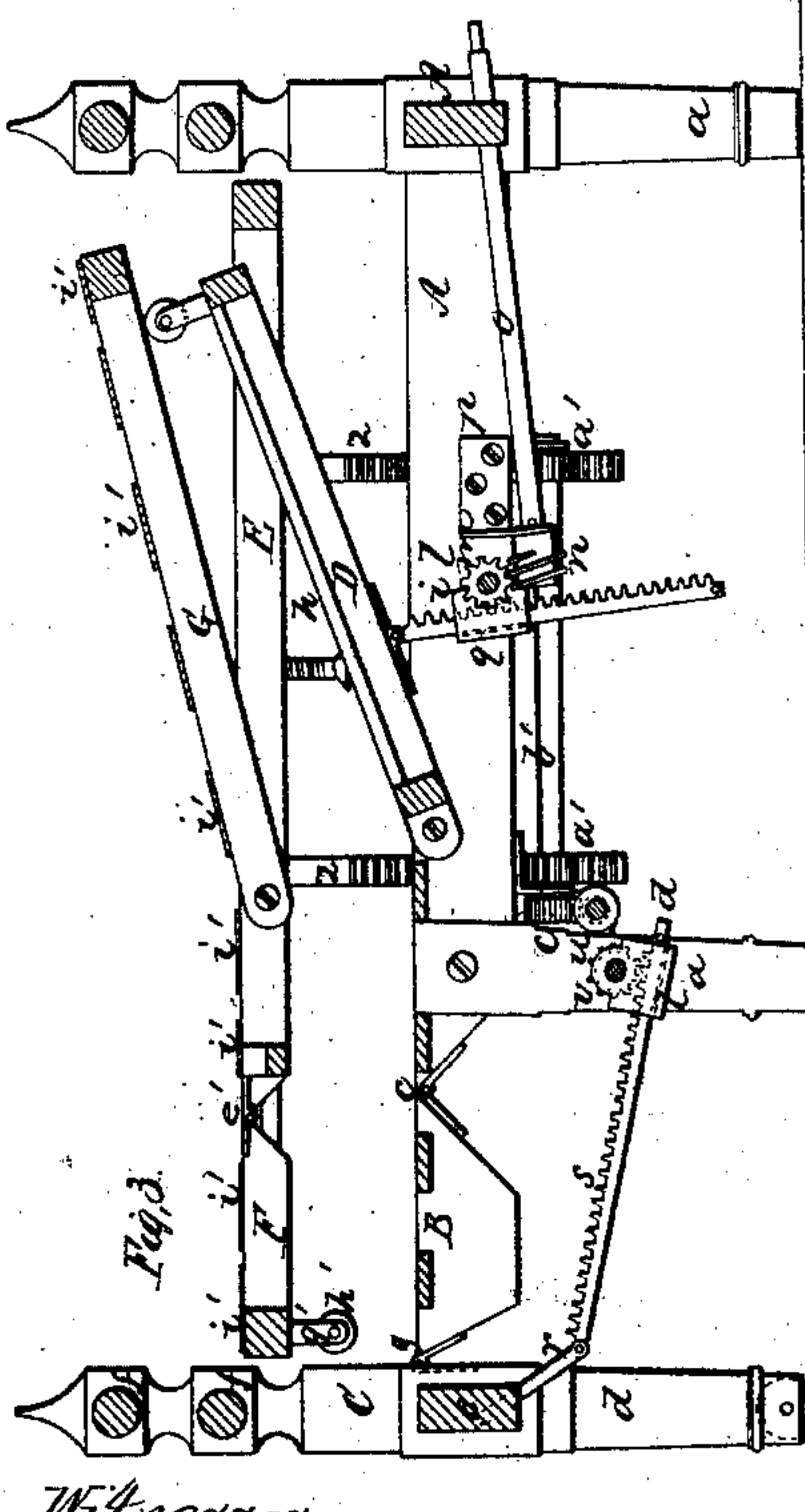
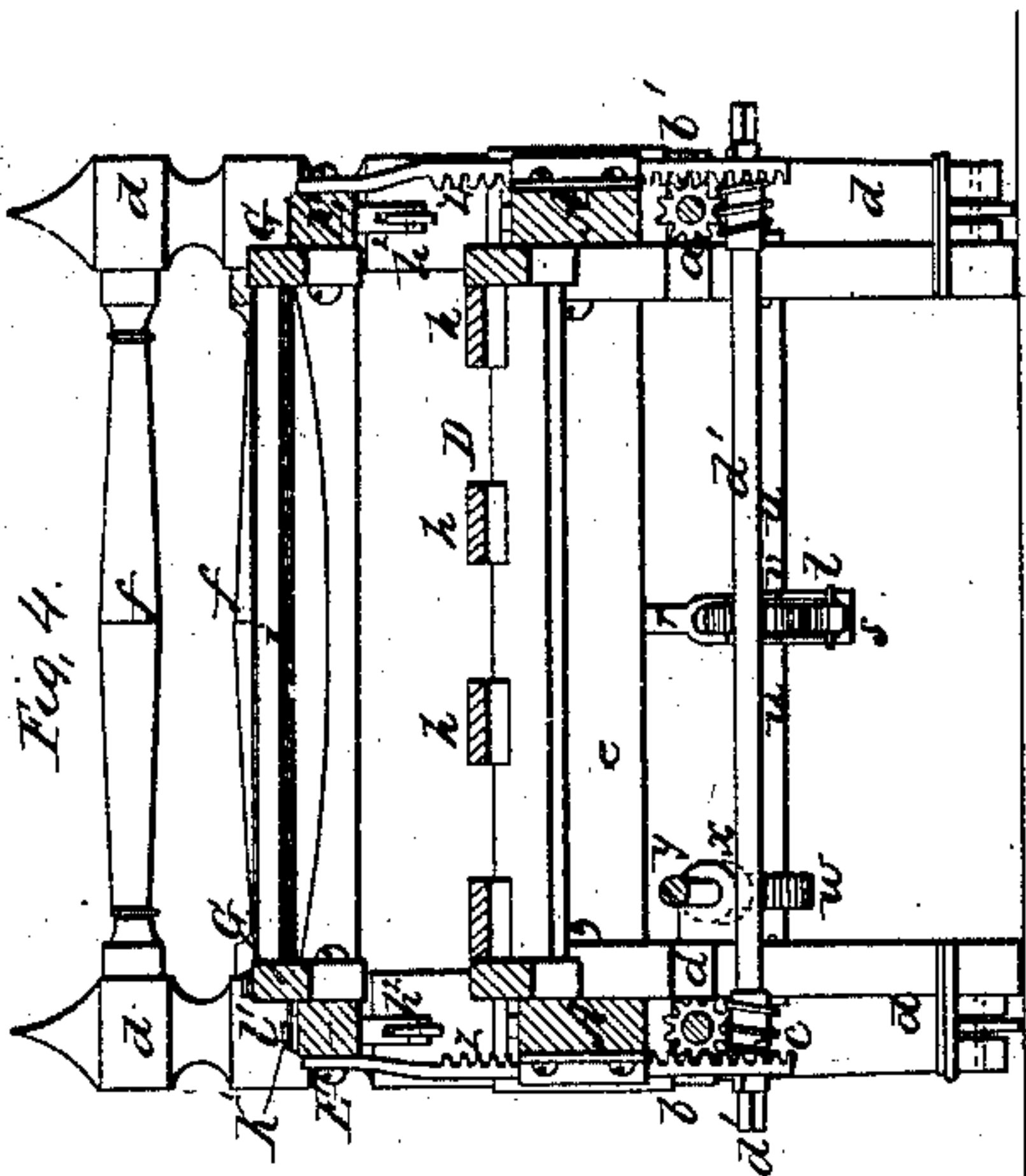


E. Hutchinson.

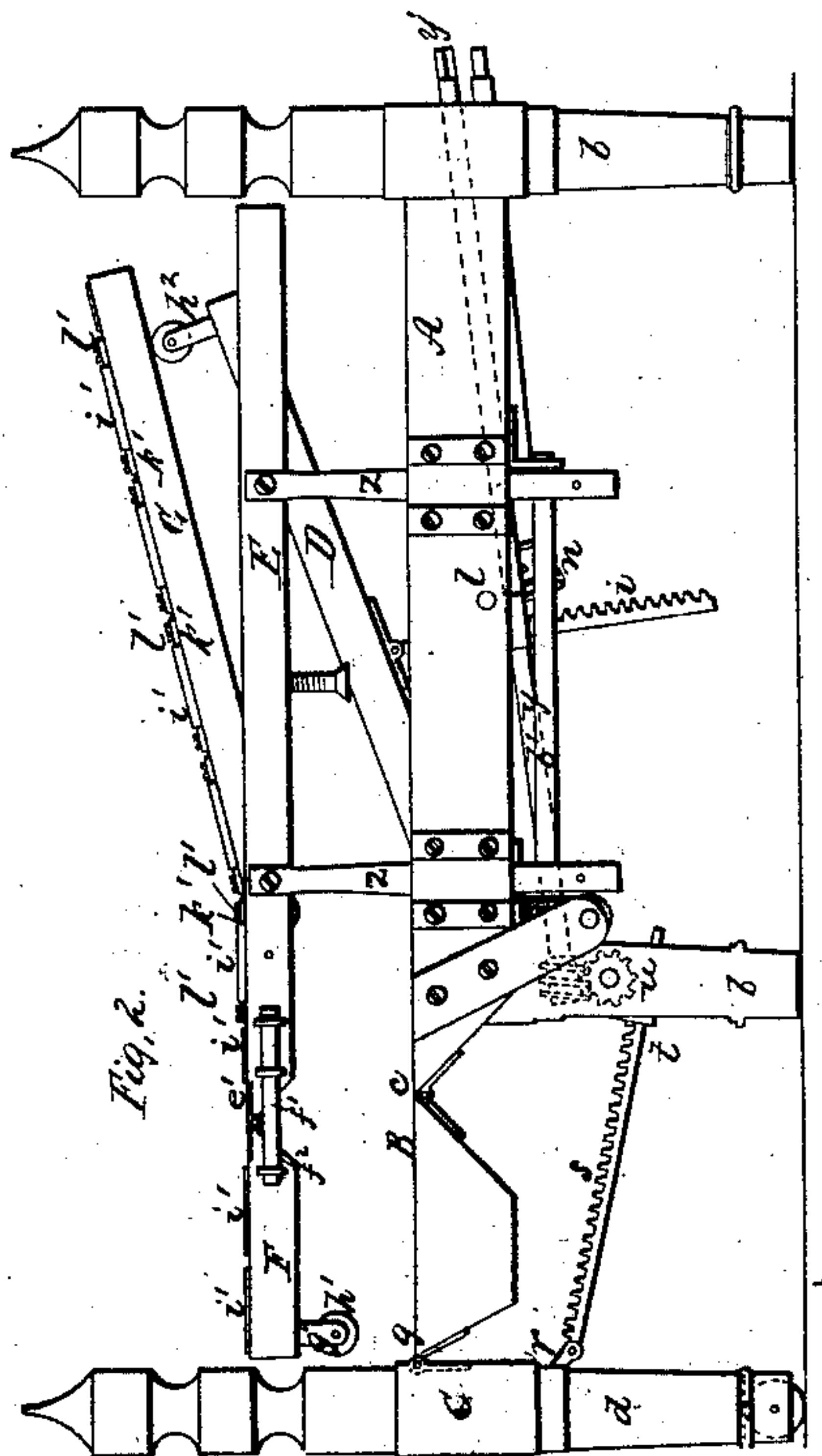
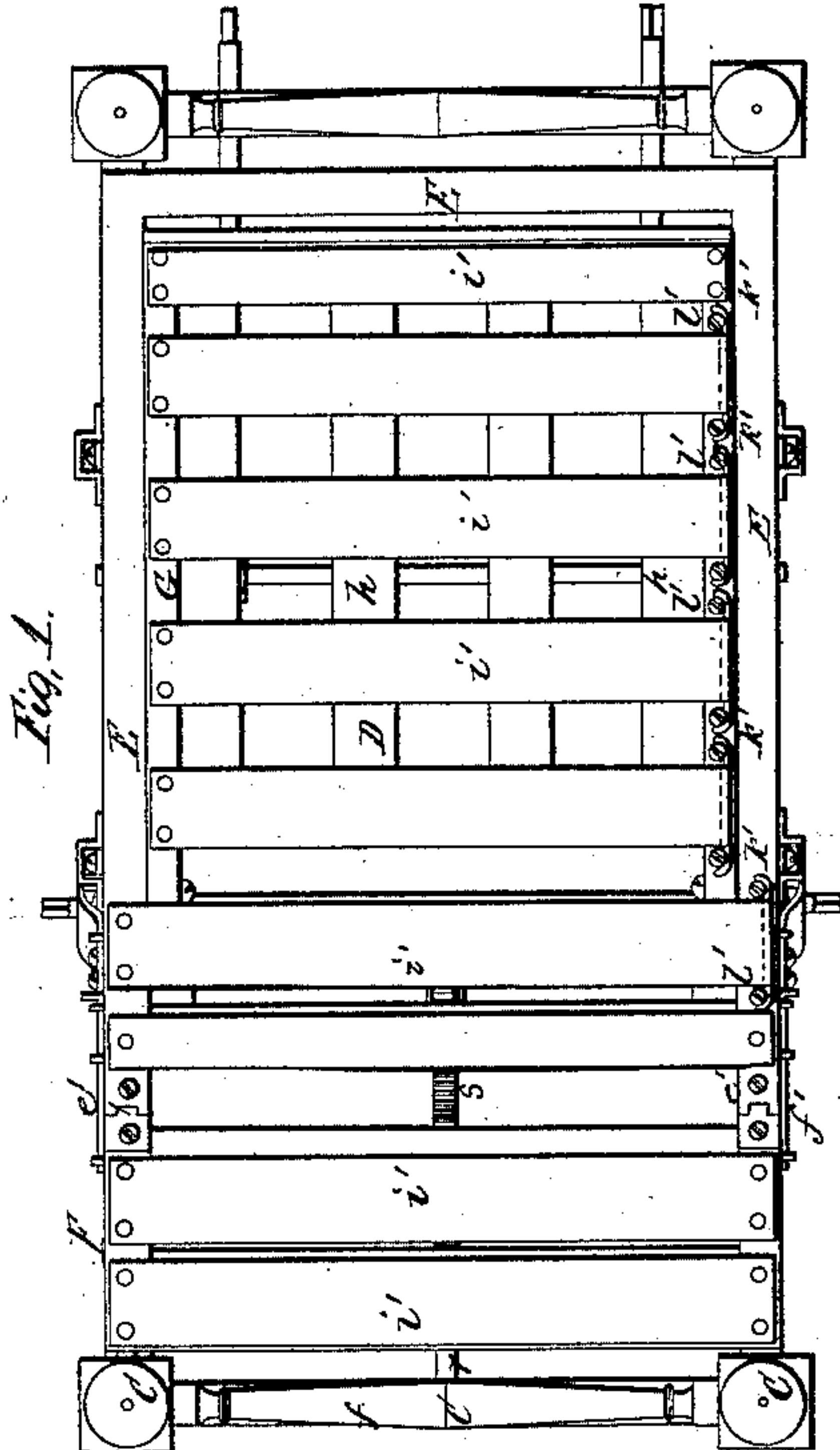
Invalid Bedstead.

N^o 55,496,

Patented June 12, 1866.



Witnesses;
D. J. Hale J.
C. A. Chudkins



Inventor;
Eugene Hutchinson
by his attorney.
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UNITED STATES PATENT OFFICE.

EUGENE HUTCHINSON, OF MANCHESTER, NEW HAMPSHIRE.

IMPROVEMENT IN INVALID-BEDSTEADS.

Specification forming part of Letters Patent No. 55,496, dated June 12, 1866; antedated June 1, 1866.

To all whom it may concern:

Be it known that I, EUGENE HUTCHINSON, of Manchester, in the county of Hillsborough and State of New Hampshire, have invented a new and useful or Improved Invalid-Bedstead; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a side elevation, Fig. 3 a longitudinal section, and Fig. 4 a transverse section, of it.

In carrying out my invention I construct the main frame of the bedstead in three separate parts, A B C. The first of such parts—viz., A—has four supporting-legs, *a a b b*, and is hinged to each longitudinal rail of the second part, as shown at *c* in Figs. 2 and 3.

The part C constitutes the ordinary bedstead-foot frame, formed of two posts, *d d*, and the usual transverse connecting-bars *e f f*, and such part is also hinged to the portion B by hinges, as shown at *g g*.

Slats for supporting a mattress extend across the two frames A B, or are arranged therein in manner as shown in Fig. 3.

In rear of the slats of the frame A, and within such frame, there is another bed-supporting frame, D, which at its inner end is applied to the frame A in such manner as to be capable of being turned from a horizontal into an inclined position therein. This frame D has cross-slats *h h*, &c., for supporting the bed or mattress, and when in a horizontal position its upper surface is on a level with those of the slats of the frame A.

The bed supporting and elevating frame D has applied to it and the frame A a mechanism by which such frame D may be raised to and maintained at any desirable angle of inclination with the frame A. This mechanism consists in part of two racks, *i i*, hinged to opposite sides or parts of the frame and made to engage with pinions fixed on a cross-shaft, *l*. A worm-gear, *m*, on the shaft engages with an endless screw, *n*, carried by another shaft, *o*, supported by the frame A and a bracket, *p*, extending therefrom. By applying a key or crank to the shaft *o* and revolving it the frame D may be set in movement. Each rack is held up to its pinion by a stirrup, *q*, which turns freely on the shaft of such pinion and embraces the rack.

The foot-frame C has an arm, *r*, projecting down from its lower cross-bar in manner as shown in Fig. 3, such arm being jointed to one end of a rack, *s*. This rack runs through a stirrup, *t*, on a cross-shaft, *u*, the said stirrup serving to keep the rack in engagement with a pinion, *v*, fixed on such shaft. There is a worm-gear, *w*, on the shaft *u*, which engages with an endless screw, *x*, carried by a key-shaft, *y*, duly supported and arranged as shown in Figs. 2 and 4. By revolving the key-shaft *y* by a key or crank I may simultaneously depress both the parts B C.

Next there is applied to the frame A an auxiliary horizontal frame, E, which is arranged over and is supported by four vertical racks, *z z z z*. These racks engage with pinions *a'*, carried by two horizontal shafts, *b' b'*, arranged as shown in the drawings. Each of these shafts carries a worm-gear, *c'*, which engages with a screw fixed on a transverse key-shaft, *d'*. By revolving the key-shaft *d'* the auxiliary frame E may be raised to such an altitude above the frame A as circumstances may require.

To the front part of the frame E a leg-supporting frame F is hinged, as shown at *e' e'*. A slide-bolt, *f'*, duly applied to each longitudinal bar of the frame A, and operating with a staple, *f''*, projecting from the leg-frame F, serves to maintain the two frames E and F in one horizontal plane. Two legs, *g' g'*, provided with friction-rollers *h' h'*, extend down from the frame F, the said rollers being caused to bear on the frame B.

Besides the leg-frame F, the frame E carries an additional or back-supporting frame, G, arranged within it, as shown in the drawings, and so applied to it as to be capable of being raised into inclined positions with and by the frame D, which has short posts *h''*, carrying friction-rollers, on which the rear-part of the frame E rests.

Straps *i' i'* are extended across each of the frames G, E, and F in manner as shown in Fig. 1, each of such straps being fastened at one of its ends to the frame, and having its other end so applied thereto as to be capable of easy removal therefrom and of being fixed in place thereon. For this purpose a bent rod, *k'*, having the end of the strap looped on it, may embrace screws *l' l'*, as shown in the drawings, such screws being screwed into the frame and

having their heads projecting above it. These straps are intended to extend across the bed or mattress while the latter may be resting on the frames A B D, and they serve to support a patient while he may be in the act of being raised off the bed.

The advantages of this bedstead are as follows: An invalid, when using it, can have his position changed from a horizontal to an inclined one, so as to render the bedstead like a recumbent chair. By means of the frame E and its frames F G, and the cross-straps thereof, the patient can be raised from the mattress in order to have the bed made or his clothes changed, and he can be washed, or have a bed-pan placed under him, as occasion may require. Any one or more of the straps may be removed or let down, so as to enable a person to gain access to such part or parts of the patient as it may be desirable to wash or otherwise treat. So, by means of the straps, the invalid may be supported where not diseased, they being let down so as not to press on the diseased part of the body.

The mechanism for operating each of the movable frames is so constructed as to retain such frame in any position in which it may be placed until the key-shaft of such mechanism may be again revolved by power applied to it. With the bedstead made as hereinbefore described one person or nurse will be able to

raise the patient into any desirable position and to adjust or prepare the bed, or wash or otherwise attend to him, as may be necessary from time to time.

Having thus described my improved invalid-bedstead, what I claim therein as my invention is as follows:

1. The combination of the bed-supporting frame D, the back-elevator G, the bedstead-frame A, and mechanism, substantially as described, for operating or moving the said frame D so as to elevate the frame G.

2. The combination of the auxiliary frame E and its elevating mechanism, substantially as described, with the bedstead-frame A and the back-elevator G.

3. The combination of the frame E and its elevating mechanism, the bedstead-frame A, the back-elevator G, the frame D, and mechanism for operating the latter, as described.

4. The combination of the leg rest or frame F, the frame E, the back-elevator G, the elevating-frame D, and the two bedstead-frames A B, the whole being constructed and applied together in manner and so as to operate substantially as explained.

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Witnesses:

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