

No. 609,172.

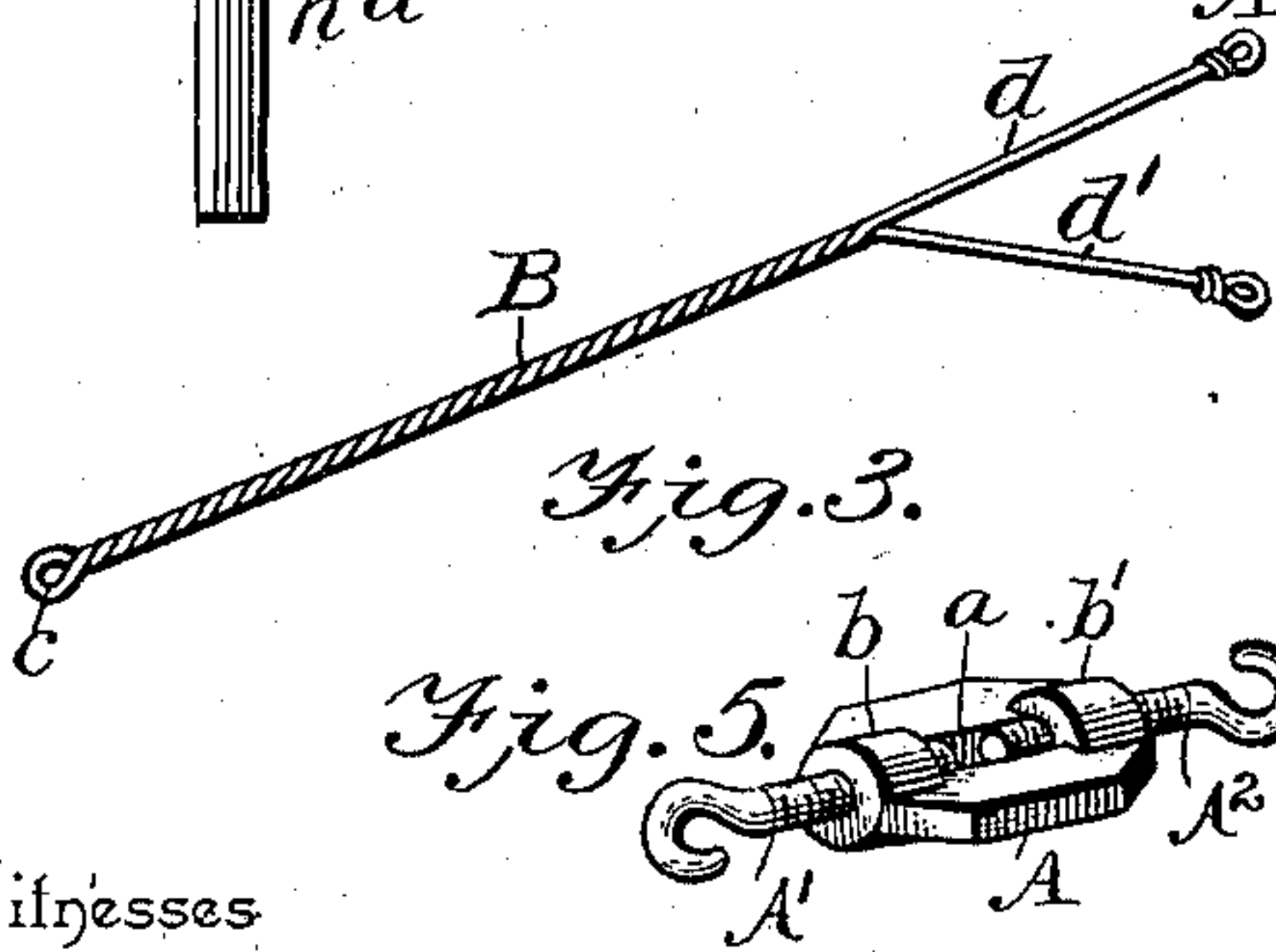
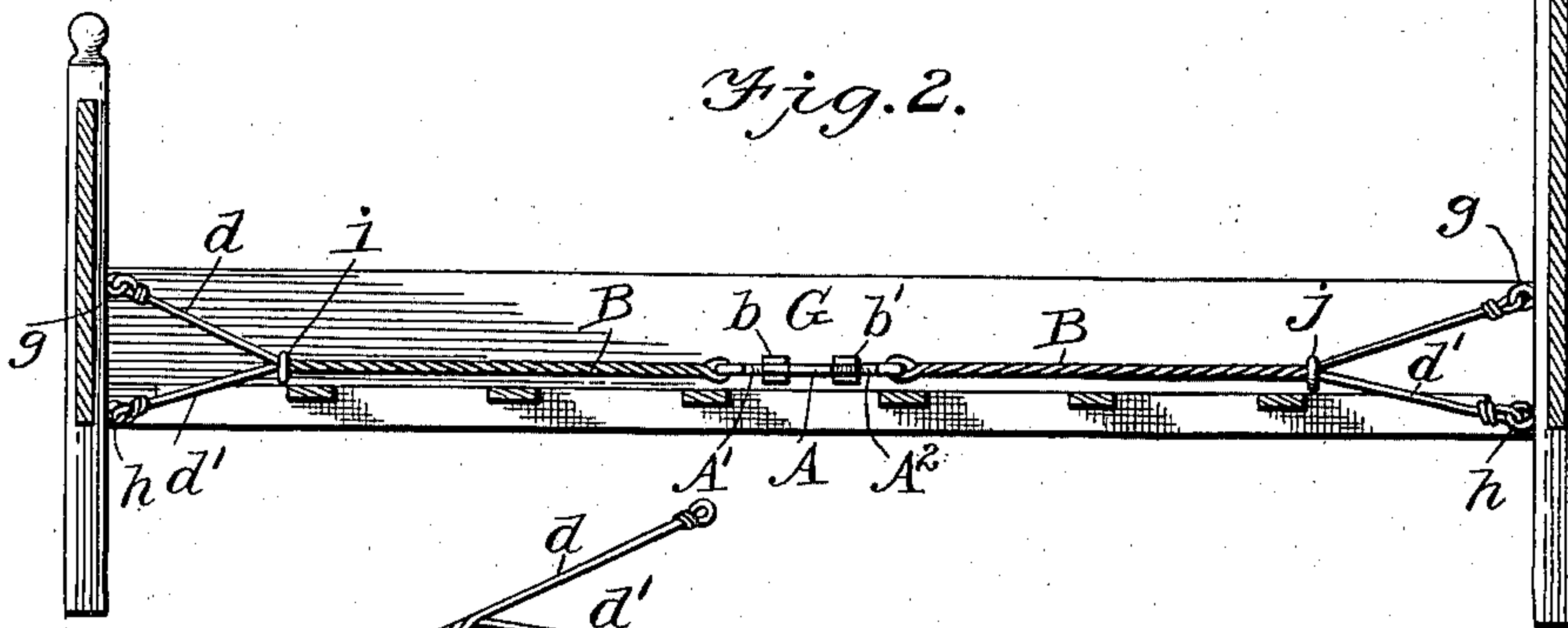
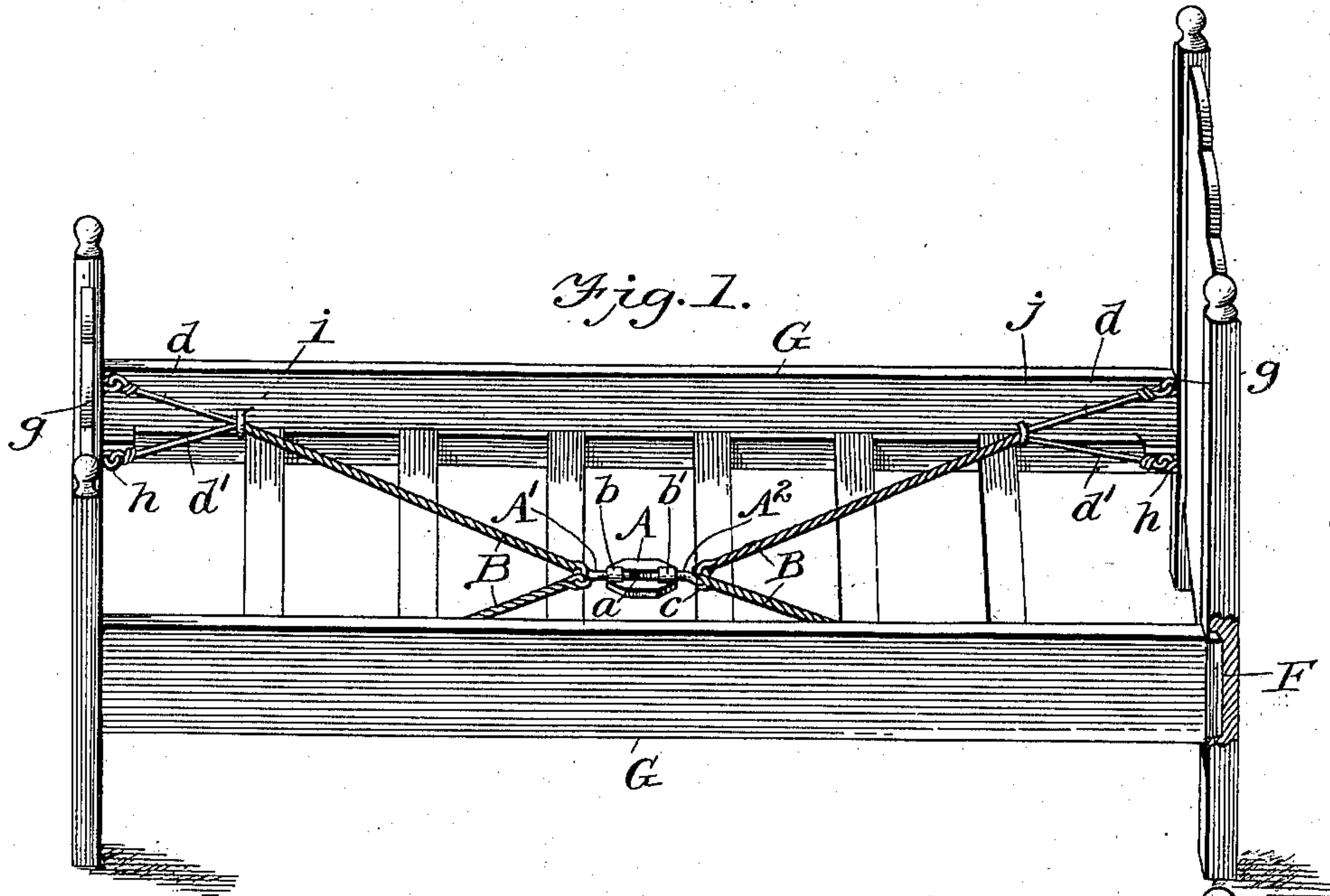
Patented Aug. 16, 1898.

A. STOERMER, SR.

BED BRACE.

(Application filed June 28, 1897.)

(No Model.)



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UNITED STATES PATENT OFFICE.

ALEXANDER STOERMER, SR., OF YOAKUM, TEXAS.

BED-BRACE.

SPECIFICATION forming part of Letters Patent No. 609,172, dated August 16, 1898.

Application filed June 28, 1897. Serial No. 642,688. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER STOERMER, Sr., a citizen of the United States, residing at Yoakum, in the county of Lavaca and State of Texas, have invented a new and useful Bed-Brace, of which the following is a specification.

My invention relates to an improvement in braces for bedsteads; and the object in view is to provide a simple, strong, durable, and efficient brace adapted to form a part of a bedstead when manufactured or to be applied to a bedstead subsequent to manufacture to take up looseness in the joints between the members, the construction of the same being such as to prevent displacement or vibration of the head and foot boards with relation to the extremities of the side rails, while allowing detachment of the bedstead members when required without wholly dismounting the brace therefrom.

A further object of the invention is to provide a brace of which the members may be carried by the head and foot boards when said members are disconnected from the tension device and may be disconnected from the side rails, said members being foldable in planes approximately parallel with the head and foot boards, respectively, to provide for compactness in storing and transportation, the side rails being wholly unincumbered by the bracing devices.

A further object of the invention is to provide plural-strand or manifolded bracing members, each consisting of a single blank, in connection with means for preventing the untwisting of the reinforced portions.

A further object of the invention is to provide, in connection with the brace members, a tension device located intermediately of the bedstead-frame and in such relation to the slats or other mattress-supporting portions of the bedstead as to insure the maintenance of the adjustable member of the tension device at the desired adjustment.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a brace constructed in accordance

with my invention applied in the operative position to a bedstead. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a detail view of one of the cables or single-blank members of the brace. Fig. 4 is detail longitudinal section of the tension device. Fig. 5 is a detail view in perspective of the same.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

The bracing device embodying my invention consists, essentially, of a tension device $A A' A^2$ and a series of four divergently-disposed members or cables B . Each bracing member or cable is of plural-strand construction, and consists of a single blank of wire of suitable gage doubled upon itself at its center, with its strands or folds intertwisted from the inner or looped end outwardly to an intermediate point through a distance of approximately two-thirds the length of the member. The looped end of the cable forms an eye c , which obviously is integral with the cable, and beyond the opposite end of the body or twisted portion of the cable the strands or folds thereof are deflected to form upwardly and downwardly divergent arms or branches $d d'$, terminating in eyes for engagement with upper and lower screw hooks or eyes $g h$, which are threaded into or otherwise permanently secured to one of the standards of the bedstead, preferably contiguous to the upper and lower ends of the mortise F , (shown in Fig. 1,) which is preferably formed in each standard for the reception of the tongue or tenon on the contiguous end of the adjacent side rail. The hooks or eyes $g h$ are spaced apart vertically to occupy positions, as above indicated, respectively contiguous to the upper and lower ends of said mortise F , in order to maintain the end members or head and foot of the bedstead in the proper positions with relation to the side members or rails G thereof and prevent tilting of said end members. From their points of attachment to the bedstead-standards the arms or branches $d d'$ incline, respectively, downwardly and upwardly to intersect in a plane approximately midway between the horizontal planes of the extremities of said arms or branches, whereby an equal strain may be applied to the arms or branches

in holding the standards in their proper positions, and at these points of intersection of the arms or branches the cables extend through guides $j\ i$ on the side rail, each guide in the construction illustrated consisting of a screw hook or eye, the engagement of the cable therewith being detachable; whereby when it is desired to reduce the bedstead to a "knocked-down" condition the cables may be disengaged from the guides and folded in positions approximately parallel with the planes of the end members, or head and foot of the bedstead, the interlocking connections between the arms or branches $d\ d'$ and the means of attachment $g\ h$ to the bedstead-standards allowing a swinging or pivotal movement of the brace members to accomplish this folding. In this way the side members or rails of the bedstead are entirely relieved of the bracing mechanism, and the transportation or storage of the bedstead may be accomplished with the same facility as those of ordinary construction now in common use.

A further function of the guides $j\ i$ resides in the fact that being disposed to engage each cable at the point of intersection of the arms or branches $d\ d'$ any strain applied to said arms or branches tending to untwist the brace strands or folds at the contiguous end of the body portion is resisted and positively prevented. Thus the separated portions constituting the arms or branches $d\ d'$ are limited in length by the distance between the guides $j\ i$ and the adjacent end members of the bedstead. If in practice the necessary adjustment of the cables, due to the slight stretching thereof, should carry the contiguous portions of the arms or branches $d\ d'$ beyond the transverse vertical planes of the guides $j\ i$, said arms or branches will be drawn together, and hence coöperate in substantially the same manner as the strands of the twisted portion of the cable. In other words, the point in each cable at which the deflection of the arms or branches has its initial point is in the plane of the guide $j\ i$ through which that cable extends. This insures a uniform length of the separated or branched portions of all the cables and prevents the extension of such separated or branched portions by reason of the adjustment of the tension of the cables.

The tension device in the construction illustrated consists of a revoluble member or nut A, having eyes $b\ b'$, into which are threaded axially-adjustable cable-engaging members $A'\ A^2$, said axially-adjustable members having hooks at their remote extremities, with which are detachably engaged the eyes c at the contiguous inner ends of the cables. The intermediate portion of the nut or rotary member A is cut away to form a slot a , in which are arranged the inner threaded extremities of the hook-bolts forming the axially-adjustable members $A'\ A^2$.

The adjustment of the nut or rotary member A in order to secure the desired tension

of the cables is preferably accomplished manually, and for this reason, and also to prevent the accidental backward turning of the rotary member owing to the jarring of the bracing device in use, the nut is provided with lateral wings, as clearly illustrated in Fig. 5, which are flat and are arranged in a common plane and radiate from the axis of the nut. The equal lengths of the arms or branches $d\ d'$ and their intersection in a plane which is approximately midway between the horizontal planes of the eyes $g\ h$ dispose the body or twisted portions of the cables B in a plane above the slat-rests of the bedstead, and hence while the function of the brace embodying my invention is not to assist in anyway in supporting the mattress, it is obvious that a mattress placed within the frame of the bedstead will bear at its under side against said body portions of the cables, and hence will bear downwardly upon the winged nut A. Thus after having adjusted the nut to secure the desired tension of the cables it is obvious that the bearing of the under side of the mattress upon the nut will prevent the accidental backward rotation of the latter, and hence will maintain the cables at the tension to which they have been adjusted. In other words, in order to attain in a bedstead-brace the combination of simplicity, strength, and efficiency I have adopted the terminally-branched construction of bracing-cables extending from the central portion of the space inclosed by the bedstead-frame respectively to the bedstead-standards, and in order to insure an equal strain upon the upper and lower arms of the branched portions I have arranged the intersection of those arms in a plane approximately midway between the horizontal planes of the attaching devices $g\ h$. This disposes the body portions of the cables in the ordinary bedstead construction above the plane of the slats, and hence I am enabled by using a flat-winged adjusting-nut in connection with the tension device to utilize the pressure of the mattress in maintaining said nut at the desired adjustment, and hence the cables at their adjusted tension. I avoid presenting sharp angles, screw-threads, and wire ends for contact with the superposed mattress by slotting the nut A and arranging the threaded portions of the hook-bolts $A'\ A^2$ in the common plane of the wings or ears of the nut, while the contiguous extremities of the cables consist of rounded eyes, as described, the extremities of all of the cable-blanks being located adjacent to the ends of the bedstead or at the points of connection of the cables with the bedstead-standards.

In applying my improved brace to a bedstead I first spread the arms or branches $d\ d'$ of each cable and connect the same with the securing devices on the standards of the head and foot boards, then thread or otherwise extend the cables through the intermediate guides $j\ i$, which project from the inner sur-

faces of the side rails of the bedstead, the extremities of said side rails having first been stepped in the mortises formed in the standards, and, finally, engage the eyes at the inner ends of the cables with the hook-bolts or axially-adjustable members of the tension device and turn the nut to secure the desired tension of the cables. The hook-bolts are prevented from turning with the nut during this adjustment by reason of the fact that with each hook-bolt are engaged two cables, which converge toward the tension device from opposite sides of the bedstead, and by reason of this angular disposition of the body portions of the cables an inward strain is applied to both side rails at intermediate points of their lengths and adjacent to the plane of the slat-seats to prevent outward bulging of the centers of the side rails and the dropping of the slats. It will be understood, furthermore, that a brace constructed in accordance with my invention can be applied to a bedstead when manufactured or may be attached to an old bedstead wherein the joints have become loosened by use and that the same may be ornamented in any suitable way to suit the construction of the bedstead in connection with which it is used; also, by dispensing with angle-irons, bracing-blocks, and similar devices commonly used in connection with bedsteads constructed of wood I avoid the provision of harbors for vermin.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

40 1. The combination with a bedstead having detachable end and side members, of a brace comprising a plurality of cables, each constructed of a single blank of wire folded upon itself at its center to form an eye, having its

45 folds or sides intertwined from said eye outwardly to an intermediate point in the length of the cable, and having its folds or sides deflected, beyond the end of said intertwined portion, to form divergent arms or branches which are terminally secured to a standard of one of the end bedstead members, guides arranged at intermediate points of the side bedstead members, with which the cables are detachably engaged at the outer ends of their twisted portions, and a tension device having axially-adjustable hooked members with which the eyes at the inner ends of the cables are detachably engaged, substantially as specified. 50 55

2. The herein-described bedstead-brace 60 comprising a plurality of cables, each being of plural-strand construction and having a twisted body portion terminating at its inner end in an eye and at its outer end in divergent arms or branches, adapted for attachment to a standard of a bedstead, a guide engaged with each cable at an intermediate point and adapted for attachment to the side rail of a bedstead at an interval from the plane of the adjacent end member of the bedstead, and a tension device comprising a nut provided with flat radial ears or wings, and hook-bolts, engaged with the eyes of said cables, and having their threaded stems engaged by said nut and arranged in the common plane of said ears or wings thereof, whereby the body portions of the cables, the hook-bolts, and the ears or wings of the nut occupy a common horizontal plane, substantially as specified. 65 70 75 80

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALEXANDER STOERMER, SR.

Witnesses:

F. KLOPF,

A. A. ROWAN.