

No. 641,212.

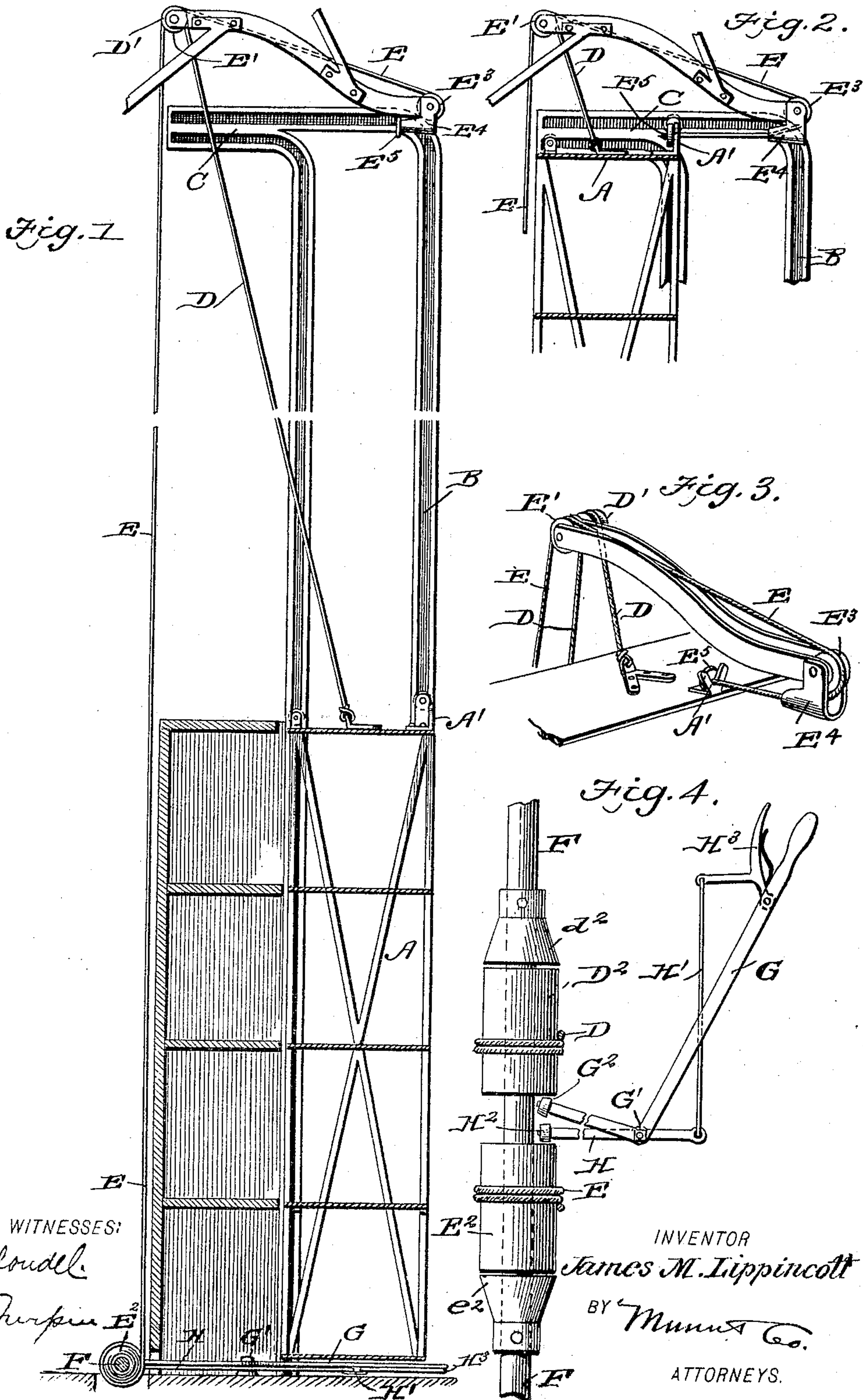
Patented Jan. 9, 1900.

J. M. LIPPINCOTT.  
SHELVING.

(No Model.)

(Application filed Jan. 12, 1899.)

2 Sheets—Sheet 1.



WITNESSES:

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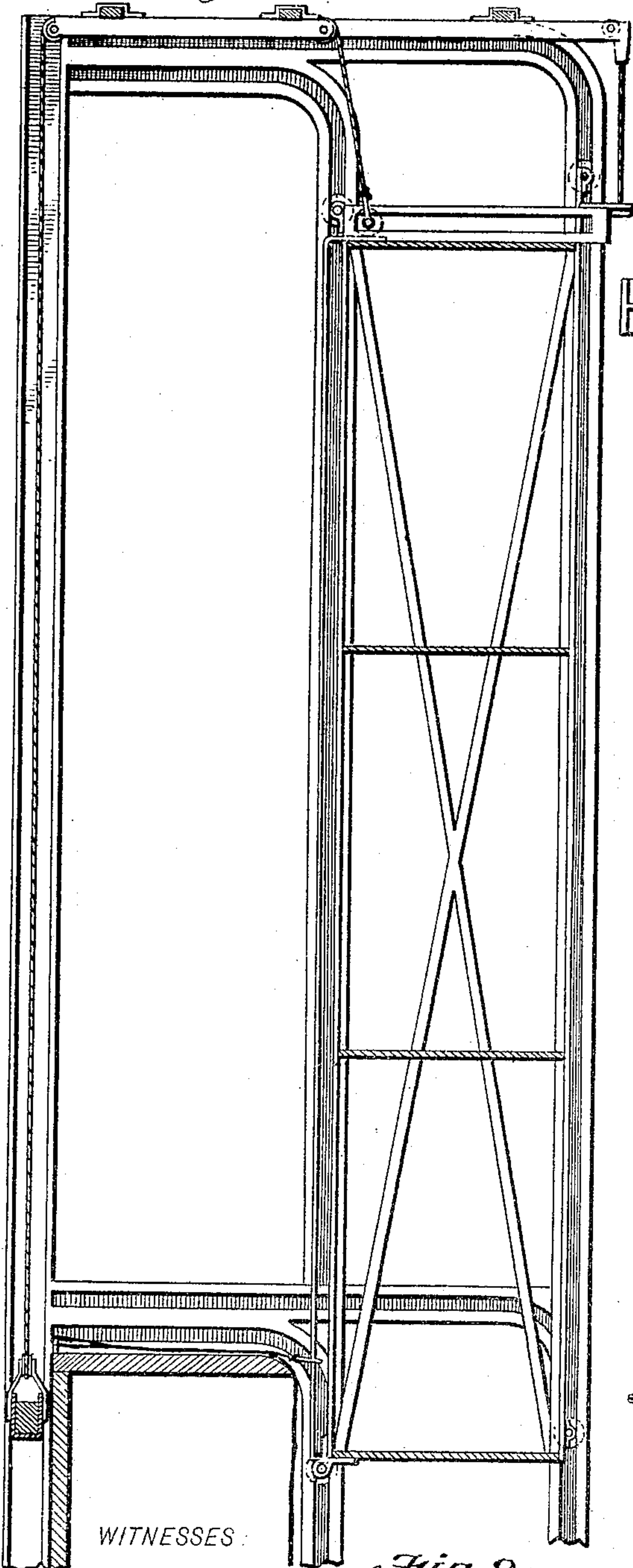
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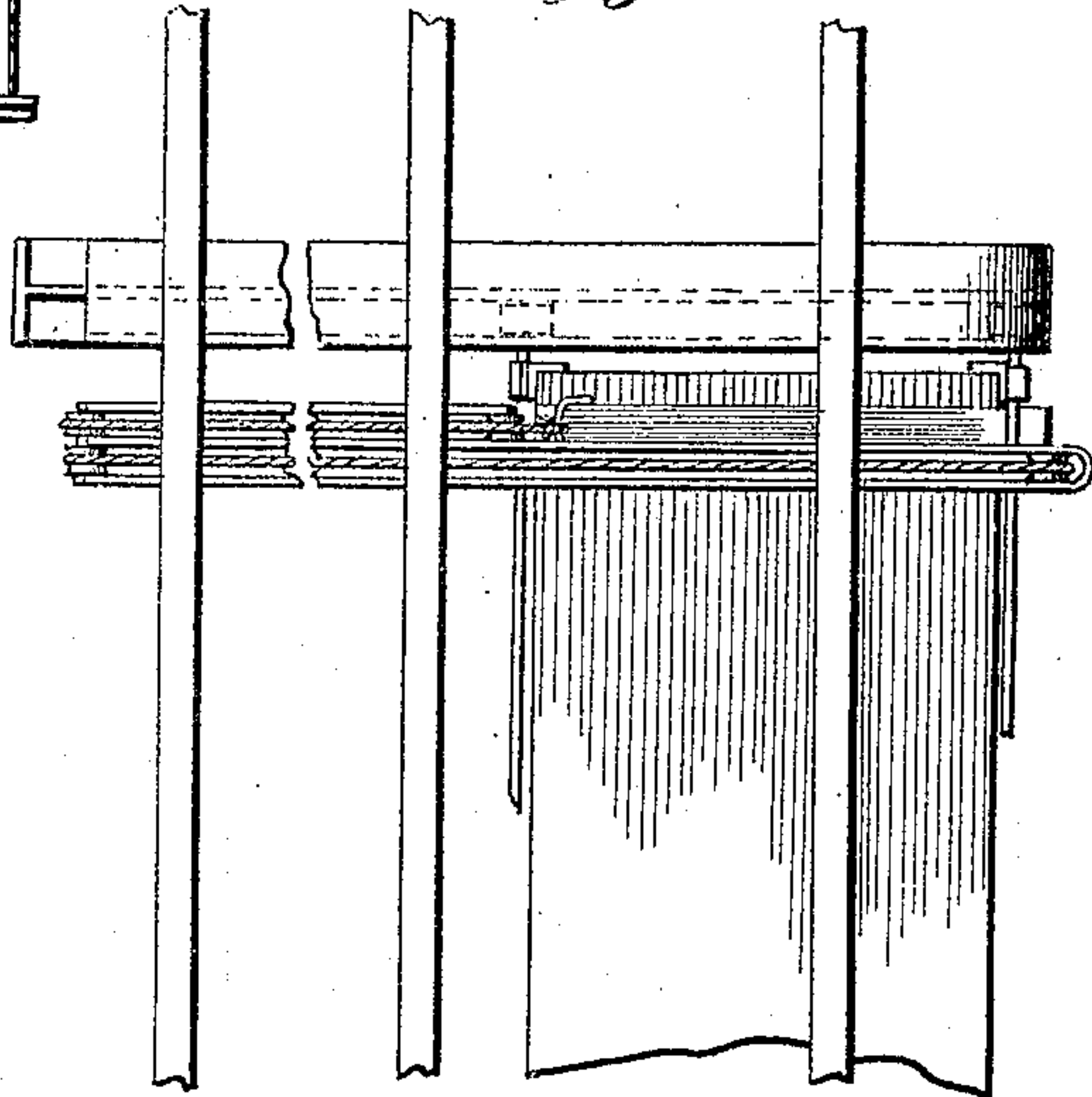
(No Model.)

2 Sheets—Sheet 2.

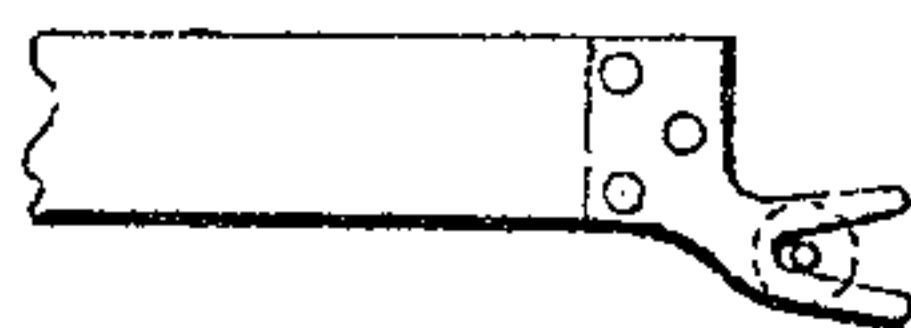
*Fig. 5.*



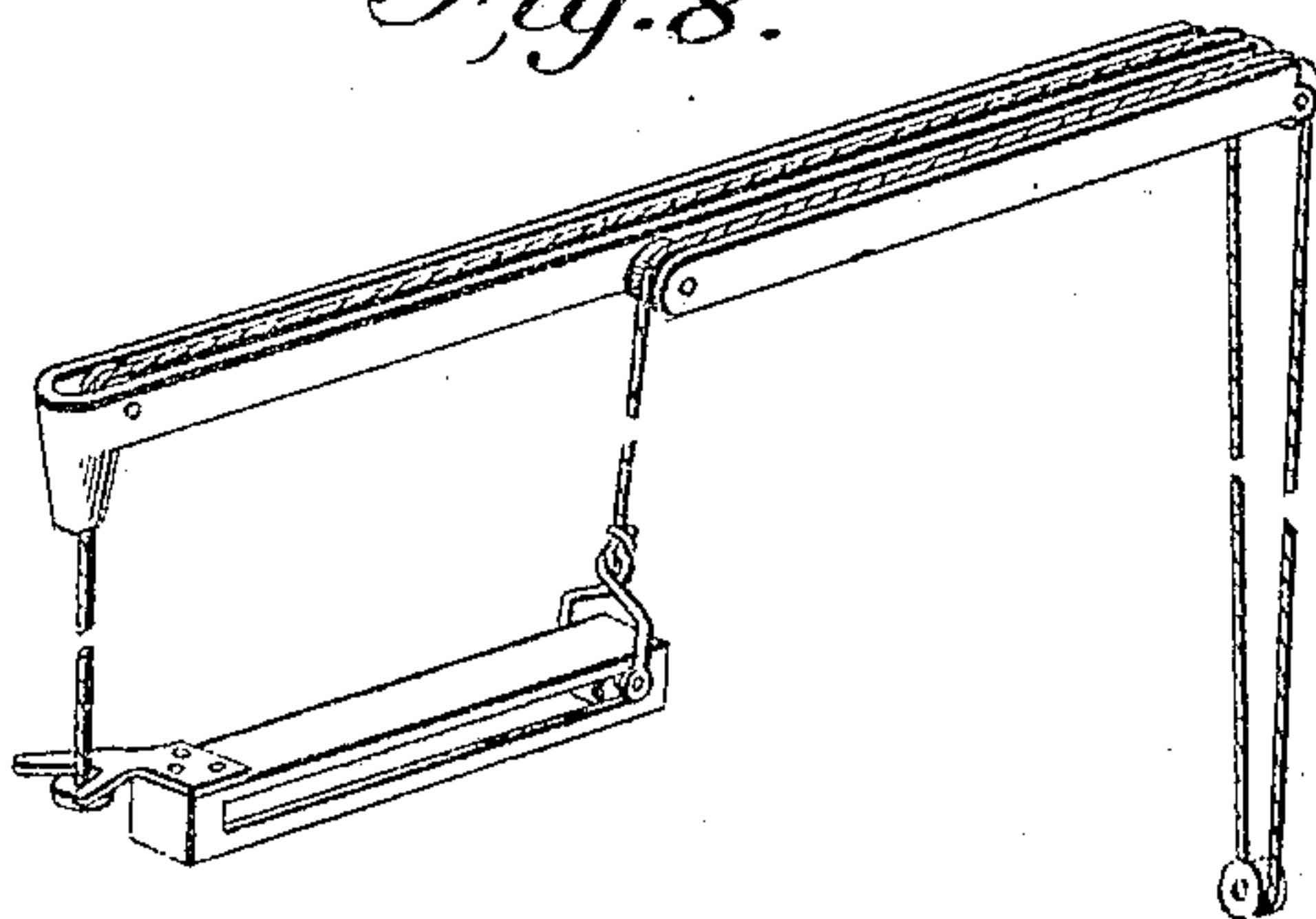
*Fig. 6.*



*Fig. 7.*



*Fig. 8.*

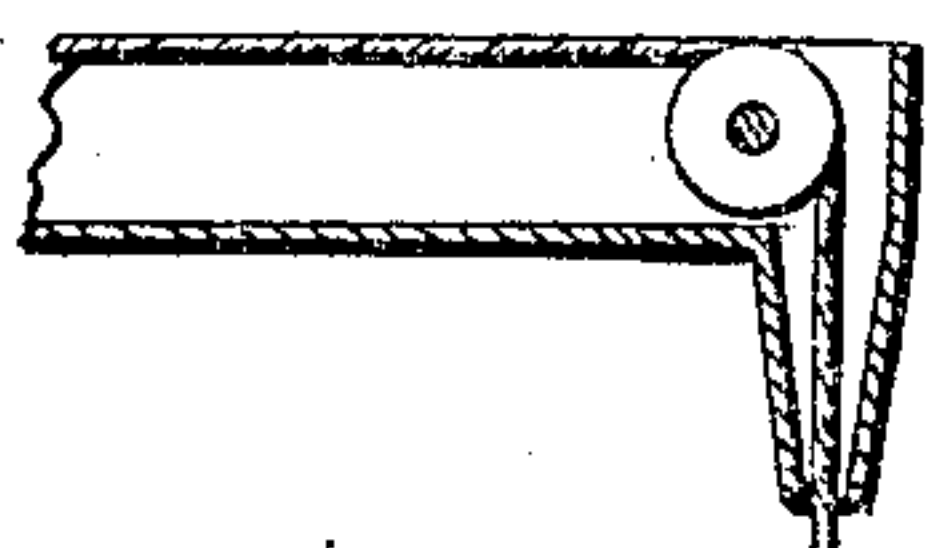


WITNESSES:

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*Fig. 9.*



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# UNITED STATES PATENT OFFICE.

JAMES M. LIPPINCOTT, OF OAKLAND, ILLINOIS.

## SHELVING.

SPECIFICATION forming part of Letters Patent No. 641,212, dated January 9, 1900.

Application filed January 12, 1899. Serial No. 701,919. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES M. LIPPINCOTT, residing at Oakland, in the county of Coles and State of Illinois, have made certain new and useful Improvements in Shelving, of which the following is a specification.

My invention is an improvement in shelving, and particularly in that class of such apparatus in which a shelving-section is movable vertically to a height above the ordinary fixed shelving and then is adjusted laterally back above said fixed shelving, thus utilizing the space above the fixed shelving and permitting the movable shelving-section to be conveniently brought within reach.

The invention consists in certain novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a vertical longitudinal section of my apparatus, the shelving-section being lowered. Fig. 2 is a detail section of the upper portion of the apparatus, showing the shelving-section adjusted back in the lateral guideway. Fig. 3 is a detail perspective view illustrating the cord or line for advancing the shelving-section, the guide for said cord, and the means whereby the same is detachably connected with the shelving-section. Fig. 4 is a detail view illustrating the drums for operating the hoisting and laterally-adjusting lines of the shelving-section and the levers for operating said drums. Fig. 5 is a vertical section of an apparatus, illustrating, in connection with a cord for lifting the outer edge of the shelving-section, the special means for guiding and detachably connecting the line with such section, which is shown in Figs. 1, 2, and 3, for advancing said shelving-section in its lateral guideway; and Figs. 6, 7, 8, and 9 are detail views of the construction shown in Fig. 5.

The shelving-section A is movable vertically in the guideways B and laterally in the guideways C, the latter extending rearwardly from and communicating with the upper end of the guideways B, as shown in Fig. 2. The shelving-section is lifted and moved backward in the guideways B and C by the cord or line D, which is connected with the shelving-section, passes upward over the guide-pulley D' and thence downward, and is se-

cured to its drum D<sup>2</sup>, which will be more fully described hereinafter.

The cord or line E, which in the construction shown in Figs. 1, 2, and 3 is used for adjusting the shelving-section forward preparatory to lowering the same, is secured to the drum E<sup>2</sup>, passes thence up over the guide-pulley E', thence forward over the pulley E<sup>3</sup>, and thence back through the guide E<sup>4</sup>, and the line E is provided with a head E<sup>5</sup>, which is too large to pass through the guide E<sup>4</sup>, so that it will be stopped by such guide in the position shown in Fig. 1. Upon the shelving-section A, I provide a catch A', as best shown in Fig. 3, which when the shelving-section A approaches its uppermost position engages the head E<sup>5</sup> on the line E and during the backward movement of said shelving-section draws such head and the cord to which it is attached rearwardly to the position shown in Fig. 2. Now by drawing on the cord E when the parts are as shown in Fig. 2 the head E<sup>5</sup>, pressing against the catch A', will draw the shelving-section forward until the latter is in position to descend the guideways B, and as the shelving-section descends the catch A' will slip out of engagement with the head E<sup>5</sup> and the latter will rest against the end of the guide E<sup>4</sup> in the position shown in Fig. 1, so that it can be reengaged by the catch A' when the shelving-section is again moved upward.

The drums E<sup>2</sup> and D<sup>2</sup> are loose upon the drive-shaft F and may be clutched therewith by moving them endwise against their respective shoulders e<sup>2</sup> and d<sup>2</sup>, the latter being fixed to the shaft F and such shaft being driven by any suitable power. It may be steam, compressed air, electricity, or any other of the well-known forces.

In operating the drums D<sup>2</sup> and E<sup>2</sup> into engagement with their respective shoulders I employ two levers G and H, the former being pivoted at G' between its ends and having one end G<sup>2</sup> arranged to press against one end of the drum D<sup>2</sup> and force such drum to bear at its other end against the abutment d<sup>2</sup>. The second lever H is pivoted at G' between its ends and is arranged at one end H<sup>2</sup> to bear against one end of the drum E<sup>2</sup> to force such drum into engagement with its shoulder e<sup>2</sup>. The other end of the lever H is connected by a rod H' with a hand-lever H<sup>3</sup>, adjacent to



the handle of the lever G. By this construction the lever G can be operated to press the drum  $D^2$  into engagement with the shoulder  $d^2$ , so that the drum will be operated to wind up  
 5 its cord D, and thus lift the shelving-section and retract the same to the position shown in Fig. 2. The lever G may be then adjusted clear of the drum  $D^2$ , and when it is desired to lower the shelving-section the lever H may  
 10 be moved to press the drum  $E^2$  into engagement with its shoulder  $e^2$ , which will draw upon the cord E and move the shelving-section forward in position to descend the guideways B. When the shelving-section has reached such  
 15 position, the lever H may be released and the lever G be caused to operate the drum  $D^2$  sufficiently to prevent the shelving-section from descending too rapidly.

In the construction shown in Fig. 5 the  
 20 frame has vertical and lateral guideways. A weight is employed to elevate the shelving-section, the line connecting such weight with the shelving-section being carried through a tubular guide and provided with a head ar-  
 25 ranged to be stopped by said tubular guide and to be detachably engaged by a V-shaped catch on the shelving-section. By the operation of this construction as the shelving-section moves forward to position to descend the  
 30 vertical guideways or back out of such position the V-shaped catch moves into and out of engagement with the head on the line, so that as said shelving-section is lowered it will draw the line down and will move out of engage-  
 35 ment with such line as it (the said shelving-section) moves back in its lateral guideways.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

40 1. In an apparatus substantially as described, the combination of the vertically and laterally movable shelving-section, a cord or cable having a head, means on the shelving-section for detachably engaging said head,  
 45 and a guide for said cord or cable forming a stop for the head substantially as set forth.

2. In an apparatus substantially as described, the combination of the shelving-section, the framing having a guide for the cable  
 50 or cord, the cable or cord passed through such guide and having a head arranged to be

stopped by the guide, and a catch on the shelving-section for detachably engaging said head substantially as set forth.

3. In an apparatus substantially as de- 55 scribed, the combination of the shelving-section, a cord for operating the same, a guide for such cord, a head on the cord too large to pass through such guide, and a catch on the shelving-section by which to engage said head 60 and by pressure thereagainst to draw the cord through the guide substantially as set forth.

4. In an apparatus substantially as described the combination of the framing hav- 65 ing vertical and lateral guideways, the shelving-section, means for lifting said section and for adjusting the same rearwardly in the lateral guideways, a cord for advancing the shelving-section in the lateral guideways, means whereby to stop said advancing cord 70 when the shelving-section is in its foremost position and a detachable connection between said cord and the shelving-section substantially as set forth.

5. In an apparatus substantially as de- 75 scribed, the combination of the framing having vertical and lateral ways for the shelving-section, the shelving-section, the line or cord for elevating said section, a separate line for moving said section forward in the lateral 80 guideways, a drive-shaft, drums to which said lines or cords are connected and means whereby said drums may be clutched to the drive-shaft substantially as set forth.

6. The herein-described improvement in 85 shelving comprising the frame having vertical and lateral guideways, the shelving-section movable in said guideways, the drive-shaft, the drums thereon and spaced apart, the lines for lifting and for advancing the 90 shelving-section, such lines being connected with their respective drums, the pivoted lever arranged to clutch one of the drums to the drive-shaft, and a second lever pivoted to said first lever and arranged to clutch the 95 other drum to the drive-shaft substantially as set forth.

JAMES M. LIPPINCOTT.

Witnesses:

HUGH M. GREGORY,  
 JOHN T. MCALISTER.