Nov. 22, 1932. A. SPRUNG 1,888,246

STREET SIGN

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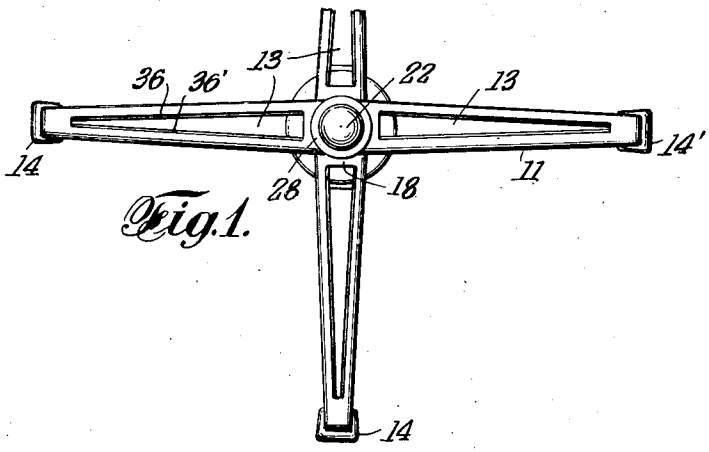


Fig. 1.

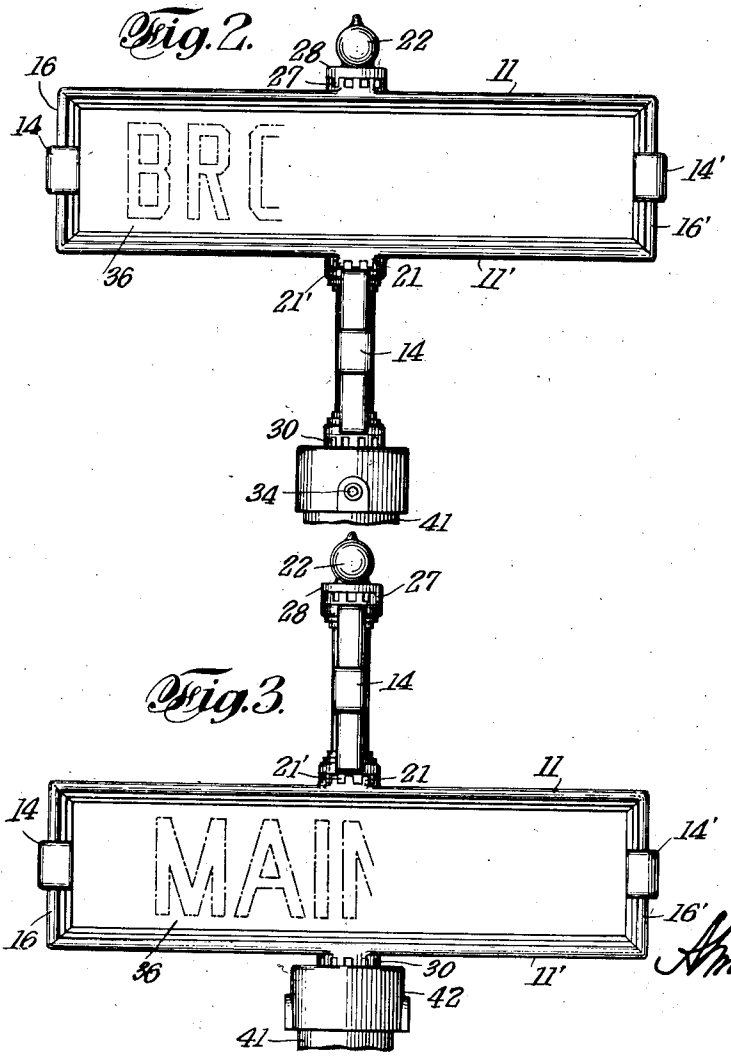


Fig. 2.

Fig. 3.

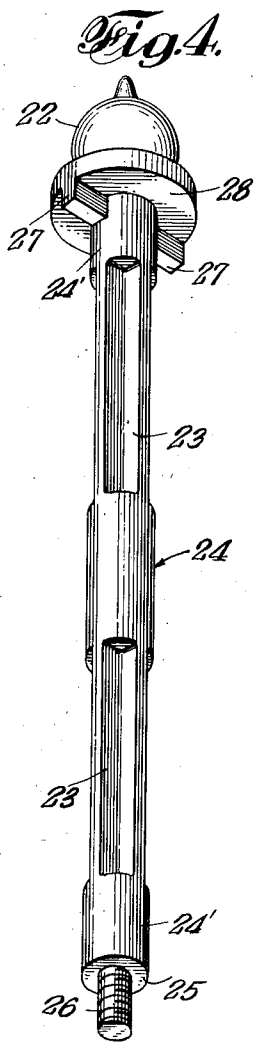


Fig. 4.

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Fig. 5.

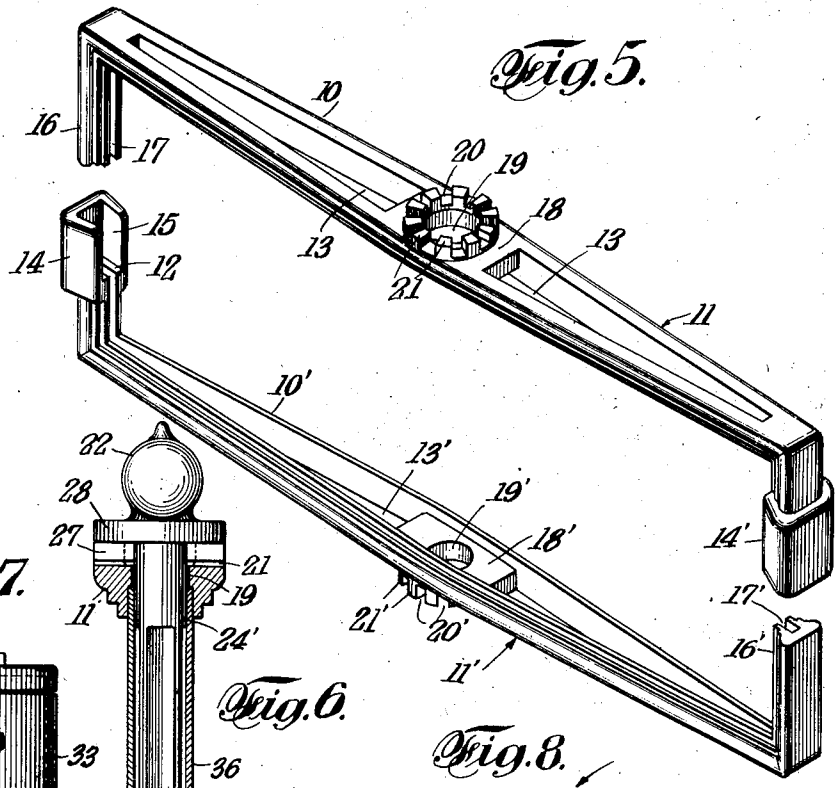


Fig. 7.

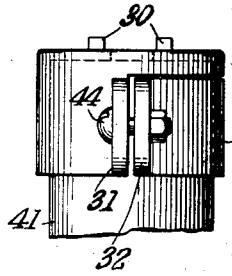
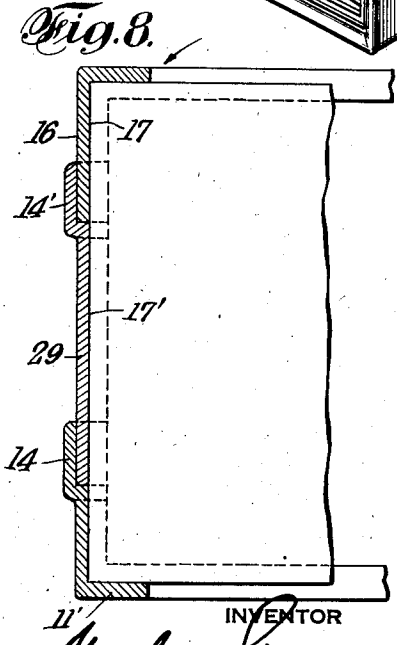


Fig. 6.

Fig. 8.



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Patented Nov. 22, 1932 1,888,246

UNITED STATES PATENT OFFICE

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STREET SIGN

Application filed June 8, 1932. Serial No. 615,966.

This invention relates to sign display devices for out-door use, and particularly, to the means for holding and supporting the sign plates in such devices.

Out-door signs, particularly, those used to designate streets or roads, and customarily used at street and highway intersections, while they must necessarily be made of comparatively inexpensive material, should nevertheless be durable, strong, and adapted for quick and easy assembly, replacement and repair with a minimum of labor.

Difficulties have heretofore been encountered with such devices which clamp or fasten the sign plates in place by reason of the damaging stresses on the sign plates occasioned by expansion and contraction and changing weather conditions. Since the individual sign plates are usually finished in either baked or porcelain enamel, stresses thereon caused by changes in temperature and weather frequently cause the enamel to chip and peel, particularly around the edges.

My invention therefore contemplates the provision of a holder for rigidly supporting sign plates in such a manner that the plates are permitted to expand and contract without restraint, whereby all possible stresses or strains thereon under the conditions of normal use are eliminated.

My invention further contemplates the provision of a simple, efficient and durable sign holder so constructed that it may be rapidly and economically assembled by unskilled labor, and without the necessity for using more than a single fastening element, and thereby eliminating the necessity for using a multiplicity of bolts, nuts, rivets, screws or other similar fastening means requiring skilled and expensive assembling.

My invention further contemplates the provision of interchangeable parts for the holder which can only be assembled in the proper relation, and when so assembled, are rigidly locked in place, while at the same time assuming the stresses on the holder and relieving the plates held thereby from all normal stresses and strains.

The various objects of my invention will be clear from the description which follows, and from the drawings, in which,

Fig. 1 is a top plan view of my invention as it appears assembled but with one of the plate-holding frames partly broken away.

Fig. 2 is a front elevation of the same.

Fig. 3 is a side elevation thereof.

Fig. 4 is a perspective view of the post on which the frames are assembled.

Fig. 5 is a perspective view on an enlarged scale of a pair of identical and interchangeable frame members adapted when assembled to form the finished frame, and showing the members vertically separated from each other.

Fig. 6 is a vertical central section of my invention showing the various parts assembled and in their operative positions.

Fig. 7 is a front elevation of a modified form of the means for clamping the holder to a supporting post therefor.

Fig. 8 is a vertical section of an end portion of one of the sign-holding frames, illustrating the use of a vertical spacer inserted between the frame members to increase the effective height of the frame, and thereby to permit the use of larger sign plates.

It will be understood in what follows that my invention may be advantageously employed at street intersections, and at any points on roads and highways where it is desired to post information such as distances, names, directions, or warnings, and particularly, where a supporting post or bracket can be advantageously used.

In the practical embodiment of my invention which I have illustrated by way of example, the supporting post or bracket may take the form of a tubular member 41, which may be firmly set into the ground, or which may constitute the end of a pipe or other bracket

supported in any convenient manner, and which is preferably arranged with its axis vertical. Secured to the upper end of the support 41 is a suitable cap 42, provided with a perforation or openings in its upper surface for the passage of the lower end of the post 24, and provided with suitable internally threaded openings 34 for the reception of set screws for clamping the cap to the post 41. The frame-supporting post 24 and the parts carried thereby are preferably first secured to the cap 42 whereafter said cap is arranged on the end of the supporting post 41 and secured in place together with the sign holder and sign plates carried thereby.

Suitable means are provided on the upper surface of the cap to permit the arrangement of the sign holding frames for proper visibility and to lie in the required plane. As illustrated, said means includes a pair of spaced lugs 30, designed to enter a pair of selected cooperating recesses in the serrated locking element 21 on the under side of the lower frame member 11′, as will be more fully explained hereinafter.

As shown in Fig. 7, the set screws passing through the cap to clamp it to the post 41 may be dispensed with. In this case, the cap 33 is split part-way along a circumferential line parallel to its top and is also partly vertically split to provide a yieldable portion thereon. The body portion of the cap, as well as the split portion, are each provided with a perforated outstanding lug, as 31 and 32 respectively, through the perforations of which is passed the bolt 44. It will be understood that on tightening the bolt, the cap is firmly clamped to the end of the post 41 whereby the parts carried by the cap are rigidly secured in place. Said cap 33 also carries a pair of spaced lugs 30 for the purpose hereinbefore mentioned in connection with the cap 42.

It will be understood that the caps 33 and 42 are perforated at their upper ends to permit the passage therethrough of the post 24. Said post (Fig. 4) terminates at its lower end in a constricted threaded portion 26 providing the shoulder 25 thereabove. The various frame parts and sign plates are assembled on the post in the manner soon to be described, and preferably, while the post is upside down, or in other words, with the threaded end 26 uppermost. Thereafter, the cap is arranged on the post with its top surface undermost and in engagement with the shoulder 25, and the lugs 30 arranged in the proper recesses 20′, the threaded portion 26 of the post passing through the perforation in the cap. The only fastening element needed, namely, the nut 35, with a suitable washer inserted thereunder, is then screwed on to the threaded portion 26 and tightened whereupon all the parts are in one operation rigidly assembled in the required positions thereof with the frames under compression, and the sign plates substantially unstressed, as will be pointed out in more detail hereinafter.

The various parts assembled on the post 24, and forming the holding frames for the sign plates 36 and 36′, will now be described. Each of said frames consists of two members preferably identical in construction and therefore, a description of one of the members will suffice for both. Each of the frame members 11, 11′ is preferably made of suitable inexpensive material such as malleable iron for purposes of economy, strength, durability and rigidity. The frame member may be of substantially U-shaped form, being provided with the cross bar 10 and the depending legs 16 and 14′, said legs being preferably shorter than the arm and of substantially half the desired height of the finished frame for the purpose of receiving rectangular sign plates. It will be understood, however, that one of the legs may be made longer than the other, if desired, as will be obvious, and that one leg may even be made long enough to form a substantially complete end on the finished frame. The legs and the arm are each provided with a preferably central groove 17. On the leg 10, said groove 17 communicates with the openings 13 which openings are separated, however, by the enlarged reinforcing or cross member 18. An opening or perforation 19 is made in the member 18 for the passage of the post 24. Surrounding the opening and outstanding from the member is a serrated locking element preferably in the form of a series of similar spaced outstanding lugs 21 separated by the radial recess 20.

It will be noted that the leg 14′ is provided with a recess for the reception of the terminal portion of the cooperating leg portion 16′ of the other frame member 11′. Said recessed portion may be enlarged if desired, but in any case, is of suitable shape and size to prevent longitudinal and lateral displacement of the frame members relatively to each other after the leg 16 has been inserted into the recess 15 of the member 14. A suitable shoulder 12 forms one end of the recess 15 and is adapted to abut against the corresponding end of the leg 16 to limit the telescoping movement of the frame members toward each other.

Before said members are assembled, however, the sign plates 36 and 36′ are arranged in their proper positions in one of the members. Since both of said members preferably taper from the central part 18 thereof towards their ends, the sign plates are consequently slightly bowed convexly outwardly. Each of the plates is merely arranged in the groove 17 with its long edges resting on one of the members 18′, and its ends resting against the upright sides of the grooves 17, 17′. The bowed position of the plate main-

tains it against rattling in the frame. Since the post 24 is inserted through the openings 19, 19′ and between the plates, it will be seen that said plates are maintained in spaced relation at least at their middle parts but are nevertheless free to expand and contract, the grooves 17, 17′ being made large enough for that purpose. It will also be seen that the sign plates can in no manner be stressed longitudinally or transversely, regardless of how tightly the frame members 11 and 11′ are assembled. It will further be seen that no fastening means of any kind are necessary to maintain the sign plates in their proper positions within the frame after they have been assembled therein and therewith.

The post 24 may be recessed at various portions of its length, as by means of the triangular recesses 23 in order to economize on material and to minimize the weight of said post. At its upper end, the post may terminate in a suitable ornamental head 22 under which is provided the integral plate or shoulder 28. Depending from the under surface of said plate are the radially arranged lugs 27, of such size and shape as to enter a selected, diametrically opposed pair of the recesses 20 in the locking element of the frame member 11. By means of this construction, the post 24 may be cast or otherwise formed of a single piece of material and quick and easy assembly of the parts attained. It will be understood that the frame member 11 may similarly be cast of a single piece of material, and that all of the frame members, as has been heretofore explained, are preferably identical in structure, size, and shape.

To assemble the frames and plates upon the post 24, said post is arranged substantially vertically, but with the end 22 thereof lowermost and the end 26 thereof uppermost. The frame member 11 is then carried down on the post, which is passed through the opening 19, the frame being turned about the post, if desired, until the lugs 27 enter the selected pair of recesses 20 to dispose the frame member at the desired angle to the post, though turning of the post is usually unnecessary. The plates 36 and 36′ are now bowed and inserted into the groove 17 and on opposite sides of the post (Fig. 6). The frame member 11′ is now similarly passed about the post which passes through the opening 19′ of the member, and the legs 16, 16′ inserted into the recesses 15 of the respective legs 14 and 14′, the edges and ends of the plates entering the groove 17′ of said member.

Where a second sign frame is used, the upper member 11 thereof is now passed about the post and turned in a horizontal plane into the proper position, whereby the lugs 21 of the locking element thereof enter the selected recesses 20′ of the locking element of the frame member 11′ to hold the upper and lower frames in their required angular relation whether at right angles or not. The plates of the second frame are now inserted into position, and the frame member 11′ also arranged on the post 24 in the manner hereinbefore described. Finally, the cap 42 or 33 is passed about the post with the lugs 30 entering the selected recesses 20′ of the locking element of the frame member 11′, whereafter all the parts are rigidly, quickly and easily secured and compressed together by means of the nut 35, the plates 36 and 36′ remaining free of compressive stress.

It will be understood that on tightening said nut, the frame members 11 and 11′ are drawn toward each other until the ends of the legs 16, 16′ abut against the walls 12 of the recesses 15. The entire holder thus assembled with its cap may now be reversed into its proper upright position, and arranged on the post 41, as has been hereinbefore described.

It will be seen that it becomes impossible by reason of my invention to assemble the parts improperly since said parts can fit together in only one way. It will further be seen that it becomes unnecessary to designate or mark the parts in any manner since the members 11 or 11′ are preferably identical, and it therefore becomes immaterial which one of said members is arranged uppermost or lowermost. It will further be seen that weather conditions cannot affect my new holder since the openings 13 therein permit rain, snow, dust, sleet and other foreign matter to drop out of the holder without adversely affecting the sign plates held thereby.

Should it be desired to adjust the frame for the purpose of taking signs of greater height than those normally intended therefor, a suitable spacer of the desired height may be interposed between the legs 14 and 16. As shown in Fig. 8, said spacer takes the form of a leg portion of the desired length and identical in size and cross-sectional shape to that of the leg 16, and a terminal recessed portion 14′ identical in shape and size to that of the corresponding leg 14′ of the frame member. It will be understood that when the frame members and spacer are assembled, the leg portion of the spacer enters the recess of the leg 14 of one frame member, and the end thereof abuts against the wall 12 of the recess 15. The other end of the spacer receives the leg 16 of the other frame member since it is provided with a recess 15 identical with the recess in the leg 14 of the frame member.

It will be seen that I have provided a simple and inexpensive sign holder, capable of being rapidly and correctly assembled by unskilled labor, that only a single fastening operation and fastening member is required

to rigidly secure the parts together ready for the attachment thereof to its supporting post, that the sign plates are held thereby loosely and without danger of stress or strain thereon such as would cause chipping of the enamel, that the parts need not be assembled in any particular manner or order since they are interchangeable and therefore readily capable of ready and quick replacement and assembly and disassembly for use or for repair, that there can be no accumulations of foreign matter therein tending to affect the useful life thereof, and that I have produced a device well adapted to meet the severe requirements of practical use.

While I have shown and described certain specific embodiments of my invention, it will be understood that I do not desire to limit myself thereto, but intend to claim my invention as broadly as may be permitted by the state of the prior art and the scope of the appended claims.

I claim:

1. In a sign holder, a frame comprising a pair of transversely separable members, a locking element integral with each of the members, a post passing through said members, and a locking element on the post adapted to cooperate with the locking element of one of the said members to lock the frame to the post.

2. In a sign holder, a pair of sign-holding frames, each consisting of a pair of similar transversely separable members, a locking element integral with each of the members to lock the frames together, means for urging said members towards each other, a support for the frames, and means for locking each of the frames in a predetermined plane to the support.

3. A sign holder, a frame comprising a pair of transversely separable frame members each forming a horizontal side and a portion of each of the vertical ends of the frame, a spacing member arranged between the adjacent ends of the frame members, means on each of said vertical end portions adapted to engage the spacing member, a post passing through said frame, and a locking element at the extremity of the post adapted to compress and lock all the members together.

4. In a sign, a plurality of sign frames arranged in vertical relation, each consisting of a pair of similar vertically separable one-piece members having vertically aligned apertures therein, an upright passing through the apertures, and means to compress and lock the members in angularly adjustable relation.

5. In a sign holder, a first one-piece frame member, a second similar one-piece frame member arranged transversely of and cooperating with the first member to form a frame therewith, a sign plate inserted within the frame, means for urging said members together including a post passing completely through the members and transversely through the frame and a fastening element on the post, and stop means forming part of the members for limiting the movement of the members toward each other to prevent stresses and strains on the plate.

6. In a sign holder, a frame member forming part of the frame, an identical frame member cooperating with the first-mentioned frame member to form a frame therewith, said frame members being arranged in opposed, inverted and reversed relation, means for preventing relative movement of the members except transversely of and outwardly of the frame, and means for urging said members inwardly toward each other including a post passing completely through the members and transversely through the frame, and a fastening element on the post.

7. In a sign holder, a pair of identical members arranged in transverse opposed, inverted, and reversed relation, said members being each provided with a continuous plate-receiving groove therein, means for urging said members toward each other, including a post extending through and between said members, a shoulder at each end of the post, and a fastening element on the post and a plate fitted into the grooves of said members and having its entire peripheral portion protected by the walls of the grooves, and of insufficient dimensions to receive stresses on the expansion and contraction thereof, the fastening element cooperating with one of the shoulders of the post to limit the force with which the members can be drawn together.

8. In a sign holder, a pair of identical members arranged in transverse, opposed, inverted, and reversed relation, each of said members having a perforation therein and being provided with a pair of parallel, continuous, spaced, plate-receiving grooves, a post passing through the perforations of and through said members, a shoulder on the post, a nut screwed to the end of the post for compressing said members between the shoulder and the nut, and a pair of plates arranged in the grooves of said members and on opposite sides, respectively, of said post.

9. In a sign holder, a frame comprising a pair of transversely separable members, means on said members for limiting the transverse movement of said members toward each other, a supporting post passing through the frame, a locking element on and integral with the post, and a locking element on and integral with at least one of said members adapted to engage the locking element of the post and to lock the frame in predetermined angular relation to the post.

10. In a sign holder, a pair of identical transversely separable members, means including a post passing through said members for detachably maintaining said members in assembled relation and for locking the members in operative position to form a frame of predetermined width, and a sign plate removably inserted into the frame and maintained therein free of compressive stresses, said width and said locking means being independent of the sign plate.

11. In a sign holder, a frame comprising a pair of transversely separable members, a serrated locking element on and integral with each of the members, a post passing through said members, and a locking element on the post adapted to cooperate with the locking element of one of said members to lock the frame to the post, the locking element of the other of said members being adapted to engage a similar locking element of a second frame to maintain the frames in predetermined angular relation.

12. In a sign holder, a two-piece frame comprising a pair of transversely separable members, a serrated locking element on each of the members, and means for urging said members toward each other and for locking the frame in a predetermined plane, said means including a pair of lugs adapted to engage the locking elements of each of the members.

13. In a sign holder, a first one-piece frame member adapted to form an edge and part of the ends of a sign holding frame, a second similar member adapted to cooperate with the first member to form the frame, each of said members comprising a perforated and internally grooved arm, a grooved leg outstanding from one end of the arm, and a second grooved leg outstanding from the other end of the arm and provided with an enlarged terminal portion having a recess of substantially the same cross-sectional size and shape as that of the first-mentioned leg.

14. In a sign holder, a U-shaped, one-piece frame member adapted to form one side and parts of the ends of a frame, a second similar member adapted to cooperate with the first-mentioned member to form the frame, each of said members having a central perforation therein, and a locking element on and integral with the member surrounding the perforation.

15. In a sign holder, a U-shaped frame member having an elongated arm and a leg depending from each end of the arm, said member being provided with a plate-receiving groove and with spaced openings in the arm thereof for the passage of foreign matter therethrough, and with a central perforation between the openings, one of said legs being provided with a recess adapted to receive a leg of the shape of the other leg, means on the arm for locking said arm in adjusted position on a support, and a similar member cooperating with the first-mentioned member to form a complete frame therewith.

16. In a sign holder, a first frame member, a second similar frame member cooperating with the first member to form a complete frame, each of said frame members comprising an elongated arm having a pair of spaced openings therein and having a central perforation between the openings and having a longitudinal plate-receiving groove therein, a leg outstanding at substantially right angles to and from one end of the arm and having a plate-receiving groove therein continuous with the groove of the arm, and a second leg outstanding from the other end of the arm and similar in cross-section for at least part of its length to the first-mentioned leg, said second-mentioned leg having a recess at the end thereof for the reception of a leg similar in shape and size to the first-mentioned leg, and a wall at the inner end of said recess adapted to serve as stop means for determining the position of the leg entering the recess.

17. In a sign holder, a frame member, an identical member cooperating with the first-mentioned member to form a frame, a supporting post passing through said members, and identical means on each of said members for engaging part of the other member to prevent relative longitudinal and lateral movement of said members.

18. In a sign holder, a frame member including an arm constituting one side of a frame, a leg outstanding from an end of the arm constituting part of one end of the frame, a leg outstanding from the other end of the arm and constituting part of the other end of the frame, a second identical frame member, means on the second-mentioned leg adapted to receive a leg of said second member of the shape and size of the first-mentioned leg for preventing relative movement of said members in any direction except transversely, and away from each other when assembled, and means passing through the members for maintaining the members in assembled relation to form the frame.

19. In a sign holder, a first one-piece frame member, a second similar member adapted to engage the first member to form a frame therewith, said members each comprising a perforated portion forming one part of the frame, and a pair of projections outstanding from the respective ends of the arm and each forming part of an end of the frame, one of said projections being of uniform cross-section throughout, and the other of said projections being provided with a recess of the same cross-sectional shape as that of the first-mentioned projection.

20. In a sign holder, a pair of similar frames arranged in vertical relation, each comprising a pair of transversely separable

members, each of said members being of U-shaped form and of a single piece of material and having a pair of spaced openings therein for the passage of foreign material therethrough and having a central perforation between the openings, a serrated locking element on each of the members surrounding the opening, means on each of the members for limiting the transverse movement of the members of the pair toward each other, a post passing through the perforations of said members, a pair of diametrically opposed lugs at the upper end of the post adapted to engage the locking element of the uppermost member, a similar pair of lugs adapted to engage the locking element of the lowermost member, and a single nut at the end of the post adapted to compress the frames between said pairs of lugs, the adjacent locking elements of said frames being adapted to interlock to maintain said members in predetermined angular relation.

21. In a sign holder, a sign-holding frame comprising a pair of transversely separable frame members, each forming a side and at least part of an end of the frame, and each provided with a terminal recess, a post passing through the members, means on the post for urging the members toward each other, and a spacing member having a portion adapted to enter the recess of one of the frame members and a portion to receive the cooperating part of the other of the frame members to maintain said frame members in predetermined spaced relation and cooperating with the frame members to form the complete frame.

22. In a sign holder, a sign-holding frame comprising a pair of transversely separable frame members, each of said frame members having a terminal wall at one end thereof, and being provided at the other end thereof with a recess of the same cross-sectional shape and size as that of said one end, a wall forming one end of the recess and adapted to engage the said terminal wall of the other frame member whereby the engagement of said walls of said members determines the relative positions of said frame members and determines the size of the frame, a support for said members passing completely therethrough, and means on said support for urging said members together to carry the end walls of said recesses into contact with the terminal walls of the members.

23. In a sign holder, a sign-holding frame comprising a pair of transversely separable frame members, each of said frame members being provided at one end with a recess, the non-corresponding end of the other member entering and coacting with the recess to position the members relatively to each other, a wall forming one end of the recess, a second wall at the other non-corresponding end of the member, and means for urging said members together to carry the said end wall of each member into contact with the end wall of the recess in the other member.

24. In a sign holder, a sign-holding frame comprising a pair of transversely separable frame members, each of said members being provided at one end with a terminal recess of the same cross-sectional shape and size as that of the other end of the member, a spacing member having one end thereof of the same cross-sectional size and shape as that of said other ends of the frame members and being provided with a recess at the other end thereof of the same cross-sectional size and shape as that of the first-mentioned one end of the spacing member, said first-mentioned end of the spacing member being arranged in the recess of one of the frame members, and the recess of the spacing member receiving said other end of the other frame member.

25. In a sign holder, a sign-holding frame comprising a pair of transversely separable frame members, a spacing member adapted to enter the end of one of the frame members and adapted to receive an end of the other frame member, a supporting post passing through said frame members, and means on the post for clamping the frame members together with the spacing member therebetween.

26. In a sign holder, a first one-piece frame member having openings therein for the passage of foreign material and provided with a recess at one end thereof, of the same cross-sectional shape and size as that of the other end of the member, a second identical frame member cooperating with the first member to form a frame therewith, the un-recessed end of each of the members being fitted into the recess of the other member, stop means forming part of at least one of said members for determining the relative operative positions of said members and means for locking said members together including a post passing through said members.

27. In a sign holder, a sign-holding frame comprising a pair of transversely separable and similar frame members, said frame members being loosely fitted together, a sign plate carried by said frame, and means for locking said members together independently of the plate, including a post passing completely through said members.

28. In a sign, a plurality of sign frames arranged in vertical relation, each comprising vertically separable members, means on and integral with each of the members to angularly interlock the frames, a central post passing through the frames, means for compressing the frames and for locking the member together, and shoulder means on said post cooperating with said compressing means to limit the compressive action of said compressing means.

29. In a sign holder, a grooved frame, sign

plates loosely fitted into the grooves of said frame, said frame comprising a pair of vertically separable upper and lower members, a central post passing through said members, and means for compressing the members independently of the plates comprising stop means fixed to one end of the post and engaging one of the outermost frame members, and locking means at the other end of the post for compressing the members together to rigidly lock said members.

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