

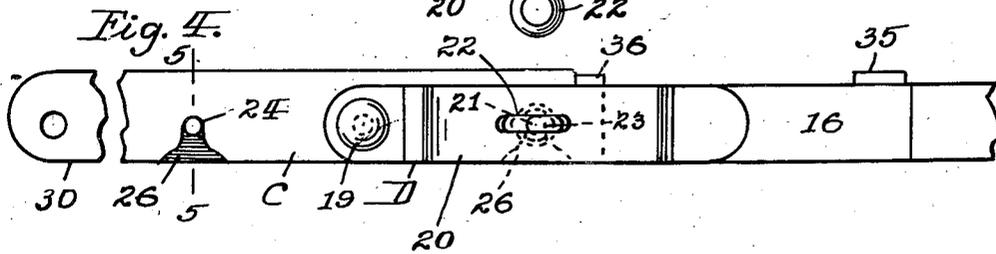
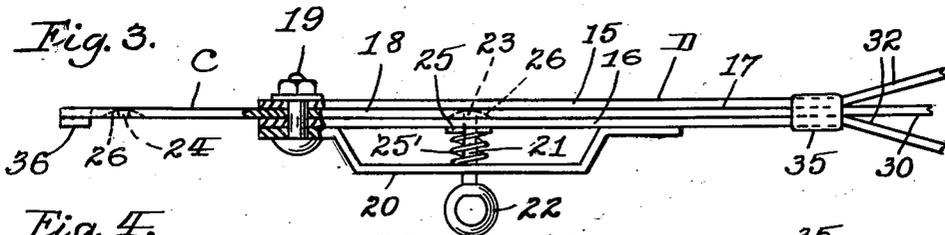
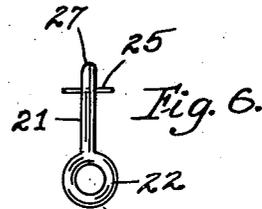
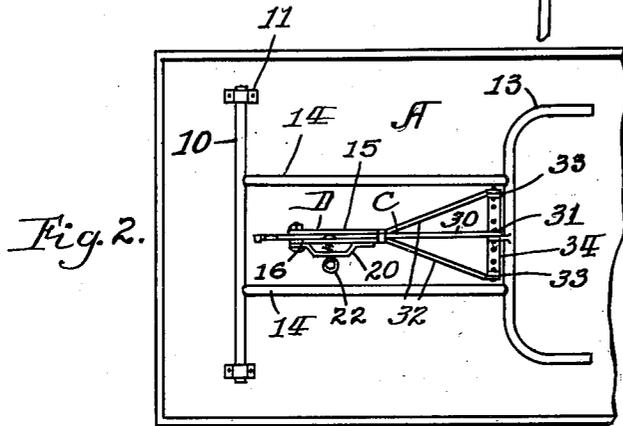
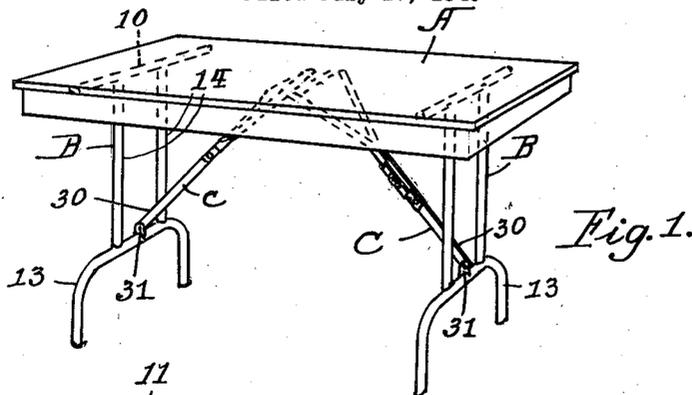
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2,278,810

FOLDING BRACE

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2,278,810

FOLDING BRACE

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2 Claims. (Cl. 311-98)

Our invention relates to improvements in folding braces for use in connection with tables, shelves and other articles of furniture. The primary object is to provide a folding brace which has in its structure, means by which it is locked against unintentional folding and unfolding. The improvement is particularly although not exclusively applicable to tables having folding legs, the brace being applied so as to hold the leg locked in both folded and extended positions. An object of the invention is to provide a brace which is adapted to function as a prop or stay for holding a folding leg on a table top in standing position, and which has a folding joint functioning to fold into collapsed condition when the leg is folded, and which may be easily and conveniently manipulated whereby the brace is automatically locked in either of its two extreme positions when the leg is either extended into standing position or folded into collapsed position against the under side of the table top. A still further object is the provision of a brace which enables compact arrangement when the table is knocked down for storage or for shipment. A further object is the provision of a brace which is simple and inexpensive in construction, effective in use and applicable to tables having folding legs, shelves which are hinged to a support so as to fold or extend into horizontal position, and other uses wherein two elements are hinged together so as to fold into collapsed condition or unfold into spread condition.

In one embodiment of our invention as illustrated in the drawing, the brace is constructed with sections or members pivoted together and hinged by their outer extremities to the underside of the top of a table and a leg of the table and a spring pressed bolt is provided on one of the sections engaging a companion section for locking the sections of the brace and the leg in fully extended position and for locking the sections of the brace and the leg in fully folded position.

In the drawing forming part of this specification, Fig. 1 is a perspective view of a table having folding legs to which my improved brace is shown applied; Fig. 2 is a plan looking at the underside of a portion of a table top, showing one of its legs and my improved brace in folded position; Fig. 3 is a bottom plan on an enlarged scale, of a portion of my improved brace in collapsed condition, part of the pivotal connection between the inner ends of the brace sections being broken away and in section; Fig. 4 is a side elevation of the brace in unfolded con-

dition; Fig. 5 is a section taken on the line 5-5 of Fig. 4, and Fig. 6 is a plan of the lock bolt.

In the drawing we have shown in Fig. 1, my invention applied to a table top A having a pair of supporting legs B, each of which has a horizontal shaft 10 (see Fig. 2) forming a pintle bar journaled in the bearing brackets 11, said brackets being secured to the under side of the table top so that the legs may fold flat against the underside of the top or unfold by swinging outwardly into vertical position to support the top. Each of the legs has a yoke foot element 13 which is rigidly joined to the pintle bar by a pair of parallel side bars 14, shown spaced evenly a short distance apart. The legs may be made out of metal tubing although this type of construction may be varied as desired.

Our improved brace has two longitudinal sections C and D, the section D being composed of two parallel flat bars 15 and 16 having their sides spaced evenly apart to form a longitudinal channel 17 in which one end portion 18 of section C, also resembling a flat bar, is held by the pivot bolt 19 and is adapted to swing freely so that the two sections may unfold and expand in substantial longitudinal alignment as shown in Fig. 4 or fold into collapsed condition as shown in Fig. 3.

Secured by welding or other suitable means on the outer side face of the side bar 16 of the brace section D is a loop 20 and through the median portion of this loop and member 16 of brace section D, a lock bolt 21 is slidably supported. The outer end of this lock bolt is formed into a convenient loop handle 22 by the use of which the bolt can be withdrawn outwardly. The inner end of this lock bolt is adapted to engage either of the bolt receiving openings 23 or 24 according to which of two positions the brace section C assumes, to wit; fully folded position as shown in Figs. 2 and 3, and fully extended position as shown in Figs. 1 and 4. The inner portion of the lock bolt has a transverse stop pin 25 through the inner portion of its shank and a helical expansion spring 25' threaded over the shank of the bolt within the space between the loop 20 and the outer surface of the side bar 16 of brace section D. This spring presses against the stop pin and the inner side wall of the loop and normally urges the bolt inwardly into lock engaging position.

Adjacent to each of the bolt receiving openings 23 and 24 is an inclined shoulder 26 which acts as a guard or cam to depress the bolt 21

automatically as member C swings inwardly about the pivot 19, into fully folded (see Fig. 3) or fully extended (see Fig. 4) position. Upon reaching either of said positions and following said depressing movement, the lock bolt automatically enters the corresponding opening in section C and locks the sections together. In this manner the leg of the table is automatically locked in both fully folded and extended positions. The inner end of the lock bolt (see Fig. 6) is rounded at 27 to aid in engaging the cam surfaces 26 and freely depressing the bolt as the brace sections fold or unfold.

The outer extending extremity 30 of the brace section C is pivotally attached to the median portion of the yoke member 13 of the table leg at 31 and the outer extremity of member D is formed with a pair of outwardly diverging arms 32 which are pivotally attached at 33 (see Fig. 2) to a plate 34, which is in turn rigidly attached to the under side of the table top. The relative position assumed by the brace, when extended is at an angle inwardly and upwardly from the lower portion of the leg of the table towards the underside of the table top to brace the leg and hold it rigidly in extended vertical position.

The two members 15 and 16 of section D are held rigidly apart by the cross member 35, which is brazed or otherwise fastened to said members and acts as a stop to limit the folding movement in one direction of the brace members C and D. In a somewhat similar manner the side clip 36 on the extending inner end of member C functions as a stop to engage an edge of the side member 16 of member D and limit the movement of members C and D in one direction when assuming fully extended position.

In accordance with the patent statutes, we have described the principles of operation of our invention together with the construction thereof which we now consider to represent the best embodiment thereof, but we desire to have it understood that the disclosure is only illustrative and that the invention can be carried out by other means and applied to uses other than those above set forth provided they come within the scope of the claims.

We claim:

1. A jointed brace for articles of furniture, comprising, sections pivoted together for folding one upon another, the inner end of the first section projecting beyond the pivotal connection with the second section and the first section having bolt receiving openings on either side of said pivotal connection, a spring pressed catch bolt on the second section adapted to engage the body portion of the first section in one of said openings and hold the sections when in fully folded position, and to engage the projecting inner portion of the first section in the other of said openings and hold the sections when in fully extended position, and inclined guides adjacent to said openings in said first section adapted to automatically depress the lock bolt into engagement with said first section in said openings as the two sections approach fully folded or extended positions.

2. A jointed brace for articles of furniture, comprising, a pair of brace sections, the first section having a single bar member and the second section a pair of parallel bar members between which the single bar member is held, said sections being pivoted together for folding one upon the other and the inner end of the first section projecting beyond and having bolt receiving openings on either side of said pivotal connection, a spring pressed bolt on said pair of side bar members adapted to engage the body portion of said single bar member in one of said openings and hold the members when in fully collapsed condition and to engage the inner portion of said single bar member in the other of said openings and hold the sections when in fully extended condition, inclined guides adjacent to said openings in said single bar member adapted to automatically depress the bolt into engagement as the two sections approach fully collapsed or extended condition, and a stop bridging and holding said pair of bars of the second member spaced apart and limiting the swinging movement of said sections when approaching fully collapsed condition.

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