No. 859,548. PATENTED JULY 9, 1907.

E. DEAN.

APPARATUS FOR TRANSPORTING BEDSTEADS.

APPLICATION FILED AUG. 3, 1906.

3 SHEETS—SHEET 1.

Fig 7

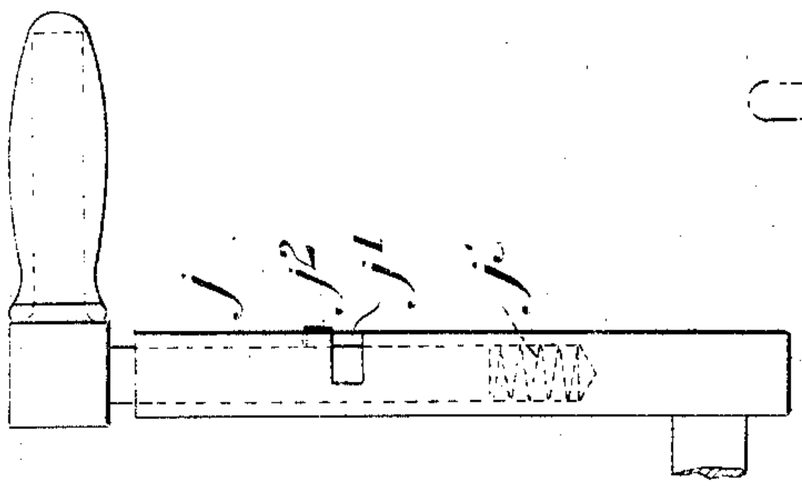


Fig 6

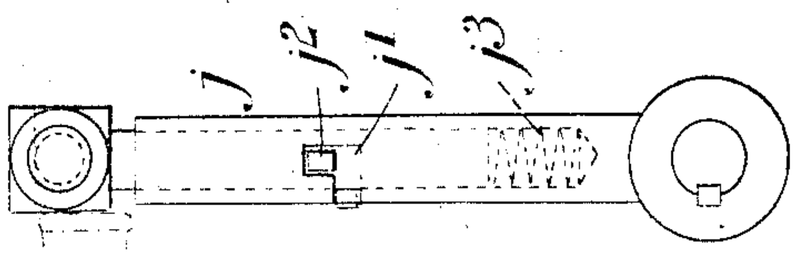


Fig 2

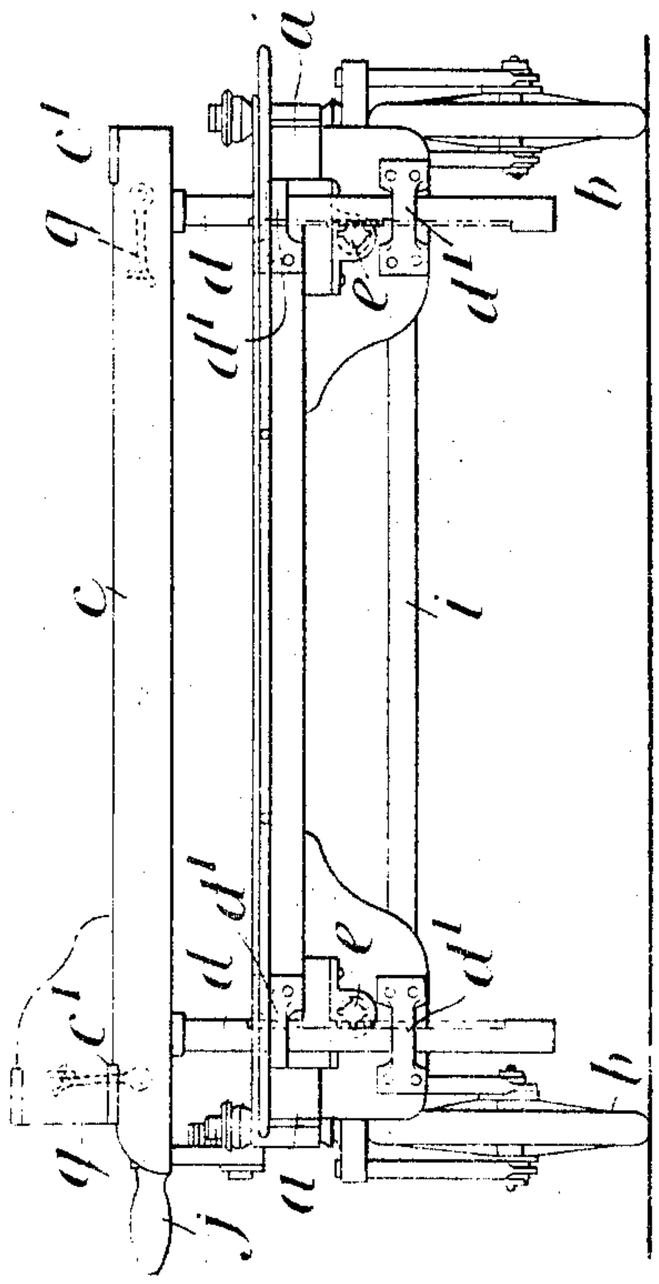
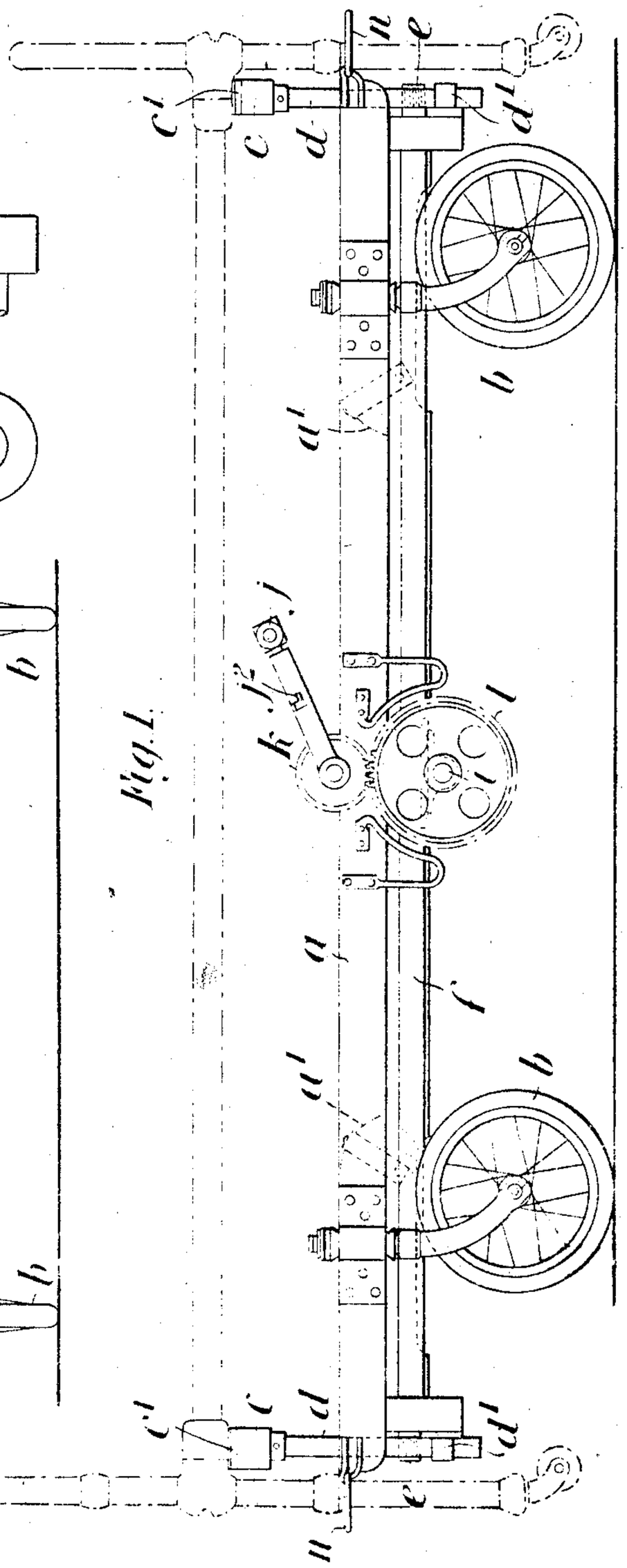


Fig 1.



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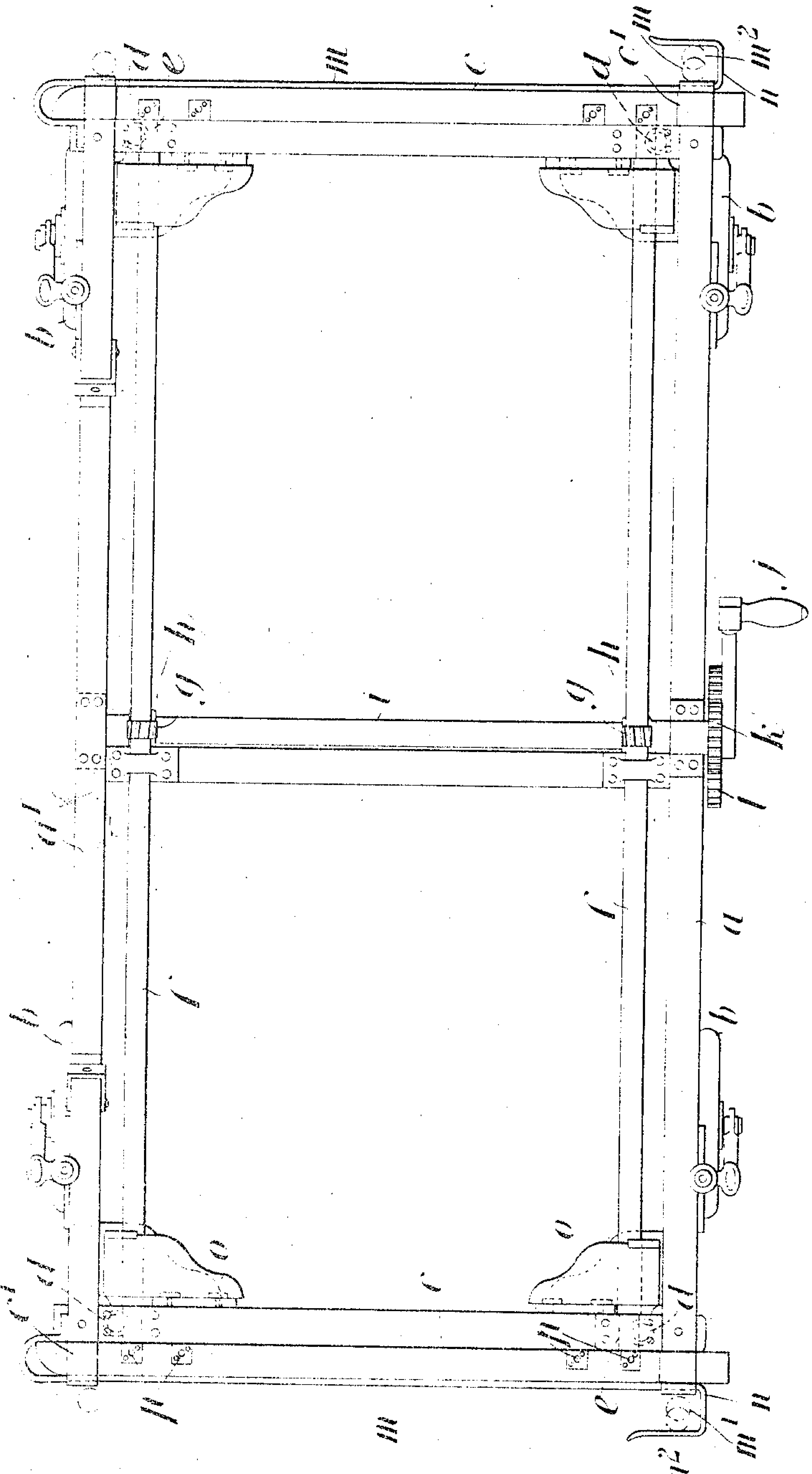
3 SHEETS—SHEET 2.

Fig. 3



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3 SHEETS—SHEET 3.

Fig. 4.

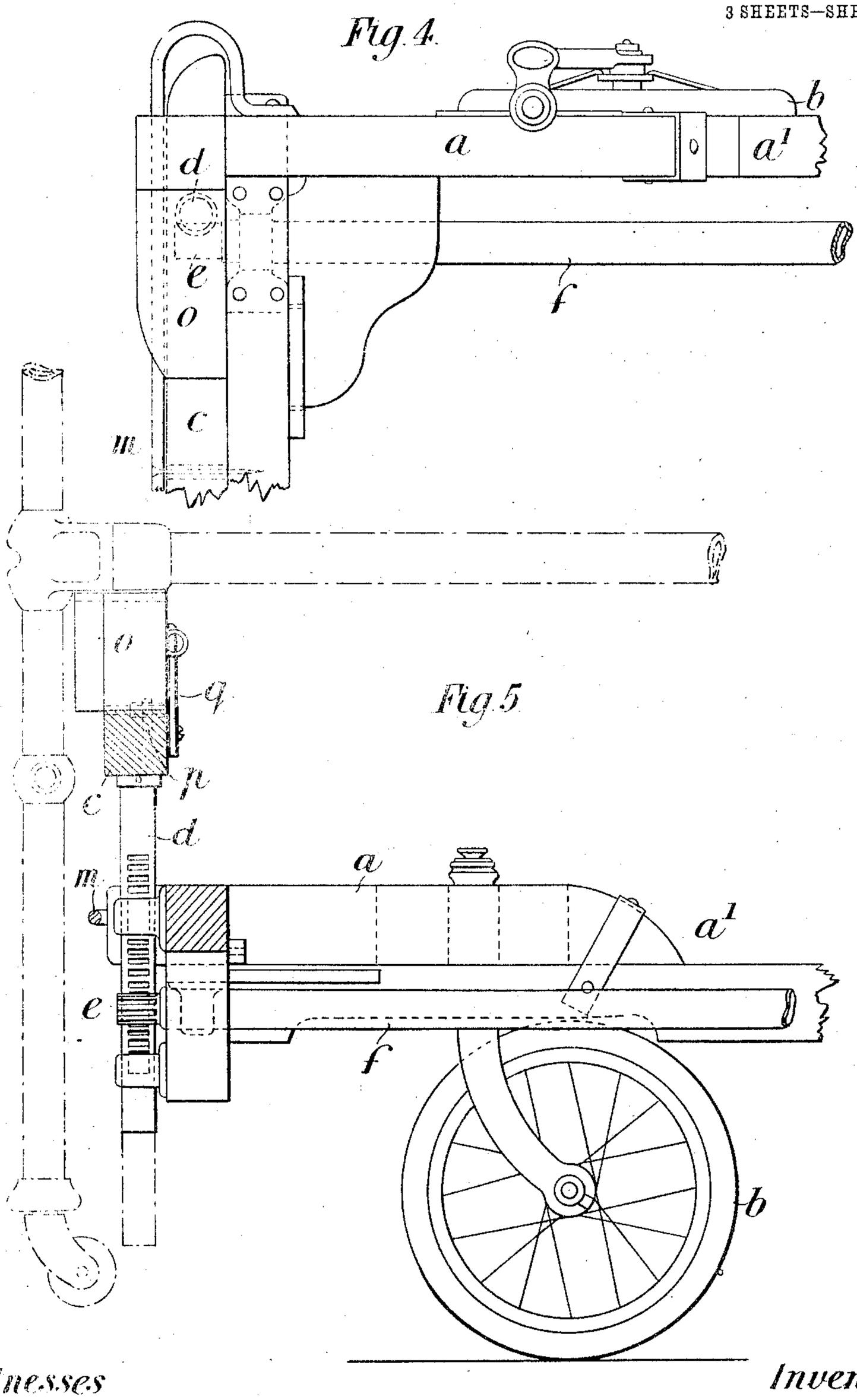

Fig 5

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EDMUND DEAN, OF LONDON, ENGLAND.

APPARATUS FOR TRANSPORTING BEDSTEADS.

No. 859,548. Specification of Letters Patent. Patented July 9, 1907.

Application filed August 3, 1906. Serial No. 329,117.

To all whom it may concern:

Be it known that I, EDMUND DEAN, a subject of the King of Great Britain, residing at Woodvale, South Norwood, London, England, have invented new and Improved Apparatus for Transporting Bedsteads, of which the following is a specification.

My invention relates to a trolley or carriage designed to be pushed beneath a bedstead and provided with mechanism for lifting the said bedstead, so that its weight is carried by the trolley, to permit of the said bedstead being readily transported from place to place.

The apparatus constructed according to my invention comprises a frame mounted on caster wheels, preferably rubber tired, and on ball bearings so as to allow of the frame being pushed beneath a bedstead either from the end or the side. In practice guides may be applied to the framing to insure that the carriage shall assume its proper position relatively with the bed to be lifted.

The lifting apparatus is preferably composed of two beams arranged at the head and foot of the carriage and each carried by two racks and pinions or screws, the pinions engaging with the several racks, or the nuts engaging with the several screws, being arranged to be operated simultaneously through the medium of suitable gearing.

In the accompanying drawings:—Figure 1 is a side view of my improved trolley or carriage. Fig. 2 is an end view, and Fig. 3 is a plan. Fig. 4 is a plan view drawn to a larger scale than Figs. 1 to 3, illustrating a modification of my invention, and Fig. 5 is an elevation of the parts shown in Fig. 4. Figs. 6 and 7 are views at right angles to each other of a crank handle hereinafter described.

a is the frame of the carriage which is advantageously made of wood, although it may be made of bars or tubes of metal and *b*, *b* are the caster wheels for supporting the same, the said caster wheels being of such size that the frame may be carried sufficiently low down to permit of its being pushed beneath the bedstead, notwithstanding that the bed bottom of the latter may sag considerably. Or one side of the frame *a* is made lower at the center than the other side, as shown at *a'*, Figs. 1, 3 and 5, to allow it to clear the sagging bottom.

c, *c* are the bars or beams arranged at the ends of the carriage and designed to bear against the undersides of the bedstead frame, adjacent to the head and foot, for the purpose of lifting the same. As shown in the drawing, these beams *c*, *c*, which may be provided upon the top with pads or cushions *c'*, *c'* for lessening vibration, are each carried by two bars *d*, *d* having rack teeth and sliding in suitable guides *d'*, *d'* in the frame *a*. With the rack teeth of these bars engage pinions *e*, *e* mounted on shafts *f*, *f* which connect the pinions on the opposite sides of the carriage in pairs. These shafts *f*, *f* carry worm wheels *g*, *g* with which worms *h*, *h* on a transverse shaft *i*, mounted in suitable bearings in the frame, engage in such a manner that when the said shaft *i* is rotated rotary motion will be simultaneously imparted to all the pinions *e*, *e* so that all four rack bars, together with the bars *c*, *c* which they carry, will be lifted at the same time. In the drawing the shaft *i* is represented as being adapted to be rotated by means of a crank handle *j* through the medium of the pinion *k* and gear wheel *l*, the latter of which is fixed to the shaft *i*.

It will be understood that the various wheels, worms and pinions must be so proportioned that a number of revolutions of the crank handle is necessary to effect one revolution of the pinions *e* so that the bed can be lifted with little effort.

Instead of employing racks and pinions, as described, the beams *c*, *c* may be supported by screws carrying nuts adapted to be simultaneously rotated or adapted themselves to be rotated in fixed nuts.

The crank handle which I advantageously employ has the handle proper jointed to the lever or crank so that when not required for use it may be turned to lie in the plane of the said crank and so occupy little space. As shown, the crank is formed in two parts telescoping one within the other, the outer tubular part having a bayonet slot j', Figs. 6 and 7, which engages with a lug j^2 on the inner part. A spring j^3 holds the parts in the locked position and is compressed when the lug j^2 is disengaged from the notch of the bayonet slot and the handle turned to the dotted position, Fig. 6.

In order that the carriage, when being pushed beneath the bedstead, shall take up a proper position relatively with the latter, it is provided on its ends with guide bars *m*, *m* which fit between the legs of the bedstead, which legs, in Fig. 3, are indicated by dotted circles *m'*, *m'* the said guides *m*, *m* terminating in hooks *n*, *n*, which prevent the carriage from being pushed too far under the bed. This arrangement of the guide bars with hooks enables the carriage to be used for beds of slightly different length as with a long bed the legs engage with the inside of the hooks, as indicated by the dotted circles m^2, m^2.

In order to provide for using the carriages in connection with beds the frames of which are of varying height, I advantageously arrange in connection with the beams *c*, *c*, loose chocks *o*, *o*, which are normally carried inside the frame by means of dowel pins and shelves *a'* d which, when the carriage is to be used in connection with a bedstead having a high frame, can be placed upon the tops of the beams *c*, *c*, the dowel pins fitting into holes *p*, *p* in the said beam as indicated in Figs. 4 and 5, hooks *q*, *q* upon the beams engaging with the chocks to hold them in position, as indicated in Figs. 2 and 5. The said separate blocks can be hinged to the beams and so arranged as to be flush with the top of the beams when not in use.

Having now particularly described and ascertained

the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. In an apparatus of the kind described, the combination with a horizontal rectangular frame of substantially the size of a bed and mounted on supporting wheels, one side of said frame being lower than the opposite side thereof, of vertically adjustable horizontal beams mounted at the ends of said frame and substantially at right angles with said lower side of said frame, substantially as described.

2. In an apparatus of the kind described, the combination with a horizontal rectangular frame of substantially the size of a bed but adapted to fit under the same and mounted on supporting wheels, said frame being provided on opposite ends with outwardly projecting hooks, each of said hooks being adapted to engage a leg of a bedstead and means for elevating and supporting a bedstead on said frame, substantially as described.

3. In an apparatus of the kind described, the combination with a substantially rectangular frame, of vertically adjustable horizontal beams mounted on said frame and parallel to the ends thereof, guides secured to the ends of said frame, said guides being provided at corresponding ends with outwardly projecting hook portions and wheels for supporting said frame, substantially as described.

4. In an apparatus of the kind described, the combination with a frame mounted on caster wheels, of vertically adjustable horizontal beams mounted on said frame, chocks adapted to be placed on said horizontal beams and having dowel pins adapted to fit in recesses in said beams and means comprising hooks and eyes for locking said chocks to said beams, substantially as described.

EDMUND DEAN.

Witnesses:
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C. G. REDFERN.