

W. H. PAIGE.
SLEEPING CARS.

No. 181,005.

Patented Aug. 15, 1876.

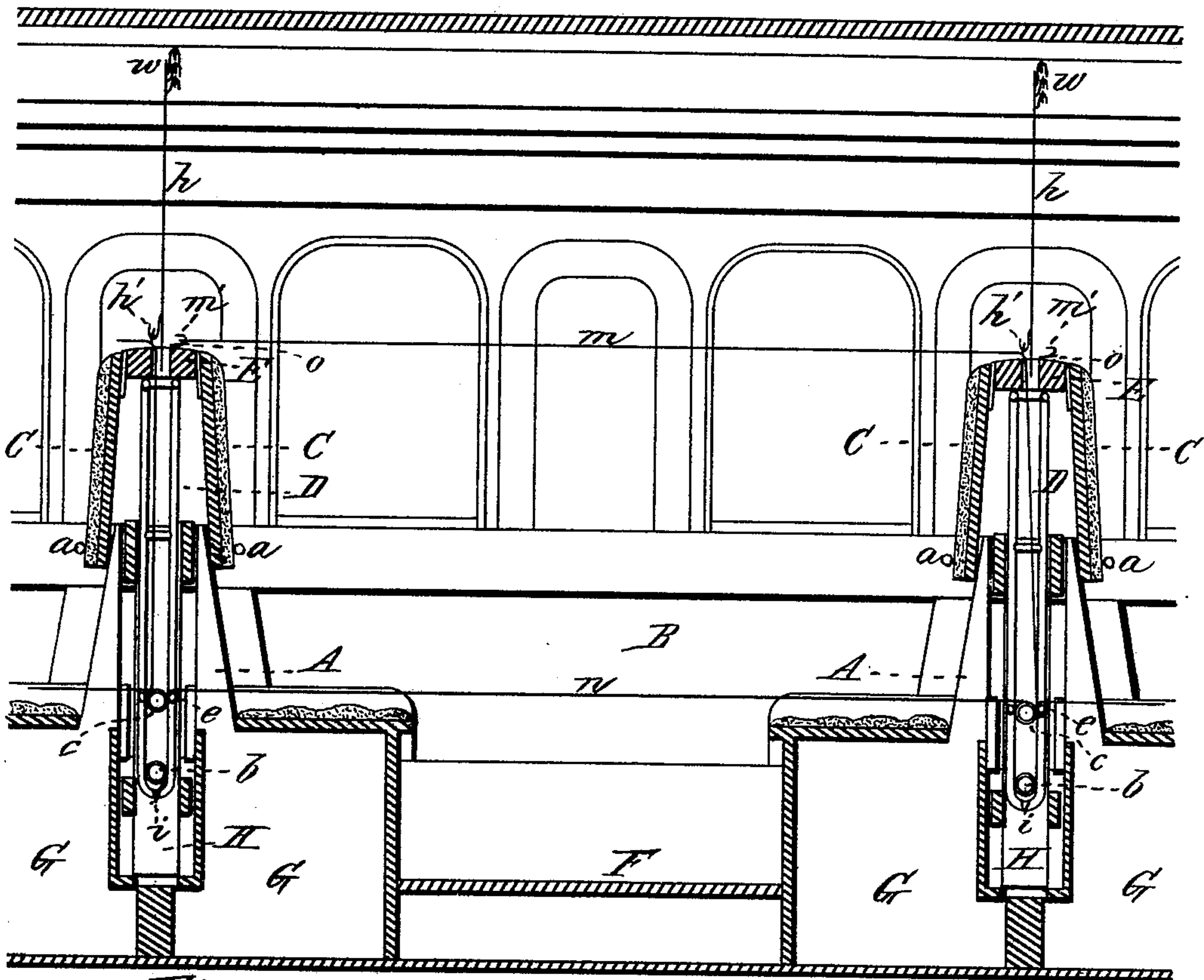


Fig. 1

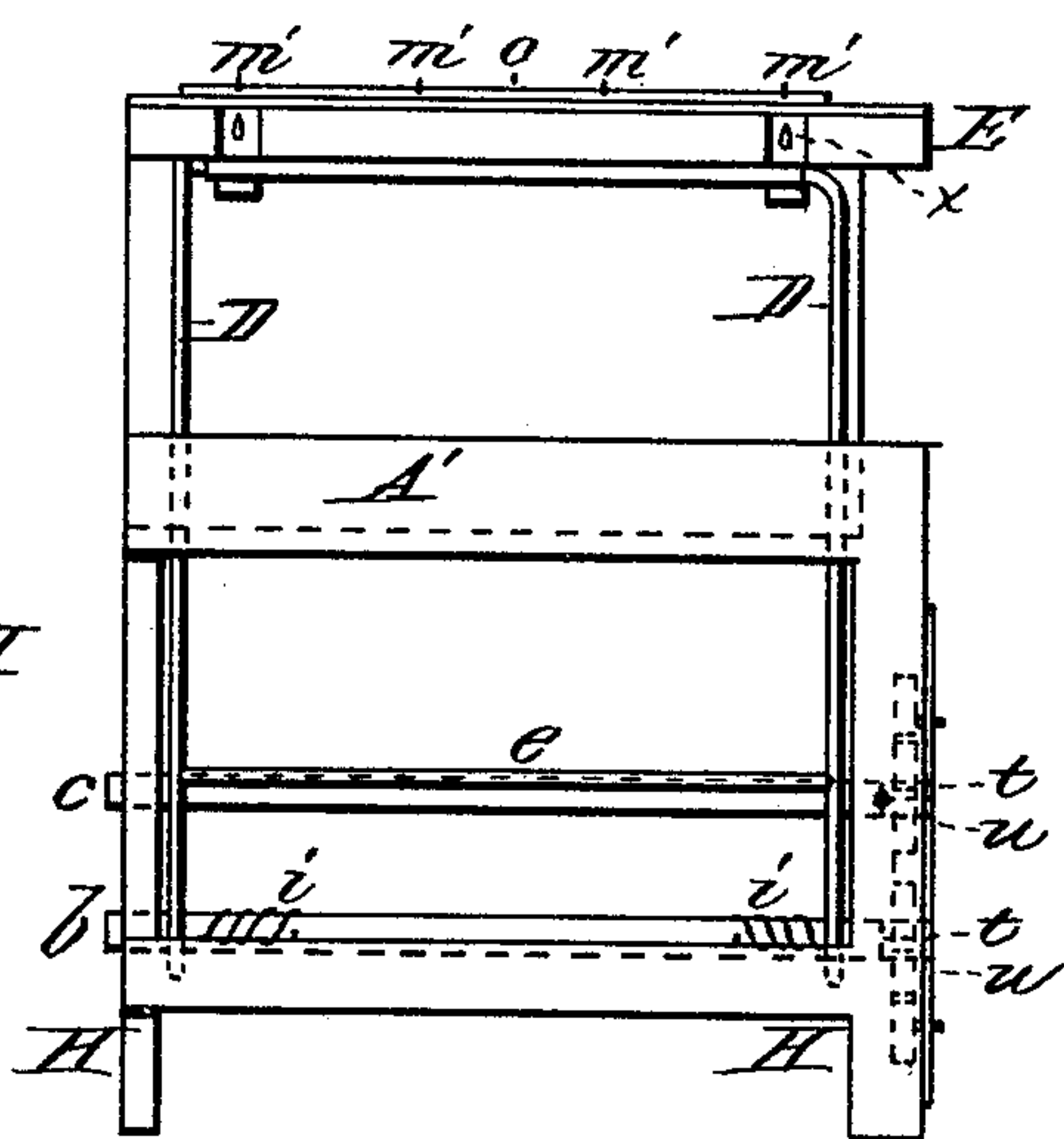


Fig. II

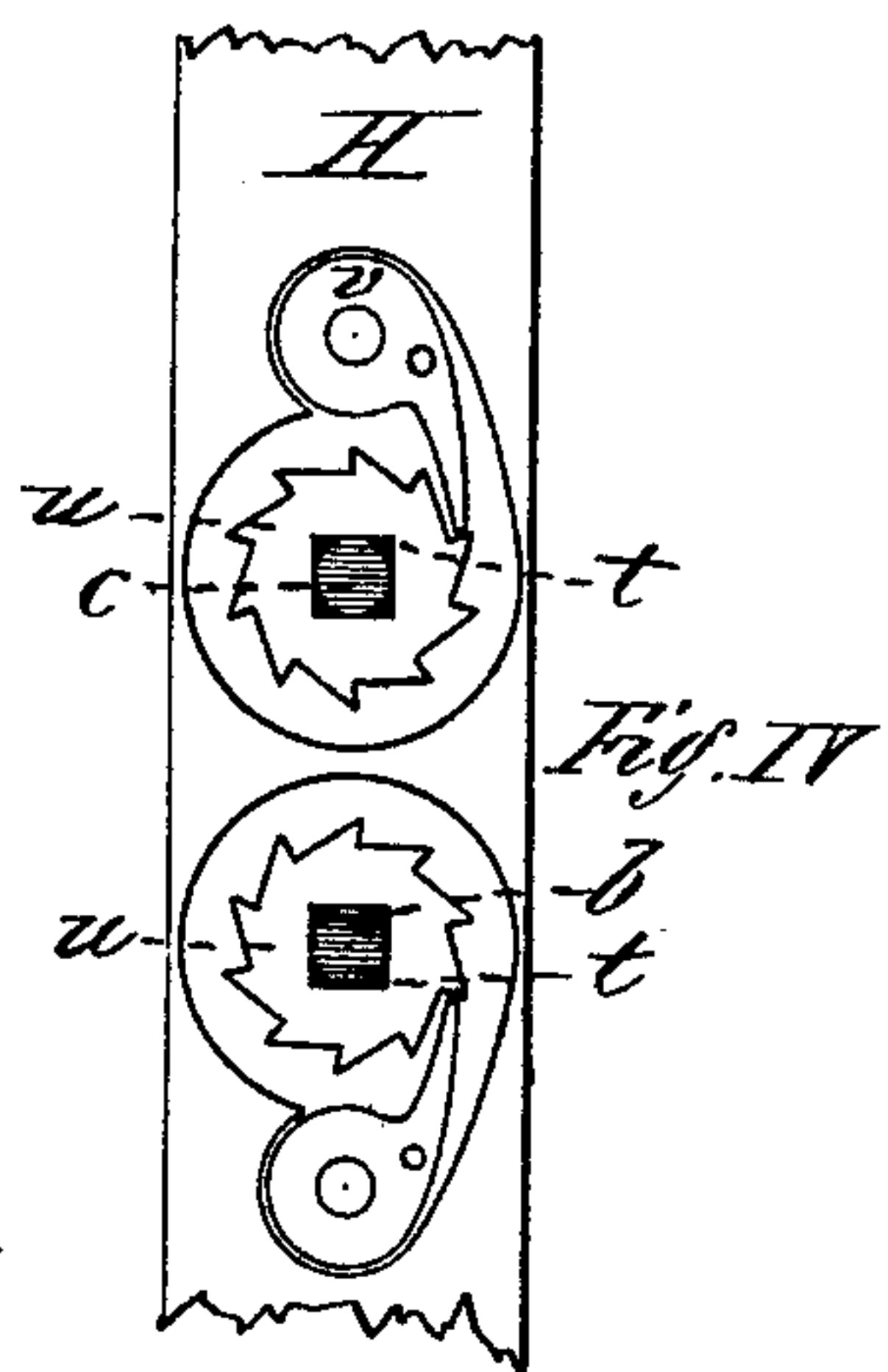


Fig. IV

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Fig. III

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IMPROVEMENT IN SLEEPING-CARS.

Specification forming part of Letters Patent No. 181,005, dated August 15, 1876; application filed February 11, 1876.

To all whom it may concern:

Be it known that I, WILLIAM H. PAIGE, of Springfield, in the State of Massachusetts, have invented a new and useful Improvement in Sleeping-Cars; and that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon.

The object of my invention is to facilitate the adjustment or making up of the berths of a sleeping-car, and to render the same comfortable and easy; to lessen the expense of construction of sleeping-cars; to render them more spacious and roomy; to make them lighter in weight, and, consequently, cheapen the expense of transportation of such cars. To this end my invention consists of a movable frame, and seat-backs arranged between, every two having their backs adjoining, within which frames are arranged rolls, upon which to wind, and with which to stretch taut, the canvas webs which support the bedding, and with which to elevate the upper berths to the proper height, as will be more fully hereinafter described.

Figure I is a longitudinal vertical section of so much of a car and its seats as is necessary to illustrate my invention as applied thereto. Fig. II is a side elevation of one of the seat-backs and the movable frame operating therein. Fig. III is a plan view of one of the seat-backs; and Fig. IV is an end view of so much of one of the seat-backs, or, rather, of the frame-work between two adjacent seat-backs, as is required to show the ratchet and pawl which hold the rolls in place when adjusted.

In the drawing, B represents the inside of a car, and A represents the seats; and A', a frame-work of wood placed in between the two adjacent seats A. Inside this frame-work A' (shown clearly in Fig. II, and in section in Fig. I) is placed a frame, made preferably of iron pipe, as being stronger, and so disposed as to move freely up and down within the frame-work A'; and two rolls, *c* and *b*, are arranged to turn in bearings in the end pieces H of the frame-work A, with one end of a cord, *i'*, secured to and wound upon the roll *b*, the other end being attached to the lower part of the frame A, so that by turning the lower

roll *b* in one direction the frame D may be raised, and by turning it in an opposite direction the frame D may be lowered. The top rail E of the seat-back is attached to the frame D in any convenient manner, and the seat-back C is attached thereto, one on each side, by any suitable means, preferably by hooks *x*, so that the backs may be readily removed, and the top has an opening, *s*, therein, extending nearly the whole length of the rail, to one side or edge of which opening is hinged a metallic cover, *o*, having hooks or fastenings *m'* on the inside. To the side of the car, just in front of the seat-back, is fixed a knob or projection, *a*, to keep the seat-back in place; and the outer ends of the rolls *c* and *b* may be made prismatic at *t*, to apply a winch or key to turn the rolls, the latter being provided with a ratchet and pawl, *u v*, to securely hold the rolls in the position into which they may be turned. The mattress-support *m* consists of a strong canvas web, provided with eyes or fastenings at one end, to attach it securely to the fastenings *m'* on the inside of the hinged cover *o* when open, as shown clearly in Fig. I, and this web, when arranged for use as a berth, extends from said fastenings *m'* upon one seat top or rail, E, back to the next rail, and down through the opening *s* therein, and is attached to and wound upon the roll *c*. The web *n*, forming the lower berth, is attached at one end to the frame D, or to a cross-bar, *e*, thereon, and extends back, (the seat-backs being raised,) and is wound upon the same roll, *c*, that the upper web *m* is wound upon.

The curtains *h* are attached to hooks or fastenings *w* in the top of the car, and are attached, at their lower ends, to the webs *m* by fastenings *h'*, and from the partitions between the upper berths.

The operation of my invention is as follows: When it is desired to make up the berths, the winch or key is applied to the prismatic end *t* of the lower roll *b*, and the latter turned to raise the frame D, seat-backs C, and top rail E into the position shown in Figs. I and II, by winding the cord *i'* upon said roll, the knobs or projections *a* causing the seat-backs C to assume an approximate vertical position, and holding them firm. The winch is then applied to the roll *c*, and turned so as to loosen

the webs *m* and *n* a little, and the hinged cover *o* is then opened, and the end of the web *m* detached from the fastenings *m'*, and the roll *c* turned so as to unwind the two webs *m* and *n* sufficiently to extend them to the next top rail *E* and frame *D*, to which their ends are secured, as before described, and as shown in Fig. 1. The curtain *h* is then suspended from the fastenings *w*, and its lower end attached to the web *m* by the fastenings *h'*, and the roll *c* is turned to stretch both webs *m* and *n* and the curtain *h* all taut at the same time, the rolls *c* and *b* being held to secure the seat top or rail *E* and frame *D* and webs in that position firmly by the ratchets and pawls *u v*. The berths may then be made up, and are ready for occupancy. When taken down the roll *c* is turned to slacken the webs and curtain, the latter detached from its fastenings and stored with the bedding in the space *G* under the seat. The ends of the webs are then detached from their fastenings, and the roll *c* turned, winding up the webs thereon, and the end of the web *m* attached to the fastenings *m'* on the inside of the cover *o*, and the latter shut down, and the roll *c* turned so as to hold the said cover down securely, the web *n* being entirely wound up on the roll *c*. The winch is then applied to the roll *b*, and the latter turned to carry down the frame, seat top or rail, and seat-backs, the latter being guided, by the end *o'* of the seat *A*, into its proper inclined position, the whole then being arranged for a spacious day-car.

If it should be desired to make up any one berth without making up the others at either end of it, the seat-backs of those adjacent to the one to be made up may be detached from the hooks *x* or fastenings on the rail *E*, and the seat-backs of only the berth to be made up be raised, the other two remaining in their places.

It is evident that instead of the fastenings *m'* being placed on the inside of the cover *o*, suitable knobs might be arranged on top of the rail *E*; but I prefer to attach them to the cover, as above described, as being out of the way when not in use, and useful in

holding the cover down to close the opening *s* securely.

In constructing the car a space may be left between the seats, and the frame *D* then made and placed within the frame-work *A'*, and the latter placed in its position in said space and properly secured.

I am aware that a canvas support has heretofore been used for the bedding of sleeping-cars, and that a roll located between the seats has also been used; and I do not claim the same, nor either of them, as a feature, separately considered.

Having described my invention, what I do claim as new is—

1. The arrangement of the movable frame *D*, located between each two adjacent seats of a car, with the roll *b* and the rail *E*, provided with an opening, *s*, the same operating as a support for the upper berth of a sleeping-car, substantially as described.

2. The combination of the rolls *c* and *b*, the movable frame *D*, the rail *E*, and the webs *m* and *n*, all arranged and operating as a means of adjusting the upper and lower berths of a sleeping-car, substantially as set forth.

3. The combination of the rail *E*, provided with an opening, *s*, the hinged cover *o*, fastenings *m'*, and web *m*, to close said opening securely when the car is used as a day-car, substantially as set forth.

4. The combination of the roll *c*, the webs *m* and *n*, and the curtains *h*, secured at one end to the car, and to the web *m* at the other end, whereby both the said webs and the curtain may be stretched to the desired degree by one movement of said roll, substantially as described.

5. The combination of the top rail *E*, movable in a vertical direction, the rigid-frame seat-backs *C*, arranged to be entirely removed from said rail, and the hook-fastenings *x*, by which said rigid-frame backs are secured to said rail, substantially as and for the purpose described.

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Witnesses:

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