A. H. KELLER.

COUCH.

APPLICATION FILED NOV. 14, 1908.

938,244. Patented Oct. 26, 1909.

Fig. 1.

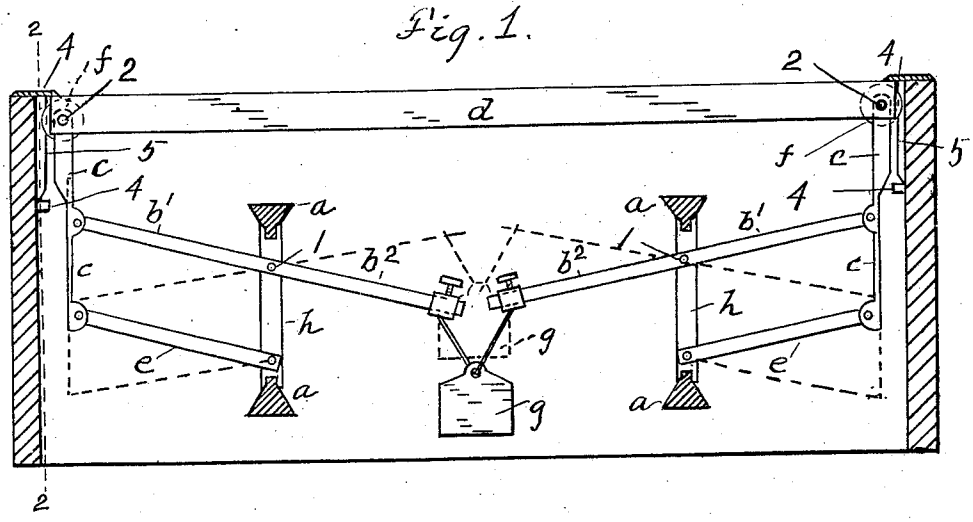
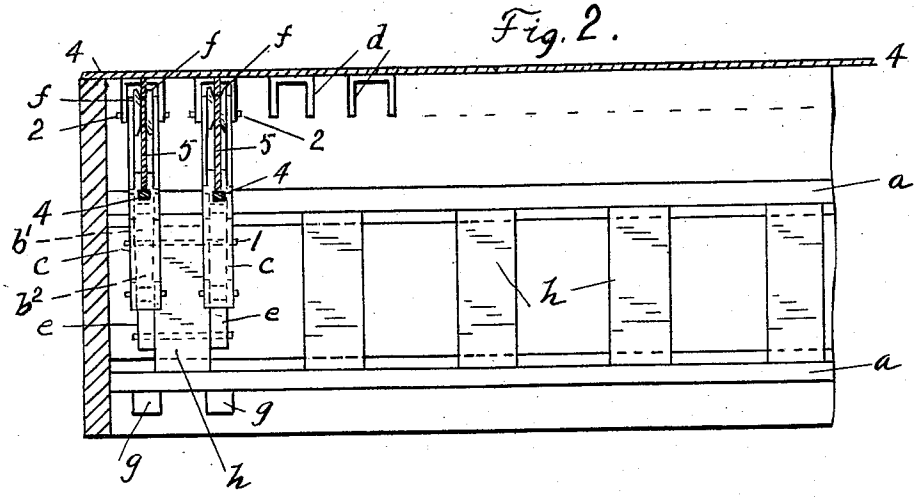


Fig. 2.



Inventor

A. H. Keller,

By Benj. R. Catlin

Attorney

Witnesses

C. M. Catlin

Grace H. Macdonald

UNITED STATES PATENT OFFICE.

ARTHUR H. KELLER, OF MUNICH, GERMANY.

COUCH.

938,244. Specification of Letters Patent. Patented Oct. 26, 1909.

Application filed November 14, 1908. Serial No. 462,720.

To all whom it may concern:

Be it known that I, ARTHUR H. KELLER, a temporary resident of Munich, in the Kingdom of Bavaria and Empire of Germany, have invented certain new and useful Improvements in Couches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

This invention relates to beds, couches, and the like, and has for its main object to provide an improved yielding support for the body of a person resting thereon.

In beds, couches, mattresses, settees, and like devices for supporting bodies resting thereon by means of springs, or of elastic material, as heretofore common, it is a fact that the reaction of the springs, or of the elastic matter, increases with the compression thereof. This fact makes it evident that with such couches, mattresses, etc., the convex parts of the body resting thereon will be exposed to a higher pressure than the concave parts of said body, and this continuous locally higher pressure causes discomfort, and with persons bed ridden causes bed-sores.

According to the present invention the surface designed to carry the body is supported by or comprises a number of slats arranged parallel to each other like the bars of a grate, in comparatively close proximity, crosswise to the longitudinal axis of the body and of the couch or the like. Each slat is pressed upward by counterweights, and can be independently depressed a limited distance between suitable stops, as indicated at 4. Any slat even when in its lowest position does not press upward with more force than when in its highest position, since it is balanced by the counterweight which remains unchanged during its action. The convex parts of a body will depress the slats vertically below such parts so that the concave parts of the body will come to rest on slats vertically below them, whereby an even distribution of pressure over the whole surface of the resting body is secured. The amount of vertical play of the slats corresponds approximately to the difference by which the convex parts of a body protrude more than the concave parts from the axis of the body. Thus the body is held in suspension by the action of the slats and their respective counterweights, and no part of the surface of the body can receive a higher pressure than corresponds to the respective counterweight. Any part of the body may be relieved of pressure by removal or adjustment of the corresponding-counterweights.

In the accompanying drawing which illustrates the invention and forms part of the specification;—Figure 1 shows a vertical cross section of the device; Fig. 2 is a partial view on line 2—2 of Fig. 1.

Carriers or beams *a* are arranged parallel to the longitudinal axis of the couch and supported in the ends of the couch frame. On the spaced standards *h* of these carriers double armed levers b^1, b^2, are supported by pivots 1. These levers carry at the outer ends of arms b^1, the supports *c* on which the horizontal slats *d* rest, being joined to the same at 2; while to the inner arms b^2 the counterweights *g* are adjustably attached.

The slats may be guided in their vertical movement by levers *e* pivotally connected, by friction rollers *f*, or by either of said devices, as this does not affect the principle of construction and operation of the structure. 5 are guide flanges for rollers *f*. Slats thus supported are arranged parallel to each other and comparatively close together in such number that the top or surface of the couch is formed by them, though in use blankets or the like would ordinarily be placed between them and the body.

The counterweights in their entirety must evidently correspond in a measure to the weight of body resting on the couch.

A single weight *g* is shown connected to each pair of levers supporting a slat at its opposite ends, but obviously a separate weight could be used on each lever if desired. The slats are preferably channel bars, as shown, but the invention is not limited to use of such bars.

Having thus described the invention what I claim is;—

1. In a device of the character described, the combination of a multiplicity of horizontally arranged movable slats, levers pivoted intermediate their ends, the outer ends of the levers being independently operatively connected to the slats, said connections forming independent supports for said slats, the opposite ends of said levers having means to force them downward, as set forth.

2. In a device of the character described, the combination of a plurality of slats inde-

pendently movable down and up, counterweights, and means for operatively connecting the counterweights to said slats, whereby the pressure exerted against a body by each slat is constant irrespective of the amount of depression of the slat.

3. In a couch or the like, the combination of independently movable slats, independent supports for the several slats near both ends thereof, levers, counterweights on the levers, each slat support being operatively connected to a separate one of said levers, as set forth.

4. In a couch or the like, the combination of independently movable slats, supports for the several slats near the ends thereof, pivoted levers carrying said supports, and counterweights on said levers.

5. In a couch or the like, the combination of a frame, supports within the frame, slats crossing the frame, levers pivoted on said supports, connections between said levers and slats on one side of such pivots, and counterweights on the levers on the opposite side of the pivots.

6. In a couch or the like, the combination of independently movable slats, means for guiding the slats straight down and up, counterweights, and connections between the counterweights and slats.

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

ARTHUR H. KELLER.

Witnesses:
ABRAHAM SCHLESINGER,
LOUIS I. MUELLER.