly connected to and depending from the underside of the table top sections 10, 11 adjacent their inner ends are spaced pairs of legs 14, 15, and 14', 15' (FIG. 1), hereinafter referred to as the center legs, which legs are of a length to engage the floor when the table is in its outstretched horizontal condition. Said legs are provided with floor-engaging pads or feet on their lower ends, and spaced a short distance above the lower ends thereof are short connecting bars 16. In the illustrated table design said center legs converge downwardly at an angle from the vertical, although this in not a critical feature of the invention. Due to the interconnection of their lower ends by the bars 16, together with the pivotal connection of said center legs 14, 15 to the undersides of the table top sections, as described, said legs are designed to remain in the same substantially vertical position when the table is in either its folded or outstretched condition. Thus it is ensured that said center leg units are properly positioned when the table is unfolded for use as well as permitting the hinged top sections 10, 11 to be arranged in closely adjacent-facing relationship when the table is folded together in an upright condition for storage, as shown in FIG. 3 and as will be hereinafter described.

Pivotaly secured to the underside of the table top sections 10, 11 adjacent the outer ends thereof are leg assemblies 20 and 20', hereinafter referred to as the outer leg units, each of which comprises a pair of parallel normally substantially vertical bars 21 (FIG. 1) and a horizontal bottom member 22 projecting laterally outwardly from the lower ends thereof as shown. In the preferred embodiment of the invention said legs are formed of chrome-finished rectangular steel tubing, but the invention is not to be limited in this respect. Extending outwardly and upwardly from the ends of said bottom members 22 are angularly bent extensions 23 having heavy duty ball bearing swivel casters 24 of a conventional type mounted on and depending from their outer extremities. As will be seen in FIGS. 2 and 3, and as will be more fully described, said casters 24 are adapted to support the table in its upright, folded condition to facilitate the movement of the same to or from its storage location.

As best appears in FIG. 7 of the drawings, each of said legs angular extension members 23 has a tapped bore in its underside adjacent the inner end thereof into which there is adjustably threaded a bolt or stud 25 having an enlarged head on its lower, projecting end, there being four of said studs carried by said diverging leg extensions. Said downwardly projecting studs are adapted to engage the ground when the table is unfolded, and form fulcrums about which the leg units are automatically pivoted to raise the casters 24 off the floor when the table is in its operative condition, as will be hereinafter seen.

With reference again to FIG. 1 of the drawings, an elongated rigid rod or link 29 is pivotaly secured to the center leg

member 15, as at 30, and extends longitudinally outwardly and downwardly at an angle beneath the top section 10 to the outer leg unit 20, the outer end of said link being pivotally secured to said leg unit intermediate its height, as at 31. A similar rod or link 32 extends longitudinally outwardly and downwardly at an angle beneath the top section 11, one end of said link being pivotally secured to the leg member 14', as at 33, with the outer end thereof being pivotally connected at 34 to the member 21 of the outer leg unit 20'.

When it is desired to arrange the novel folding table comprising the present invention in its upright, compact storage condition the table top panels 10, 11 may be manually swung about their inner, hinge connection 13, the center portions of said panels being urged upwardly while the panel outer ends are simultaneously drawn downwardly and inwardly toward each other, as shown in FIG. 5. Preferably the table is counterbalanced to facilitate such folding action.

During the folding operation the outer leg units 20, 20' are supported on the casters 24, with the studs or feet 25 out of engagement with the floor, thus permitting the top panels 10, 11 to be easily drawn together by one person until said panels are in closely facing relationship, as illustrated in FIG. 3. This is in contrast to many prior folding table structures which require the services of two or more persons to set up the table or to fold and store it away. When said top panels 10, 11 are positioned together (FIG. 3), they are automatically locked in said condition by a suitable latch or the like, as is well known in the art.

As the hingedly interconnected inner ends of the top panels 10, 11 are manually urged in an upward direction, as described, the links 29 and 32 extending between said panel inner ends and the opposite outer leg units 20 and 20', respectively, function to draw said pivotal outer leg units inwardly to a position angled somewhat from the true vertical, as shown, but wherein they are maintained in a substantially upright position. When the table is thus folded together the outwardly angled lateral leg extensions 23 diverge to provide a broad base extending beyond the limits of said folded table, thereby ensuring stability and allowing the table to be wheeled about without danger of tipping over. Said folded table can be readily pushed to an out-of-the-way location or storage area by one person to clear the room or hall.

When it is desired to unfold and set up the improved folding table structure comprising the present invention, as when the table is to be used for dining, it can be easily and quickly rolled into position from its storage location. The locking means (not shown) is then released to allow the lower end portions of the top panels 10, 11 to be manually urged apart, the casters 24 still supporting the table and permitting said spreading movement with a minimum of physical effort. Simultaneously, as illustrated in FIGS. 4-6, the hingedly connected inner ends of said panels move downwardly and the links 29, 32 connected thereto forcibly pivot the outer leg units 20, 20' toward a vertical position transverse to the plane of said top panels as the latter approach a horizontal position (FIG. 6). It is to be understood, incidentally, that while the outer leg units 20, 20' in the illustrated form of the invention are designed to assume a substantially true vertical position, said leg units could as well be designed to assume a desired angular position when the table is in its fully-extended, operative condition, and the invention is not to be limited in this respect.

As the lower ends of the leg units 20, 20' are urged downwardly and outwardly with the top panels, as described, the studs or feet 25 on the undersides of the angled leg extensions 23 are designed to engage the floor just as said top panels 10, 11 approach their horizontal positions. Then, as said hinged top sections 10, 11 swing downwardly to a perfectly horizontal position, with the links 29, 32 associated therewith urging the legs 20, 20' further downwardly and outwardly, said feet 25 form fulcrums about which the outer ends of said angular leg extensions 23 are elevated, thereby raising the casters 24 a short distance above the floor, as illustrated in FIGS. 6 and 7. Thus the table is supported on said depending

studs or feet 25 in a stabilized, stationary position and cannot shift about on the casters, thereby eliminating the annoying "drifting" characterizing prior caster-equipped folding tables. The enlarged head portions of said feet 25 on the present table can be provided with nonslip undersurfaces or rubber caps or the like if desired. Due to the threaded mounting of said stud members 25 they can be adjusted longitudinally and set as desired.

When the table is to be folded into its upright storage condition the upward swinging movement of the top panel inner ends causes the casters 24 to again be lowered into engagement with the floor, through the action of the links 29, 32, thereby facilitating said folding action as well as permitting the folded table to be easily transported to and from its storage location.

It is to be understood that while a preferred embodiment of the present invention has been illustrated and described herein, numerous variations or modifications thereof will undoubtedly occur to those skilled in the art. What is intended to be covered herein, therefore, is not only the illustrated embodiment of the invention, but also any and all variations or modifications thereof as may come within the spirit of said invention, and within the scope of the following claims.

I claim:

1. In a folding structure including a pair of panels having outer ends and adjacent, hingedly associated inner ends, said panels being swingable from an upright storage position to a horizontal operative position, the improvements comprising: outer leg assemblies pivotally secured to the undersides of said panels adjacent the outer ends thereof, said leg assemblies having laterally and outwardly projecting bottom members thereon, said bottom members having elevated outer extremities; swivel casters carried on the outer extremities of said leg bottom members; foot elements on the undersides of said leg bottom members spaced inwardly from the outer extremities thereof; and link means extending between the inner end portions of said panels and the opposite outer leg assemblies adapted to draw said pivotal leg assemblies inwardly as the panels are swung toward their upright folded condition to cause said structure to be supported on said casters, and said link means being adapted to pivot said leg assemblies outwardly during swinging movement of said panels toward a horizontal position to cause the foot elements on the undersides of said leg bottom members to engage the floor and the outer extremities of said leg bottom members to be simultaneously elevated to raise said casters off the floor.

2. In a folding table including a pair of flat top panels having outer ends and hingedly connected inner ends, said panels being swingable from an upright storage position to a horizontal operative position, and having center leg means associated with the inner end portions of said panels, the improvements comprising: a pair of outer leg assemblies pivotally secured to the undersides of said top panels adjacent the outer ends thereof, each of said outer leg assemblies including an upright portion and a substantially horizontal bottom member extending laterally from the lower end of said upright portion; outwardly directed extensions on said leg bottom members, said extensions having elevated outer extremities; a swivel caster carried on the outer extremity of each of said leg extensions; a foot element on the underside of each of said leg assemblies; and a pair of elongated links pivotally associated with the inner end portions of said panels, each of said links extending outwardly beneath the opposite panel and being pivotally connected to the leg assembly adjacent the outer end of said opposite panel, said links being adapted to draw said outer leg assemblies inwardly as the table top panels are swung toward their upright folded condition to cause said table to be supported on the casters, and said links being adapted to urge said leg assemblies outwardly during swinging movement of said top panels toward a horizontal position to cause the foot elements on the undersides thereof to engage the floor and the outer extremities of said leg extensions to be simultaneously pivoted upwardly to raise said casters off the floor.

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3. The folding table recited in claim 2 wherein said leg extensions diverge and extend outwardly beyond the panels when said panels are in their upright folded condition to provide a stable base.

4. The folding structure recited in claim 1 and wherein said foot elements comprise threaded studs axially adjustably

mounted in the undersides of said outer leg assemblies.

5. The folding table recited in claim 2 and including means maintaining said center leg means in a substantially vertical position when said top panels are in either their upright folded condition or in their outstretched horizontal condition.

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