S. R. SMITH.

COLLAPSIBLE BED STRUCTURE.

APPLICATION FILED JULY 21, 1919.

1,374,531.

Patented Apr. 12, 1921.

2 SHEETS—SHEET 1.

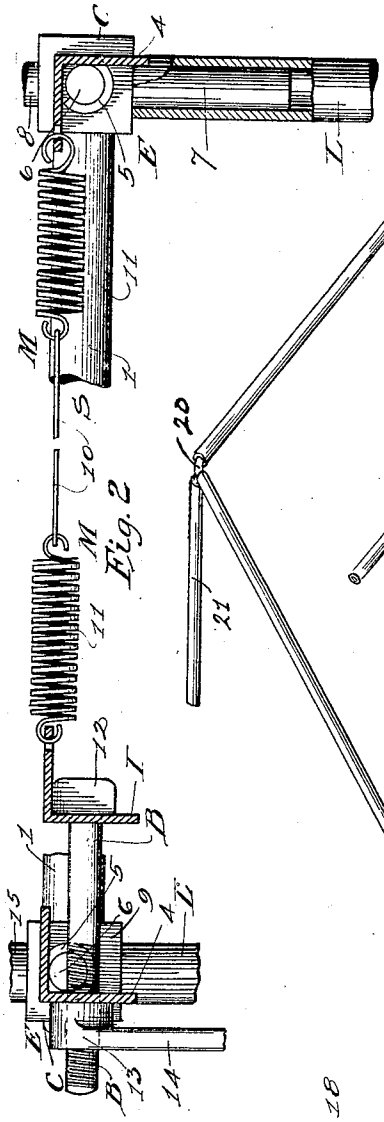


Fig. 2

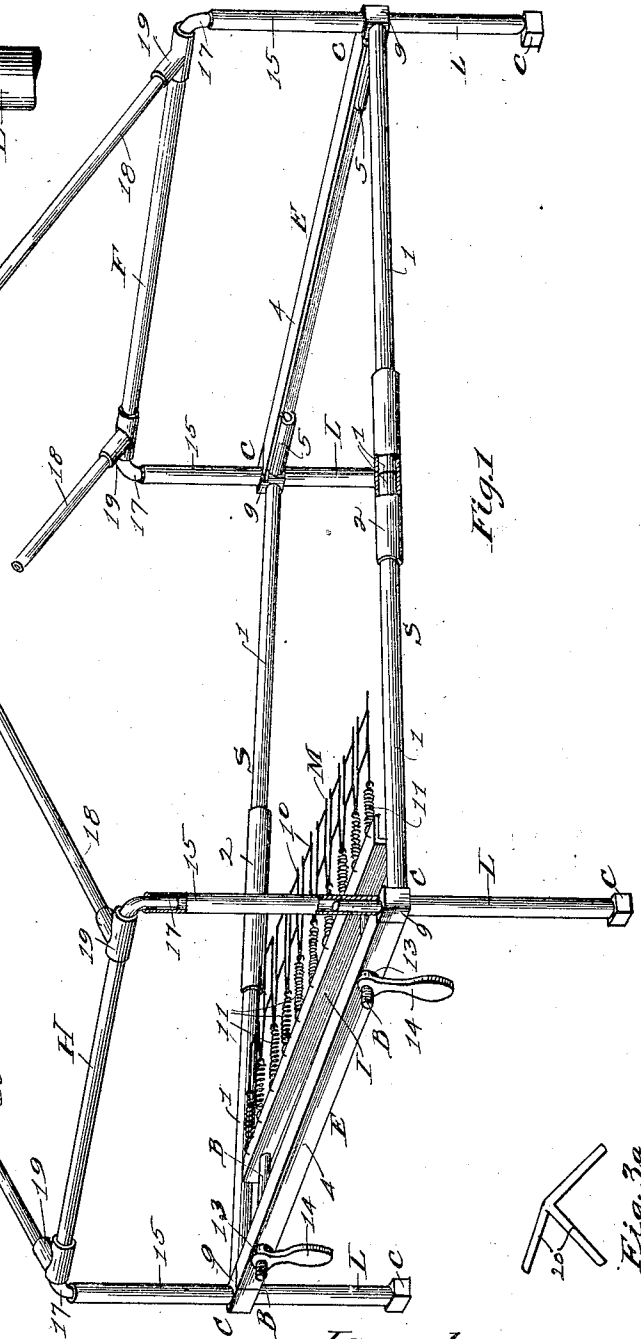


Fig. 1

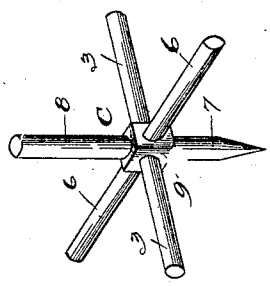


Fig. 3

Fig. 3a

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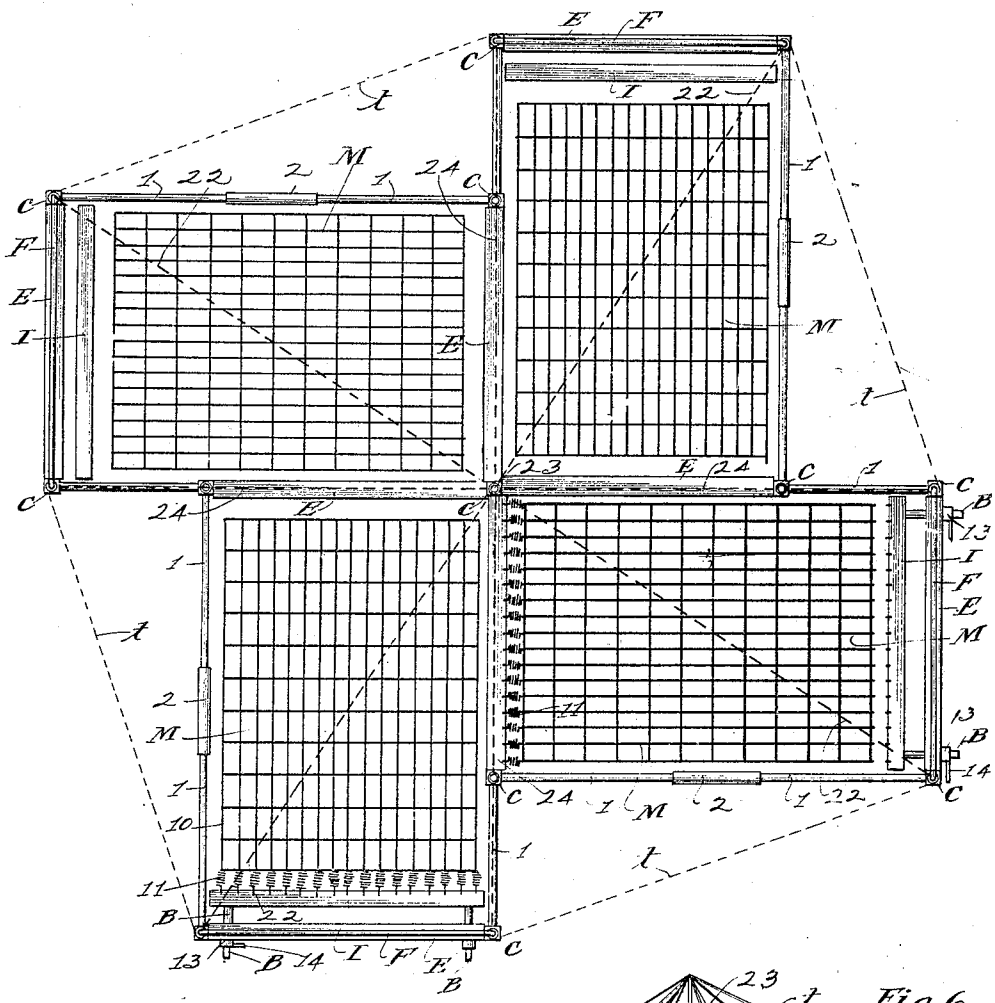
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2 SHEETS—SHEET 2.

Fig. 5



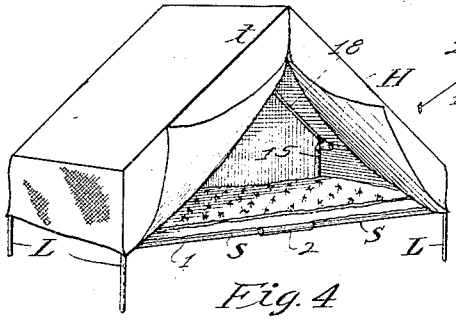
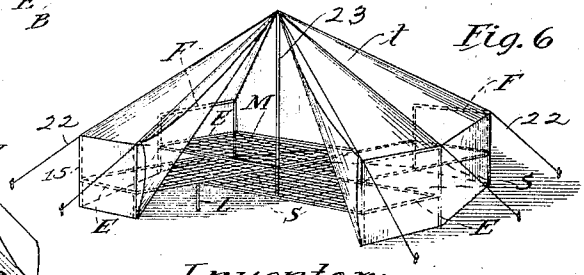


Fig. 4

Fig. 6



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UNITED STATES PATENT OFFICE.

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COLLAPSIBLE BED STRUCTURE.

1,374,531. Specification of Letters Patent. Patented Apr. 12, 1921.

Application filed July 21, 1919. Serial No. 313,103.

To all whom it may concern:

Be it known that I, SAM R. SMITH, a citizen of the United States, and a resident of Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Collapsible Bed Structures and the like, of which the following is a specification.

This invention relates to beds and the main object is to provide a collapsible bed of a character capable of being readily transported in compact form in an automobile or other vehicle and supported for use either on or apart from the vehicle, together with means for supporting a tent or covering of suitable and ample dimensions over the bed.

An object is to provide a structure which has sectional side and end rails, and legs which are adapted to be quickly and easily assembled together for use and when so assembled may be held sufficiently rigid to insure the comfort and safety of the occupant.

A further object is to provide a bed of the character referred to in which the bed proper, or springs, may be adjustably supported for increasing or decreasing the tension thereof according to the weight of the occupants, thus providing resiliency in the springs in desired degrees and rigidity in the supporting frame.

A further object is to provide a bed structure which by the duplication of some of the main parts may be utilized for forming a multiple bed tent capable of use for housing and serving an entire family, the entire structure being readily assembled and disassembled as in the case of a single bed and carried in compact form on a vehicle. Other objects may appear as the description progresses.

I accomplish the above objects by means of the structure illustrated in the accompanying drawings, forming a part of this application, in which similar characters of reference are employed for indicating the same or like parts. In said drawings:

Figure 1 is a perspective view of a single bed in which my improvements are shown.

Fig. 2 is an enlarged section of the same, taken longitudinally of the bed.

Figs. 3 and 3ª are perspective views of different forms of corner connectors for holding the members of the bed together.

Fig. 4 is a perspective view of a combined bed and tent in which the structure shown in Fig. 1 is employed.

Fig. 5 is a plan of a multiple bed arrangement in which the parts of Fig. 1, are duplicate and slightly rearranged for providing four beds symmetrically arranged about a common point.

Fig. 6 is a perspective view of a combined bed and tent of the form and character shown in Fig. 5.

In the consideration of this invention, reference is had to my former application for bed structures, filed April 18, 1919, Serial Number 292,490.

For camping purposes especially, a bed structure should be collapsible and composed of as few parts as will be consistent with comfort, safety and convenience, and to this end I have provided a structure which has the features mentioned and at the same time is as comfortable as a permanent bed and may be transported on an automobile running board in a compact package and very quickly assembled and disassembled.

Such a structure is shown clearly in Fig. 1, and includes side rails S, S, each comprising a pair of tubular members 1, 1, the adjacent and abutting ends of which are slidable in a telescoping tube 2, and the outer ends of said members 1, 1, are fitted over stems 3, 3, of a special form of corner connector, or fitting, C. The end rails E, E, are preferably of angle irons 4, 4, and one side of each of said angle irons at each end is bent to form a socket 5 to receive the right angle stems 6, 6, of the corner fittings C.

Legs L, L, etc., of suitable length, also of tubular formation are provided for attachment to the corner fittings C, C, and the upper ends of said legs are fitted over the depending stems 7, 7 of said fittings. The legs at one end of the bed may be shorter than the legs at the other end so that the one end may be supported on the running board of an automobile while the opposite end rests upon the ground. It will be observed that in Fig. 3, the lower stem 7 of the corner fitting C, is pointed so that the same may be driven into the ground and one of these fittings may be placed at the lower ends of the legs L, with the vertical stems 8 thereof inserted in the legs, thus preventing the movement of the legs and insuring rigidity of the structure. When the bed is partially held on the vehicle running board, as stated, the stems 7, of the

fittings C, may be inserted in suitable holes in the running board so as to hold the bed thereon.

The fittings C, may have two, three, four, five or six of the stems thereon, as necessary, and the central portion 9 thereof is cubical in form and the sides of the cube serve as abutments against which the tubular frame members are held.

A spring mattress M, composed of linked wires 10 and coil springs 11 is suspended between the end rail E, of the head of the bed and an intermediate rail I, which extends transversely of the structure near the foot of the bed, rail I, being connected with the foot rail E, by means of a pair of bolts B, the heads 12 of which rest against the web of the angle iron rail I, and the bolts extending through the end rail E, and having nuts 13 thereon with handles 14, by means of which the nuts may be turned on the bolts for increasing or decreasing the tension of the mattress M. Said mattress thus serves to hold the structure together for use when held in tension as described.

The head and foot of the bed have vertical tubular members 15, extending substantially above the level of the mattress M and their lower ends telescope the vertical stems 8 of the fittings C, while their upper ends are open to receive the bent ends 17 of transverse head and foot rails H and F.

A tent, or suitable cover, *t*, as shown in Fig. 4 may be supported on the head and foot rails H and F, by means of oppositely inclined tubular rafter rails 18 held in T's 19 on the rails H and F and connected at their adjacent ends by means of the connectors 20, each set of rafter tubes 18—18, being connected transversely of the structure by means of ridge tubes 21, thus forming a skeleton frame for the tent, the ridge of which is in the center of the bed. In such a tent, the ends and sides of the tent *t*, may be extended only to the level of the end and side rails, as shown in Fig. 4, or to the ground, if desirable, and the lower edges of the tent tied to the frame at suitable points.

In the form of structure shown in Figs. 5 and 6, the members 18 and 21, are eliminated and one corner of the head of the bed is built up or extended for a center pole for the tent *t*, the four beds being symmetrically arranged around the center pole with the end and side members arranged as shown and connected by means of the fittings C. Cords 22, may be extended from the top of the center pole 23 to one of the foot corners of each of the beds, as indicated in broken lines in Fig. 6, and from thence extended to the ground and staked in the usual manner, as shown. Partition curtains 24, may also be suspended from the top of the tent and attached to the bed structure so as to divide the interior of the tent into separate bed compartments, and each of the compartments may have a separate entrance opening as shown for one of the compartments in Fig. 6.

It will be understood that the same structure is employed for the structure shown in Figs. 1 and 6, but that a multiplicity of parts is required for the latter, while only a relatively few parts are necessary for the former structure. In other words, a complete equipment may include all the parts necessary for the multiple bed tent shown in Fig. 6, and one or more of the single bed tents may be formed of the same elements used in the larger structure.

When collapsed, the various parts are grouped and placed in parallel positions, the spring mattress M is folded into compact form, and all of the parts may then be rolled into a relatively small package with the tent used as a wrapper for the parts, though a bag may be provided for inclosing and holding all of the parts if desirable.

The form of fitting shown in Fig. 3 is especially adaptable for a multiple bed structure as extra legs and connections may be provided at intervals for reinforcing the bed structure where the joints are made, and where a tent is not used, as for instance on a screen porch, two or more beds may be grouped into parallel positions and connected together, thus reducing the number of parts required for assembling an equal number of separate beds.

What I claim is:

1. A canopy bed structure including end rails of L-shaped cross section, side rails for spacing said end rails, connectors at the corners for holding said side rails together, said end rails having sockets formed in the included angle between the sides, and said connectors having arms adapted to engage said sockets, for holding said side rails spaced apart.

2. In a bed structure, a pair of end rails of angular cross section with sockets formed in the included angle between the sides thereof at the ends, side rails having sockets in the ends thereof, connectors having arms projecting longitudinally into said side rails, other arms projecting transversely into the sockets of said end rails, other arms projecting downwardly therefrom, legs having sockets in the upper ends thereof, telescopically fitting said arms, other arms projecting upwardly therefrom, and head and foot members having sockets engaging said last mentioned arms.

Signed at Los Angeles, Los Angeles county, California, this 26th day of June, 1919.

SAM R. SMITH.

In presence of—

H. M. BRUNDAGE,

PARKER L. MACK.