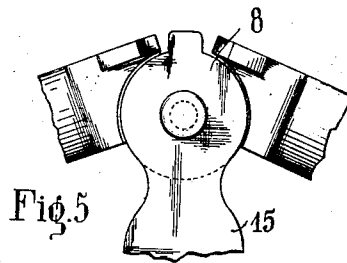
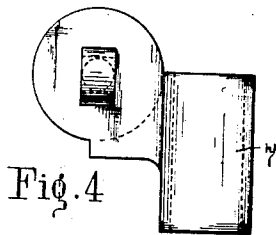
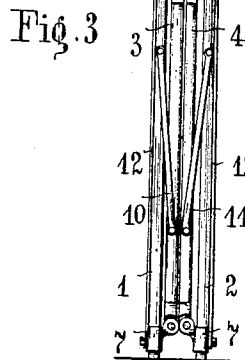
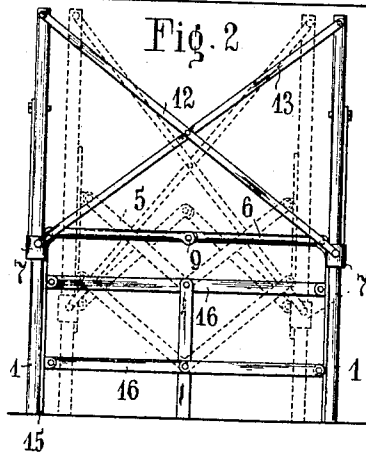
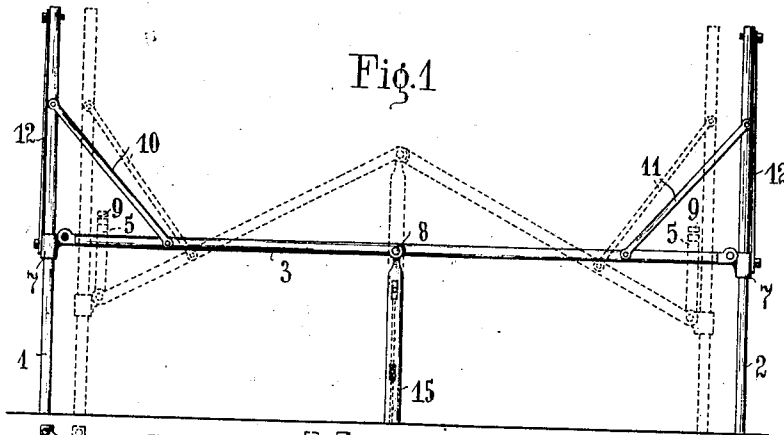


L. BIRÓ.
 COLLAPSIBLE BED.
 APPLICATION FILED AUG. 27, 1910.

1,056,317.

Patented Mar. 18, 1913

2 SHEETS—SHEET 1.



Witnesses:
M. Heffling
W. Hill

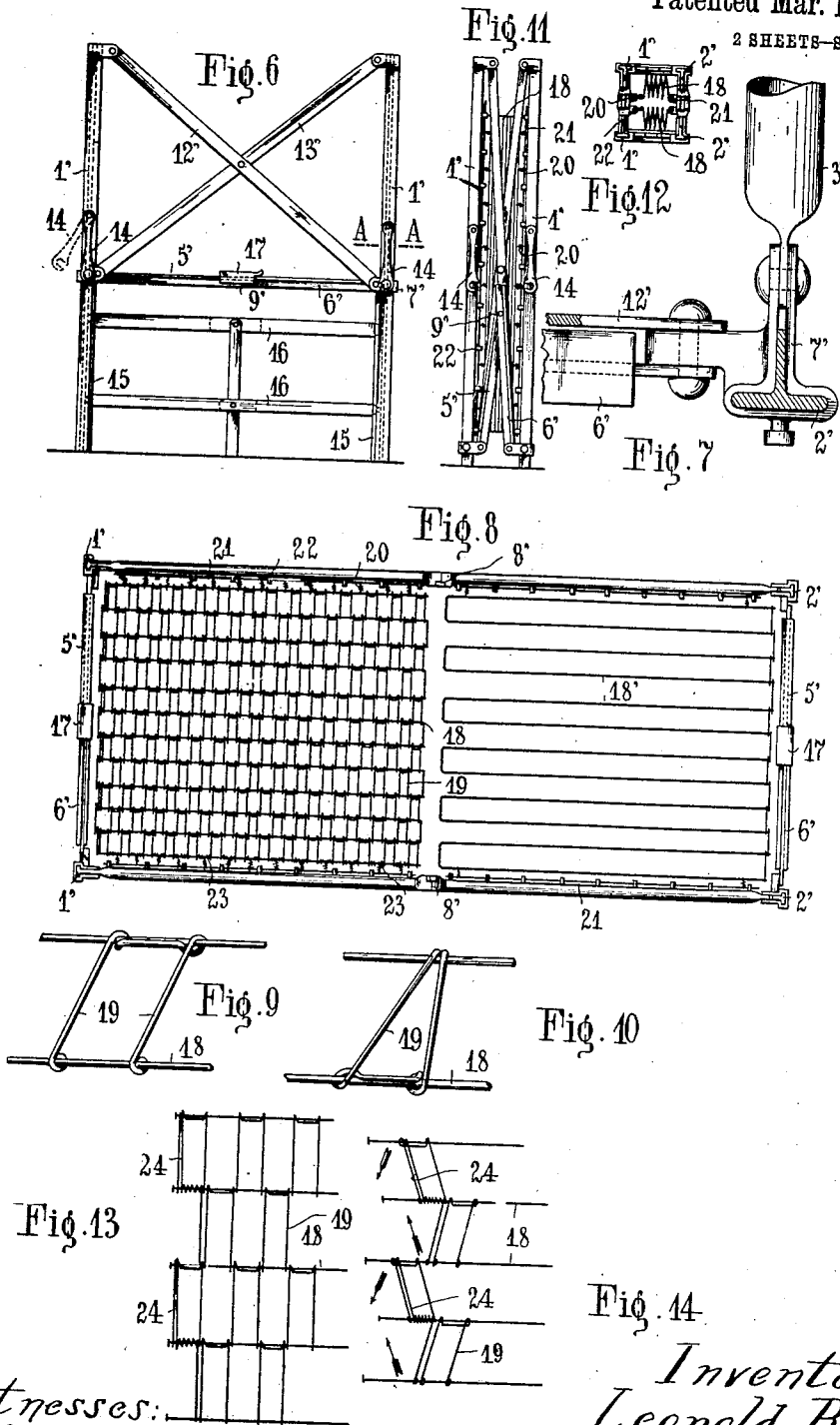
Inventor:
Leopold Biró,
 by *B. Singer.*
 Att'y.

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Inventor:
Leopold Biro.
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Att'y.

UNITED STATES PATENT OFFICE.

LEOPOLD BIRÓ, OF VIENNA, AUSTRIA-HUNGARY.

COLLAPSIBLE BED.

1,056,317.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed August 27, 1910. Serial No. 579,314.

To all whom it may concern:

Be it known that I, LEOPOLD BIRÓ, a subject of the Emperor of Austria-Hungary, and a resident of Vienna, in the Empire of Austria-Hungary, have invented new and useful Improvements in Collapsible Beds, of which the following is a specification.

My invention relates to a collapsible bed in which, in its collapsed condition, the mattress frame does not project, beyond the bed posts. This result is attained owing to the fact that the connecting members to which the parts of the mattress frame are pivoted move downwardly along the bed posts when the bedstead is collapsed. In this bedstead the collapsible cross connections between the members of the mattress frame serve for stretching the mattress.

In accordance with the present invention the mattress is foldable and preferably folds up automatically when the bedstead is collapsed. In the construction illustrated the mattress, like the collapsible parts of the mattress frame, are formed of two independent parts each of which consists of a number of longitudinal panels or divisions which can be collapsed, accordion fashion, by spring action.

An embodiment of the invention is illustrated in the accompanying drawing in which—

Figure 1 is a side elevation. Fig. 2 is a front elevation, and Fig. 3 shows the bedstead collapsed. The positions shown in broken lines in Figs. 1 and 2 show the intermediate positions assumed by the several parts during collapsing. Fig. 4 shows the sleeve serving for connecting the horizontal bars of the bedstead. Fig. 5 shows the hinge provided in the middle of the horizontal longitudinal bars viewed from the middle of the bed. Fig. 6 is a side elevation of a bedstead in which the posts and the mattress frame members consist of angle iron. Fig. 7 is a cross section, on a larger scale, on the line A—A in Fig. 6. Fig. 8 shows the bed in plan with the transverse stays 12, 13, removed; the mattress is here shown on the left hand side with wire meshes, while on the right hand side only the longitudinal wires are visible. Figs. 9 and 10 show separate links of the mattress to a larger scale. Figs. 11 and 12 show the collapsed bed in side elevation and in plan respectively, and

Figs. 13 and 14 show the manner in which the mattress is folded.

The pillars 1 and 2, arranged in pairs at the head and foot of the bed, are connected by horizontal bars on which the mattress or the like is secured. Each of these bars of the mattress frame, two of which run longitudinally of the bed and two transversely thereof, consist of two parts 3, 4 and 5, 6 respectively; the outer ends of each part 3 and 5 and 4 and 6 being pivoted to sleeves 7 slidable on pillars 1 and 2 while the adjacent ends of the parts 3, 4 and 5, 6, are hinged together. This renders it possible to bring the horizontal bars in a parallel position to the pillars of the bed, the sleeves traveling downwardly and the hinges 8 and 9, provided at the middle moving upwardly, so that in the collapsed position the members of the mattress frame do not project beyond the pillars.

To provide for guidance and stiffening of the parts, the longitudinal members are connected by coupling rods 10, 11 with the pillars, and the pair of pillars at the head, and at the foot of the bed, are connected by transverse stays 12, 13, the lower ends of which are also pivoted to the sleeves 7. As a result of this construction, the bedstead can be folded both longitudinally and transversely. Finally, in the position in which the bed is ready for use the sleeves 7 can be retained by means of hooks 14 or the like mounted on the pillars.

The longitudinal bars are supported at the middle by feet 15 stiffened by means of cross bars 16 and pivoted to the hinge 8 (Fig. 5). The transverse bars 16 and in particular the hinged parts 5, 6 serve for stretching the mattress transversely as when opened out they extend the mattress along its width. When opened parts 5, 6 are secured automatically but they can also be secured from collapsing by means of some suitable device, such for example as a clamp 17, adapted to be slid over the hinge 9 (Figs. 6 and 8).

The bedstead may consist of tubes (Figs. 1 to 5) or parts may consist of angle iron. Thus in Figs. 6 and 8 for example the pillars 1', 2' may be formed of T iron the cross stays 5' of angle iron and the parts 6' of T iron. In such a case the displaceable connecting members 7' are formed to

correspond to the cross section and shaped in such a manner that they serve simultaneously for connecting the members of the mattress frame 3' 6' or 3' 8', 4' 6' and 4' 8' (Figs. 3, 7 and 8) and also the transverse stays 12' and 13'.

In the mattress frame of the bedstead a foldable mattress is provided and is formed in two parts corresponding to the two collapsible halves of the mattress frame. The longitudinal wires 18 of the mattress are either formed separately (left hand side in Fig. 3) or two of them are formed from a U-shaped wire 18' (right hand side of Fig. 3).

Links 19 are passed onto the longitudinal wires 18 and 18' for connecting the adjacent longitudinal wires, one with the other, and likewise for forming the meshes of the supporting surface and hinges for the separate panels or divisions of the mattress. Spiral springs 20 are provided for stretching the mattress transversely, one end of the springs being suspended in the longitudinal marginal wires and their other end in bars 21, which rest in eyes 22, in the mattress frame. The springs 20 can, however also be arranged in the middle of the supporting surface. Lateral displacement of the tensioning springs 20 can be prevented by means of small distance pieces such as wire spirals 23 (lower part of Fig. 3) arranged upon the longitudinal wires.

The links 19 can be formed of wire but flat iron strips would serve the same purpose. The links are quadrangular in form (Fig. 9) triangular (Fig. 10) or of some other convenient shape.

As shown in Figs. 11 to 14 the panels or divisions of the mattress collapse successively accordion fashion so that the bedstead can be folded without previously removing or folding the mattress. Spiral springs 24 insure uniform folding (Figs. 15 and 16). Each of these springs is mounted on a lon-

gitudinal wire 18 or 18' and each of its two ends are connected with an adjacent longitudinal wire or the ends engage in the links 19 of two adjacent divisions and thus fold the mattress when the bed is folded. The springs 24 can be arranged on the ends and also inside the halves of the mattress.

The bed described above provides a supporting surface for the mattress which is sufficient for all requirements, can be speedily erected and readily folded. When folded it occupies but little space and is therefore especially suitable for a traveling or spare bed. It will of course be understood that its details can be modified without departing from the spirit of the invention.

Having now described my invention what I claim as new and ask to secure by Letters Patent is:

A folding bed frame comprising in combination, head and foot corner posts, crossed folding end members pivotally connected at their upper ends with the head and foot posts and pivotally connected with each other at their crossing points, folding side bars, a collar member slidably mounted on each post, each collar member being pivotally connected with one end member and one end of one side bar whereby the approach of any of the posts toward the remaining posts will cause all of the posts to approach each other, and a link pivotally connected to each head and foot post at one of its ends and pivotally connected to the side bars at its other end for causing downward movement of the collar members on said posts, when the same are brought together, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

LEOPOLD BIRÖ.

Witnesses:

EDWARD KONTIKIN;
August Fogara.