

(No Model.)

H. S. McCORMICK.
REGISTER FOR FOLDING MATTRESSES.

No. 571,009.

Patented Nov. 10, 1896.

Fig. 1.

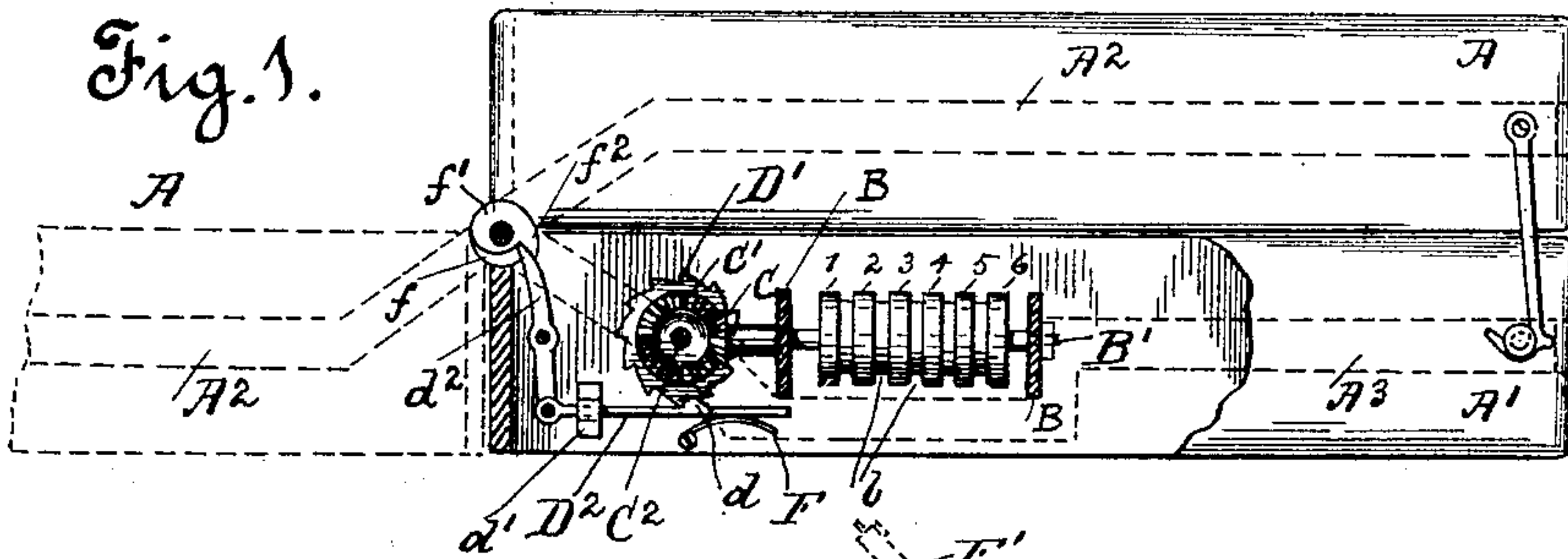


Fig. 2.

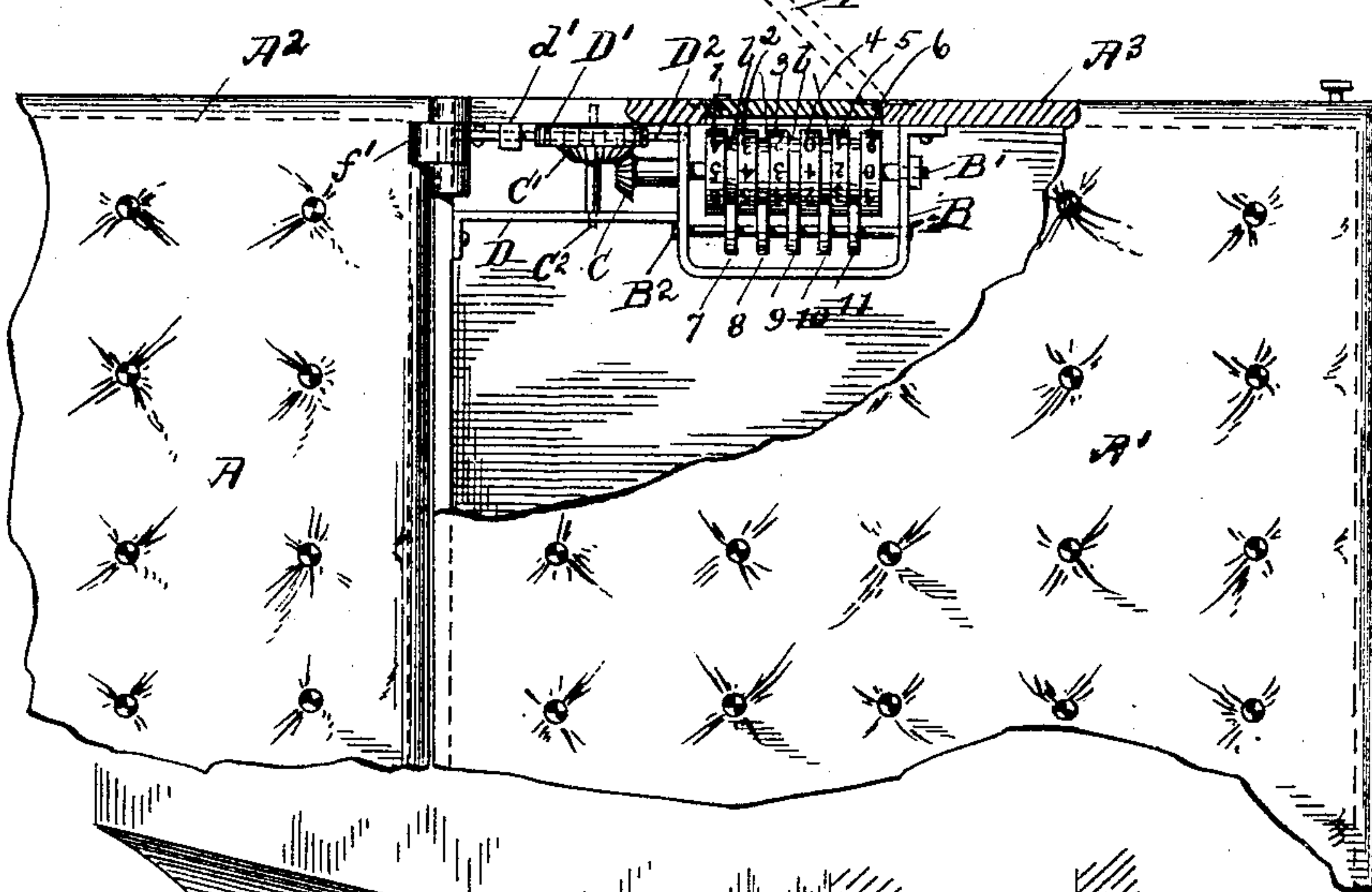


Fig. 3.

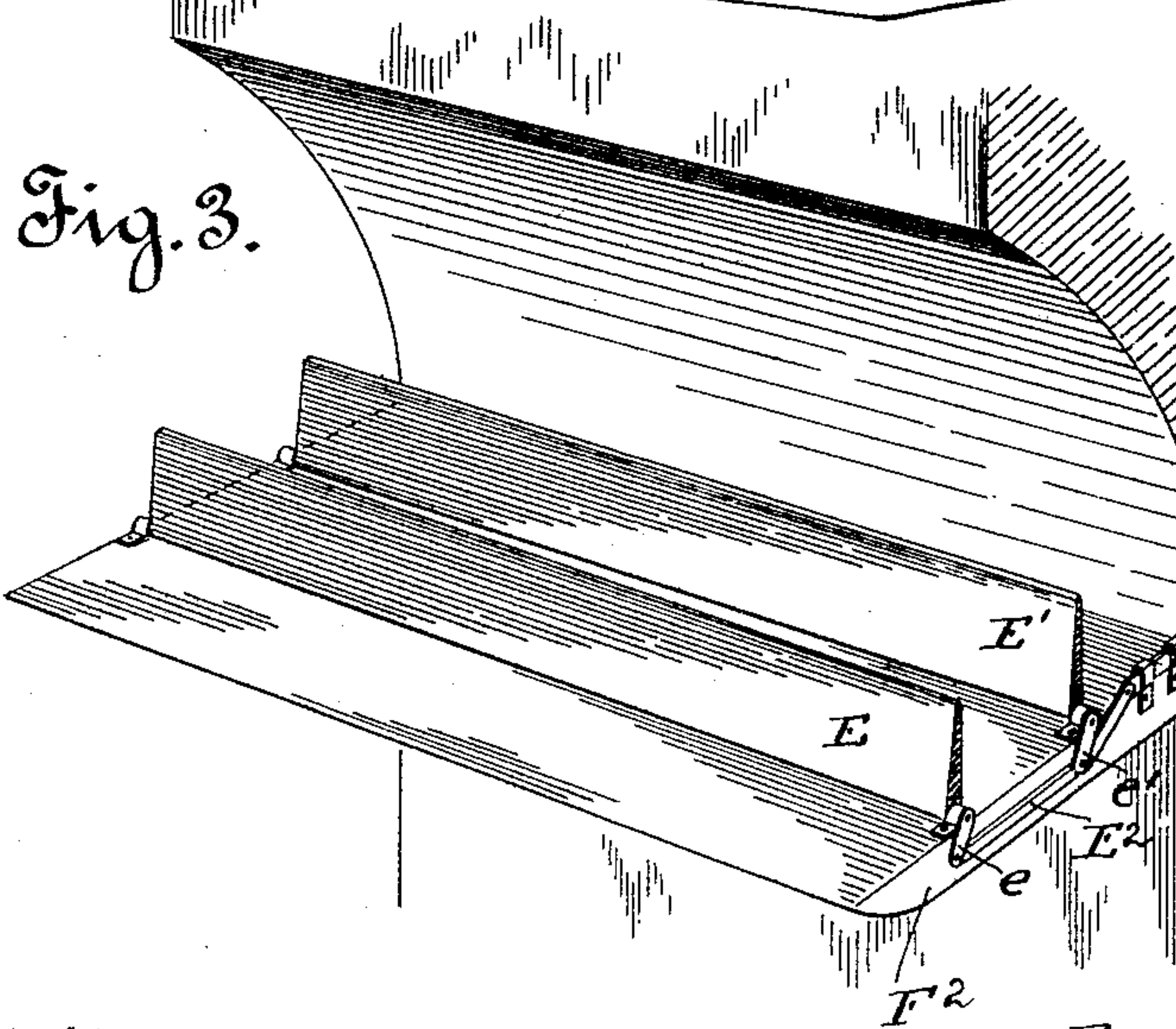
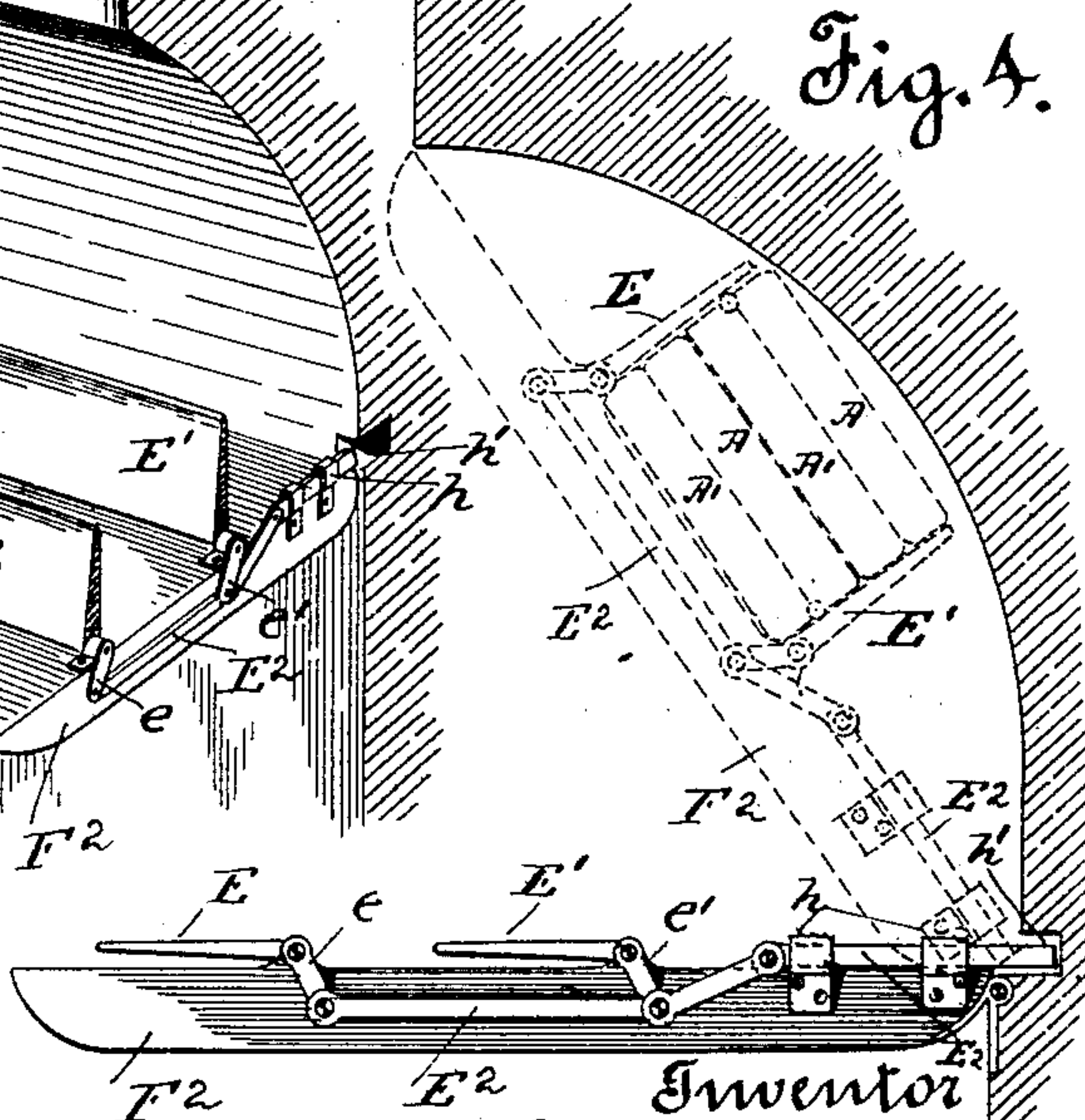


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

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REGISTER FOR FOLDING MATTRESSES.

SPECIFICATION forming part of Letters Patent No. 571,009, dated November 10, 1896.

Application filed July 17, 1895. Serial No. 556,207. (No model.)

To all whom it may concern:

Be it known that I, HERBERT S. McCORMICK, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Registers for Folding Mattresses; and I do hereby declare that the following is a full, clear, and exact description thereof.

The present invention relates to a certain new and useful improvement in mattresses, which consists in the arrangement of parts and details of construction, as will be hereinafter fully set forth in the drawings and described and pointed out in the specification.

This invention is more especially designed for use in connection with the sleeping-cars of a railway system, and the object of the invention is to provide a mattress which will register or tally each time the berth of the sleeping-car is made up for occupancy, in order that the person having charge of the run of the car may readily ascertain at the end of each trip the exact number of nights the berth has been made up for occupancy, thus maintaining a check upon the porters and preventing the selling of a berth for a night without rendering an account of the proceeds derived from such sale.

It is well known that many berths are sold direct by the porters of the car and no account of such sale is rendered to the company. It is to prevent this petty pilfering that my invention is directed.

In order fully to understand the invention, reference must be had to the accompanying sheet of drawings, wherein—

Figure 1 is an end view of the mattress, partly broken away, showing my registering device connected therewith. Fig. 2 is a top plan view of the mattress when open, a portion of the mattress being broken away in order to disclose the registering mechanism. Fig. 3 is a detail view showing the shelf of the upper berth when lowered and the division-plates connected thereto, between which the mattresses of the upper and lower sections are placed when folded; and Fig. 4 is an end view of the mechanism illustrated by Fig. 3 with the division-plates lowered, also showing the position of the shelf of the upper berth

and division-plates in dotted lines when the upper berth is closed.

In carrying out my invention it is essential that the mattress be constructed so as to fold, consequently in the drawings I have shown the mattress as being composed of the sections A A'. The section A is secured to the frame A² and the section A' to the frame A³, which frames are connected by means of suitable hinges. These frames are made of light material, so as to permit of the mattress being easily handled. To the inner face of one end of the frame A³ is secured the register-wheel frame B, within which frame I locate the register-wheels 1 2 3 4 5 6, which wheels are mounted upon the shaft B'. In the present instance I have shown six register-wheels, although the number of wheels may be increased or decreased, as desired. The register-wheels 2 3 4 5 6 I provide with the gear-toothed shoulder *b*, with which meshes the pinions 7 8 9 10 11, secured upon the shaft B², mounted in the frame B.

One end of the shaft B' projects beyond the register-frame B and has secured thereon the bevel-gear C, the teeth of which mesh with the teeth of the bevel-pinion C', rigidly secured upon the shaft C². This shaft works within bearings of the plate D and one end of the frame A³, Fig. 2, and upon said shaft, in advance of the bevel-pinion C', is rigidly secured the ratchet-wheel D'.

The ratchet-wheel D' is rotated through the medium of the reciprocating rod D², the tooth *d* of which engages with the teeth of the ratchet-wheel as the said rod moves outward. This rod moves within the guide *d'*, and to the outer end thereof is fastened the lower end of the fulcrumed lever *d*², Fig. 1. The upper end of this fulcrumed lever fits within the eccentric groove *f*, cut in the male section *f'* of one of the hinges.

The operation of my device as thus described is as follows: As the section A of the mattress is folded over or opened, Fig. 2, the male section *f'* of the hinges is turned inward, which causes the inclined face of the eccentric groove *f* cut in one of the male sections to gradually force the upper end of the fulcrumed lever *d*² inward and the lower end outward. As the lower end of said lever

is moved outward it draws the rod D^2 therewith, the tooth d of which rod engaging one of the teeth of the ratchet-wheel D' causes the same to rotate one tooth. The movement
 5 of the ratchet-wheel imparts a similar movement to the shaft C^2 , which carries the bevel-pinion C' therewith. Inasmuch as the pinion intermeshes with the bevel-gear C it will advance the said gear one tooth, which in turn
 10 imparts a partial rotation to the shaft B' and causes the register-wheel 1 to advance one numeral. By the time the mattress has been opened ten times the register-wheel 1 will have made one complete rotation and the
 15 pinion 7, engaging with the toothed shoulder b of the register-wheel 2, will have advanced the said register-wheel 2 one numeral. When this wheel has made one complete rotation, the pinion 8, intermeshing with the toothed
 20 shoulder of the register-wheel 3, will advance the said register-wheel 3 one numeral, and the remaining register-wheel advancing in like manner until the last wheel has made one complete rotation. This registering mechanism being of ordinary construction and working in the usual manner, a detail description of the same is thought to be unnecessary.
 As the section A of the mattress is closed the male section f' of the hinges turns outward, and as it turns over the shoulder f^2 , formed
 30 by the cutting of the eccentric groove f , engages the upper end of the fulcrumed lever d^2 and forces the upper end outward and causes the lower end to move outward, the movement
 35 of which forces the rod D inward in order that the tooth thereof will be in position to engage the next tooth of the ratchet-wheel as the rod is carried outward with the next opening of the mattress, as before described.
 40 The inner end of the reciprocating rod is held upward by means of the spring F , Fig. 1.

In order to readily examine the registering mechanism of the mattress, I cut an opening in one end of the frame A^3 of the section A' ,
 45 which opening I cover by the door F' . This door may be locked in any suitable manner.

For the purpose of compelling the porters to close the mattress when putting the same

away in the upper berth of the car, in order that it will be necessary for the same to be
 50 opened before the berth can be made up, I pivotally secure to the shelf F^2 of the upper berth the longitudinal division-plates $E E'$. These plates are connected at one end to the reciprocating rod E^2 by links or straps ee' . This
 55 rod E^2 works within the guides h , secured to the end of shelf F^2 , and the inner end, when the division-plates are lowered, Fig. 4, fits within the socket h' , cut in the wall of the car. Before the shelf F^2 can be raised, as shown by
 60 dotted lines, Fig. 4, it is necessary that the porter raise the division-plates $E E'$, so as to draw the inner end of the rod E^2 from within the socket h' . When these division-plates
 65 have been raised, the mattress cannot be placed within the compartment formed by said plates unless the said mattress be closed or folded.

After the mattress has been removed from between the division-plates the porter will be
 70 compelled to open the same before the berth can be made up. As the mattress is opened the registering mechanism will register the same.

I am aware that changes may be made in
 75 the arrangement of parts and details of construction herein shown and described without creating a departure from the nature and scope of my invention.

Having thus described my invention, what
 80 I claim as new, and desire to secure protection in by Letters Patent, is—

The combination with a mattress composed of two or more sections suitably united, of registering mechanism located within one of
 85 the sections, and of devices connected with another section for automatically operating said registering mechanism as the sections of the mattress are opened.

In testimony whereof I affix my signature,
 90 in presence of two witnesses, this 9th day of July, 1895.

HERBERT S. McCORMICK.

Witnesses:

N. A. ACKER,

C. H. McCORMICK.