

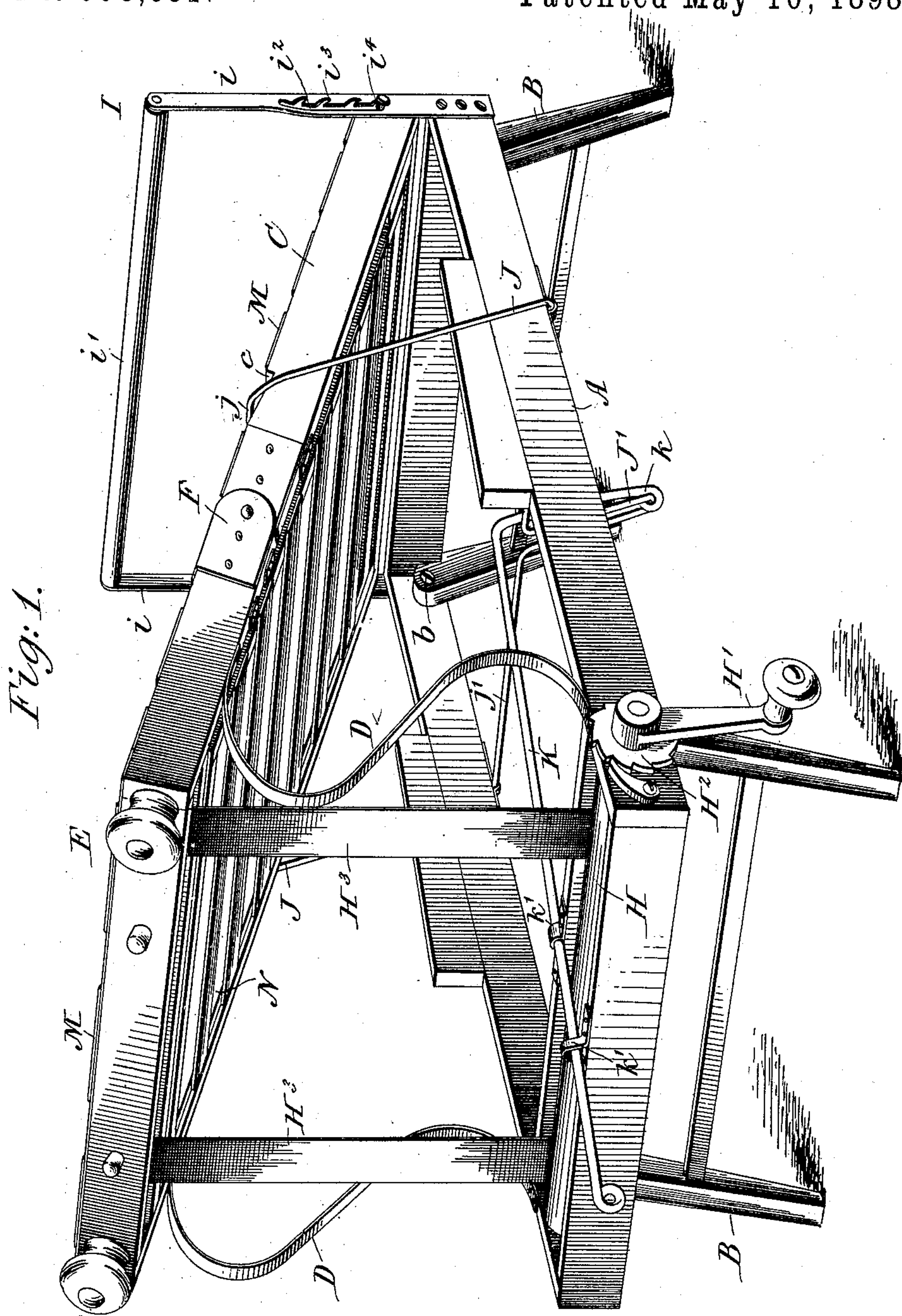
(No Model.)

3 Sheets—Sheet 1.

H. M. MARTIN.
ADJUSTABLE BED.

No. 603,651.

Patented May 10, 1898.



Witnesses:

J. A. Rennie
Guy E. Davis.

Inventor;

Henry M. Martin.

By his Attorneys;

Aldwin Davidson Wright

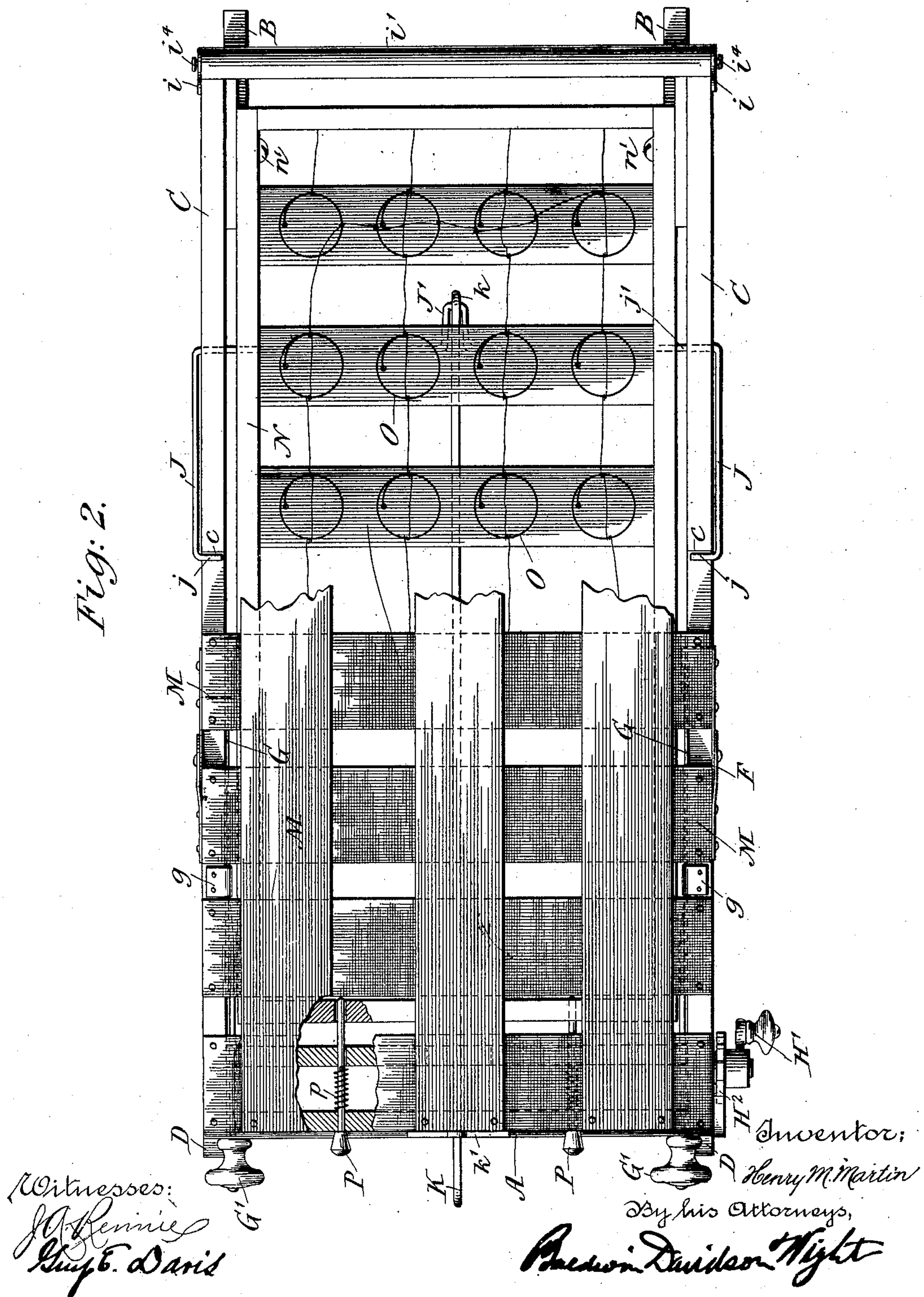
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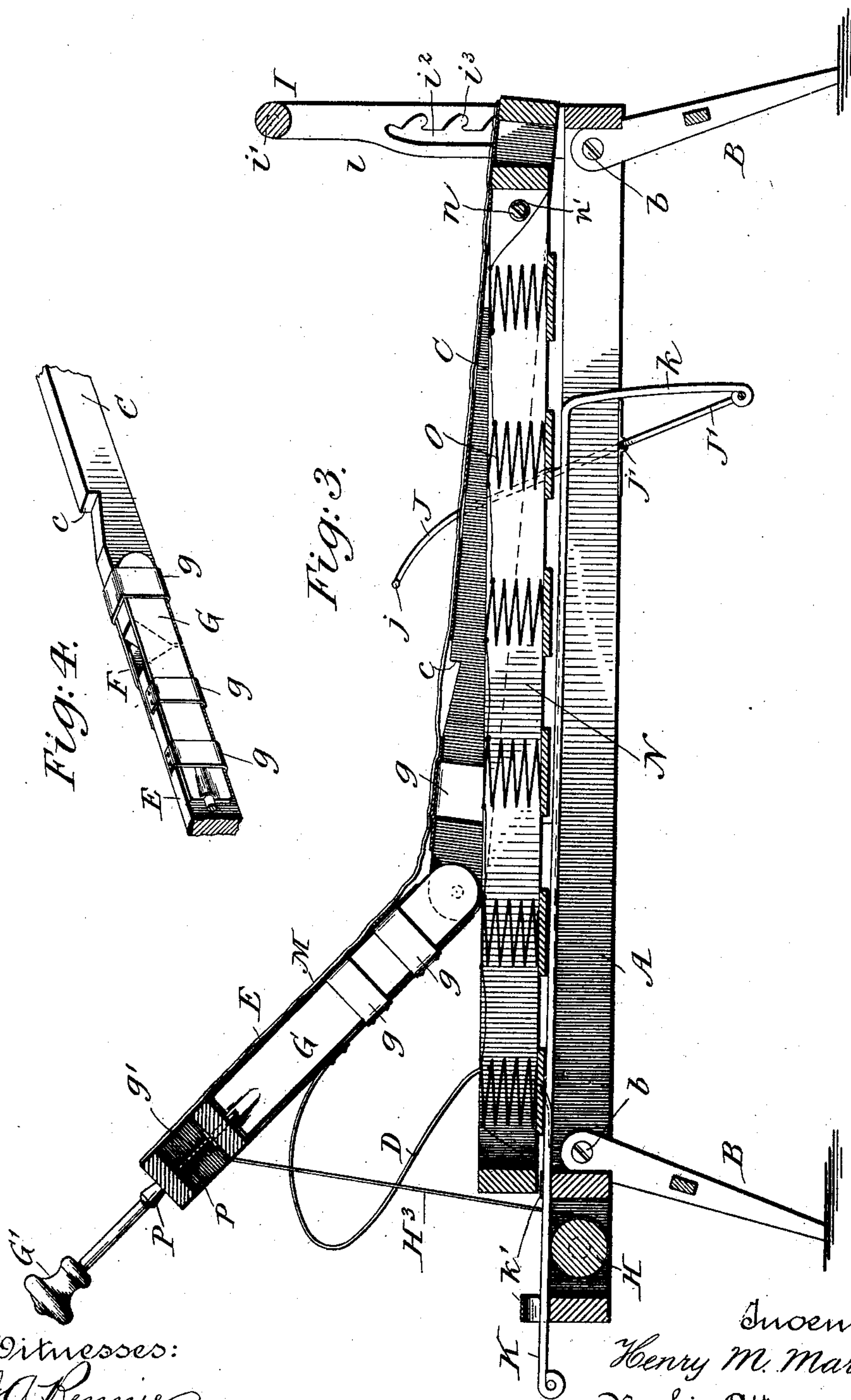
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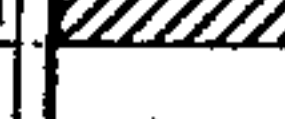
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 Invention;
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Pulverin Davidson Wright.

UNITED STATES PATENT OFFICE.

HENRY M. MARTIN, OF NEWARK, OHIO.

ADJUSTABLE BED.

SPECIFICATION forming part of Letters Patent No. 603,651, dated May 10, 1898.

Application filed November 29, 1897. Serial No. 660,141. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. MARTIN, a citizen of the United States, residing at West Newark, in the county of Licking and State of Ohio, have invented certain new and useful Improvements in Adjustable Beds, of which the following is a specification.

The object of my invention is to provide an adjustable bed in which an upper adjustable frame may be readily elevated to any desired extent, inclined at any desired angle, and may be either provided with a spring-bottom or be detached therefrom.

As will more clearly appear from an inspection of the drawings and from the detailed description to follow, my improved bed may be very readily adjusted. It is simple in construction and contributes in many ways to the comfort and convenience of both the occupant and the attendant.

The bed is especially adapted for hospital use; but it is suitable for use in other places.

In the accompanying drawings, Figure 1 is a perspective view of my improved adjustable bed. Fig. 2 is a plan view thereof with some of the parts broken away the more clearly to illustrate other parts. Fig. 3 shows a longitudinal central section on the line 3 3 of Fig. 2. Fig. 4 is a detail view in perspective of one of the devices for locking the hinge which connects the adjustable head-piece of the vertically-adjustable bed to the main frame thereof.

The stationary supporting-frame A is mounted on legs or standards B, which may be hinged at *b*, so that they may be folded in well-known ways. The frame C of the vertically-adjustable bed is supported at the front or head by S-shaped springs D, secured to the side rails of the frame A and to the under sides of the side rails of the hinged head portions E of the vertically-adjustable bed. These springs are stout and strong and can freely act to hold the bed in the elevated position shown in Fig. 1. They are sufficiently strong not only to support the bed, but also an occupant thereof. They not only lift the hinged head portion thereof, but the entire bed.

The head E is hinged to the body portion of the bed by hinges F, of any approved construction, and I employ sliding bolts G, oper-

ating through loops *g*, as indicated in Figs. 3 and 4. When the bolts are withdrawn, as indicated in Fig. 3, the head E may be tilted or inclined relatively to the remainder of the bed and without elevating the lower portion thereof, the springs D serving to support the head, as indicated in Fig. 3; but when the bolts are moved in the opposite direction, as indicated in Fig. 4, their inner ends pass through the loops *g* and lock the hinges, so that the head E will be maintained in line with the lower portion of the bed, and the springs D will support the entire bed-frame in the manner illustrated in Fig. 1. The bolts may be of any suitable construction, as shown. The inner ends are wide and flat, giving the requisite strength without being unnecessarily bulky, and the outer ends are provided with knobs or handles *G'*, and springs *g'* are employed, if desired, to shoot the bolts inwardly to cause them to pass through the loops and lock the hinges. I do not, however, consider the use of springs for this purpose essential.

In order to hold the bed C down in a horizontal position or at any desired elevation at the head, I employ a windlass consisting of a roller H, operated by a crank H' and pawl-and-ratchet mechanism H². The roller is connected to the end of the frame of the adjustable bed by means of straps or bands H³. By means of this mechanism the bed may readily be held at any desired position at the head.

In order to adjust the lower end or foot end of the bed, I provide a frame I, consisting of vertical bars *i* and a cross-bar *i'*. The bars *i* are slotted at *i*² and notched at *i*³. Through these slots extend studs or pins *i*⁴, secured to the side rails of the bed. The bed may be lifted, causing the studs or pins *i*⁴ to pass along the slots *i*², and the bed may then be moved longitudinally, so as to cause the studs to pass into the notches *i*³. In this way the bed may be held in any desired elevation in an obvious manner.

I also employ supplemental devices for holding the bed in the adjusted position. These are so constructed that they may be readily operated and will hold the bed in place should the pawl-and-ratchet mechanism be in any way disturbed. As shown, these devices consist of arms J, having hooked ends

j, extending from the side rails of the bed and connecting with a horizontal bottom piece *j'*, having crank-arm *J'*, to which is connected the downwardly-projecting end *k* of a longitudinal rod *K*. The hooked ends *j* are adapted to operate in notches *c* in the side rails of the bed and when properly adjusted will hold the bed against further vertical movement. The rod *K* slides in guides *k'* on the lower or main supporting-frame.

The frame of the vertically-adjustable bed is shown as covered with strips of fabric *M*, which act like a stretcher. I have provided a frame *N*, which supports a series of rows of springs *O*, that are adapted to support the strips *M*, and to thereby provide a spring bed-bottom of the most approved and comfortable kind.

The frame *N* is hinged at *n* to the frame *C* of the bed at the lower or foot end thereof. The end of the bed at the head may be either connected or disconnected with the head portion of the spring-carrying frame. For this purpose I employ sliding bolts *P*, which pass through perforations in the frame of the adjustable head *E*, as indicated in Figs. 2 and 3, and also through perforations in the transverse end piece of the frame *N*, as shown in Fig. 2. These bolts are preferably spring-operated, the springs *p* tending to shoot the bolts inwardly, so as to lock the spring-carrying frame to the frame of the adjustable bed. By these instrumentalities the bed may be given all the desired adjustments in a very simple and efficient manner. The bed may be held at any desired inclination. At its lower end the bed is lifted by the attendant; but the weight at the lower end or foot is comparatively small. The weight at the head is carried by the springs, and these springs do all the lifting that there is to do. An attendant can readily lower the head of the bed by the windlass and pawl-and-ratchet mechanism.

The operation of connecting and disconnecting the spring-carrying frame and the frame of the bed is a very simple one. The bed may be either lowered to come into line with the spring-carrying frame or the spring-carrying frame may be elevated to meet the bed, when the spring-bolts may be properly adjusted.

So far as I am aware I am the first to provide a bed of this kind in which a spring-carrying frame is detachably connected with the frame of the vertically-adjustable bed, so that the spring-carrying frame may be either elevated with the bed or left behind when the bed is elevated.

My improved bed is especially adapted for hospital service, and it may be equipped with the usual accompaniments of such beds. It is well adapted for all service of this kind; but some of my improvements may with advantage be used in household beds.

The frame *N* is connected to the frame *C* by the bolts *P* and by pivot-screws *n'*. By

withdrawing the bolts and removing the screws *n'* the frame *N*, with its springs, may be removed and placed on any bed. This is a convenience, as it is sometimes desirable to use the springs on a bedstead not having the adjustable features of the bed herein shown and described.

I claim as my invention—

1. The combination of the main supporting-frame, the frame of the adjustable bed hinged to the main supporting-frame, a hinged head portion, means for locking the hinges to rigidly connect the head portion with the foot portion of the bed, and springs for elevating the entire frame of the adjustable bed placed beneath the head portion thereof and attached to the main supporting-frame.
2. The combination of a main supporting-frame, a hinged adjustable bed-frame having a hinged head portion, and sliding bolts movable across the hinge of the head portion for locking the hinges, in combination with springs of sufficient strength to support the entire frame of the bed, and also the occupant thereof, placed beneath the head portion of the adjustable frame, and secured to the main supporting-frame.
3. The combination of the main supporting-frame, the vertically-adjustable bed and the spring-supporting frame detachably connected therewith.
4. The combination of the main supporting-frame, the vertically-adjustable bed, means for holding it at the desired elevation, a frame provided with a series of rows of bed-springs, and means for detachably connecting the spring-carrying frame with the frame of the adjustable bed.
5. The combination of the main supporting-frame, the frame of the vertically-adjustable bed hinged thereto at the foot, a spring-carrying frame hinged to the frame of the adjustable bed at the foot thereof, a series of rows of bed-springs carried by said spring-carrying frame and bolts for connecting the frame of the vertically-adjustable bed with the spring-carrying frame.
6. The combination of the main supporting-frame, the frame of the vertically-adjustable bed provided with a hinged head-piece, sliding bolts for locking the hinges thereof, springs for elevating and supporting the bed, and also the occupant thereof, placed under the adjustable frame and secured to the main supporting-frame, a spring-carrying frame hinged at its foot to the frame of the vertically-adjustable bed, spring-bolts for connecting the spring-carrying frame at its opposite end to the head of the frame of the vertically-adjustable bed, a series of rows of springs carried by the spring-supporting frame, a windlass connected with said adjustable frame and ratchet mechanism for controlling the windlass.
7. The combination of the main supporting-frame, the hinged legs, the slotted frame at the foot of the bed provided with vertical

rows of notches, studs or pins secured to the side rails of the frame, and adjustable in said notches means for elevating and depressing the bed at the head, the hooked arms adapted to engage notches on the side rails of the adjustable bed, the cross-rod to which they are connected, the crank on said cross-rod and a longitudinal operating-bar connected with said crank.

10 8. The combination of the main supporting-frame, the vertically-adjustable bed, the slot-
15 ted notched frame secured to the foot end of the main supporting-frame, studs or pins on the foot of the vertically-adjustable bed extending into said slots and notches, and vertically adjustable therein, a spring-carrying

frame hinged to the foot end of the frame of the vertically-adjustable bed, a series of rows of springs carried by said frame, means for connecting the spring-carrying frame with the adjustable frame, supporting-springs carried by the main supporting-frame and arranged beneath the head of the adjustable frame, and windlass mechanism for controlling the elevation of the head of the bed.

In testimony whereof I have hereunto subscribed my name.

HENRY M. MARTIN.

Witnesses:

JOSEPH RENZ,
WILLIAM C. MILLER.