(No Model.)

3 Sheets—Sheet 1.

C. GÜNOLD.

BEDSTEAD.

No. 307,717. Patented Nov. 4, 1884.

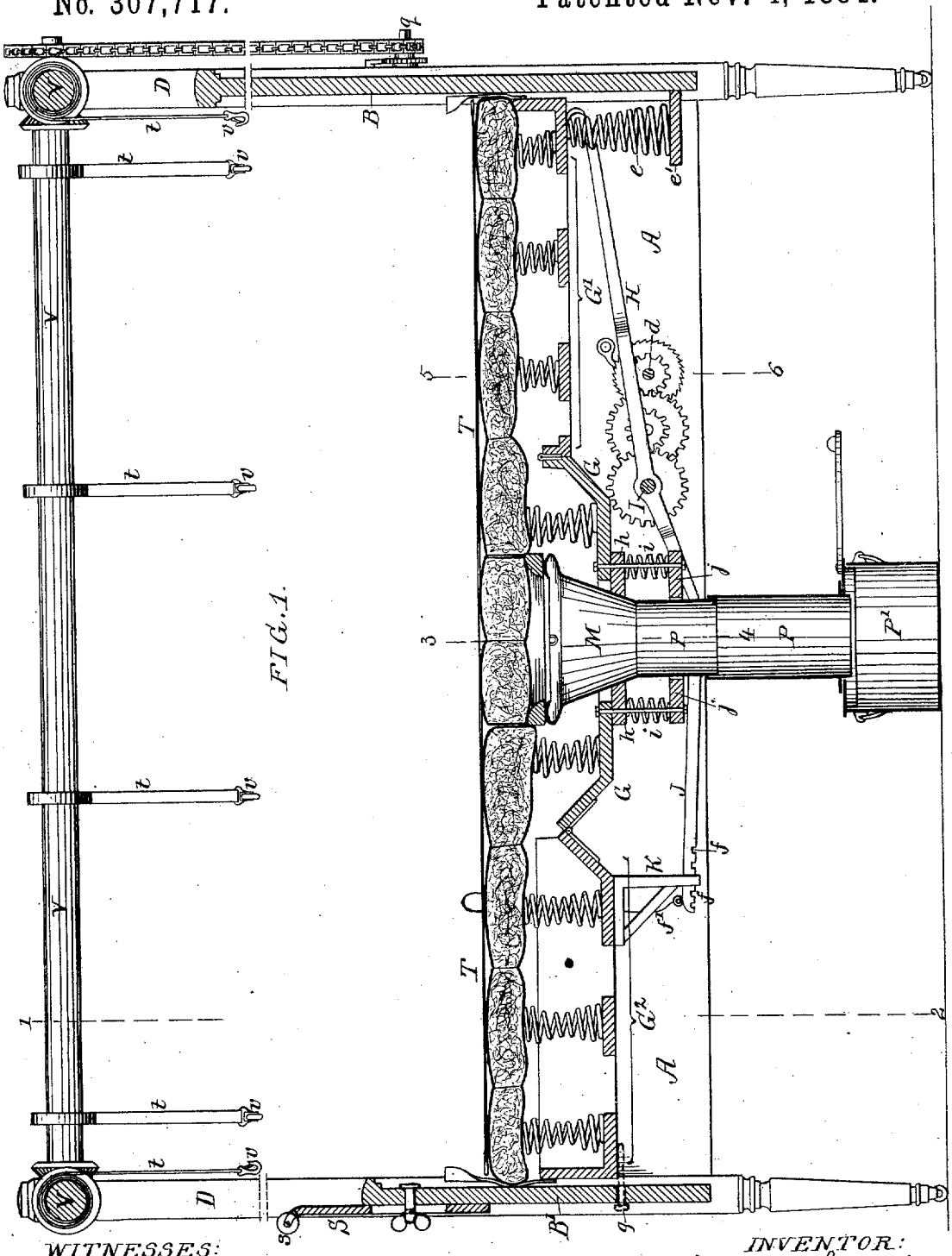


FIG. 1.

WITNESSES:
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John E. Parker

INVENTOR:
Charles Günold
by his Attys
Howson & Sons

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 3 Sheets—Sheet 2.

C. GÜNOLD.

BEDSTEAD.

No. 307,717. Patented Nov. 4, 1884.

FIG. 3.

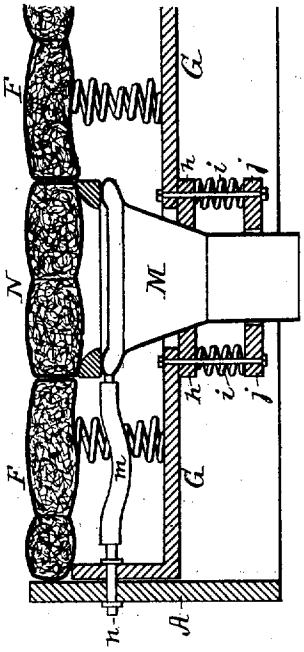


FIG. 4.

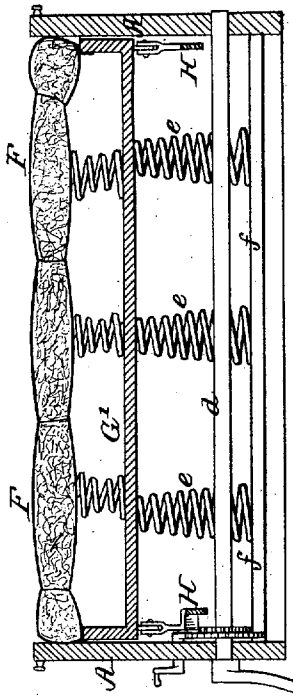
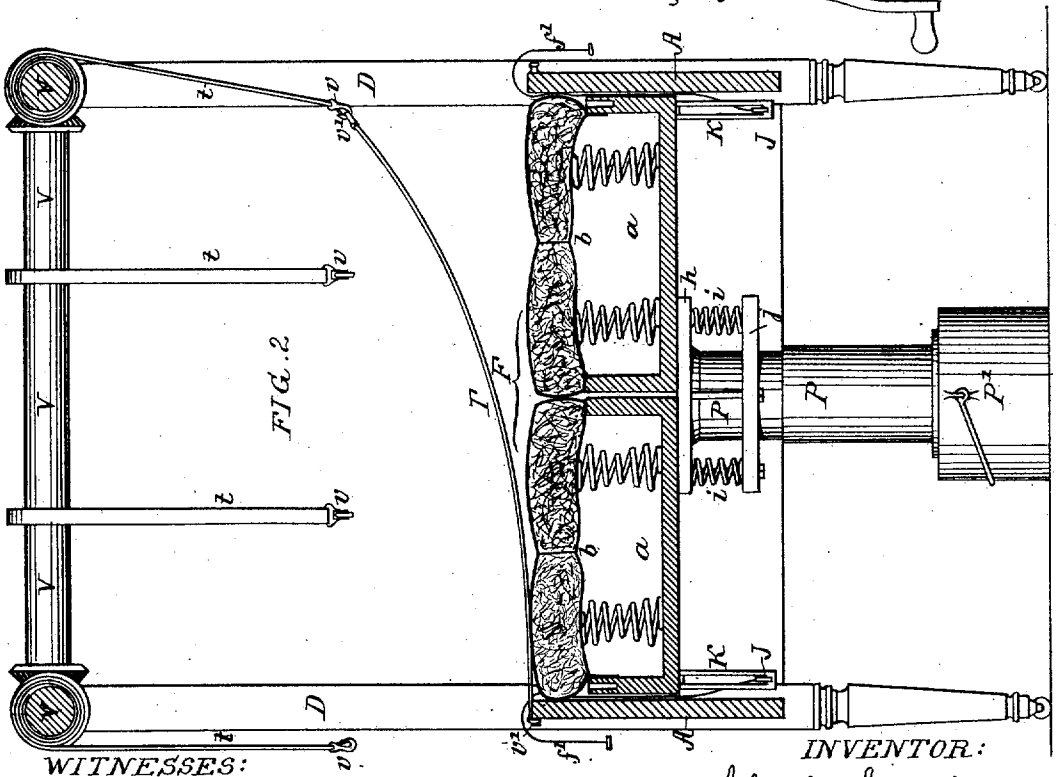


FIG. 2.



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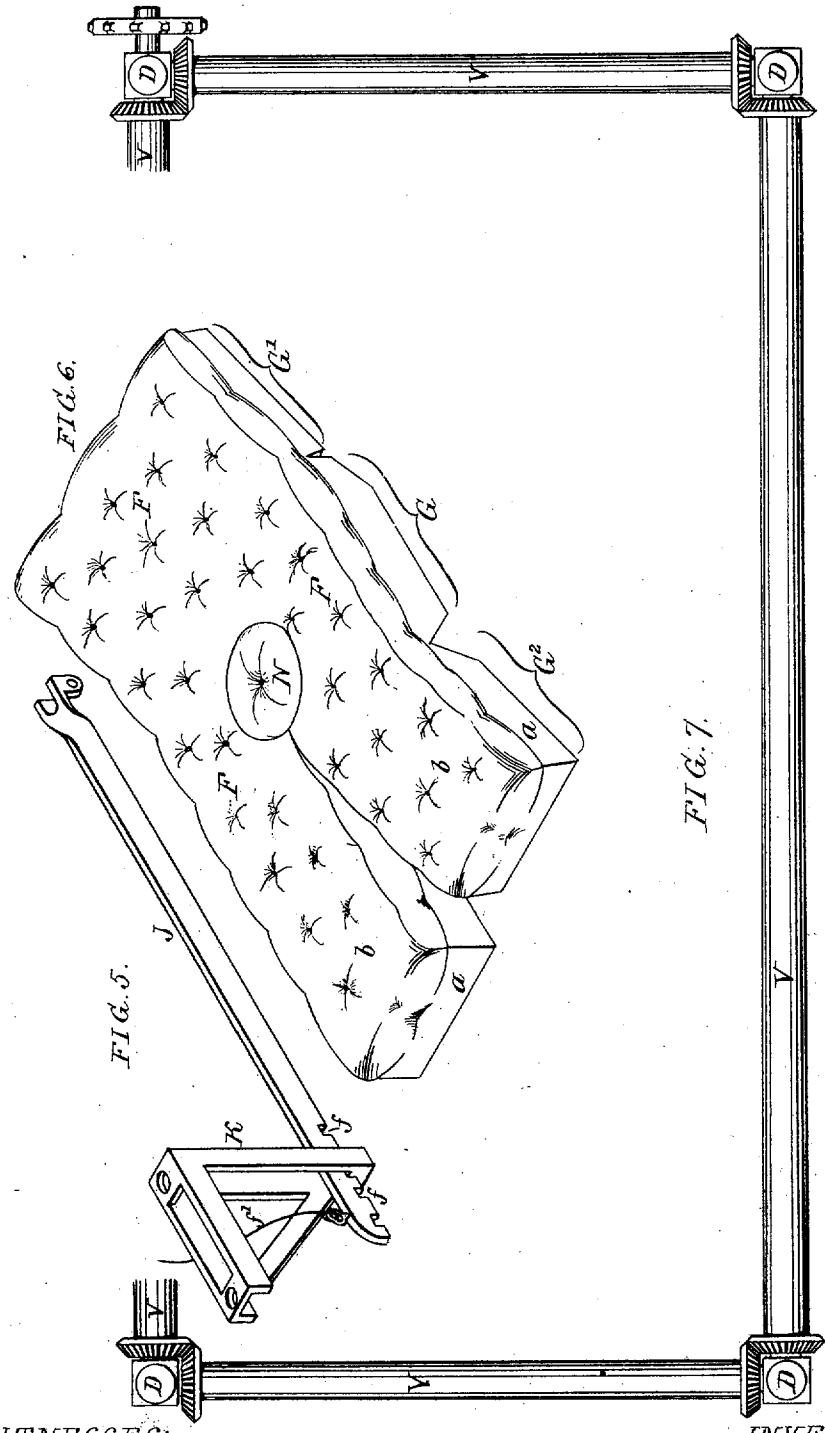
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(No Model.) 3 Sheets—Sheet 3.

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BEDSTEAD.

No. 307,717. Patented Nov. 4, 1884.



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UNITED STATES PATENT OFFICE.

CHARLES GÜNOLD, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO ANTON LETZGUS, OF SAME PLACE.

BEDSTEAD.

SPECIFICATION forming part of Letters Patent No. 307,717, dated November 4, 1884.

Application filed December 17, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES GÜNOLD, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Bedsteads, of which the following is a specification.

My invention consists of certain improvements in that class of bedsteads which are intended for invalids or persons suffering from wounds or broken limbs, the improvements comprising certain details in the construction of the bedstead, mattress, and fittings, with the view of providing for the various needs of the patient with as little discomfort and annoyance as possible.

In the accompanying drawings, Figure 1, Sheet 1, is a longitudinal section of a bedstead with my improvements; Fig. 2, Sheet 2, a transverse section of the same on the line 1 2; Fig. 3, a transverse section on the line 3 4, Fig. 1; Fig. 4, a transverse section on the line 5 6, Fig. 1; Fig. 5, Sheet 3, a perspective view of the device for regulating the movement of the foot of the mattress; Fig. 6, a perspective view of the mattress and mattress-frame, and Fig. 7 a plan view of the drums and gearing whereby the sheet is raised.

A A are the opposite side rails of the bed-frame; B, the head-board; B′, the foot-board, and D the four posts at the corners of the frame.

F is the mattress, the foot portion of which is divided longitudinally, the halved portion of the mattress extending for about one-third of its length.

The mattress-supporting frame is composed of three sections, G, G′, and G^2, the central portion, G, being supported in any suitable manner by the side rails, A, of the bed, and the head portion, G′, and foot portion, G^2, being hinged to this fixed central portion, as shown in Fig. 1, so that the head portion, G′, and the mattress supported thereby can be raised at an angle, and the foot portion, G^2, can be lowered. Said foot portion, G^2, of the frame is divided so as to form independent supports *a a* for the halves *b b* of the foot of the mattress, and permit either half to be adjusted at an angle, as the comfort of the patient may require.

The adjustment of the head of the mattress-frame is effected by the elevation and depression of the long arms of levers H H, carried by a rock-shaft, I, the operation of which is effected by means of a crank-shaft, *d*, acting through the medium of a train of spur-gearing, as shown in Fig. 1, the levers being retained in any position to which they may have been adjusted by means of a pawl engaging with a ratchet-wheel on said shaft *d*. The head-frame can be lowered on raising the pawl, and in order to prevent the jarring of the frame as it is lowered I provide a cushion therefor, consisting of a series of springs, *e*, carried by a transverse rail, *e′*, on the head-board, the head of the frame resting on these springs before it reaches a horizontal position, and gradually compressing the springs as it approaches this position.

To the short arms of the levers H are pivoted bars J, which are notched at the outer ends for engagement with slotted frames K, one secured to one half, *a*, of the foot-frame G^2, and the other to the opposite half of the same, so that as the levers H are vibrated in order to lift the head-frame the bars J will be drawn forward, and the foot-frames will be depressed.

The object of providing the bars J with notches *f* is to permit a local or special adjustment of either half of the foot-frame independent of the general adjustment due to the movement of the levers H, this local adjustment being effected by lifting, by means of a cord, *f′*, the bar J, controlling that half of the frame which it is desired to adjust, until said bar is free from engagement with the frame K, the foot-frame being then raised or lowered, and retained in position by permitting the notched bar to again engage with the frame K.

When it is desired to operate the head-frame without affecting the foot-frame, the bars J may be retained free from engagement with the frames K, and the two parts of the foot-frames supported by means of pins *g*, passed through openings in the foot-board B′, as shown by dotted lines in Fig. 1. This connection between the levers H and the foot-section of the mattress-frame may be applied to a foot-frame made in one piece, as well as to the halved frame. The central portion, G, of the mat-

tress-frame carries a basin, M, and the mattress has a removable section, N, above this basin, the latter communicating through a sectional or telescopic spout, P', with a vessel, P', placed on the floor beneath the bed, so that on removing the section N of the mattress the occupant of the bed may use the basin without change of position, or may be placed in the most comfortable position for its use by elevating the head portion and depressing the foot portion of the mattress-frame. As the entire mattress is supported upon springs, it is necessary that the basin should be free to yield with the mattress; hence I support the said basin on a ring, *h*, which rests upon springs *i*, carried by a ring, *j*, suspended from the frame G, and for the same reason the spout P is made of the telescopic character shown, and a flexible section, *m*, is provided in the pipe *n*, Fig. 3, by which water is conveyed to the basin in order to rinse the same after use.

On the foot-board B' of the bed is a slotted bar, S, which is secured by means of a thumb-nut on a bolt, *p*, and has at the upper end a pulley, *s*.

In some cases of fracture or other injury to the leg it is advisable to support the foot of the patient clear of the mattress, and for this purpose a clamp applied to the foot is attached to a cord which passes over the pulley *s*, and is attached to a suspended weight. By rendering the bar S adjustable vertically the foot and so much of the limb as may be necessary may be held up above the mattress. The patient rests upon a sheet, T, and in order to permit the lifting of this sheet without disturbing the mattress the posts D of the bed-frame have bearings for the spindles of two longitudinal drums, V—one at each side of the bed—and two similar transverse drums, V—one at the head and the other at the foot of the bed—these drums being geared together by bevel-gearing, and the spindles of one of the longitudinal drums being driven by chain-gearing from a crank-shaft, *q*, on the head-board. Each of the drums has a series of straps, *t*, provided at the lower ends with snap-hooks *v*, those of the side straps being adapted to eyes *v'* at the sides of the sheet T, and those of the end straps to similar eyes at the ends of said sheet. On turning the crank-shaft *q* all of the drums *v* will be caused to rotate, so that if both the side and end straps are connected to the sheet the latter will be lifted bodily with the patient from the mattress, while if one side or one end only of the sheet is to be lifted the straps at that side or end only are connected to the sheet, the others being released.

The snap-hooks and eyes provide for the ready connection of the straps to and their release from the sheet T; but, if desired, the hooks may be carried by the sheet and the eyes by the straps *t*. In either case, however, the sheet T must have an independent connection with each of the straps *t*, in order that any desired portion of the sheet, no matter how limited in extent, may be lifted without affecting any other portion.

I claim as my invention—

1. The combination of the bedstead, the hinged foot-section G^2 of the mattress-frame, the lever H, the rigid frame K, connected to and projecting from the section G^2, and the notched bar J, hung to the lever H and engaging with the frame K, as set forth.

2. The combination of the bedstead, the hinged foot-section G^2 of the mattress-frame, the lever H, the frame K, the bar J, detachable from the frame K, and the pin *g*, for supporting the mattress-frame when released from the control of the bar, as set forth.

3. The combination of the bedstead, the mattress, the supporting-springs therefor, the basin M, the ring *h*, the springs *i* and their support, the vessel P', and the telescopic tube or spout P, as set forth.

4. The combination of the bedstead, the mattress and its spring support, the basin M, ring *h*, the springs *i* and their support, and the water-supply pipe *n*, having a flexible section, *m*, as set forth.

5. The combination of the frame of the bedstead, the drums V, geared together and having straps *t*, the sheet T, and an independent hook-and-eye connection between the sheet and each of the straps, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES GÜNOLD.

Witnesses:
JOHN E. PARKER,
HARRY SMITH.