M. Engel,

Invalid Bedstead.

No. 1,604. Patented May 12, 1840.

Fig. 1.

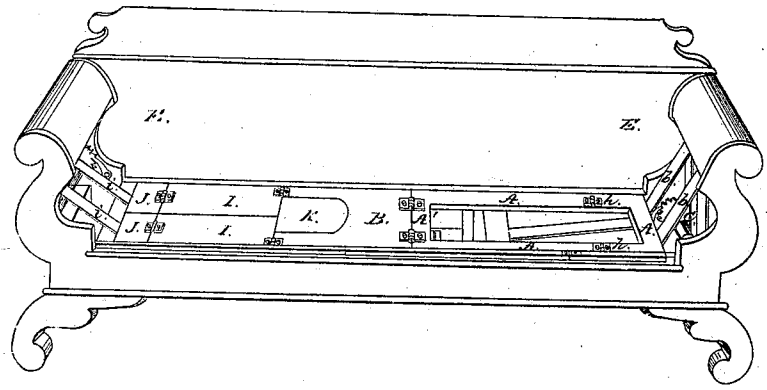


Fig. 2.

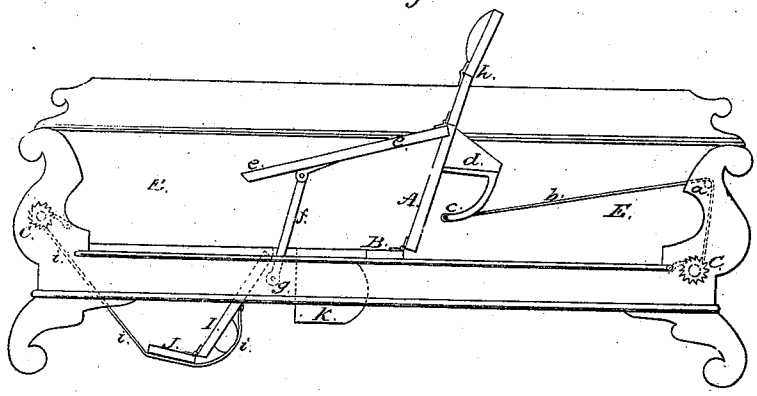
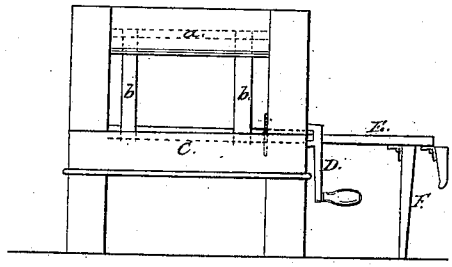


Fig. 3.



N. PETERS. PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MARTIN ENGEL, OF EASTON, PENNSYLVANIA.

SOFA WHICH CAN BE ADAPTED TO INVALIDS.

Specification of Letters Patent No. 1,604, dated May 12, 1840.

To all whom it may concern:

Be it known that I, MARTIN ENGEL, of the borough of Easton, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in the Manner of Constructing Sofas, which may be used for the ordinary purposes of such a piece of furniture and which is also adapted particularly to the use of invalids and persons suffering under fractures or otherwise requiring medical or surgical aid; and I do hereby declare that the following is a full and exact description thereof.

Figure 1, in the accompanying drawing, represents the sofa in perspective, the cushions and covering of the bottom, which when on give to it the appearance of an ordinary sofa, being removed for the purpose of exhibiting the movable parts thereof, and other portions of the structure which are ordinarily covered by them. Fig. 2, is a direct front view (not in perspective) showing, in its elevated position, that part of the movable bottom which supports the back, together with the arm which is attached to it; and likewise showing, as depressed, that part which supports the legs and feet, the position thus given to them being that which they are made to assume when it is desired to place the patient in a sitting posture. Fig. 3, is a view of one end, showing the manner in which the back may be turned down and supported in a horizontal position.

A, A, Fig. 1, is a frame at that end of the bottom of the sofa where the head of the patient is situated, which frame is hinged by the end A′; to a fixed piece B constituting the middle portion of the bottom of the sofa. A windlass, which is to be turned by means of a winch, or crank handle, is placed within each end of the sofa, for the purpose of raising or lowering the movable parts of the bottom. These windlasses are seen at C Fig. 1, and their situation is indicated by the dotted lines *c*, *c*, Figs. 2 and 3. That at the head end is, in general, situated lower down than that at the foot, as shown in the drawing. Above the windlass at the head there is a roller, which crosses from front to back of the frame, in the situation marked *a*, Figs. 2 and 3. Straps, or bands, *b*, *b*, are attached by one end to the windlass, pass thence over the roller *a*, and are attached by their opposite ends to two iron arms *c*, affixed to a block of wood *d*, made fast to the underside of the frame A, in such a manner as to give the necessary leverage for raising the frame. The winch D, is shown in place in Fig. 3. There is not any thing peculiar in the construction of the windlasses, which are furnished with ratchet wheels and pawls to hold the frames in any desired position. To the frame A, I also affix an apparatus which when said frame or back is raised, shall constitute an arm, like that of an arm chair, and which, when said frame or back is lowered, will descend with it, and occupy the space prepared for it within the front rail of the sofa. A piece of wood, *e*, *e*, properly covered and stuffed, constitutes the arm; and this is hinged at one end to the outer edge of the frame A; it is also hinged, or attached by a joint pin, to a strip of wood or of metal *f*, the lower end of which works on a joint pin or hinge at *g*, within the inner side of the front rail of the sofa. It will be seen that by this arrangement the arm will be raised and lowered with the back.

The upper part of the frame A, may be divided, and the parts hinged together, at *h*, *h*, to allow the upper portion to fall back to a convenient distance for the relief of the head of the patient.

At the foot end the portion I, I, of the bottom is made capable of being lowered so as to occupy the position shown in Fig. 2. The part J, J, at the same time bends forward to sustain the foot or feet of the patient. The lowering portion is divided into two parts, longitudinally, so that one leg only may be lowered while the other is kept in a horizontal position; there are to be buttons, or bolts, on the under sides of these parts by the aid of which either side may, at pleasure, be sustained, or allowed to descend. In Fig. 2, the manner of passing the straps *i*, *i* from the windlass, under the parts J, and I, and of attaching them, to the latter, is distinctly shown, so as not to require further description.

The back E, E, of the sofa is hinged, so that it may be turned down, and occupy the position shown in Fig. 3, there being two pieces F, hinged thereto, which, when it is turned down become legs to support it. The hinges by which the back is attached to the bottom, should have slip joints, or be other-

wise so connected with the back rail of the sofa as to admit of the ready removal of the back when desired.

K, is a falling piece, or shutter hinged to the permanent piece B, so as to leave an opening for the use of the bed pan; in Fig. 2, this piece is represented as lowered.

This sofa may be made of the usual dimensions, say from six feet to six feet and a half in length at the bottom, and two feet three or four inches wide more or less. The bottom, and back must be properly covered and stuffed, the mattress part being so divided and attached as to allow of all the designated motions the means of effecting which will be readily understood. The pattern of this sofa, and its general exterior may be varied in any way not incompatible with its adaptation to the use herein designated.

Having thus fully described the manner in which I construct and arrange the respective parts of my sofa for invalids, and shown the uses of those parts respectively, I do hereby declare that I do not claim the so constructing of a sofa, or couch, as that the head and foot parts thereof may be raised or lowered to adapt it to the use of invalids, but

What I do claim as constituting my invention, and desire to secure by Letters Patent, is—

1. The peculiar and novel manner in which these objects are effected by me so as to render it more manageable and convenient than those heretofore constructed—that is to say, I claim the manner in which I have combined the windlass with the raising frame, and the jointed arm, in the head part A, not intending to claim either of those parts separately but only in their entire combination, as herein set forth.

2. I, in like manner, claim the combination of the respective parts which constitute the lowering and elevating portions of the foot and, divided into two parts widthwise, and connected and operating, as a whole, in the manner set forth.

MARTIN ENGEL.

Witnesses:
GEO. SIGMANE,
ENOCH S. CLARK.