Jan. 10, 1956 J. A. MAHR 2,730,372

COMBINED FOLDING TABLE AND DOLLY

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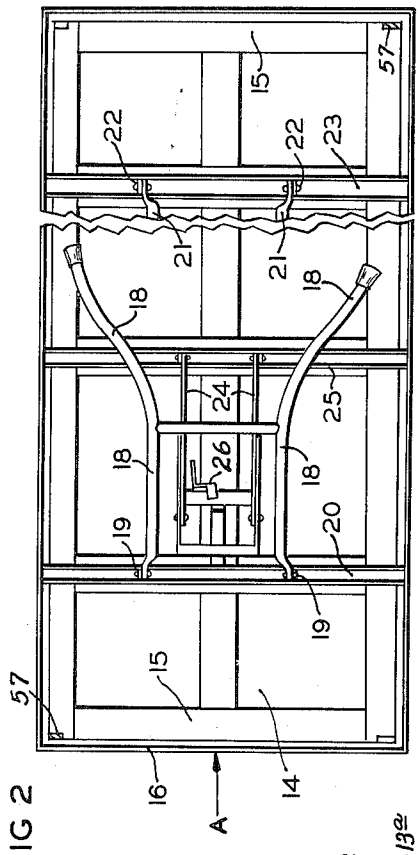


FIG 2

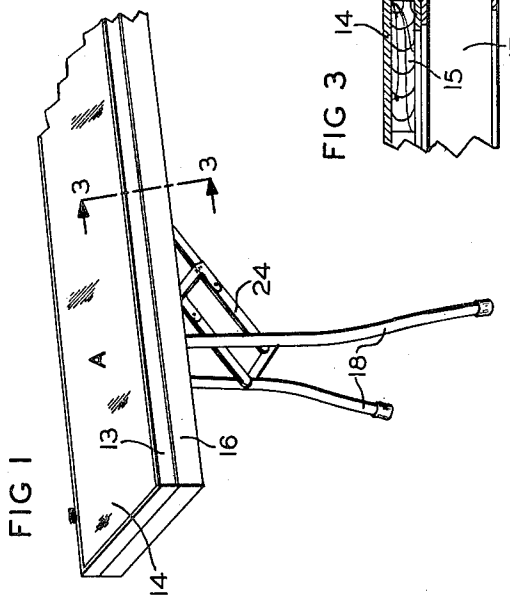


FIG 1

FIG 3

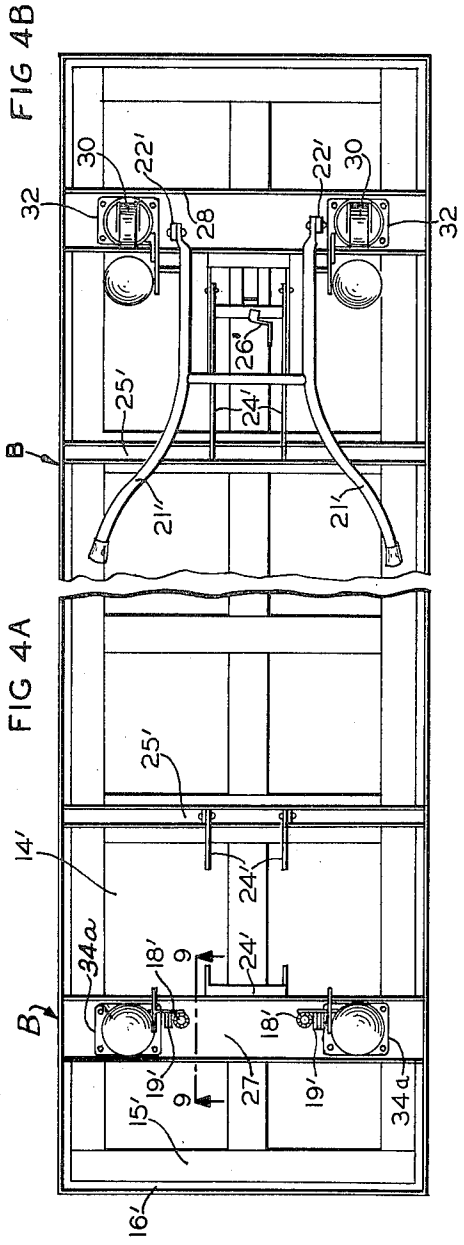


FIG 4B

FIG 4A

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FIG 5

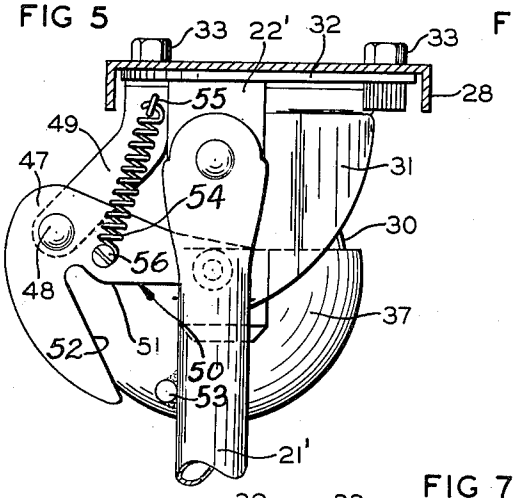


FIG 6

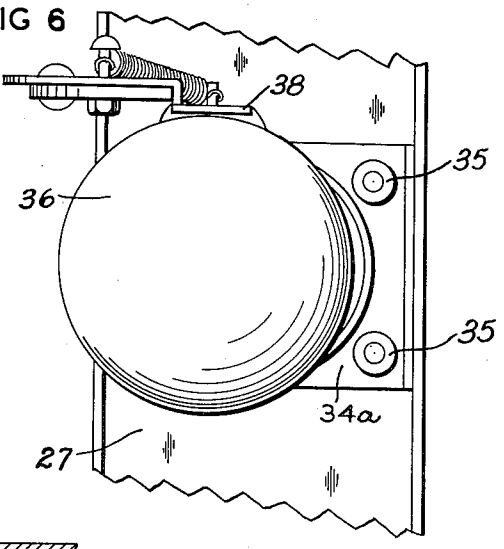


FIG 7

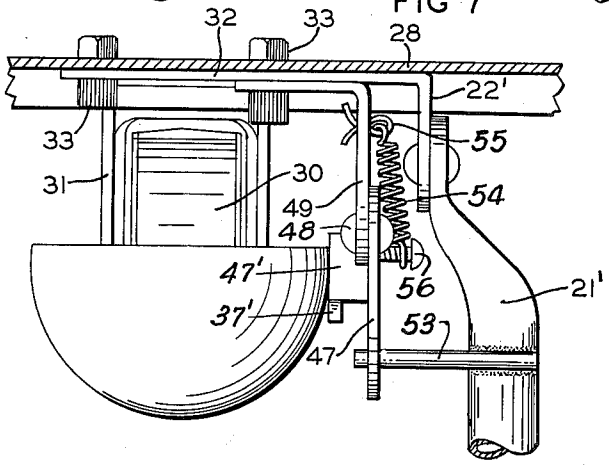
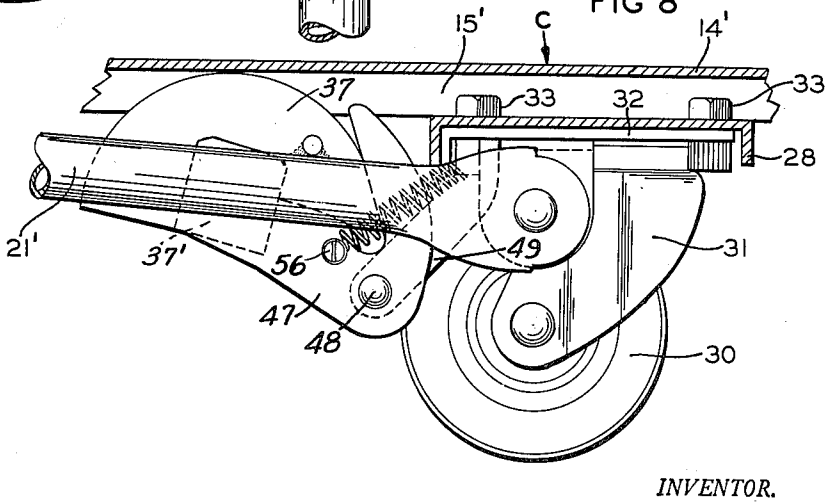


FIG 8



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FIG 9

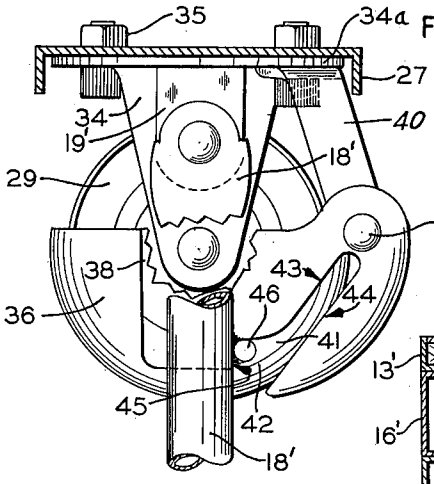


FIG 12

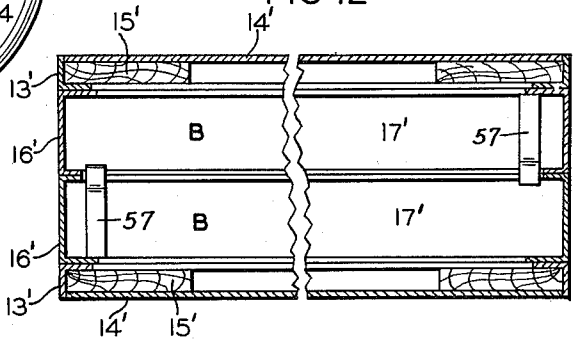


FIG 11

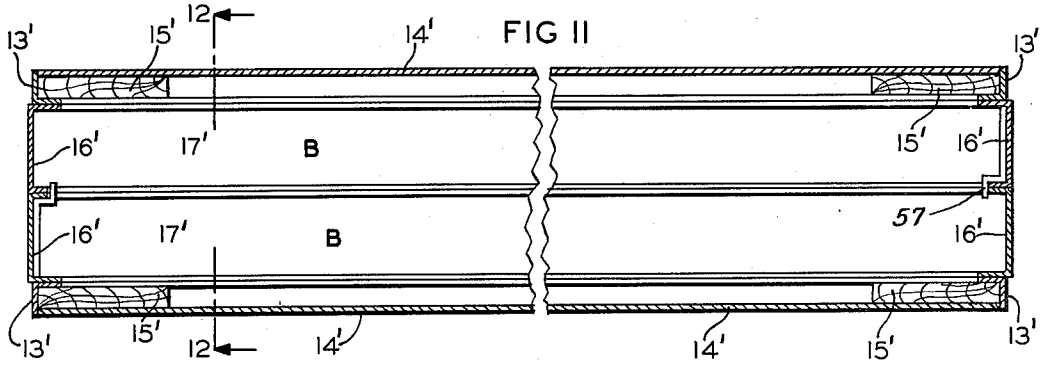
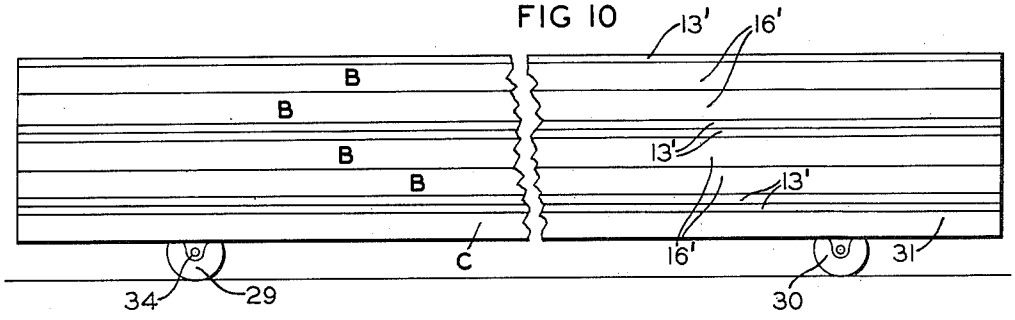


FIG 10



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2,730,372

COMBINED FOLDING TABLE AND DOLLY

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Application November 24, 1950, Serial No. 197,306

8 Claims. (Cl. 280—30)

My present invention relates to improvements in folding tables and, more particularly, to a combined folding table, and a dolly.

It is well known that hotels and other places where conventions, clubs and other large gatherings meet from time to time have a sufficient number of so-called banquet tables to seat the gathering. These tables, when not in use, are usually stored and when needed are carried to the room where a meeting is to be held. Also these banquet tables must often be moved from one room to another. This always requires considerable time and a good deal of help.

The principal object of this invention is to provide a banquet table, of the type disclosed and broadly claimed in my copending application filed February 5, 1951, under Serial No. 209,416, now Patent No. 2,689,158, and entitled "Combined Latches and Toggles for Folding Tables," with floor wheels adapting the table, when folded, for use as a dolly on which the other tables, when folded, are stacked and transported.

A further object of this invention is to provide novel means for holding folded tables, stacked on the dolly, in pairs in which one folded table of each pair is turned upside down and the other table of said pair is placed thereon, against relative shifting movements in the planes thereof.

Other objects of this invention will be apparent from the following description, reference being had to the drawings.

To the above end, generally stated, the invention consists of the novel devices and combination of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a fragmentary perspective view of my improved folding banquet table;

Fig. 2 is a bottom plan view of the same;

Fig. 3 is a fragmentary detail view in section taken on the line 3—3 of Fig. 1, on an enlarged scale;

Fig. 4A is a partial fragmentary view principally in bottom plan of the combined folding table and dolly shown in Fig. 1;

Fig. 4B is a modification of the structure shown in Fig. 4A with the table legs in folded position;

Fig. 5 is a fragmentary view principally in side elevation of one of the caster wheels and associated parts with the respective leg in an upright position and sectioned and with the cap in an operative position, said view also showing one member of the assembly, in typical section, on an enlarged scale;

Fig. 6 is a bottom plan of the upper left caster wheel and associated parts shown in Fig. 4A, except that the leg is in an upright position and the cap in an operative position, on the same scale as Fig. 5;

Fig. 7 is a view of the parts shown in Fig. 5 and looking at the same toward the right;

Fig. 8 is a view corresponding to Fig. 5, except that the leg is folded and the cap is in an inoperative position, said view further showing fragments of the table top member and frame member on which it rests;

Fig. 9 is a side elevational view of one of the front wheels having a fixed bearing bracket and associated parts and also showing one member of the assembly in section taken on the line 9—9 of Fig. 4A, on the same scale as Fig. 5;

Fig. 10 is a fragmentary view in side elevation showing a plurality of tables, one of which is shown in Figs. 1 and 2, stacked on the dollies as illustrated in the Figures 4A and 4B;

Fig. 11 is a fragmentary view in longitudinal vertical section showing one of the pairs of tables stacked on the dolly in Fig. 10, in which the lowermost table is turned upside down and the other table of said pair resting thereon, said view also showing two stop lugs for holding the tables against relative shifting movements in the planes thereof; and

Fig. 12 is a fragmentary view in section taken on the line 12—12 of Fig. 11.

The folding table A shown in Figs. 1, 2 and 3 is fully described and broadly claimed in the application heretofore referred to. This table includes a long rectangular upper frame 13 formed of angle bars arranged with one of their flanges 13*a* extending inwardly and their other flanges 13*b* extending upwardly, as shown in Fig. 3. A table top 14, on a skeleton wood frame 15, is fitted within the frame 13 with said frame resting on the inturned flanges of the frames 13 and secured thereto. The frame 13 rests on and is secured to a sub-frame 16 formed of wide angle bars. The flanges of the sub-frame 16 are turned inwardly, and it will be noted that the lower flanges are much narrower than the upper ones. The faces of the frames 13 and 16, at the ends of the table A, are flush and the longitudinal sides of the sub-frame 16 extend slightly outwardly of the corresponding sides of the frame 13. Obviously, the sub-frame 16 affords an apron 17 for the table A, see Fig. 3.

The front ends of the tables A and B are to the left, and the rear ends thereof are to the right in respect to Figs. 1, 2 and 4A and 4B. A pair of connected folding legs 18 are pivoted to depending lugs 19 on the underside of an inverted channel bar 20. A similar pair of folding legs 21 is also pivoted to depending lugs 22 on the underside of an inverted channel bar 23. These channel bars 20–23 extend transversely of the table A and are secured to the underside of the wood frame 15 and the upper flanges of the sub-frame 16 with which they underlap. The pairs of legs 18–21, when folded, extend inwardly entirely within the apron 17.

Each pair of legs 18—21 is releasably held in an upright or operative position by a pair of connected toggles 24. These toggles 24 are pivotally attached at one of their ends to inverted transverse channel bars 25 arranged and secured in the same manner as the channel bars 20—23. The toggles, at their other ends, are secured to the legs 18—21 at their intermediate portions. Similar latches 26 hold the toggles 24 with the legs 18—21 either folded or upright. These toggles 24 and latches 26 are fully described and broadly claimed in the application heretofore referred to.

Referring now in detail to the combined folding table B and dolly shown in Figs. 4A and 4B and Fig. 5 which are the subject-matter of this application. This table B is identical with the table A shown in Figs. 1, 2 and 3, except that wide channel bars 27 and 28 are substituted for the narrow channel bars 20 and 23, respectively, as shown in Figures 4A and 4B. Parts of table B that correspond to like parts in the table A are given the same reference numerals followed by a prime (').

Obviously, the table B becomes the bed C of the dolly when its legs 18'—21' are folded and said bed supported on a pair of front floor wheels 29 and a pair of rear floor wheels 30. The rear wheels 30 are caster wheels and the bearing brackets 31 therefor are swivelled on plates 32 secured by nut-equipped bolts 33 to the channel bar 28. The wheels 29 are identical with the caster wheels 30 and journaled in fixed bearing brackets 34 on plates 34*a* secured by nut-equipped bolts 35 to the channel bars 27.

It may be here stated that each table B and the table C are identical, the one with the other, and these tables B and C are identical with the table A except the members 20 and 22 of the table A have been removed and the members 27 and 28, which carry the present invention, are substituted therefor. The legs 18 and 21 have been removed from the members 20 and 22 and attached to the members 27 and 28 and designated by the characters 18' and 21'.

In stacking the tables, as shown in Fig. 10, their legs 18' and 21' are folded, which uncaps the wheels 29 and 30, and the lowermost table becomes the dolly C. The table B next above the dolly C is inverted with its top resting on the top of the dolly C and with its wheels 29—30 extending into the table B resting thereon. In other words, the tables B, as they are stacked, are alternately inverted.

When the table B is set up for use as a table, the under portion of each front wheel 29 is covered by a guard or cap 36, as shown, in the form of a bowl. Likewise, each rear or caster wheel 30 has its lower portion covered by a guard or cap 37 similar to the caps 36. The caps 36—37 are automaticaly moved into operative positions, in which they cap the under sides of the wheels 29—30, by movements of the legs 18'—21' from folded to upright positions. Movement of the legs 18'—21' from upright to folded positions automatically operates the caps 37 to uncap the wheels 29—30 so that they are exposed for contact with the floor.

The purpose of covering the lower portions of the wheels 29—30 with the caps 36—37, respectively, when the dolly bed C is used as a table, is to protect the wearing apparel of persons sitting at the table B from dirt and dust on the wheels 29—30.

The connections from the legs 18' to the caps 36 for automatically operating the same includes for each leg and cap a plate 38 rigidly secured adjacent legs 18' to the outer side of the cap 36, see Fig. 9. This plate 38 at its outer portion is pivoted at 39 to the lower end portion of a depending arm 40 secured by one of the bolts 35 to the plate 34*a*. Extending into the plate 38 toward its pivot 39 is a deep oblique notch 41 having a wide entrance opening 42. The longitudinal edges of the plate 38 at the sides of the notch 41 afford an inner cam surface 43 and an outer cam surface 44. The plate 38 at the outer end of the cam surface 43 has a stop shoulder 45. A cam pin 46 rigidly secured to the adjacent leg 18' extends transversely into the notch 41. During folding movement of the front legs 18', the cam pins 46 ride on the cam surfaces 44 and move the caps 36 pivotally from operative positions, in which they cap the wheels 29 into inoperative positions within the apron 17'. The cam pins 46, during movement of the legs 18' from a folded to an upright position, ride on the cam surfaces 43 and move the caps 36 pivotally from inoperative positions to operative positions in which they cap the wheels 29. At the limit of the cap pins 46 on the cam surfaces 43, they engage the stop shoulders 45.

Connections from the legs 21' to the caps 37 for automatically operating the same include for each leg and cap a plate 47 rigidly secured as by a heavy welding 47' on the side adjacent legs 21' to the outer side of the cap 37 by a member 37', see Figs. 5 and 7. This plate 47, at its outer portion, is pivoted at 48 to the lower end portion of a depending arm 49 secured to the respective plate 32

by one of the bolts 33, see Figs. 5 and 8. Extending into each plate 47 is a deep V notch 50. The inner longitudinal edge portion of the plate 47, at the notch 50, affords an inner cam surface 51 and the outer longitudinal edge portion of said plate, at the notch 50, affords an outer cam surface 52. A cam pin 53 rigidly secured to the respective leg 21' extends transversely into the notch 50 for successive engagement with the cam surfaces 51—52. The automatic means for operating the caps 37 further includes for each cap a vertically disposed coiled spring 54. This spring 54 is anchored at its upper end to a cotter pin 55 on the upper portion of the arm 49 and attached at its lower end to a screw 56 secured to the plate 47 close to its pivot 48 for movement from one side of said pivot to the other past a dead center, to wit: the pivot 48.

When the cap 37 is in an operative position, as shown in Fig. 5, the notch 50 is below the pivot 48 and the spring 54 is on the inner side thereof and yieldingly holds the cap 37 raised, in which position it caps the wheel 30. During movements of the legs 21' from operative to folded positions, they move the cam pins 53 into engagement with the cam surfaces 52 and move the caps 37 into positions in which the springs 54 are past dead centers, to wit: the pivots 48. From thence, the springs 54 swing the caps 37 upwardly into inoperative positions in which they engage the under side of the table top member 14'. During movements of the caps 37 from operative to inoperative positions, the springs 54 are placed under further tension as their points of attachments, to wit: the screws 56, are moved from one side of a dead center to the other and under the pivots 48.

When the legs 21' are moved from folded to operative positions, the cam pins 53 engage the cam surfaces 51, ride thereon and move the caps 37 until the springs 54 are past centers. From thence, the springs 54 complete the movements of the caps 37 into positions in which they cap the wheels 30.

In stacking the tables B on the dolly bed C, when folded, they are arranged in pairs in which one table of each pair is turned upside down and the other table of said pair is placed thereon with its apron 17' resting on the apron 17' of the underlying tables. The arrangement of the tables B in pairs brings the tops of the tables together.

To prevent the folded tables of each pair stacked on the dolly from relative shifting movements in the planes thereof, each table B is provided with a pair of stop lugs 57. These stop lugs 57 are located one at each end of the table B and in corners of its apron 17' that are diagonally opposite one another. These stop lugs 57 project slightly below the apron 17' and into the apron 17' of the underlying table B. The stop lugs 57 on the underlying table B of the respective pair extend upwardly into the apron 17' of the overlying table. By this arrangement of the stop lugs 57, there will be stop lugs 57 in all four corners of the tables of each pair.

The drawings illustrate a commercial form of the invention, but it will be understood that the same is capable of certain modifications as to details of construction, arrangement and combination of parts within the scope of the invention herein disclosed.

From a broad viewpoint, the table top member 14' and the frames 13'—15' constitute a table top.

What I claim is:

1. In a table of the class described, a table top having folding legs, a member fixed adjacent to the table top, floor wheels attached to the member, a guard for at least one of the wheels movably attached to the member, and means carried by at least one of said legs for raising the guard when the legs are lowered and lowering the guard when the legs are raised.

2. The structure defined in claim 1 in which the raising and lowering movements of the guard are in the

plane of the respective wheel and when lowered overlap said wheel on at least one side thereof.

3. The structure defined in claim 1 in which the raising and lowering movements of the guard are in the plane of the respective wheel and when lowered extend under the wheel and overlap said wheel on at least one side thereof.

4. The structure defined in claim 1 in which the guard is in the form of a bowl and the raising and lowering movements thereof are in the plane of the respective wheel, said guard when lowered extends under said wheel and caps the same.

5. In a table of the class described, a table top having folding legs, a member fixed adjacent to the table top, floor wheels attached to the member, a guard in the form of a bowl for at least one of the wheels attached to the member for raising and lowering movements in the plane of the respective wheel and when lowered extends under said wheel and caps the same, and connections from one of the legs to the guard and actuated by the respective leg to lower the guard when said leg is moved into an operative position and to raise the guard when folded.

6. The structure defined in claim 5, further including a coiled spring anchored to the member and attached to the guard and movable by the guard from one side of a dead center to the other in which it holds the guard either in a raised or a lowered position.

7. The structure defined in claim 5 in which the connections include a member fixed to the guard and having cam surfaces, and a pin fixed to the respective leg and engageable with the cam surfaces.

8. The structure defined in claim 5 in which the connections include a plate fixed to the guard and having a deep notch with opposing cam edges, and a pin fixed to the respective leg, and extending into the notch for engagement with the cam surfaces.

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