

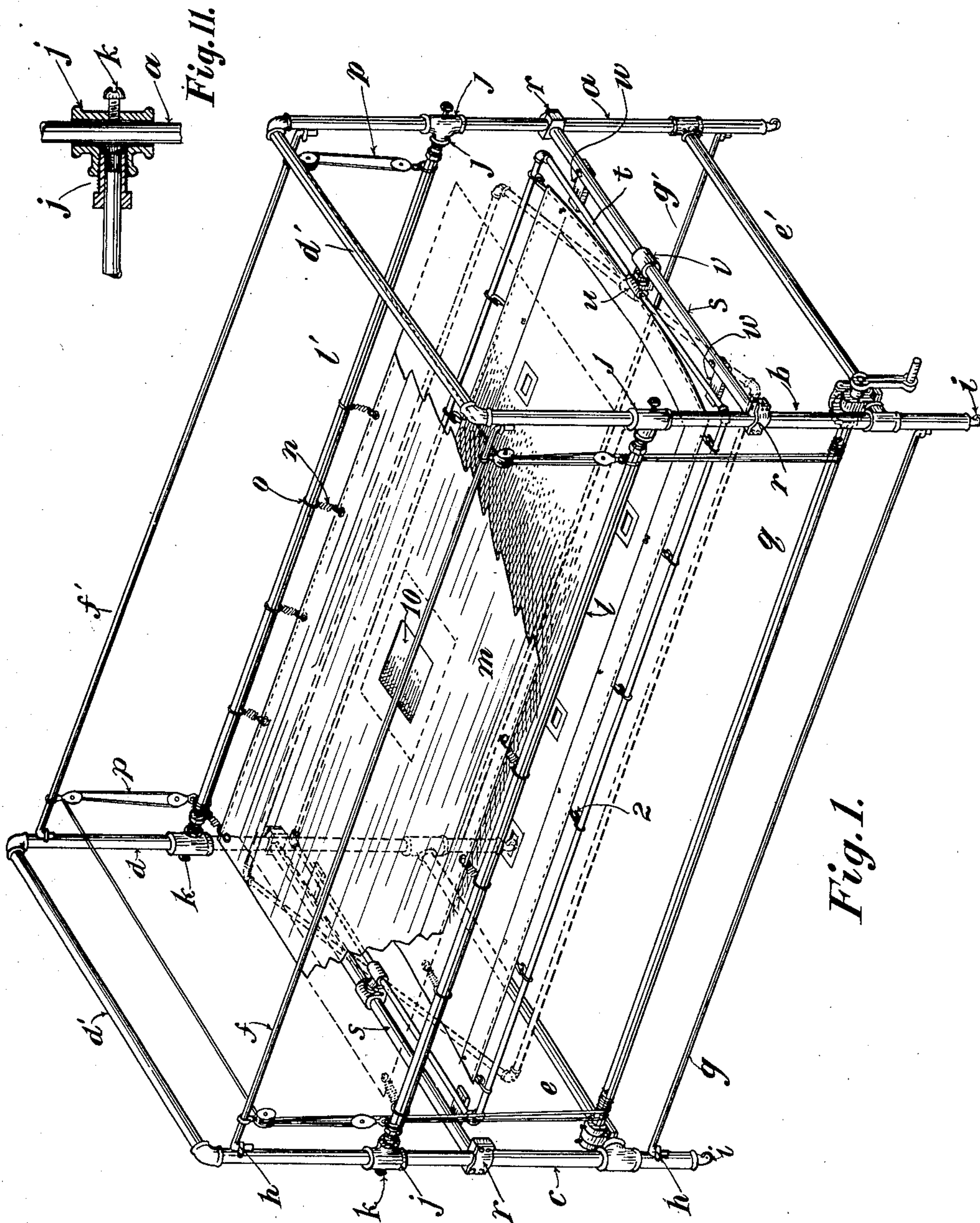
No. 885,329.

PATENTED APR. 21, 1908.

J. J. ELLIS.
INVALID HAMMOCK LIFT AND TURNER.

APPLICATION FILED JUNE 15, 1907.

3 SHEETS—SHEET 1.



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3 SHEETS—SHEET 2.

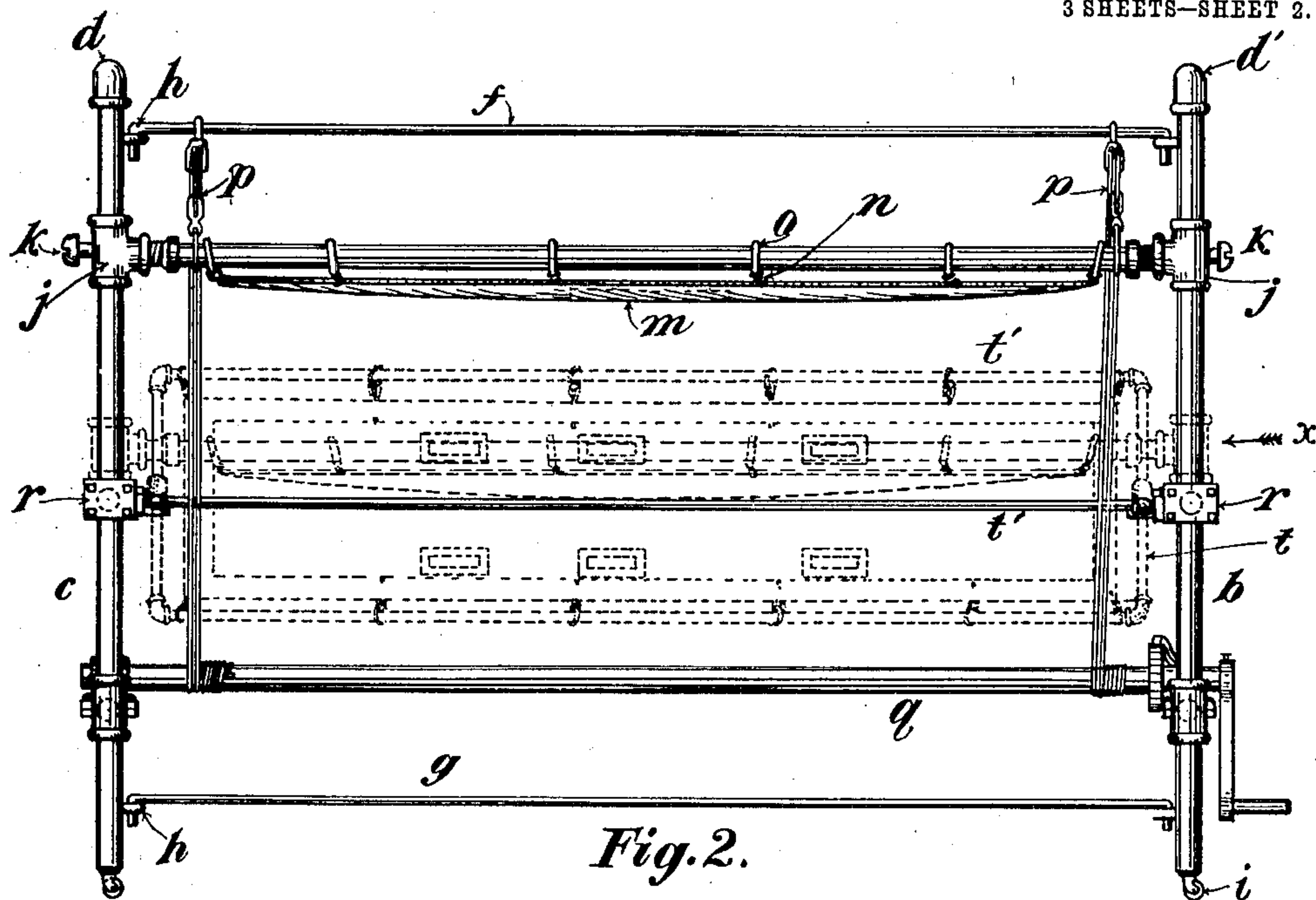


Fig. 2.

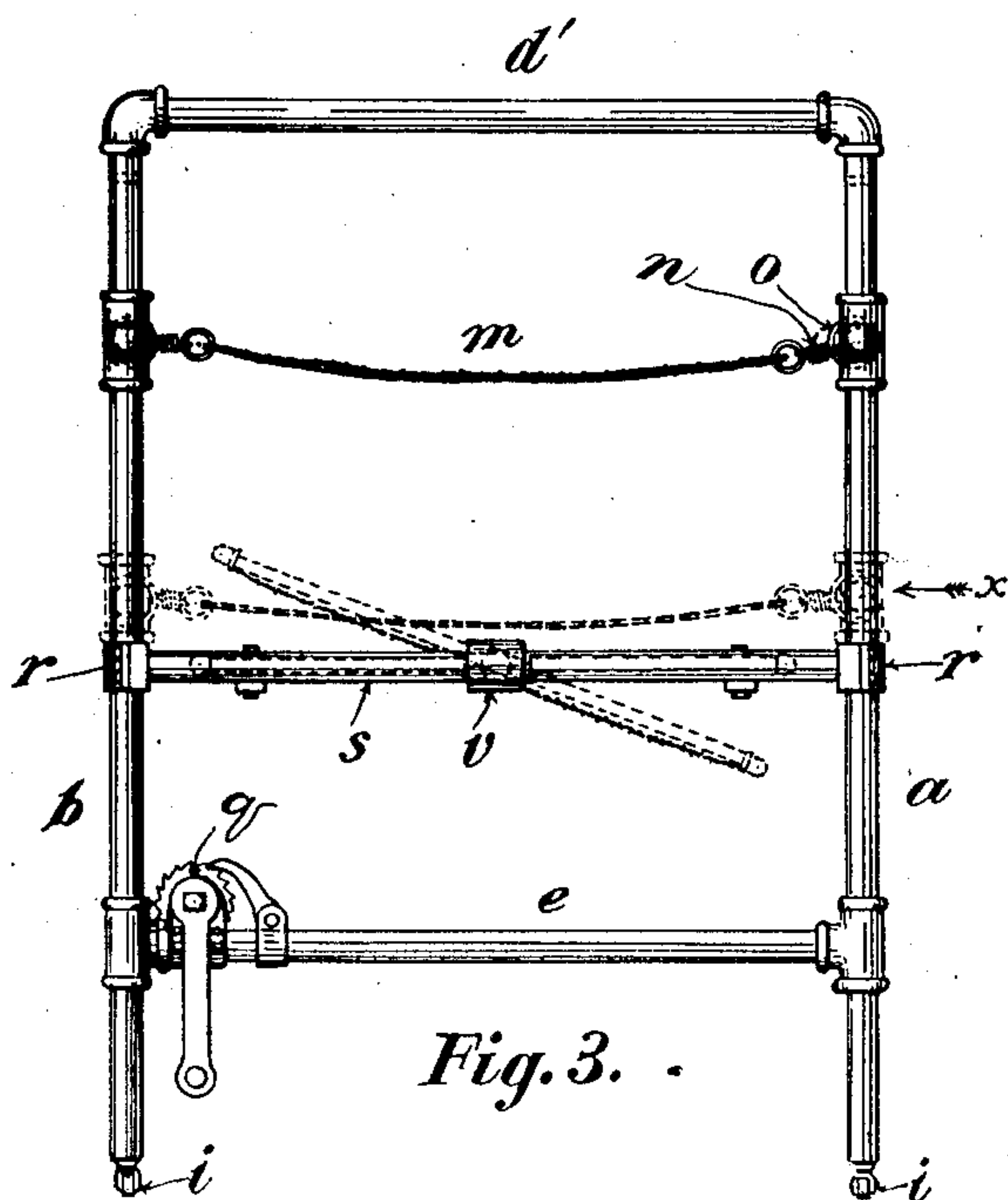


Fig. 3.

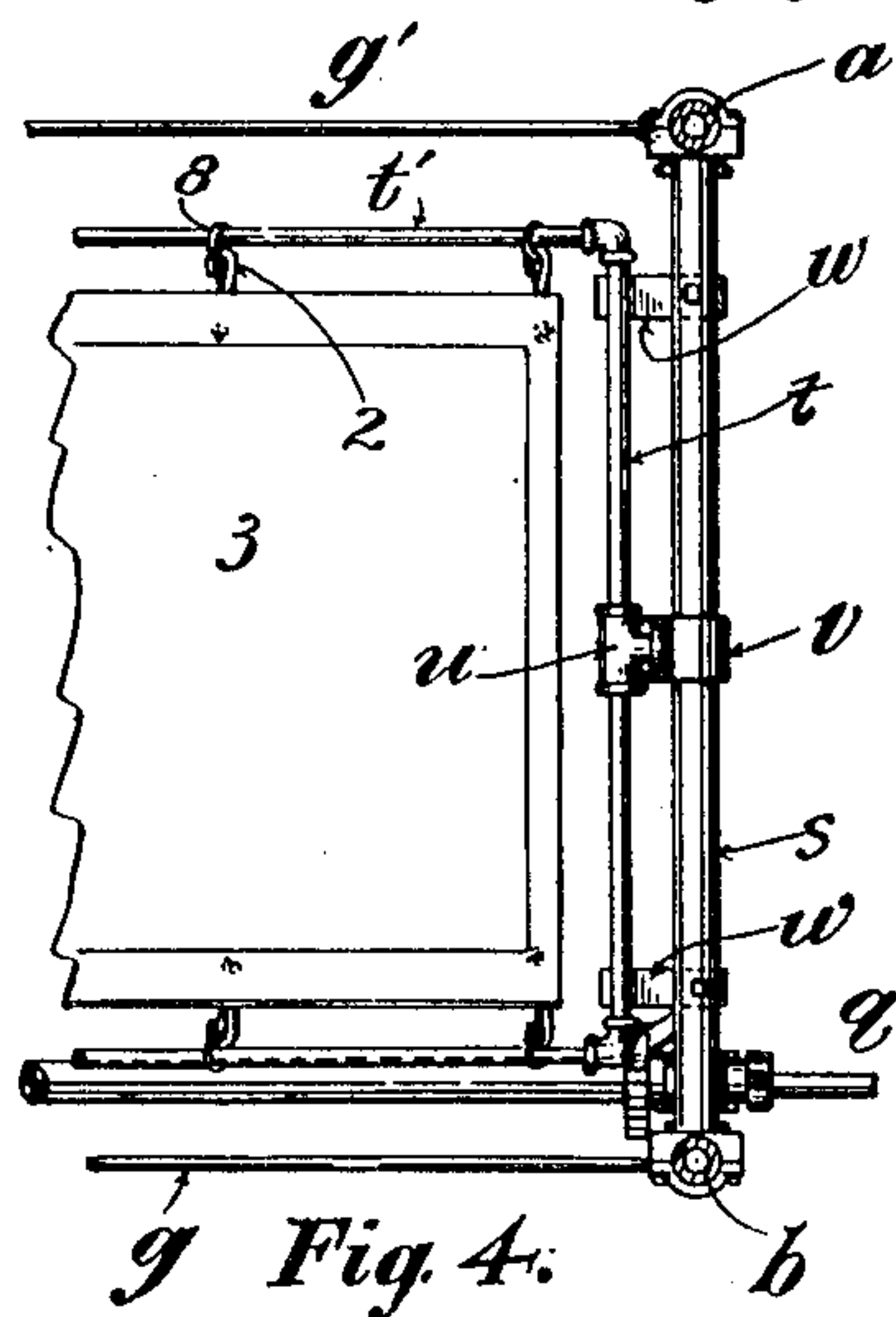


Fig. 4.

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3 SHEETS—SHEET 3.

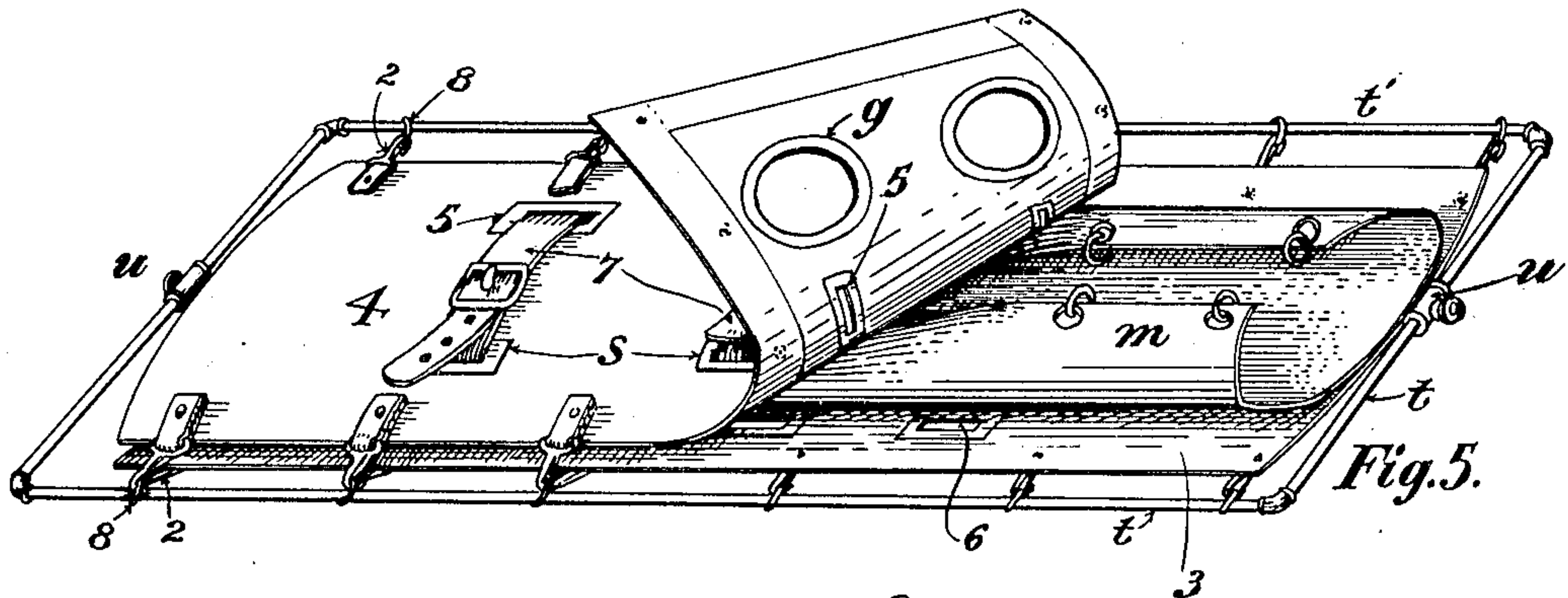


Fig. 5.

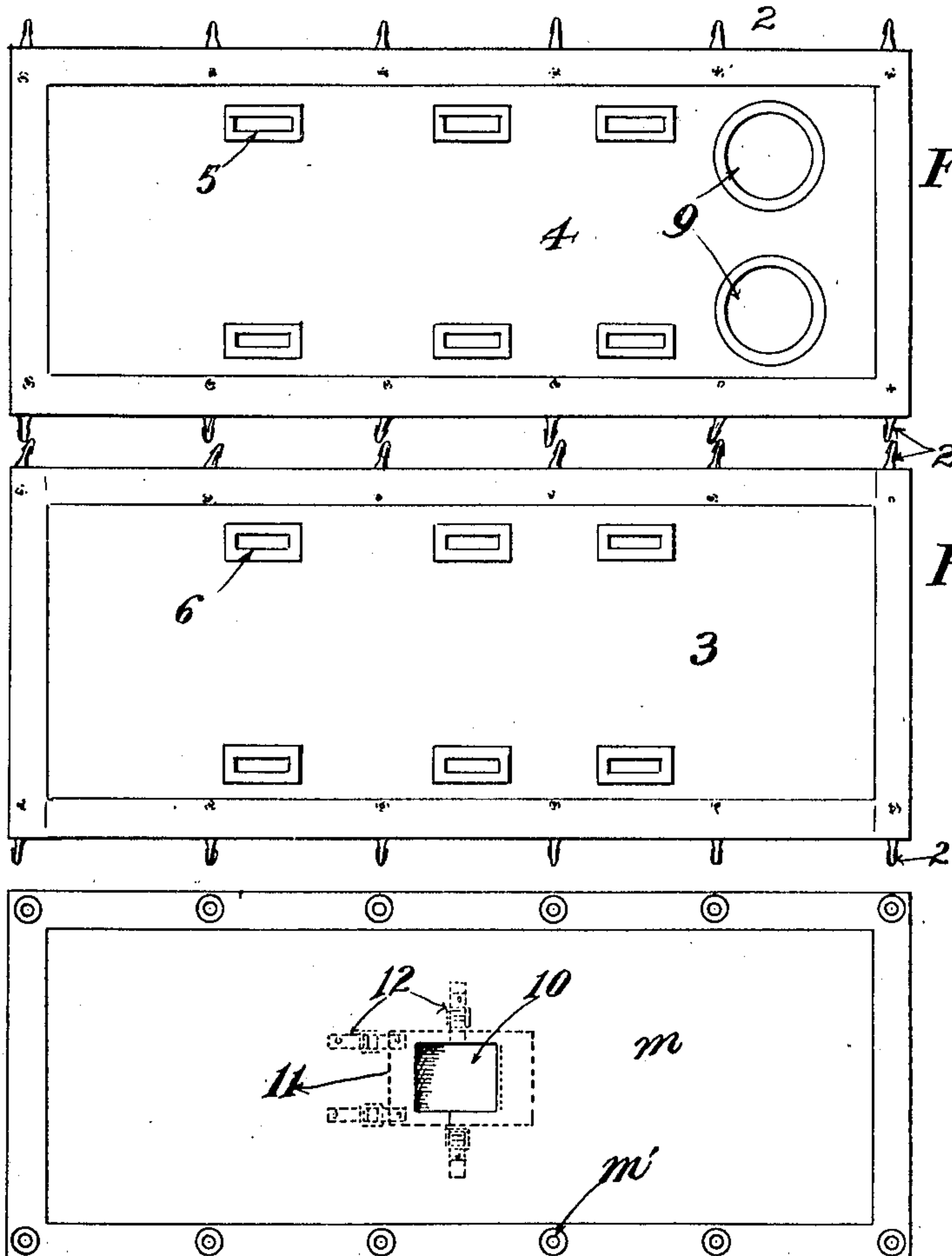


Fig. 7.

Fig. 6.

Fig. 8.

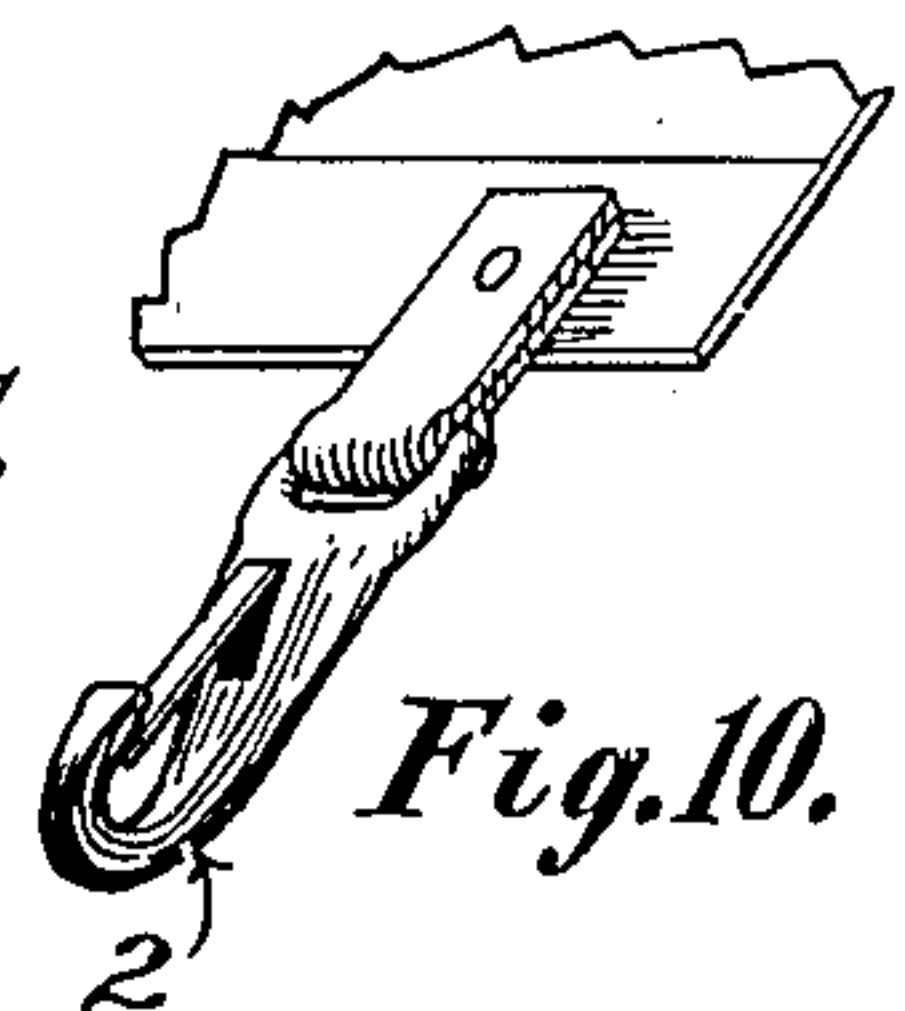


Fig. 10.

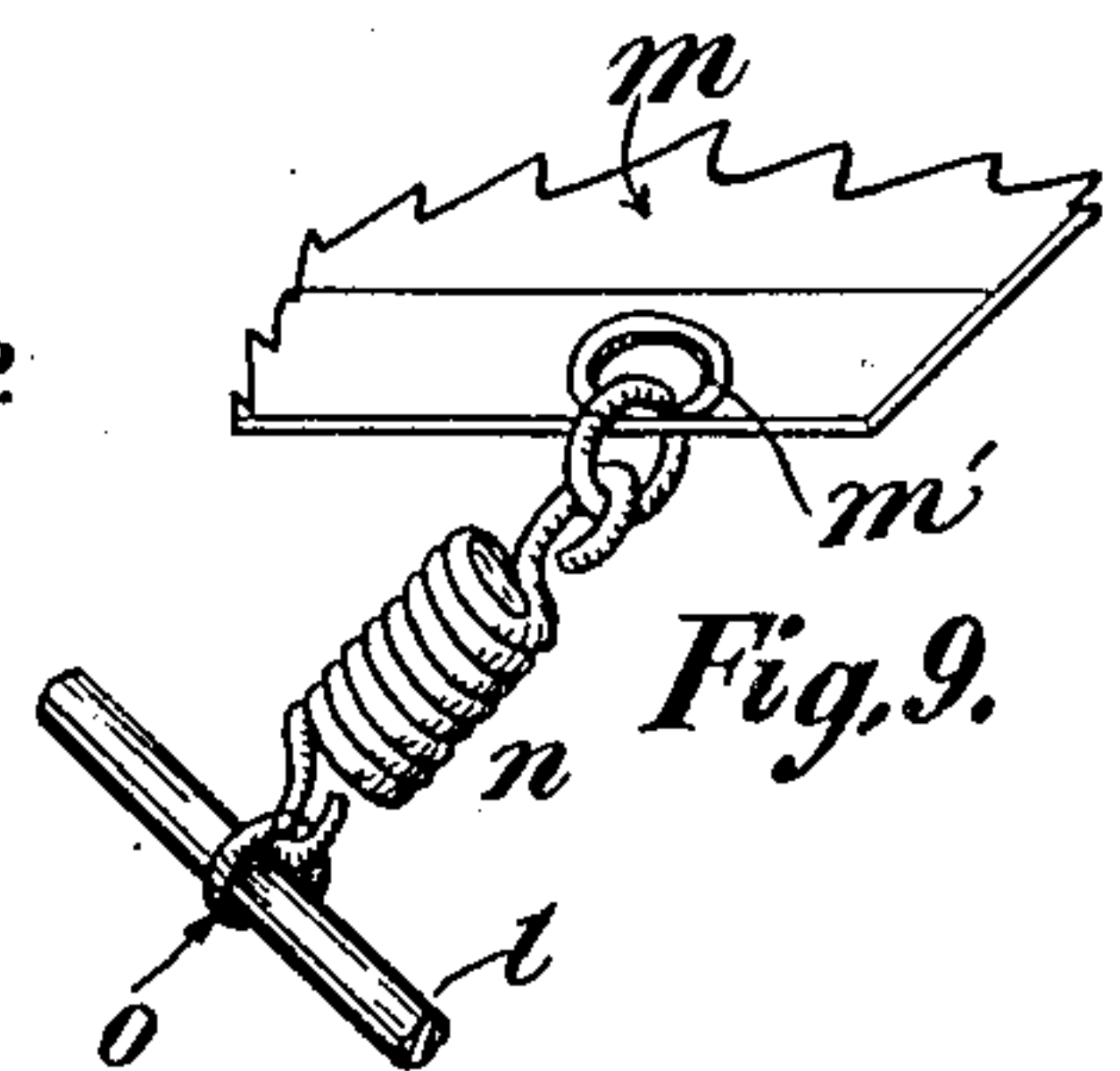


Fig. 9.

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UNITED STATES PATENT OFFICE.

JAMES JOHN ELLIS, OF PORTLAND, OREGON.

INVALID HAMMOCK LIFT AND TURNER.

No. 885,329.

Specification of Letters Patent.

Patented April 21, 1908.

Application filed June 15, 1907. Serial No. 379,279.

To all whom it may concern:

Be it known that I, JAMES JOHN ELLIS, a citizen of the United States, and a resident of Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Improvement in Invalid Hammock Lift and Turner, of which the following is a specification, reference being had to the accompanying drawings as constituting a part thereof.

This invention has for its object to provide a means by which a very sick person, requiring a surgical operation or medical applications to his body, may be lifted off and on his hospital-bed or cot, for the purpose of conveying him or her to the operating table, or applying medical treatment; also, to enable the turning of the patient, face down, so as to be able to conveniently and effectively apply treatment to his or her back; and it being further my object that the means so provided shall accomplish all such handling work without imposing on the patient any appreciable discomfort or pain.

To this end my device is constructed and arranged, and operates as illustrated in the drawings, and hereinafter fully described.

In the drawings, Figure 1 is a perspective of my invention as a whole, parts being broken away; Fig. 2 is a front elevation of my device, parts thereof being shown in dotted outline in two different positions, so as to illustrate the modes of operating; Fig. 3 is a right-hand end elevation; Fig. 4 is a corresponding partial plan section, taken approximately on a line pointed by the arrow *x* in Figs. 2 and 3; Fig. 5 is a perspective detail of the arrangement of the rotatable frame of my device, provided to enable the turning of the patient about, as above mentioned, and of the blankets removably fastened to such frame; Fig. 6 is a top view of the under blanket of such rotatable frame; Fig. 7 is a like view of the top blanket thereof; Fig. 8 is a top view of the hammock removably fastened to the sliding or lifting frame of my device; and Figs. 9, 10 and 11 are details of construction.

The letters and numerals designate the parts described.

My invention comprises a supporting-frame, conveniently made of piping, and consists of standards or posts *a, b, c, d*; the end posts being joined or connected by cross members *d, e, d', e'*, at the top and bottom,

and the ends of the frame being connected at the sides by removable bracing rods *f, f', g, g'*, inserted in eyes *h*, affixed to the posts at the top and bottom. The bottom ends of the posts *a, b*, etc. are provided with casters *i*, so as to facilitate the moving about of the supporting-frame. On the posts are sliding sleeves *j*, for which purpose common pipe tees may be used. They are provided with set-screws *k*, by which the sleeves may be clamped in place; and in the members *j'* of the sleeves *j* are inserted the ends of the tubular bars *l, l'*; the sleeves *j* and the bars *l, l'*, thereby supported, constituting the vertically movable hammock-holding frame, provided in my device for lifting and lowering the patient off and on his hospital cot.

To the bars *l, l'* are fastened to the sides of a hammock or blanket *m*, the edges of which hammock are made with reinforced perforations *m'*, to which are fastened spring-hooks *n*, adapted to be removably attached to rings *o*, therefor provided on the bars *l, l'*. See detail Fig. 9. Said vertically movable hammock-holding frame is moved up and down by means of a pulley-tackle *p*, the ends of the pulley ropes being fastened to a winch-like device *q*. The ends of the shaft of the winch are journaled in boxes therefor provided on the cross-bars or members *e, e'*, of the supporting-frame.

Below the sleeves *j*, of the vertically movable hammock-holding frame, are affixed to the corner posts of the supporting-frame clamping devices *r*, holding between them transverse bars or members *s*, which constitute the support for the rotatable frame of my device, which, as above mentioned, is provided by me for turning the patient over, to enable a convenient application of medical treatment to the patient's back. Such rotatable frame is also conveniently made of piping, and comprises end-bars *t*, and side-bars *t'*, rigidly connected with each other; and on the end-bars *t* are centrally affixed pivots or trunnions *u*, supported in bearings *v*, therefor provided on the frame-members *s*. To hold the rotatable blanket-holding frame rigidly in place for a while, I provide pivoted clamping bars *w*, on the frame-members *s*. To the rotatable-frame are removably fastened, by such means as, for example, snap-hooks *2*, under and over blankets *3, 4*, shown in Figs. 6 and 7. See also Fig. 10. The patient is supported on the under-blanket, and

is covered with the over-blanket, and each of said blankets being made with reinforced slots 5, 6, through which to insert straps 7. These parts being so arranged as to enable the patient to be comfortably held in place between said under and upper blankets, while the rotatable frame is being turned over on its pivots. To provide for the attachment of the snap-hooks 2, the frame-members *t'* are provided with rings 8. To prevent the patient turned over in the rotatable frame, suffering any inconvenience or interference with free circulation and respiration, while supported face down on the over blanket, I provide the latter with arm-holes 9, through which the patient's arms may be inserted and extended, to avoid a cramping position.

To bring the rotatable frame into use, my device is operated as follows: The hammock blanket is supposed, in the first instance, to be placed under the patient on his hospital bed. Such hammock blanket may be made of any suitable flexible material, and adapted to be easily sterilized, as required. The next step would consist of placing the supporting-frame of my device, over the hospital bed, before doing which the brace-rod *g'* must be temporarily removed. The next step is to lower the vertically movable hammock-holding frame in position to have the sides of the hammock blanket attached thereto. After such attachment, the patient can be raised and allowed to rest on the hammock, or lowered into the stretcher, or operating table.

For convenience, the hammock is provided with a bed-pan opening 10, to cover which, when not in use, I provide a cover 11, hinged to one end, and fastened in place by straps and buckles 12, to the under side of the hammock.

When it is desired to turn the patient over, the patient is, in the first instance, lifted by the means of vertically movable hammock frame; thereupon the rotatable frame is placed in position on its supporting members *s, s*, the latter having been previously adjusted by means of its clamps *r, r*, to such position as allows the rotation of the rotatable frame. The latch bars *w* are now arranged to hold the rotatable frame against rotation, the under blanket 3 is fastened to the sides of the rotatable frame, then the hammock now holding the patient, is lowered onto the under blanket 3, and the sides of the hammock blanket are folded in, as shown in Fig. 5; then the over blanket 4 is fastened in place, and finally the straps 7 are inserted through the slots 5, 6, of the under and over blanket, and the ends thereof buckled together, in such a manner as to comfortably secure the patient in place between the under and over blanket, in doing which the folded-in sides of the hammock contribute to comfortably hold the patient: the same bracing the body between the straps 7, 7. The upper end of

the over-blanket 4 may be left unfastened, so that the same can be turned back from the patient's face. In cases where the patient's arms are broken or splinted, so that the same could not be placed across the chest, or at his sides, the arms may be inserted and extended through the arm-holes 9. The latch bars *w* being now adjusted to release the rotatable frame, the latter may be turned around, to bring the patient's face down, whereupon the under blanket now being on top, may be removed, and also the hammock folded back out of the way, to enable the physician to apply medical treatment to the back of the person. Care must be taken, of course in the adjustment of the hammock so as to not bring the edges thereof or the rings fastened thereto, under the patient, when turned face down. After the treatment of the back has been completed, the manipulations above described would substantially be again gone through with to turn the patient back, face up, and to lower him onto his hospital-bed. It will now become apparent, that during the handling, the patient will not be subjected to any inconvenience or discomfort; thus avoiding any unnecessary tax on the patient's strength and vitality while being moved and handled.

Sometimes it is desirable to support the hammock-frame in an inclined position. Such adjustment may be accomplished by the set-screws *k*, (see Fig. 11) by which one pair of sliding-sleeves *j* may be clamped a little higher, or lower, than the opposite sleeves, on the frame-posts.

I claim:

1. In a device of the character described, the combination of a supporting-frame adapted to be placed over a cot, and comprising upright posts, a hammock-holding frame, vertically movable on said posts, means by which the hammock-holding frame may be raised and lowered, transverse members on said posts, a removable revoluble blanket-holding frame pivoted by its ends between said transverse frame members.

2. In a device of the character described, the combination of a supporting-frame adapted to be placed over a cot, and comprising upright posts, a hammock-holding frame, vertically movable on said posts, means by which the hammock-holding frame may be raised and lowered, transverse members on said posts, a removable revoluble blanket-holding frame pivoted by its ends between said transverse frame-members, and means for holding the revoluble frame against rotation.

3. In a device of the character described, the combination of a supporting-frame adapted to be placed over a cot, and comprising upright posts, a hammock-holding frame, vertically movable on said posts, means by which the hammock-holding frame

may be raised and lowered, transverse members on said posts, sockets centrally positioned on said transverse frame-members, a blanket-holding frame, and trunnions at its ends by which it is removably supported in said sockets.

4. In a device of the character described, the combination of a supporting-frame adapted to be placed over a cot, and comprising upright posts, a hammock-holding frame, vertically movable on said posts, means by which the hammock-holding frame may be raised and lowered, transverse members on said posts, sockets centrally positioned on said transverse frame-members, a blanket-holding frame, trunnions at its ends by which it is removably supported in said sockets, and means for holding the revoluble frame against rotation.

5. In a device of the character described, the combination of a supporting-frame adapted to be placed over a cot, and comprising upright posts, a hammock-holding frame, vertically movable on said posts, means by which the hammock-holding frame may be raised and lowered, transverse members on said posts, a removable revoluble blanket-holding frame pivoted by its ends between said transverse frame-members, an under blanket and an over blanket, respectively removably fastened to said revoluble frame.

6. In a device of the character described, the combination of a supporting-frame adapted to be placed over a cot, and comprising upright posts, a hammock-holding frame, vertically movable on said posts, means by which the hammock-holding frame may be raised and lowered, transverse members on said posts, a removable blanket-holding frame pivoted by its ends between said transverse frame-members, an under blanket and an over blanket, respectively removably fastened to said revoluble frame, said blankets having slots to receive straps for holding the patient in position while rotating the revoluble frame, and the over blanket having openings through which to insert and extend the patient's arms.

7. In a device of the character described, the combination of a supporting-frame, a blanket-holding frame pivotally held by its ends in the supporting-frame, an under blanket and an over blanket, respectively removably fastened to said revoluble frame.

8. In a device of the character specified, the combination of a supporting-frame, a removable blanket-holding frame pivotally held by its ends in the supporting-frame, an under blanket and an over blanket, respectively removably fastened to said revoluble frame.

9. In a device of the character specified, the combination of a supporting-frame, a revoluble blanket-holding frame, an under blanket and an over blanket, respectively

removably fastened to said revoluble frame, said blankets having slots to receive straps, and the over-blanket having openings through which to insert and extend the patient's arms.

10. A device of the character specified, comprising a tubular supporting-frame consisting of four standards or posts, transverse members rigidly connecting the posts of each end at the top and bottom, removable side-braces connecting the posts at the top and bottom, longitudinal hammock-holding members and sleeve-like means on their extremities whereby the same are slidably supported on the frame posts, pulley elements suspended from the upper side-braces and by which the sliding members may be simultaneously raised and lowered, a winch to which the pulley cords are fastened, a blanket removably fastened between said slidable members, transverse members and clamping devices on the ends thereof by which the same are movably supported on the posts, a rotatable blanket-holding frame pivotally supported at its ends on said movable transverse members, and latches for holding the rotatable frame against rotation.

11. A device of the character specified, comprising a tubular supporting-frame consisting of four standards or posts, transverse members rigidly connecting the posts of each end at the top and bottom, removable side-braces connecting the ends at the top and bottom, longitudinal hammock-holding members, and sleeve-like means on their extremities whereby the same are slidably supported on the frame posts, pulley elements suspended from the upper side-braces and by which the sliding members are simultaneously raised and lowered, a winch to which the pulley cords are fastened, a hammock, and resilient means by which the latter is removably fastened to the sliding members, transverse members and clamping devices on the ends thereof by which the same are movably supported on the posts, a rotatable blanket-holding frame, pivotally supported at its ends on said movable transverse members, and latches for holding the rotatable frame against rotation.

12. A device of the character specified, comprising a tubular supporting-frame consisting of four standards or posts, transverse members rigidly connecting the posts of each end at the top and bottom, eyes at the top and bottom of the posts and removable bracing rods therein fastened, longitudinal hammock-holding members and sleeve-like means on their extremities, whereby the same are slidably supported on the frame posts, clamps on the sleeve-like means, pulley elements arranged to simultaneously raise and lower said sliding members, a winch to which the pulley cords are fastened, a hammock, and resilient means by

which the latter is removably fastened to
said sliding members, transverse members
and clamping devices on the ends thereof,
by which the same are movably supported
5 on the posts, a rotatable blanket-holding
frame pivotally supported at its ends on
said movable transverse members, and
latches for holding the rotatable frame
against rotation.

JAMES JOHN ELLIS.

Witnesses:

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