

Jan 6, 1931.

N. N. BROWN

1,787,566

FOLDABLE FURNITURE

Filed Feb. 13, 1926

2 Sheets-Sheet 1

Fig. 1.

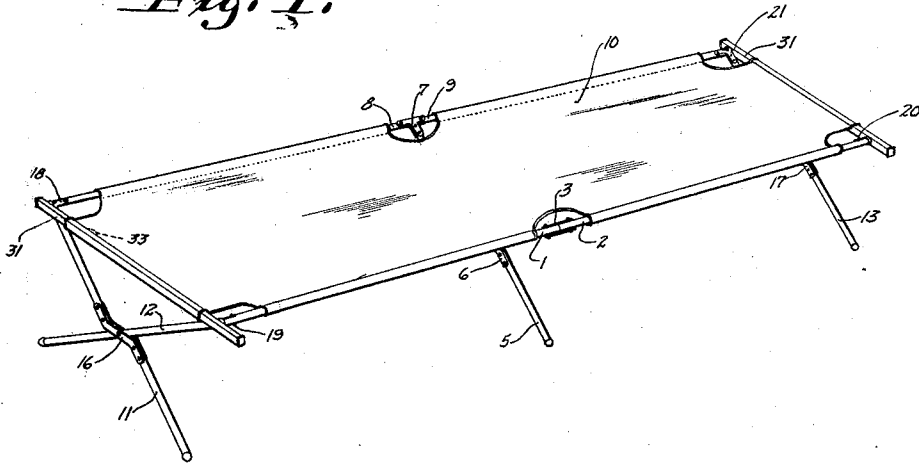


Fig. 2.

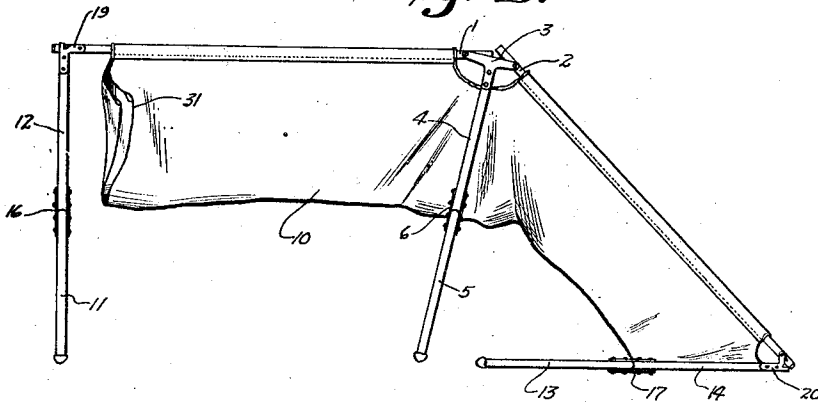
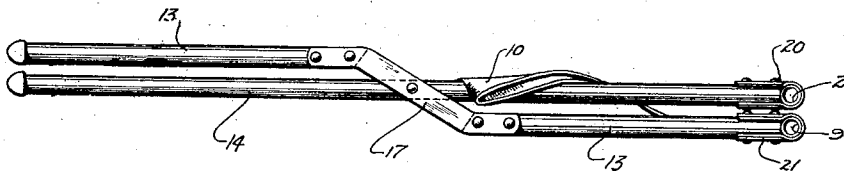


Fig. 3.



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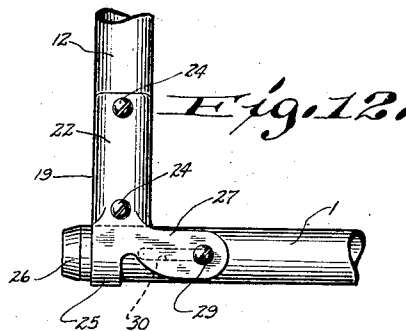
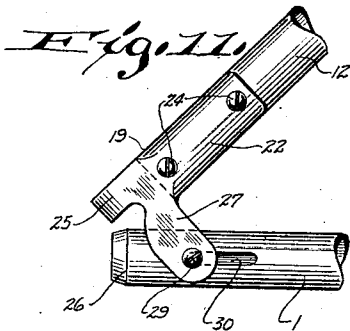
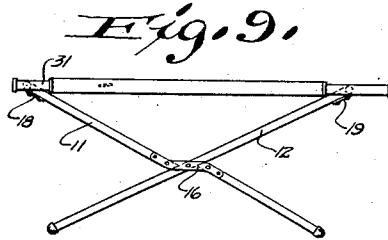
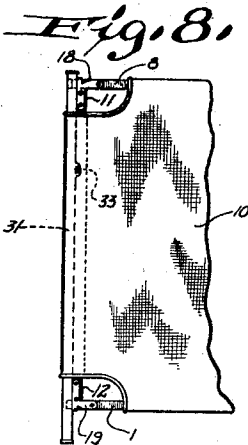
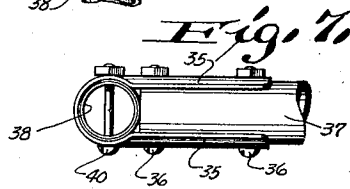
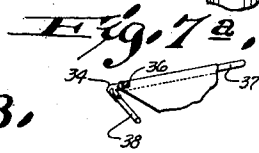
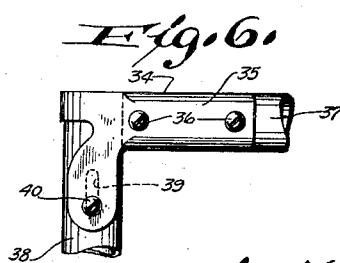
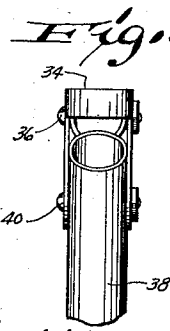
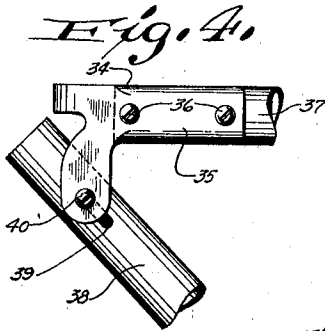
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FOLDABLE FURNITURE

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2 Sheets-Sheet 2



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FOLDABLE FURNITURE

Application filed February 13, 1926. Serial No. 88,011.

This invention relates to improvements in foldable furniture such as cots.

In foldable cots constructed heretofore and comprising, in general, a canvas top 5 sewed to a frame consisting of side members or bars to which the top is secured and two or more pairs of legs which are crossed and pivotally connected at a point intermediate their respective ends, the upper ends of the 10 legs have been pivotally connected to the ends of the side members whereby the legs may be folded together and then folded against the side members. In these cots, which have for the most part been made of 15 wood, it has been necessary to provide bracing means at the joints between the legs and side members to give the cot sufficient rigidity and to hold the same open for use. It has been necessary to so construct these 20 bracing means or members so that the same are also foldable so as not to interfere with the folding together of the legs and the side members in the manner referred to above, this construction interfering more or less 25 with the folding and unfolding of the cot frame, as well as detracting from the general appearance of the cot and adding to the weight thereof. With the advent of the so-called "all-metal" cot, which is generally 30 made from sheet-metal tubing of standard gauge, it has been a problem to provide means for pivotally connecting the legs to the side frame members and adequately brace the frame at these points when the cot 35 is open for use without interfering with the folding and unfolding of the cot or adding to the weight thereof, or detracting from the appearance of the same.

One of the objects of the present invention, therefore, is to provide an improved 40 hinge for pivotally connecting the legs to the side frame members of a foldable cot of the character referred to, and to construct the hinge so that it is adapted to interlock 45 with one of the connected parts in such manner that the use of any supplementary reinforcing or bracing members is unnecessary.

Another object is to provide an improved 50 cot of the character referred to having advantages over those constructed heretofore

as regards rigidity, simplicity of construction, appearance and cost of manufacture.

Other objects and advantages will herein-after appear.

For the purpose of illustrating the invention 55 several embodiments thereof are shown in the drawings, in which:

Figure 1 is a perspective view, showing the improved cot open and ready for use;

Fig. 2 is a side elevation, showing the cot 60 partly folded;

Fig. 3 is an end view, showing the cot laid upon its side with the legs folded together;

Fig. 4 is an enlarged, detail view of a modified form of hinge for connecting and reinforcing 65 parts of the cot frame, the parts being shown in position about to be locked together by the hinges;

Fig. 5 is an end elevation, looking toward the right in Fig. 4; 70

Fig. 6 is a view similar to Fig. 4, showing the parts locked together by the improved hinge;

Fig. 7 is a plan view of Fig. 6;

Fig. 7^a is a fragmentary view of one end 75 of a cot, showing the way in which the modified hinge construction in Figs. 4 to 7 acts to lock and brace the legs and side members against relative movement;

Fig. 8 is a plan view of the left end of 80 the cot shown in Fig. 1;

Fig. 9 is an end elevation, looking toward the right in Fig. 8;

Fig. 10 is a perspective view of one of the 85 parts;

Fig. 11 is an enlarged, detail view of the hinge construction in Figs. 1-3 and 8-9, showing the connected parts in position about to be locked together; and

Fig. 12 is a view similar to Fig. 11, showing 90 the parts locked together.

Referring more particularly to Figs. 1, 2 and 3, the cot comprises, in general, aligned side members 1 and 2 pivotally connected together at their adjacent ends by means of a 95 hinge 3, the hinge being fixed rigidly to the upper end of a leg 4 crossing a similar leg 5 and being pivotally connected to the latter at a point intermediate the respective ends of the legs by suitable hinge means 6, the 100

upper end of leg 5 being provided with a hinge 7 rigidly connected thereto and similar to hinge 3, hinge 7 acting to connect together the adjacent ends of the aligned side frame members or rods 8 and 9, as shown. When the cot is open, as shown in Fig. 1, the adjacent ends of members 1, 2, 8 and 9 abut and seat upon the respective upper ends of legs 4 and 5. The canvas or cloth top 10 is stitched along its side edges in the usual manner to provide pockets for receiving side members 1, 2, 8 and 9 of the foldable frame. Legs 11, 12, 13 and 14, similar to legs 4 and 5, are connected intermediate their ends, as shown, by suitable hinge means 16 and 17 similar to the hinge means 6, the respective outer ends of the side frame members being pivotally connected to the upper ends of these legs by means of hinges 18, 19, 20 and 21 hereinafter described. As shown in the drawings, the side frame members and legs are made of metal tubing which may be of standard gauge. Referring more particularly to Figs. 11 and 12, hinge 19 is made from a single piece of sheet metal and comprises spaced arms 22 fitted about and shaped to conform to the shape of leg 12 and being rigidly fixed thereto by means of bolts 24, the portion 25 connecting arms 22 and extending outwardly and overhanging the end of leg 12, as shown, and being shaped to provide a socket for receiving the adjacent tapered end 26 of side member 1, the hinge comprising, further, outwardly extending spaced lugs 27 between which the adjacent end of member 1 fits, and a bolt 29 extending through registering openings in the ends of lugs 27 and registering longitudinal slots 30 in opposite sides of side member 1. As shown in the drawings, bolt 29 acts to pivotally connect the upper end of leg 12 to the adjacent end of side member 1, the registering slots 30 permitting axial movement of member 1 with respect to hinge 19, so that when leg 12 is swung about bolt 29 as a center from the position thereof shown in Fig. 11 to the position of the same shown in Fig. 12, in which position the leg is at a right angle to member 1, and the latter then moved axially toward the hinge, the end 26 of the side member will enter socket 25 whereby the leg and side member are locked against pivotal movement with respect to each other. In closing or folding up the cot, member 1 is pulled axially away from hinge 19 until the pivot or bolt 29 is engaged by the left ends of slots 30, as viewed in Fig. 11, at which time the end 26 of member 1 will have been withdrawn from the socket 25 to permit pivotal movement of the parts with respect to each other about bolt 29 as a center, as shown in Fig. 11.

The construction and the manner of operation of hinges 18, 20 and 21 is identical to that of hinge 19 just described.

The arrangement and length of slots 30 is

such that when the connected parts are moved at right angles to each other and side member 1 moved axially toward hinge 19 until bolt 29 engages the right ends of slots 30, the end 26 of member 1 will extend an appreciable distance beyond socket 25, as shown in Fig. 12. The ends of top 10 are stitched to provide pockets for receiving members 31 provided adjacent their ends with sockets 32 for receiving the exposed ends 26 of the respective side members, ends 26 being tapered, as shown, to facilitate insertion of the same into sockets 25. Members 31 act to stretch the canvas top 10 longitudinally and to hold the same tight, these members further providing a brace for rigidly connecting the outer ends of the side members and acting to prevent folding together of the legs. In closing or folding up the cot, the ends 26 of the side members are pulled out of sockets 32 in members 31 and the latter removed from the pockets in the ends of top 10, one end of each member 31 being extended, as shown, to facilitate removal of the same from inter-locking engagement with ends 26. The legs are then folded together to bring the side frame members 1, 2, 8 and 9 together, after which the legs 11, 12, 13 and 14 may be folded upon the side members 1 and 8, and 2 and 9, respectively, as indicated in Fig. 2. The two halves of the cot, which are pivotally connected together by means of hinges 3 and 7, are then folded upon the center legs 4 and 5. Members 31 may each be provided with an apertured lug 33 struck outwardly therefrom for receiving suitable straps, so that by placing members 31 upon the folded cot, the straps may be wrapped about the latter and used for holding the same in folded position to form a bundle convenient for carrying.

In the modified construction shown in Figs. 4 to 7, the hinge 34 is identical in construction to hinges 18 to 21 described above, the hinge arms 35, however, which are equivalent to arms 22 in Figs. 11 and 12, being fixed rigidly to the respective outer ends of side members 37 by means of bolts 36, while the adjacent ends of the legs 38 are provided with registering slots 39 in their opposite sides for receiving the pivot bolt 40. In this modified construction, furthermore, the arrangement of slots 39 is such that when legs 38 are pulled axially away from hinges 34 until bolts 40 engage the upper ends of the slots, the upper ends of the legs, upon rotation of the latter into supporting position about bolts 40, will just clear the lower edges of the socket portion 41, the latter, however, being arranged above the lower edges of side members 37 so that the upper ends of the legs will engage the adjacent members 37 when the legs are exactly at right angles with respect to the side members and in alignment with the sockets, so that upon subsequent axial movement of the legs upwardly the upper ends of

the latter will enter between the adjacent ends of side members 37 and socket portions 41, as more clearly shown in Fig. 7, the upper end of the leg having a relatively tight or snug fit between these parts to provide against any loose play or possible pivotal movement of the legs and side members with respect to each other about bolts 40, the latter engaging the lower ends of the slots when the upper ends of the legs are substantially flush with the upper edges of the socket portions, as more clearly shown in Fig. 6.

In this modified construction, the reinforcing members 31 in Fig. 1 are omitted and the canvas top extended, as shown in Fig. 7^a, so that the adjacent ends of arms 35 of the hinges enter the ends of the pockets at the side edges of the top, one of the bolts 36 being passed through the top, as shown, whereby the corners of the top are fixed securely to the side frame members so that when the cot is open the top will be held taut at all times and prevented from sagging longitudinally.

From the foregoing it will be seen that the improved hinge construction performs the double function of pivotally connecting the frame parts together and locking the same against pivotal movement with respect to each other when the cot is set up, the supplementary reinforcing members used heretofore for imparting rigidity to foldable cots of this type being dispensed with, the improved hinge construction thus providing for a cot of simpler construction, lighter weight and neater appearance than those constructed heretofore.

The improved hinge has been shown and described in connection with a foldable cot, but of course the invention is of much broader adaptation and may be used with equal advantage in the construction of other articles of furniture of the folding type, such as chairs, tables and the like.

Several embodiments of the invention have been shown and described, but of course various changes in the size, shape and arrangement of the parts may be adopted without departing from the spirit of the invention or the scope of the claims.

The invention claimed is:

1. A foldable article of furniture including frame members and leg members and hinges between the frame members and the leg members, each hinge comprising a pair of spaced arms fitted snugly against the associated frame member adjacent one end thereof, a pin and slot connection between said arms and said frame members, a second pair of arms integral with said first mentioned arms and angularly positioned with respect thereto, said second pair of arms being snugly fitted against and fixedly secured to the associated leg member and a curved connecting piece and socket forming member integral with the arms and formed

as a continuation of the second pair of arms, said connecting piece and socket forming member providing a socket adapted to receive and hold the associated frame member and permit the frame member to pass through and extend beyond the socket when the article of furniture is set up whereby additional means may be mounted on a portion of the frame member which passes through the socket.

2. In an article of furniture of the character described, side frame members, a pair of crossed legs pivotally connected intermediate their respective ends, hinge members comprising body portions secured to the upper ends of said legs and provided with sockets overhanging the same, the respective adjacent ends of said side members extending through said sockets and beyond the latter and having pin and slot connections with said body portions so as to permit withdrawal of said extended ends from said sockets and subsequent folding of said legs against said sides, a top of flexible material provided at one end thereof with a pocket and secured along its side edges to said side members, and a reinforcing member arranged in said pocket and provided at its ends with sockets receiving said extended ends whereby said reinforcing member acts to hold said legs in spread-out, operative position and to prevent withdrawal of the extended ends of the side members from the sockets until said reinforcing member is removed.

In witness whereof I hereto affix my signature.

NEWTON N. BROWN.