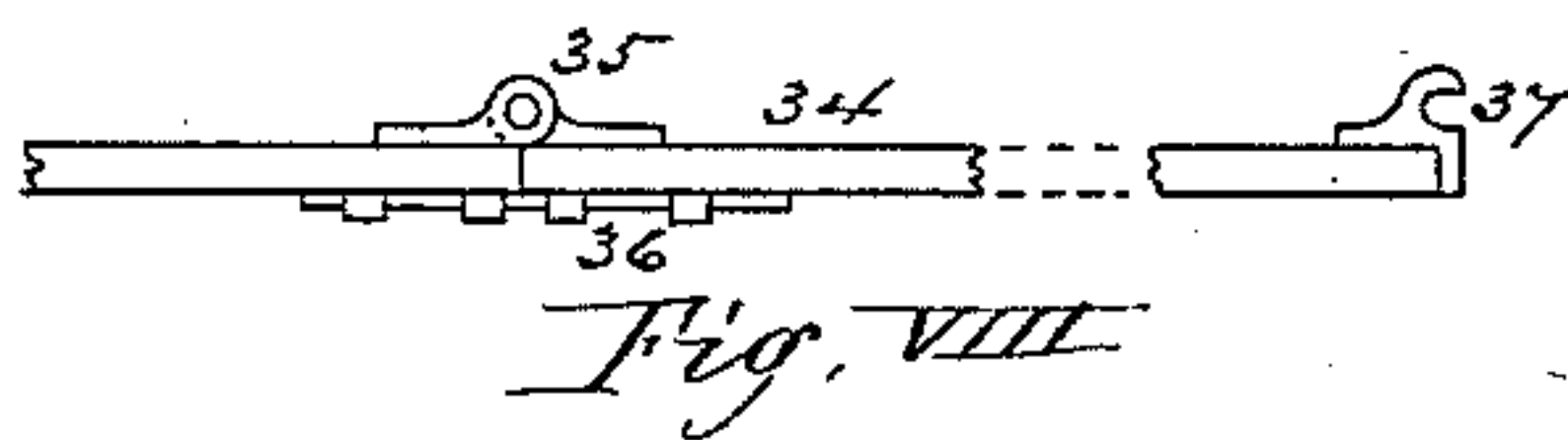
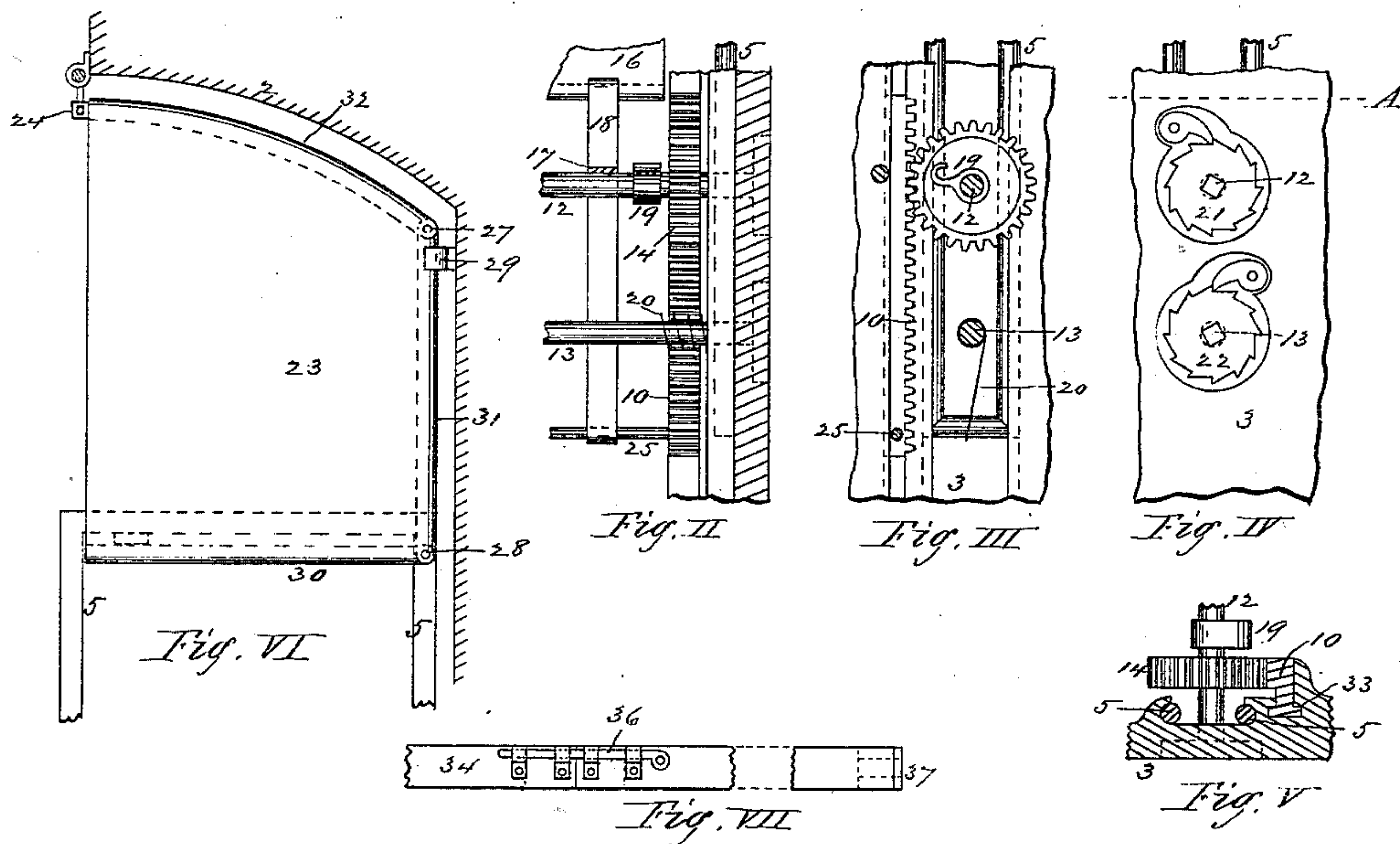
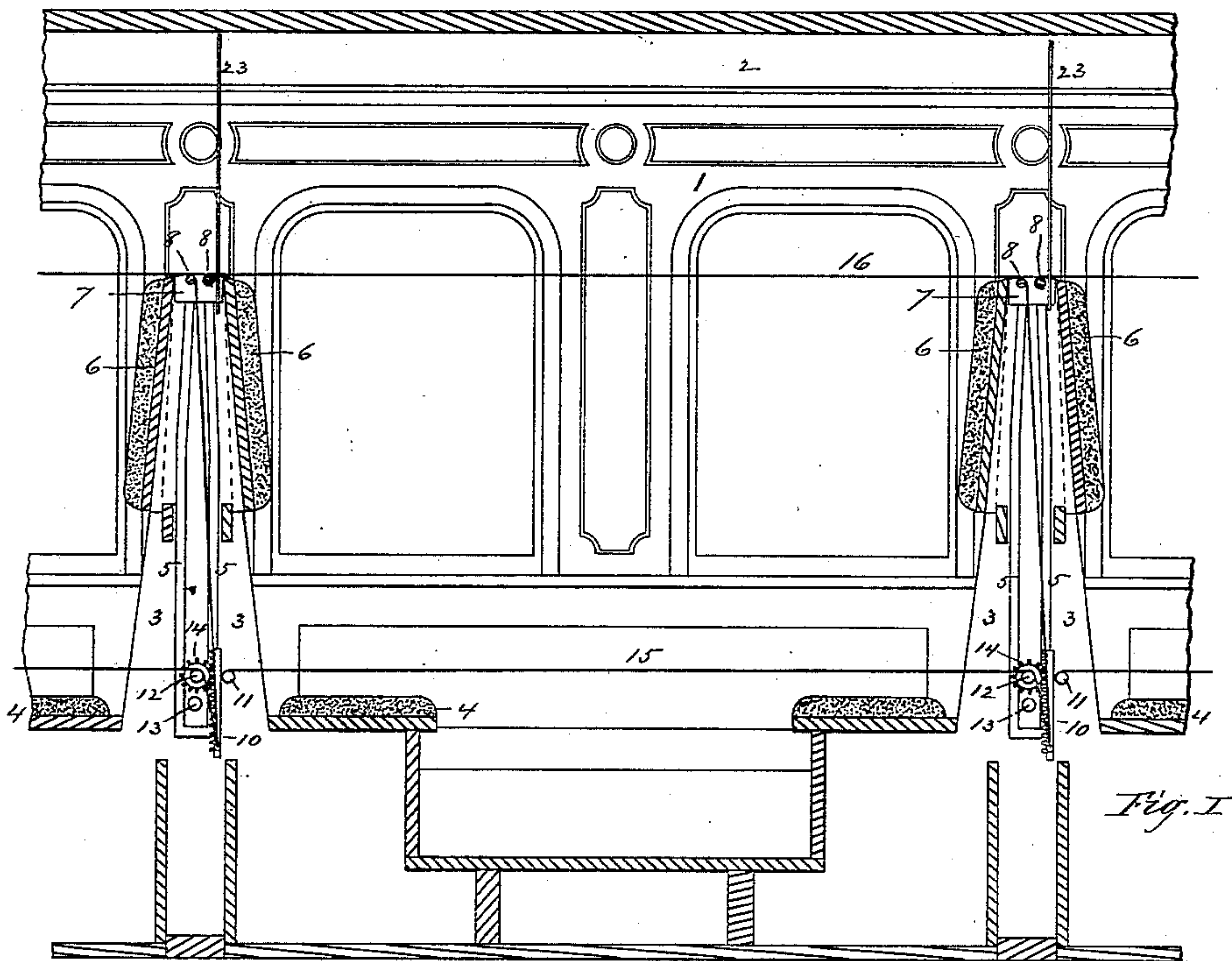


(No Model.)

W. H. PAIGE.
SLEEPING CAR.

No. 259,332.

Patented June 13, 1882.



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM H. PAIGE, OF SPRINGFIELD, MASSACHUSETTS.

SLEEPING-CAR.

SPECIFICATION forming part of Letters Patent No. 259,332, dated June 13, 1882.

Application filed December 12, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. PAIGE, of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Sleeping-Cars, of which the following is a specification and description.

My invention relates to that class of sleeping-cars in which tightly-stretched canvas, duck, or other suitable flexible webbing is the means employed to support the mattresses and bedding of the sleeping-berths; and the object of the invention is to provide a cheap and effective means for stretching and supporting the webbing, to provide cheap, light, and convenient partitions between the berths when ready for occupancy, and to strengthen the supports for sustaining the berths when occupied; and I accomplish this by the mechanism substantially as hereinafter explained, and illustrated in the accompanying drawings, in which—

Figure I is a longitudinal vertical section of a portion of a railway-car made according to my invention, midway the length of the car-seat. Fig. II is a front view of the end portion of the elevating-roll for raising the supporting-frame for supporting the upper berth, and also of the tightening-roll, with its rack and pinion for tightening the webbing for both the upper and lower berths. Fig. III is a vertical section of Fig. II. Fig. IV is an end view of a portion of the seat-frame, showing the winding end of the tightening-roll and elevating-roll with the ratchet and pawl attached to each. Fig. V is a horizontal section of Fig. IV at line A. Fig. VI is a transverse section of the upper portion of one side of the car, showing the arrangement of the partition or curtain between two adjacent upper berths. Fig. VII is a side view of a portion of a guard-rail adapted to be secured to and to extend between two adjacent elevating-frames and along the side of the upper-berth webbing, and Fig. VIII is a plan view of the same.

In the drawings, 1 represents the inner side wall of a railway passenger-car, in which 2 represents the ceiling, and 4 the seats secured to the two end seat-frames, as 3, the seats being preferably permanent, with their backs, as 6, adjacent to each other, in pairs, each two

adjacent seats being arranged back to back, as shown clearly in the drawings, and between each two adjacent seat-backs is a space, in which is an elevating-frame, as 5, adapted to move vertically in suitable guideways in the end frames of the seats, or in suitable pieces secured to said end frames, or secured in any desired manner between each two adjacent seats; and to the upper end of this frame is secured a top rail provided with a longitudinal opening. This rail may be made solid and of wood, with this longitudinal opening made therein; or the rail may consist of two rods, as 8, placed a little distance apart, and extending from one end of the elevating-frame, as 5, to the other, lengthwise the seat, the space between the rods forming the said opening; and to the top of the vertical sides of the elevating-frame, as 5, is fixed a head piece or block, as 7, of metal, to which the two horizontal rods, as 8, are secured; and the seat-backs, as 6, may be hinged to these head pieces or blocks at the upper edge of the seat-back, at each end, leaving the lower edge of the seat-back free to swing.

A roll, as 13, is adapted to revolve in suitable bearings between the adjacent seats, or in the end frames, and suspending cords or straps, as 20, are secured at one end to said roll and at the other end to the cross-bar, as 25, of the elevating-frame, so that by revolving the said roll in one direction the said cords will be wound upon the roll, and the elevating-frame, with the seat-backs hinged to its upper end, will be raised into the position shown in Fig. I, and when in this position the lower edges of the seat-backs may swing inward into the position shown in dotted lines in Fig. I, so as to bear upon the top of the end frames of the seats, which will assist very materially in securing the elevating-frame in a rigid and firm position when raised.

A rack, as 10, is adapted to be moved up and down in a suitable guideway, as 33, either made in the seat-frame at each end or in suitable pieces secured thereto, and a roll or shaft, as 12, adapted to be rotated in suitable bearings, is provided at each end with a pinion, as 14, whose teeth engage with those on the rack, as 10. Each shaft or roll 12 and 13 is provided at the outer end with a ratchet and pawl, as

21 and 22, respectively, to hold the shafts securely in any position into which they may be turned with a prismatic hole or a projection at the center to apply a winch to turn the shafts.

5 One end of the upper canvas or webbing, as 16, when the frames, as 5, are raised for use, is secured by suitable hooks or fastenings to one of the rods, as 8, which forms the top rail of the elevating-frame, as 5, and the other end
10 of the webbing is secured, preferably by suitable straps, as 18, to a rod or bar, as 25, extending across from the rack, as 10, at one end to the corresponding rack at the other end, or the webbing may be properly secured to
15 the racks themselves. The lower canvas or webbing, as 15, may be secured for convenience to fastenings or collars, as 19, loosely clasping or encircling the shaft 12, or, if preferable, to a small rod extending across from
20 one seat-frame at one end of the seat to that at the other end, as at 11, with straps, as 17, secured at the other end of the webbing, and extending over the opposite roll, 12, secured to the straps, as 18, on the other web-
25 bing, or they may be secured to the racks or to the bar, as 25, below.

To provide a partition between two adjacent upper berths, I secure two somewhat thin flat bars, as 30 and 31, firmly together at one end,
30 forming nearly a right angle, as shown clearly in Fig. VI, and to the upper end of the bar, as 31, I hinge, as at 27, another similar but curved bar, as 32, if the ceiling of the car is arched; or the bar 32 may be straight, if preferred, so that said bar 32 may be moved upon
35 its hinge at 27 down toward the upright bar, as 31, like the blade of a knife; and a forked rest, as 29, may be secured to the wall of the car to assist in holding the bars in an upright
40 position, as shown clearly in Fig. VI. The upper and free end of the bar 32 is held up in position by a fastening, as at 24, pendent from or secured to the ceiling of the car. A piece of webbing or other suitable flexible material
45 is sewed or otherwise secured to the said bars, as 30, 31, and 32, so that when the free end of the upper bar, 32, is secured to the fastening at 24, and the upright bar, as 31, against the rest, as 29, the flexible piece, as 23, is in a ver-
50 tical position for a partition between two adjacent upper berths with a space, as at 40, between it and the wall and the ceiling of the car for ventilation; and when it is desired to use the car as a day-car the bar, as 32, is re-
55 leased from its fastening at 24, and that end of said bar is moved down toward the bar, as 31, the web, as 23, being thereby folded, and the bars, as 31 and 30, swing on their common hinge at 28, moving all the bars, as 30, 31,
60 and 32, together with the web, as 23, secured thereto, down into the space between the seat-backs by the side of or with the elevating-frame, as 5, the bars, as 30 and 31, being pivoted at 28 to the elevating-frame or to the
65 head-piece, as 7, thereon.

A guard-rail, as 34, may be secured to the

elevating-frames, extending from one frame to the next one, by the side of the upper webbing, as 16; and said rail may be made in two parts
70 and hinged together, as at 35, with a bolt and sockets, as at 36, to keep the two parts rigid when in place, and so that the bar may be un-
bolted and doubled together at the hinge, to be packed away. This rail, as 34, may be se-
cured in place, to the elevating-frames, by a
75 fastening, as 37, at each end, or by any other suitable means.

When it is desired to prepare the berths for use a winch is applied to the roll, as 13, and the elevating-frame and seat-backs, as 6, at-
80 tached thereto are raised to the position shown in Fig. I, and if both berths are to be used the end of the webbing, as 16, is withdrawn from its folded position between the seats and its
85 end fastened to one of the rods, as 8, forming the top rail of the elevating-frame, and the end of the lower canvas or webbing, as 15, is at-
tached, either to the rod, as 11, or to the fastenings, as 19, on the roll, as 12, and the winch
90 is then applied to the end of the roll, as 12, and the roll is turned, forcing the racks, as 10, down firmly, and both webbings, as 15
and 16, are drawn taut at the same time, and the bed on each webbing is then made up, and
the rail, as 34, is secured at the ends to the
95 elevating-frames at each end of the webbing, and extending along by the side of the latter, and serving as a guard-rail for the person oc-
cupying the upper berth. The webbing, as 23,
together with the bars, as 30, 31, and 32, are
100 then drawn up out of the space between the seat-backs by swinging said bars upon their common hinge, as 28, and the free end of the
upper bar, as 32, is secured at its fastening,
as 24, and the berths are ready for occupancy. 105

When it is desired to use the car as a day-car the bedding is removed and stowed away beneath the seats, and the winch is applied to the roll, as 12, and, the pawl being held away
110 from its ratchet, said roll is turned so that the rack, as 10, is raised a little, so that the opposite end of both webbings 15 and 16 may be unfastened, and the webbings are then both
folded back into the space between the seats by one or two large folds, and do not require
115 to be rolled up on the roll 12. The free end of the upper bar, as 32, is then released from its fastening at 24 and moved down toward the bar, as 31, and then all the bars, as 30, 31,
and 32, together with the webbing, is swung
120 upon their common hinge, at 28, down into the space with the elevating-frame. The winch is then applied to the roll, as 13, the pawl moved away from its ratchet thereon, the seat-
backs moved outward from off the top of the
125 end frame of the seat, and the roll is turned so that the frame, as 5, and the seat-backs at-
tached thereto, is moved down into a position to form an ordinary car-seat, the guard-rail, as
34, having first been detached from the frame. 130

Instead of making the straps, as 18, at-
tached to the upper webbing, as 16, as shown

in Fig. II, I prefer in practice to make said straps quite short and extend the said webbing down within the space between the seat-backs, to or a little below the roll, as 12, and this webbing will then form a partition between the two lower berths.

By the construction hereinbefore described the vertically-movable elevating-frame and the webbing for the upper berth supported thereby are entirely separate and distinct from the tightening-roll, as 12, so that any disturbance or disarrangement of one webbing or berth will not affect the other.

Of course the upper edge of each seat-back, as 6, is so secured to the upper portion of the frame, as 5, that the seat-back may be easily detached therefrom, so that if one section of berths is to be made up and used the adjacent seat-backs may be detached from the movable frame, as 5, and placed down in position on the seats, so that the latter may be occupied.

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

1. The combination, in a sleeping-car, of two racks adapted to be moved vertically in fixed guideways between two adjacent seats, a tightening-roll located in bearings between two adjacent seats, and provided with pinions engaging with and adapted to move said racks in a vertical direction, flexible material or webbing for supporting one or more berth-beds, and adapted to be fastened at one end and connected at the other end with said racks, and a vertically-movable frame provided with a sustaining rail or bar at the upper portion to support the upper-berth webbing, whereby the webbing for the upper and the lower berths may both be supported and be tightened by the same vertical movement of the rack, substantially as described.

2. The combination, in a sleeping-car, of a frame adapted to be moved vertically in suitable guideways between two adjacent seats, two adjacent seat-backs with their upper portions detachably secured to the upper portion of said frame, and with the lower edges of said seat-backs adapted to have a bearing upon the upper portions of the end frames of the seats when said frame is raised to a position to support the upper berth, substantially as described.

3. The combination, in a sleeping-car, of a frame adapted to be moved vertically in suitable guideways between two adjacent seats, two adjacent seat-backs with their upper portions detachably secured to the upper portion of said frame, with a longitudinal space or opening between said seat-backs, and a series of bars adapted to support a flexible partition, and pivoted to the said movable frame, whereby when the said frame is in a position to support the upper berth the said bars and flexible partition may be secured to the upper portion of the car to serve as a partition between two adjacent upper berths, and when not in use may be swung down between said seat-backs, substantially as described.

4. In a sleeping-car, the combination, with a series of frames, each adapted to be moved vertically in suitable guideways between two adjacent seats, of a guard-rail made in two parts hinged together and adapted to be extended along the side of the upper berth and secured at the ends to two adjacent frames, substantially as described.

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Witnesses:

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