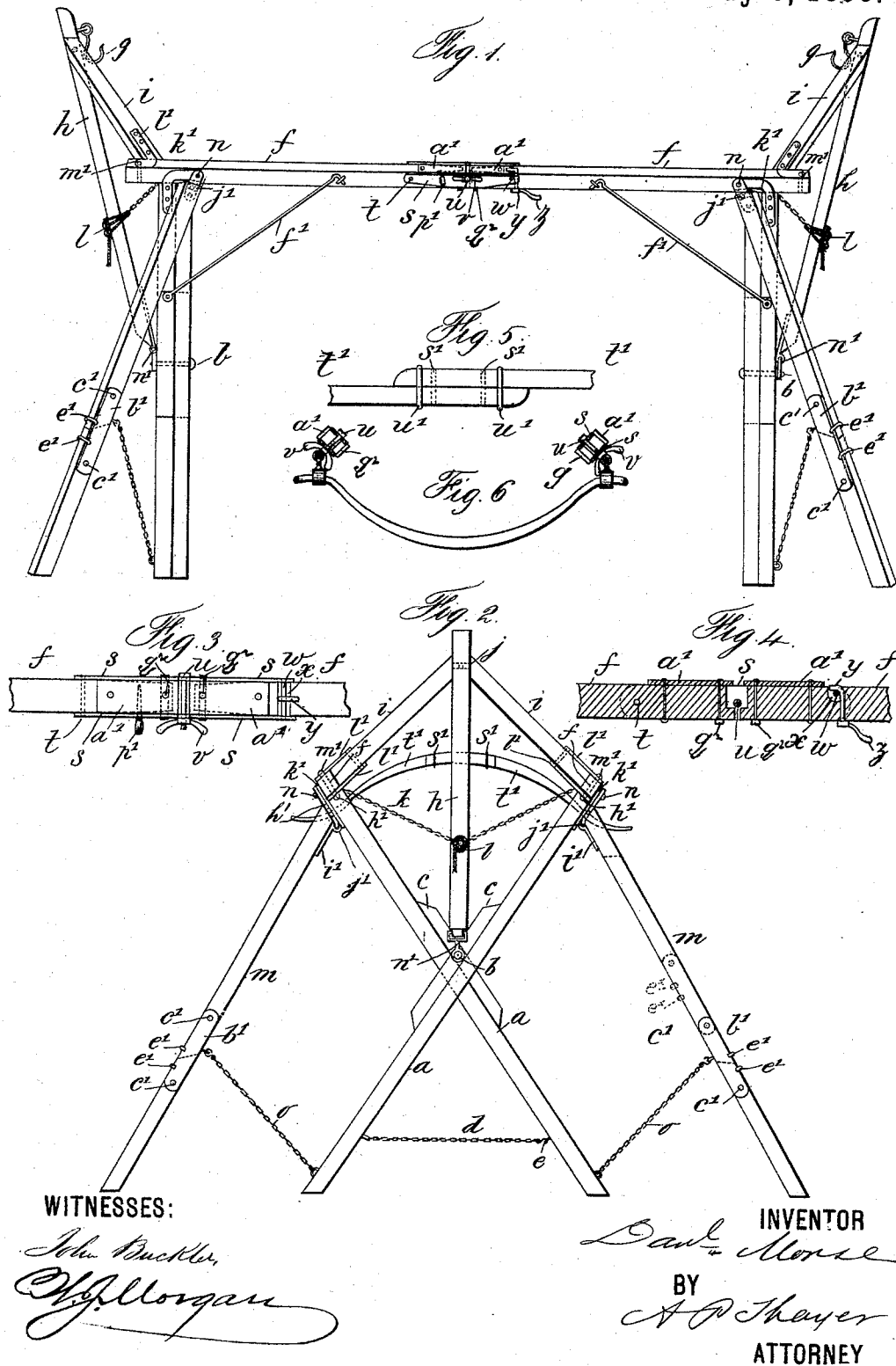


(No Model.)

D. MORSE.
FOLDING HAMMOCK SUPPORT.

No. 497,282.

Patented May 9, 1893.



UNITED STATES PATENT OFFICE.

DANIEL MORSE, OF NEW YORK, N. Y.

FOLDING HAMMOCK-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 497,282, dated May 9, 1893.

Application filed June 29, 1892. Serial No. 438,400. (No model.)

To all whom it may concern:

Be it known that I, DANIEL MORSE, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Folding Hammock-Supports, of which the following is a specification.

My invention consists in an improved construction of portable folding hammock supports whereby it is designed to provide simpler and at the same time better apparatus of the kind and more convenient for packing and carrying than as at present in use, all as hereinafter fully described reference being made to the accompanying drawings in which—

Figure 1, is a side elevation of my improved hammock support. Fig. 2, is an end elevation. Fig. 3, is a plan view. Fig. 4, is a longitudinal section of a detachable joint of the longitudinal bars on an enlarged scale. Fig. 5, is a detail showing a detachable joint of a yoke for elevating the awning, also enlarged, said yoke being shown in position in Fig. 2. Fig. 6, is a transverse section of the longitudinal bars and side view of the awning stretching bow and its attaching devices, the bow being suspended preparatory to being swung up under the canvas.

Two legs *a*, for the support of each end of the apparatus are pivoted together at the middle by the pivot *b*, so as to swing open crosswise when set up for use, as shown in Fig. 2, the pivot being mounted in re-inforcing cleats *c*, attached to the legs to facilitate the mounting of the pivot without weakening the legs, the legs being made slender as is consistent with the requisite strength for lightness. Near the lower ends of the legs a stop chain *d*, or it may be a cord connects the legs of each pair to limit the extent of opening of the legs. It is detachably connected to one leg as by the hook and staple at *e*, to enable the chain or cord to be utilized for tying the parts together when packed in a bundle for transportation as are other chains or cords, also, to be described farther on.

The legs support at their upper ends the parallel longitudinal side bars *f*, and have hook braces *f'*, connecting them with the side bars, and these bars connect the pairs of legs

and serve for struts to oppose the stress of the hammock to be suspended from the hooks *g*, supported above and to some extent beyond the extremities of the side bars and the upper ends of the legs, by the posts *h*, supported at their lower ends on the pivots *b*, and projecting upward and outward in the central longitudinal vertical plane of the apparatus a suitable distance above the tops of the legs, and stayed at the upper end by the diagonal braces *i*, jointed at the lower ends to the side bars respectively, and at the upper ends connected to the posts by dowel pins *j*. A binding chain or cord *k* is attached to one of the side bars and stretched along side of the post and tied thereto by a cord *a²* drawn around it and the post under the stop *l* to bind the ends of the apparatus firmly together by straining the posts, side bars and diagonal braces in opposing relation to each other. These chains or cords *k*, also serve for binders to tie the parts together when folded. Two diagonal braces *m*, are also provided for each end of the apparatus, said braces being pivoted to the side bars *f*, along with the legs and by the same pivots *n*, by which the legs are pivoted; they are sufficiently longer than the legs to have greater lateral extension on the ground for braces, and have stop chains or cords *o*, connecting them at a considerable distance above the ground with the legs at or near the ground so that the pull of the chains or cords opposing lateral spread of the braces tends to cause firm bearing of the braces on the ground. These chains or cords *o*, being also detachable at one end are utilized for tying parts of the folded bundle together. The parallel bars *f* are detachably pivoted together at the middle to be separated for folding in a short bundle or in two separate bundles if desired.

For a simple, cheap and substantial joint for this purpose I taper the meeting end portions of the two members of said bars sidewise slightly as shown by the dotted lines *p* in Fig. 3, and recess the upper sides of said ends as shown at *q*, Fig. 4, and provide the yoke coupling consisting of two flat plates *s*, pivoted to the sides of one of said parts of the bar at *t*, said plates having the clamping bolt *u*, provided with a thumb nut *v*, at one end extending through said plates at the middle or there-

about, and near the other end and upper edges of said plates having a stay rod *w*, extending through them, which when the two parts of the bar are placed end to end for being connected drops into the notch *x*, in the upper side of the part of the bar not having the yoke pivoted to it, where it is locked by the head of the key *y*, having the shank extending through the bar and provided with a handle *z* at the under side of said bar for turning it; the clamping bolt *u* at the same time drops into the notch provided for it at the ends of the two parts of the bars by the recesses *q*, and the power edges of the plates *s*, come to rest on the projecting ends of the heads of T headed bolts *q*² at the under sides of the side bar. Together with this yoke the plates *a'*, are firmly attached to the end portions of the two parts of the bar respectively at the upper sides partly by the said T bolts, said plates being the full width of the said parts of the bar but not quite meeting at the ends, so that when the ends of the parts of the bar are butting together the clamp bolt may drop into the recesses.

When the yoke is adjusted and secured by the key and the clamp bolt screwed up tight, the plates *s* of the yoke are sprung under the edges of the plates *a'*, and between said edges and the heads of the bolts *q*², against the taper sides of the two parts of the bar over which the edges of plates *a'* project, and thus the joint splicing of the two parts of the bar is made tight and firm merely by turning the key *y* and screwing up the thumb nut of the clamp bolt *u*, after the parts have been placed in position and they are unfastened with like facility by reversing the key and unscrewing the thumb nut. The braces *m* which are longer than the legs are also made in two parts with a folding joint. This joint consists of two plates *b'* pivoted to the opposite sides of both the parts respectively as at *c'* with a stop *e'* in the outer edge of each part to lock the parts when extended; the dotted lines at *g* Fig. 2, indicate the manner of the folding of the joint. The braces *m* have a kind of universal joint connection with the parallel bars, being adapted to swing on the pivots *n*, lengthwise with said bars, and being coupled to said pivot by the plates *h'* and *i'*, jointed together at *j'* so as to swing at right angles thereto which facilitates folding the apparatus and also adjusting it on uneven ground.

The legs are jointed to the bars *f*, by an angle plate *h'* attached to the leg and pivoted to the bar at one side of each allowing them to fold flat against each other and so that when set up for use the bar rests on the end of the leg.

The diagonal braces are jointed to the side bars by two such angle plates *l'* applied at opposite sides of the bar, and they are pivoted near the end of the bar at *m'*, so that the braces have foot rest on the side of the bar when set up for use, and they fold around or over the end of the bar against the braces

when packed for transportation. The posts *h*, are also mounted by universal motion couplings as *n'*, facilitating their adjustment for use and folding for transportation.

For an awning support along the middle portion the awning being spread over the parallel bars, and mainly supported by them, I employ one or more bows as in Fig. 2, said bow having hooks *o'*, by which to connect it to the bars in a hanging position under them with the bow downward, by connecting the hooks with eyes *p'* attached to the sides of the bars *f*. The hooks are connected to the bow by rings *q'*, in which the bow can turn, and the bow is adjusted by swinging it upward from the hanging position under the canvas the friction of which keeps it in the position holding up the canvas between the bars *f*.

While the bow may be made in one long piece it is preferable to make it in two parts connected at the middle detachably for packing and I therefore so construct it by fitting the parts to overlap each other for a suitable length with dowel pins *s'* and rings *w'*, to hold the parts together.

Instead of the chains which I have represented in the drawings for staying some of the parts and for binding them when folded up, I may use cords as I have before stated.

I am aware that portable folding hammock supports have been constructed in various different ways, some of which are shown in the patents to Hussey, No. 382,648; Boyum, No. 435,793, and Ferguson, No. 362,223, and I only claim the particular improvements which I have specified in the construction of such hammock supports, it being the essential purpose of my invention to provide a light strong frame in which two parallel bars each made in two parts detachably connected at the middle may be supported at a suitable height and distance apart for suspending the hammock below and between them from supports at a considerable altitude above said bars, and so that by detaching said parts of the parallel bars at the middle the respective end portions of the frame consisting of the parts of the two side bars, two legs and the braces for the legs may each be folded into a small light short bundle of pieces all lying side by side and all being jointed together enabling the whole structure to be readily transported by one person carrying a bundle in each hand.

I claim—

1. The combination of two parallel side bars, two supporting legs at each end pivoted together crosswise and jointed to the side bars for folding together with them, the diagonal lateral braces universally jointed to the side bars near the ends, and the stop chains or cords connecting said braces with the legs in the relation adapted to apply the stress downward on the braces substantially as described.

2. The combination of parallel side bars, supporting legs at each end pivoted together

crosswise and jointed to the side bars for folding together with them, the diagonal lateral braces universally jointed to the side bars near the ends, the stop chains or cords connecting said braces with the legs in the relation adapted to apply the stress downward on the braces, said side bars having the detachable joints at the middle or thereabout and the braces having the folding joints substantially as described.

3. The combination of the parallel side bars, supporting legs at each end pivoted together crosswise and jointed to the side bars for folding together with them, the diagonal lateral braces jointed to the side bars near the ends, the stop chains or cords connecting said braces and legs, the hammock suspending posts supported on the legs and the diagonal braces to said posts substantially as described.

4. The combination of the parallel side bars, supporting legs at each end jointed together crosswise, and jointed to the side bars for folding together with them, the hammock suspending posts supported on the legs, the diagonal braces to said posts and the binding chains or cords connecting the posts and side bars substantially as described.

5. The combination of the parallel side bars, supporting legs at each end jointed together crosswise and jointed to the side bars for folding together with them, the hammock supporting posts universally jointed to the legs, the diagonal braces to the posts and the binding

ing chain or cord connecting the posts and side bars substantially as described.

6. The combination of the parallel side bars, supporting posts for the ends and the awning supporting bow, said bow suspended under the side bars and adapted to be turned upward in its supports between and in projections above the parallel bars under the awning spread on the side bars substantially as described.

7. The diagonal braces for the awning supporting posts jointed to the side bars near the ends by the angle plates placed at opposite sides of the braces and side bars, and adapted for the foot rests of the braces on the side bars, and also for folding over the ends of the side bars and against the other sides of the same substantially as described.

8. The detachable joint for the side bars, consisting of the yoke of side plates pivoted to one of the parts, and having the stay bolt lodging in the notch of the other part the fastening key, the taper sides of the side bars, top plates on the side bars overlapping the edges of the yoke plates, and the clamp bolt in the yoke plates substantially as described.

Signed at New York city, in the county of New York and State of New York, this 31st day of May, 1892.

DANIEL MORSE.

Witnesses:

W. J. MORGAN,
W. B. EARLL.