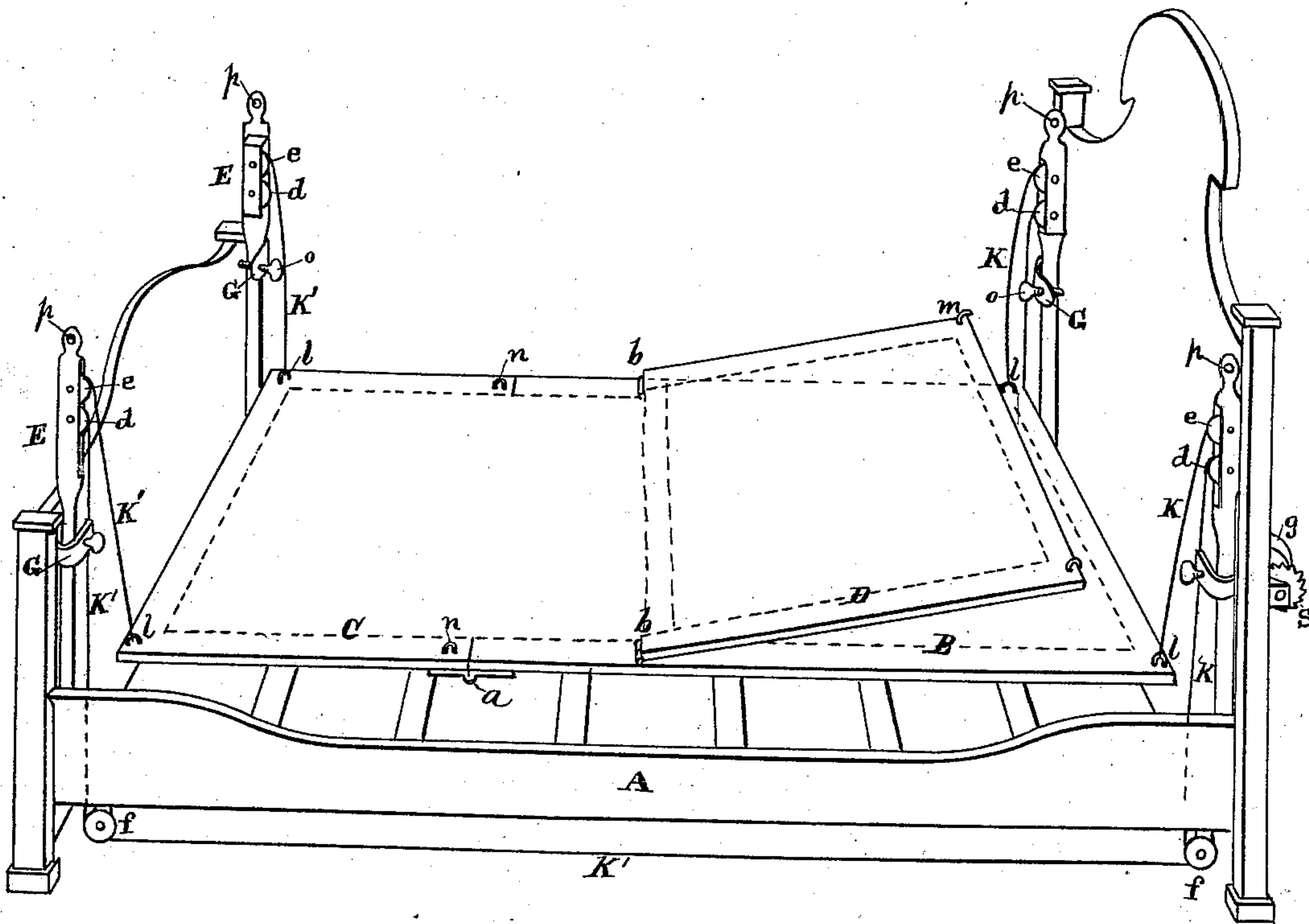


J. H. ARCHER.  
Invalid-Bed.

No. 221,952.

Patented Nov. 25, 1879.

FIG. 1.



WITNESSES

Frank A. Brooke  
D. H. Hourse

Inventor

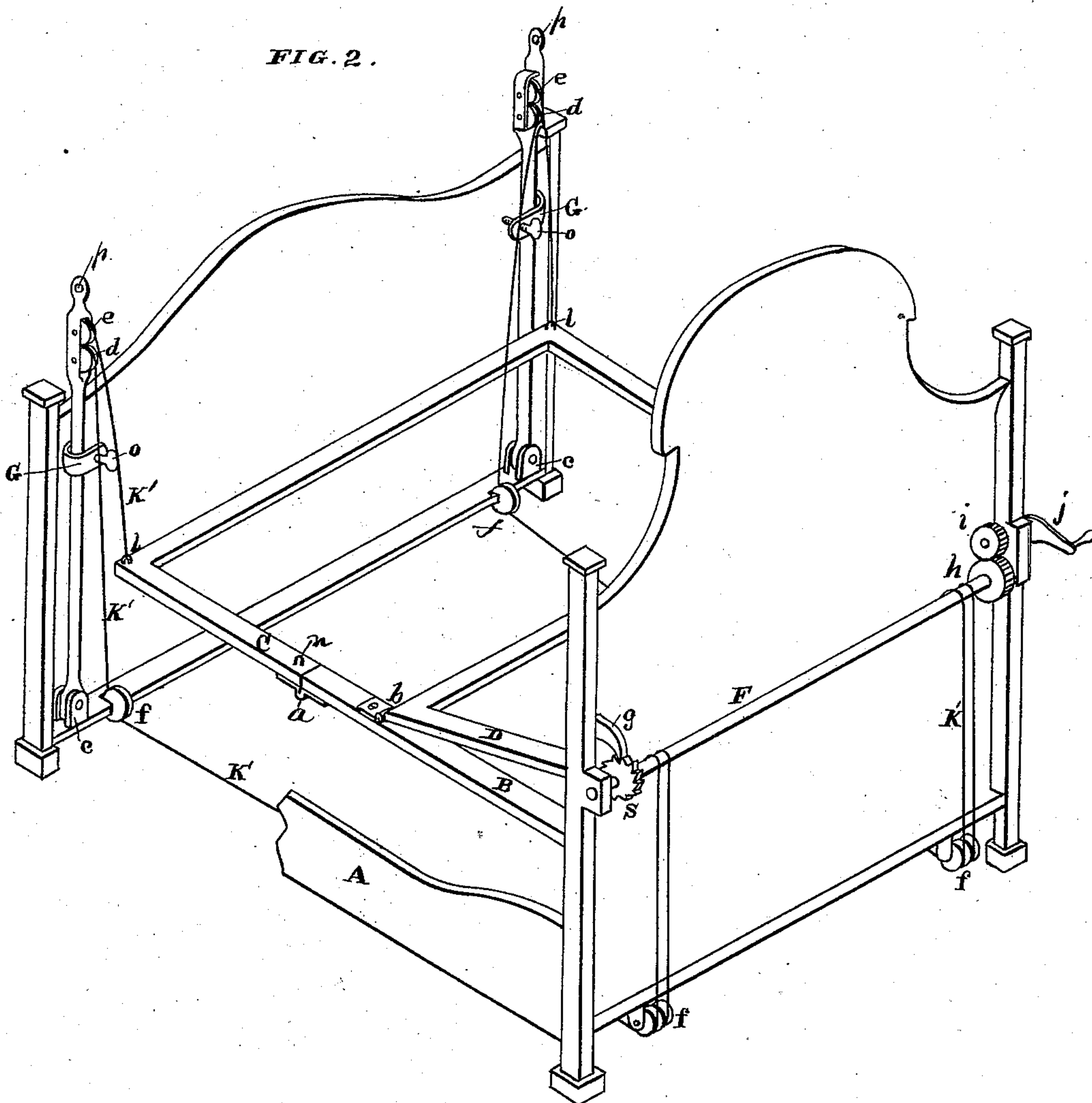
James H. Archer  
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FIG. 2.



WITNESSES

Frank A. Brooks  
D. H. House

INVENTOR

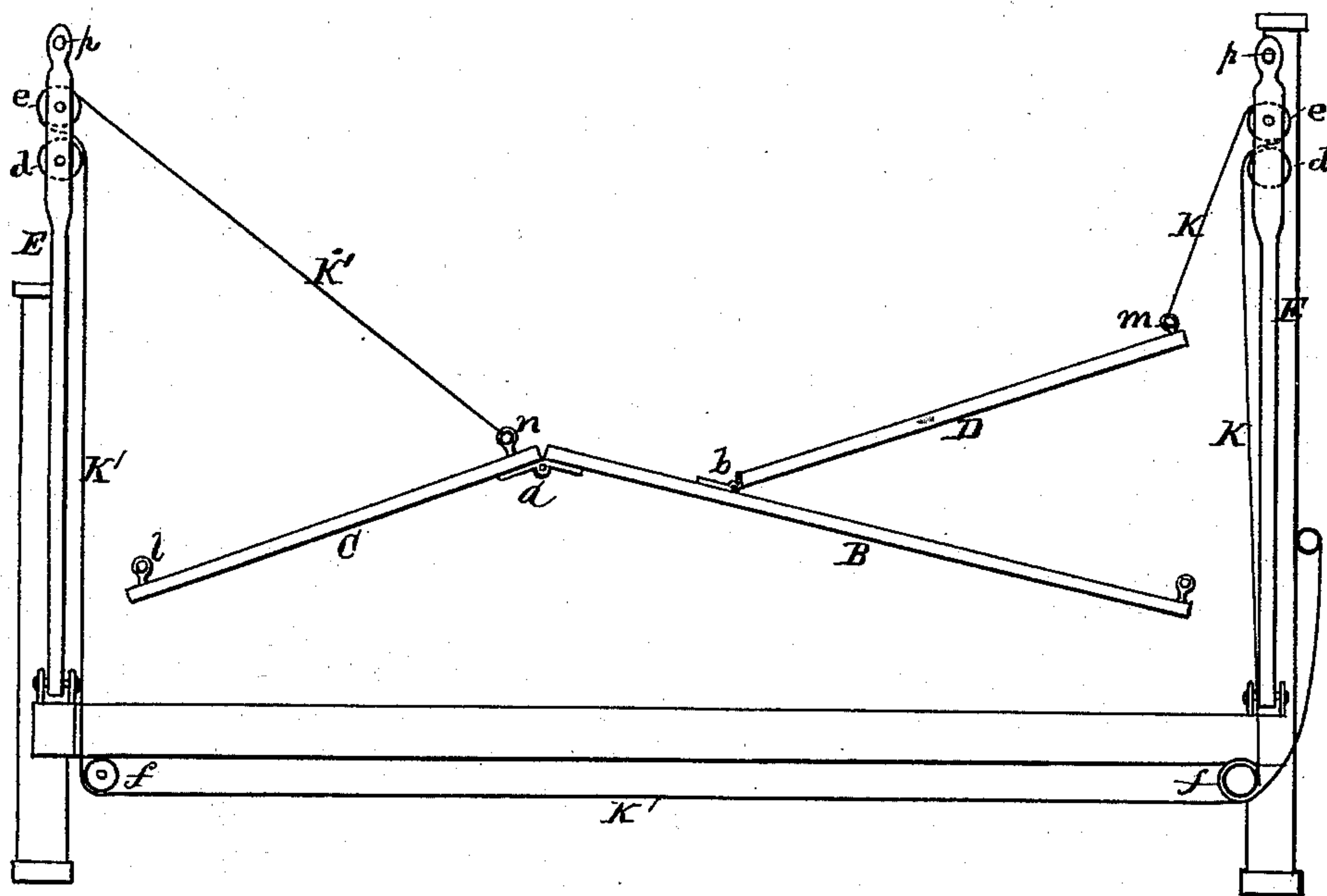
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Invalid-Bed.

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FIG. 3



Witnesses

Frank A. Clarke  
S. H. Stouss

Inventor

James H. Archer  
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Atty



# UNITED STATES PATENT OFFICE.

JAMES H. ARCHER, OF SAN FRANCISCO, CALIFORNIA.

## IMPROVEMENT IN INVALID-BEDS.

Specification forming part of Letters Patent No. **221,952**, dated November 25, 1879; application filed July 17, 1879.

*To all whom it may concern:*

Be it known that I, JAMES H. ARCHER, of the city and county of San Francisco and State of California, have invented an Improved Invalid-Bed; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in beds of that class known as "invalid-beds," in which certain mechanical attachments to the bedstead serve to elevate, tilt, and adjust the bed bottom to accommodate the invalid.

My invention consists in the employment of a peculiarly divided, hinged, or jointed bed-bottom, having a supplemental leaf hinged to it, and, in combination with this bottom, a series of folding adjustable standards with cords and pulleys, together with a roller, crank, and ratchet by which the bed-bottom is raised and held at any point. With this roller and the jointed bottom I employ curved links or hooks at different points upon the bed-bottom, and also upon the roller, so that by shifting from one hook to another one set of cords will serve to make all the adjustments which may be needed. The standards may be folded down so as to be concealed and the bed present an ordinary appearance when desired.

Figures 1 and 2 are perspective views of my bed. Fig. 3 is a side view, showing the bottom elevated.

A represents the bedstead, which may be of the ordinary type or any desired shape with head and foot boards joined by the usual side rails.

The bed-bottom is made in a peculiar manner, and adapted to fit the bedstead.

The side frames of the bed bottom are hinged, as shown at *a*, so as to form the bottom into two parts, B C, the head part, B, being somewhat longer than the lower or foot part, for the purpose hereinafter described.

A supplemental leaf, D, is hinged to the side frames of the bottom, as shown at *b*, so that it may be used for elevating the head of the patient, when desired.

At each corner of the bedstead is a folding adjustable standard, E, pivoted, as shown at *c*, to the frame of the bedstead, so as to fold down out of the way when desired. On the

upper end of each of these standards are pulleys *d e*, and near the lower ends of each, attached to the bed-frame, are the leading pulleys *f*, those at the head being double, for the purpose hereinafter described.

On the back of the head-board is mounted a roller, F, provided with a ratchet, *s*, and pawl *g* at one end, and a gear, *h*, and pinion *i* at the other, a crank, *j*, being used to rotate the pinion meshing with the gear on the roller, so as to rotate it easily.

Attached to this roller, at the opposite ends, are cords for raising the bed-bottom.

The cords K for raising the corners of the head end lead from the roller down under the leading pulleys *f*, and then over the lower pulley *d*, through and over the upper pulley, *e*, and then down to the corners of the bed-bottom.

The cords K' lead from the roller down under the leading pulleys *f*, lengthwise the bed, to the corresponding ones at the other end of the bed; thence upward between the rollers *d e* and over *e* down to the foot corners of the bed-bottom.

At each corner of the bed-bottom is a curved link or hook, *l*, with which the knotted end of the cord will engage. By turning the crank, therefore, the cords leading through the pulleys, as described, will raise the bed-bottom up by the corners to any desired height, and the ratchet and pawl will prevent its lowering and hold it in place.

The cords at either end or either side may be disengaged, and only one end or side raised, when desired.

On the upper ends of the supplemental hinged leaf are placed links or hooks *m*, into which the knotted ends of the head-cords K may be caught, so that this supplemental leaf may be raised to any angle or inclination desired by the patient.

Corresponding hooks *n* are formed on the part C of the bed-bottom, and by placing the knotted ends of the cords K' on these hooks the lower end or foot of the part C may be dropped, so it will set at an angle to the part B, and still be sustained by the foot-cords K. This part may be more or less elevated for raising the knees of the patient, as desired.

Clamps G, having set-screws *o*, are arranged



at the corners of the bed to keep the hinged standards in an upright position, and, when desired, by removing the set-screws, the standards may be folded down out of sight, and the bed will have the appearance of an ordinary bedstead.

The crank and roller may also be removed and placed out of sight.

The bed-bottom B C is intended to be placed on top of the mattress, and heavy canvas or webbing is used in its construction. The part C is hinged below the center, as shown, so that the knees of the patient may be elevated; or, when desired, the feet may be raised.

A sitting position may be maintained by raising the supplemental leaf by means of the cords, and also raising the part C by its hooks, when the part C and leaf D will be at an angle.

When it is desired to raise the upper portion of the body from the hips, the supplemental leaf only may be elevated at the end, as described.

It is evident that either side may be raised by detaching the ropes on one side and raising the other, so that the patient may easily be removed from the bed, when necessary, or may be more readily turned over.

For persons afflicted by rheumatism, when head and feet are both elevated very high, the foot of the bed may be raised up as desired, and the supplemental leaf also, and the bed-bottom assume a U shape, so the bed will touch every portion of the back and lower limbs.

The upper ends of the standards above the pulleys are extended and holes *p* formed through them, through which cords may be passed for tying to the corners of the sheet, so as to sustain the patient when the sheets are to be changed and bedding removed. In order to do this, the bed-bottom is raised up by the roller and cords to its highest point on the standards. Cords are then tied to the corners of the sheet securely, and then passed through the holes *p* in the standards. Then, by reversing the rollers, the bed-bottom B C will be lowered down, and the patient be left suspended in the sheet until the bedding can be changed. The bed-bottom is then raised up to the patient, the corners of the sheet released, and the patient is lowered to the desired position again. The side of the bed is then raised, the patient is turned, and the soiled sheet on which he has been suspended is removed. In this way the bedding is changed without inconvenience to the patient, and the operation may be rapidly performed.

The combination of roller, crank, and cords and pulleys is such that a very easy lift is gained. One person may readily alter the position of the bed at will, or raise or lower it with ease. The movement is noiseless and certain, and not such as to jar the nerves of an invalid.

The lifting appliances may be applied to beds of any ordinary construction, it not being necessary to make one for their special adaptation.

The bed-bottom may be raised half-way up at any time, and air allowed to circulate under it in warm weather. When suspended in this way, persons may rock themselves by pushing with the foot against the foot-board, or the bed-bottom may be rocked to and fro to put a child to sleep, the same as in a hammock. The bed is therefore adapted to persons in good health who wish an easy position, as well as it is to invalids.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The bedstead A, with the hinged adjustable bottom B C and leaf D, with operating-cords K K', pulleys *d e f*, and roller F, in combination with the standards E, said standards being hinged, as shown at *c*, so they may be folded down when not in use, substantially as herein described.

2. In combination with the bedstead A, and the standards E, elevating-pulleys *d e f*, roller F, and cords K K', the bed-bottom, consisting of the two parts B C, divided or hinged, as shown at *a*, nearer the foot than head, and having the supplemental hinged leaf D, whereby different positions may be maintained, substantially as herein described.

3. The bed-bottom consisting of the parts B C, hinged below the center, and the portion B, provided with the adjustable leaf D, the parts C D having the hooks *m n*, in combination with the elevating-cords K K', substantially as and for the purpose herein described.

4. The combination, with the bed A, of the standards E, pivoted thereto, as shown at *c*, the clamps G, and set-screws *o*, whereby said standards are held in an upright position, substantially as herein described.

In witness whereof I have hereunto set my hand.

JAMES H. ARCHER.

Witnesses:

CHAS. G. YALE,  
FRANK A. BROOKS.