June 5, 1934. E. L. DAVIDSON 1,962,089

DISPLAY STAND

Filed Feb. 16, 1934

Fig. 1

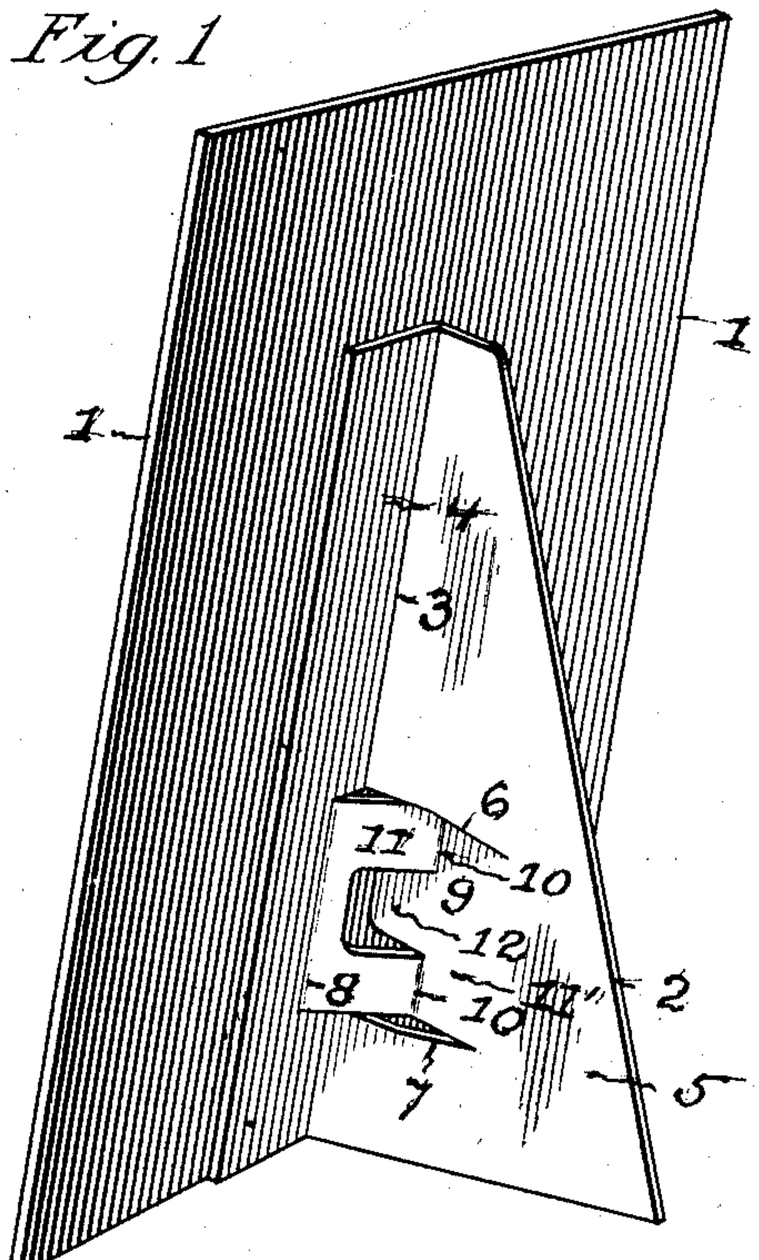


Fig. 2

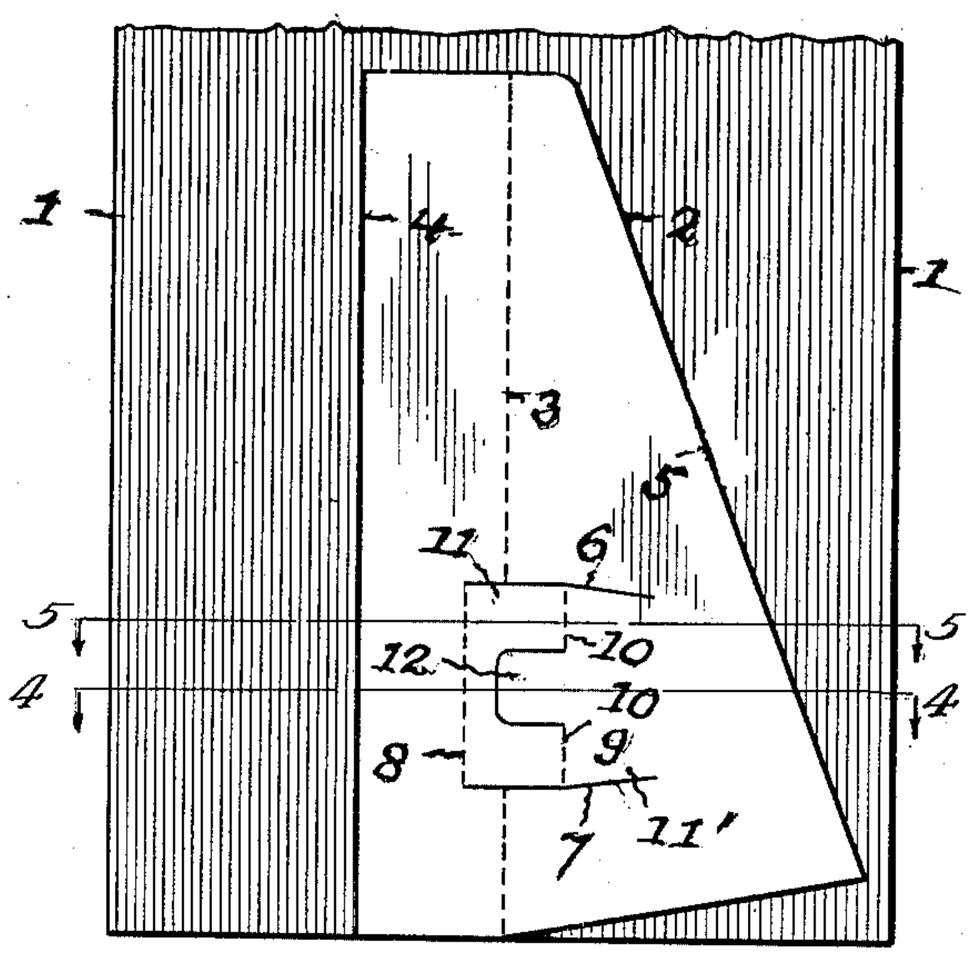


Fig. 5

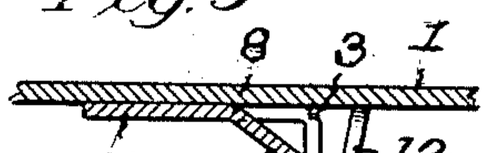


Fig. 3

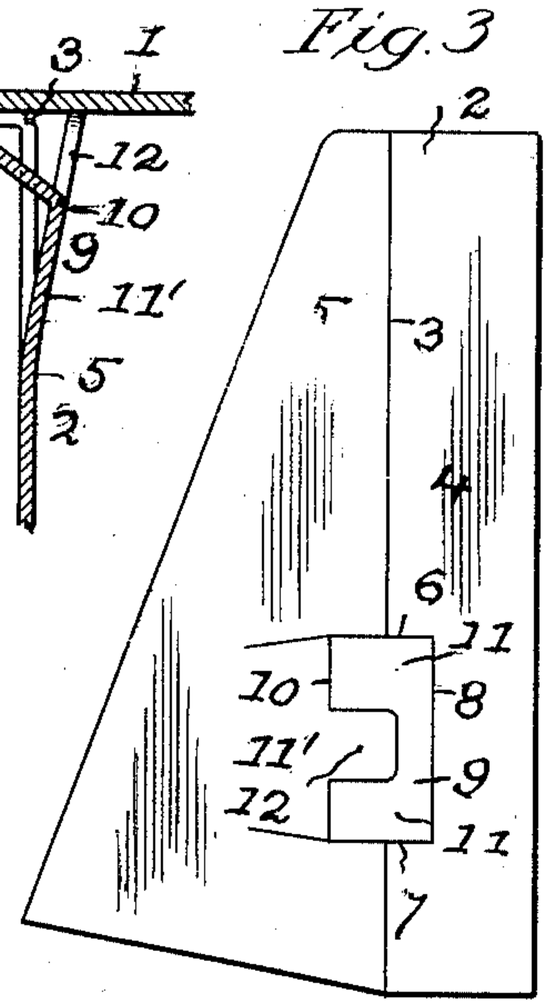


Fig. 4

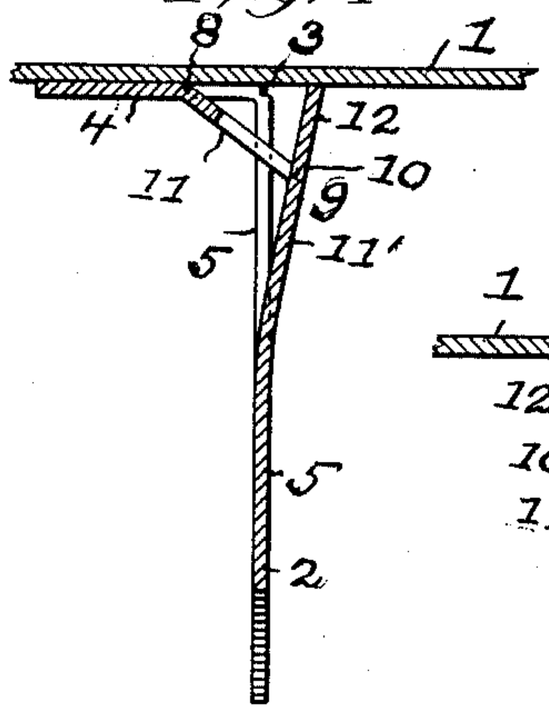


Fig. 6

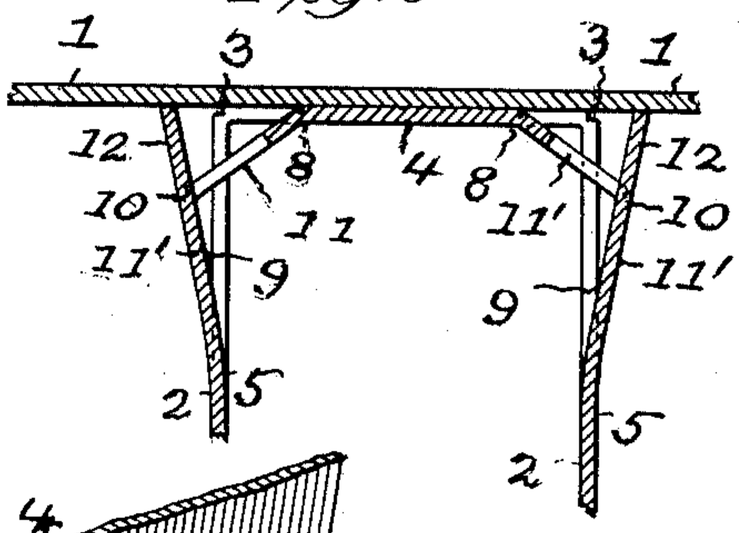
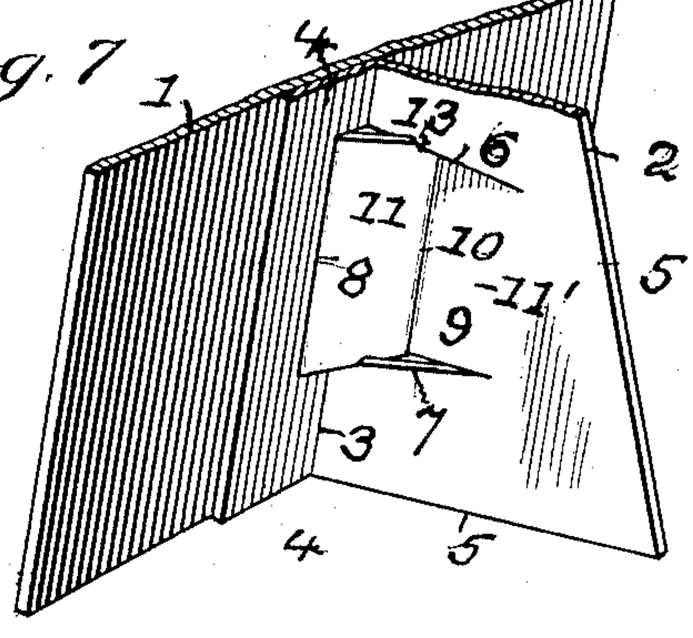


Fig. 7



Inventor:
Ellsworth I. Davidson
By Robert Burns,
Atty.

Patented June 5, 1934 1,962,089

UNITED STATES PATENT OFFICE

1,962,089

DISPLAY STAND

Ellsworth L. Davidson, Chicago, Ill., assignor to Mandell Manufacturing Co., Chicago, Ill., a corporation of Illinois

Application February 16, 1934, Serial No. 711,557

4 Claims. (Cl. 40—150)

This invention relates to that type of foldable display stands in which a main flat plate like member is adapted to be supported in an upright position by a hinged or articulated plate like member attached to the rear face of said main member and adapted to be swung into an approximately right angle relation to said main member to provide the desired support or prop for the main member in actual use. And this improvement has for its object:—

To provide an articulated structural formation of the prop or supporting member of the above mentioned type of display cards or stands, whereby the prop member is automatically locked in the desired angular relation to the main member as the prop member is moved from a compact contact position with the rear face of the main member into the required angular relation thereto all as will hereinafter more fully appear.

In the accompanying drawing:—

Fig. 1 is a rear perspective view of a display stand having this invention applied with the parts shown in a set-up condition for actual use.

Fig. 2 is a rear elevation of the same with the parts in a compact condition for shipment, etc.

Fig. 3 is an elevation of the brace member in a detached condition.

Fig. 4 is a transverse section on line 4—4 Fig. 2, with the parts shown in a set-up condition.

Fig. 5 is a similar view on line 5—5 Fig. 2.

Fig. 6 is a transverse section showing a twin arrangement of the brace members on a single main member.

Fig. 7 is a detail perspective view of a modified form of the locking means of the brace member.

Like reference numerals indicate like parts in the several views.

This invention is mainly applicable to the type of foldable display cards or stands in which the main portion or member 1, of flat sheet material and of any usual marginal shape, carries on its rear face a brace or prop member 2, usually of an approximately triangular shape and formed with a longitudinal crease or articulation 3 to provide a marginal side web 4 for fixed attachment to the rear face of the main member 1, with a view to admit of the other companion portion 5 being swung against the rear face of the main member 1 and into a position at right angles to the main member in the respective compact condition for shipment etc., and the set-up condition of the stand for actual use, and vice versa.

The material part of this invention involves in connection with a stand or structure above described, a formation of the brace member 2 by means of which it is automatically locked in proper angular relation to the main member 1 in an unfolding operation of the parts to attain a set-up condition of the stand, and to this end comprises a structural formation of said brace member 2, as follows:—

Midway its length the brace member 2 is formed with upper and lower transverse slits 6 and 7, which at one end extend a short distance into the aforesaid marginal attaching web 4 of the brace member, with the terminal ends of said slits connected together by a folding crease or articulation 8. The other ends of said slits 6, 7, extend a distance into the swinging portion 5 of the brace member 2.

The construction just described provides an intermediate portion or member 9 having the crease or articulated connection 8 aforesaid, with the fixed portion 4 of the brace member at one end and at the other end a semi-flexible or resilient connection with the swinging portion 5 of the brace member, and in this improvement the member 9 is formed with a folding crease or articulation 10 adapted to convert said intermediate portion 9 into a pair of toggle sections 11 and 11′ which in an unfolded condition of the stand as shown in Fig. 2, said toggle sections will lie flat and extended against the rear face of the main member 1 with a view to compactness in shipment, etc., and in the swinging movement of the portion 5 of the brace member into right angle relation to the main member 1 the toggle sections will be automatically flexed, as illustrated in Figs. 1, 4, 5 and 6 to constitute a portion of the holding means by which the brace member 2 is locked in a set-up position of the stand and in right angle relation to the main member 1.

In the preferred form of this improvement, as shown in Figs. 1 to 6 inclusive, the aforesaid intermediate member or portion 9 is slitted transversely to provide a central tongue or prong 12 individual to the toggle section 11′, with said tongue forming a rigid extension of said section with its free end adapted to abut against the rear face of the main member 1 in a set-up condition of the stand. In such construction and arrangement of the parts, a swinging movement of the brace member away from its position in contact with the main member 1, will automatically cause a flexing of the toggle sections 11, 11′, and bring the free ends of the tongue or prong 12 into bearing contact or abutment against the main member 1 to attain, without any additional

manipulation, a substantial locking of the brace member 2 in right angle relation to the main member 1 and in a set-up condition of the stand.

In a knock-down operation on the parts it is only necessary to manually push the prong or tongue 12 back from its above described locking position after which the brace member is free to swing against the main member.

The scope of this invention includes means equivalent to that above described for locking the toggle sections 11 and 11' in the described flexed condition. In Fig. 7 an instance of such means is shown and comprises a formation of the slits 6, 7, of the preferred construction, so that the same will incline towards each other in a direction towards the free edge of the brace member 2, with such formation being adapted to cause the toggle section 11 to frictionally bind against the edges formed in the brace member 2 by said slits in the flexing movement of the toggle sections, with said frictional binding engagement being increased, if so desired, by a shallow notch 13 formed in one or both of the edges formed by the slits 6 and 7.

Having thus fully described my invention, what I claim as new, is:—

1. A foldable display stand comprising a main plate like member, a folding brace member formed with a longitudinal and articulated side portion for fixed attachment to the rear of said main member and with a free portion adapted to swing into angular relation to said main member, a toggle member comprising a pair of plate like sections articulated together at adjoining ends, the other end of one section having resilient connection with the free portion of the brace member at a point removed from its articulated connection with the main member, and the other end of the other section having articulated connection with a fixed portion of the main portion of the main member at a point removed from the point of articulation between the main member and the free portion of the brace member, and means for locking said toggle sections in a flexed condition as they automatically assume a flexed condition in the movement of the free portion of the brace member into angular relation to the main member.

2. In a folding display stand as set forth in claim 1, and wherein the toggle sections are integrally formed with the other parts of the brace member.

3. In a folding display stand as set forth in claim 1, and wherein the locking means comprises a rigid tongue formed on the toggle section of the swinging portion of the brace member at the point of articulation with the companion toggle section.

4. In a folding display stand as set forth in claim 1, and wherein the locking means comprises a rigid tongue formed on the toggle section of the swinging portion of the brace member at the point of articulation with the companion toggle section, said toggle sections being integrally formed with the other parts of the brace member.

ELLSWORTH L. DAVIDSON.