

No. 742,804.

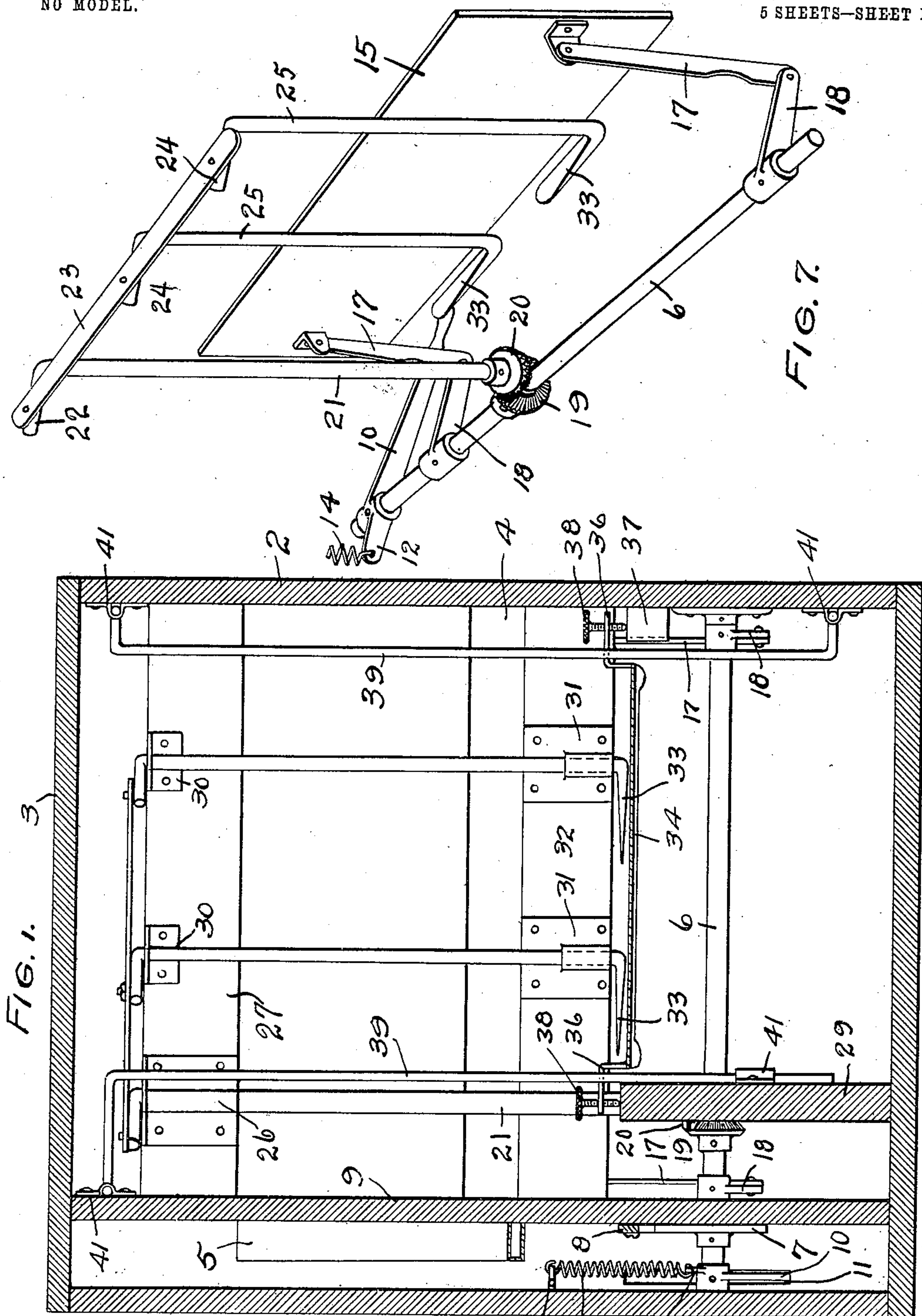
PATENTED OCT. 27, 1903.

G. RUPLEY.  
VENDING MACHINE.

APPLICATION FILED AUG. 18, 1902

NO MODEL.

5 SHEETS—SHEET 1.



Witnesses  
C. E. Starnes  
M. C. Noonan

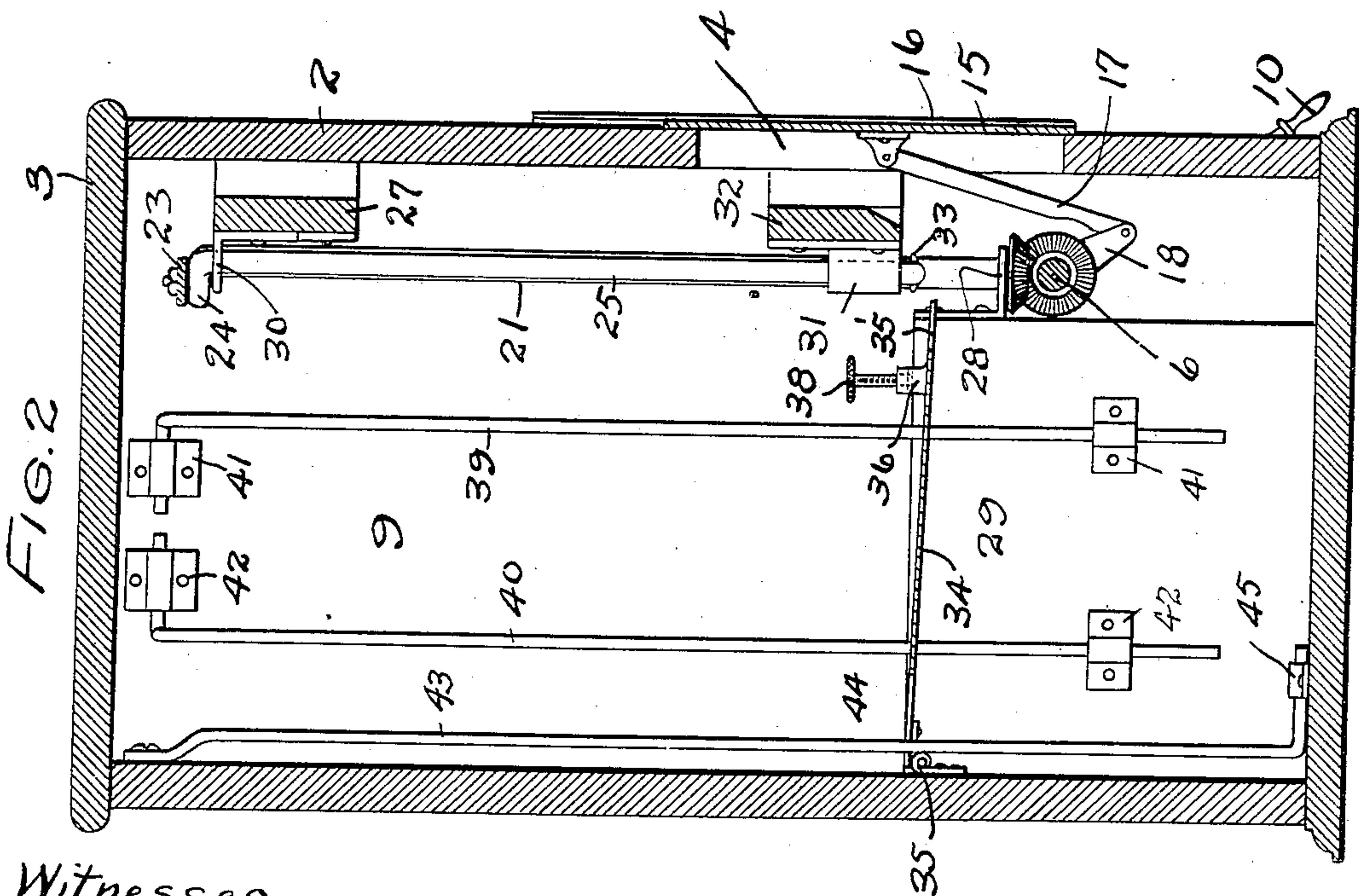
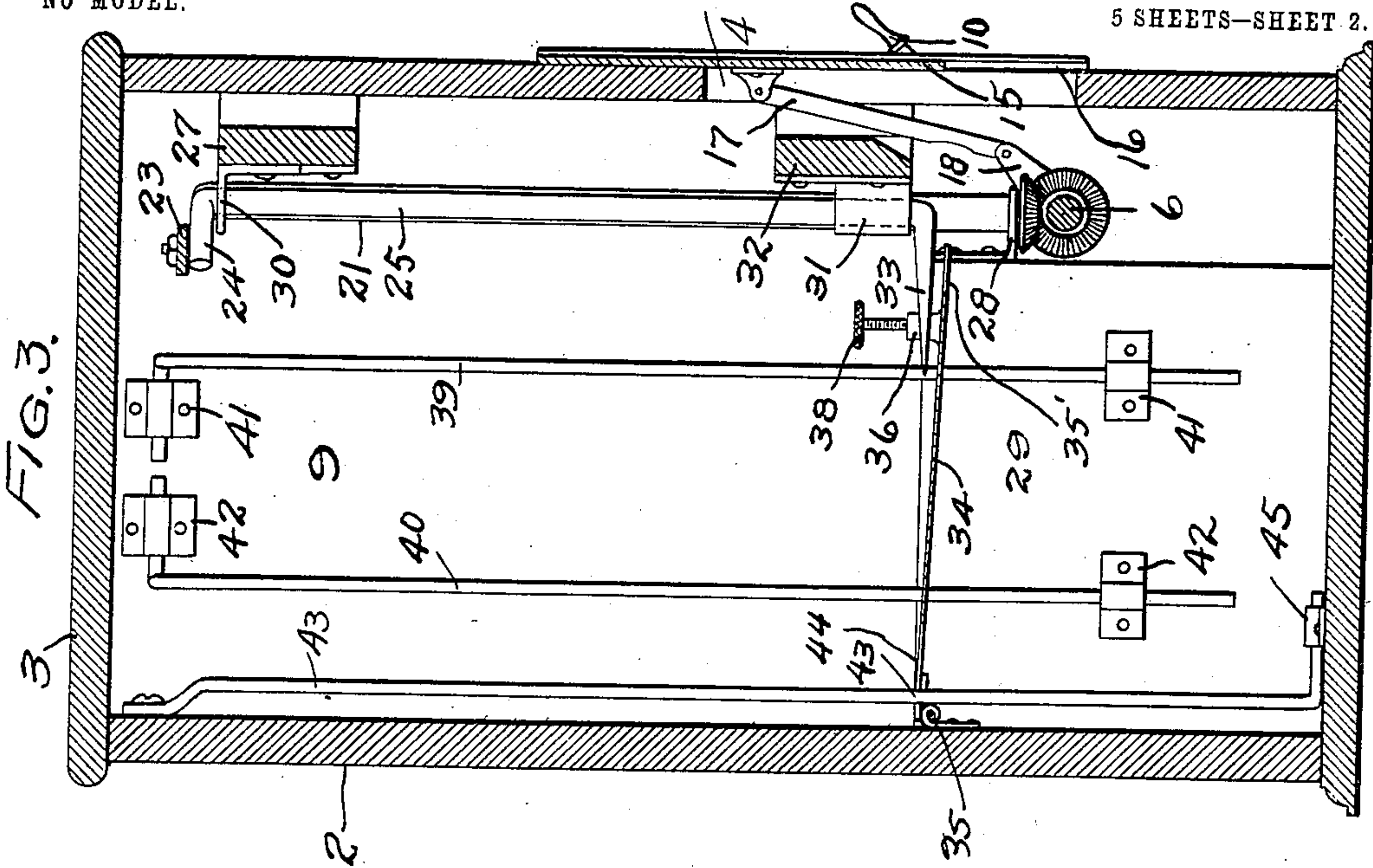
Inventor  
George Rupley  
By Paul & Paul  
his attorneys

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NO MODEL.

5 SHEETS—SHEET 2.



Witnesses

E. J. Stander  
M. C. Noonan

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5 SHEETS—SHEET 3.

FIG. 4.

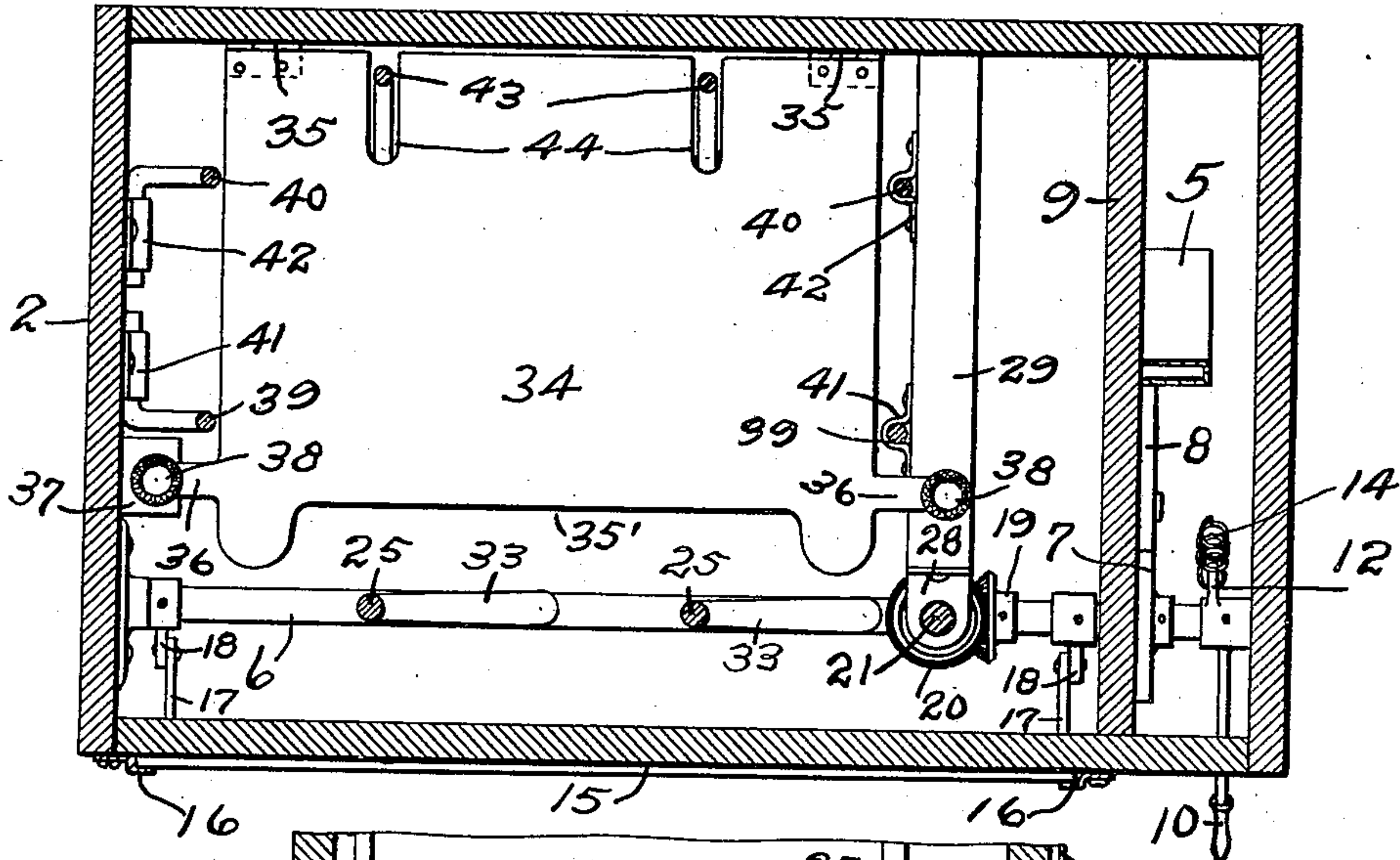


FIG. 5.

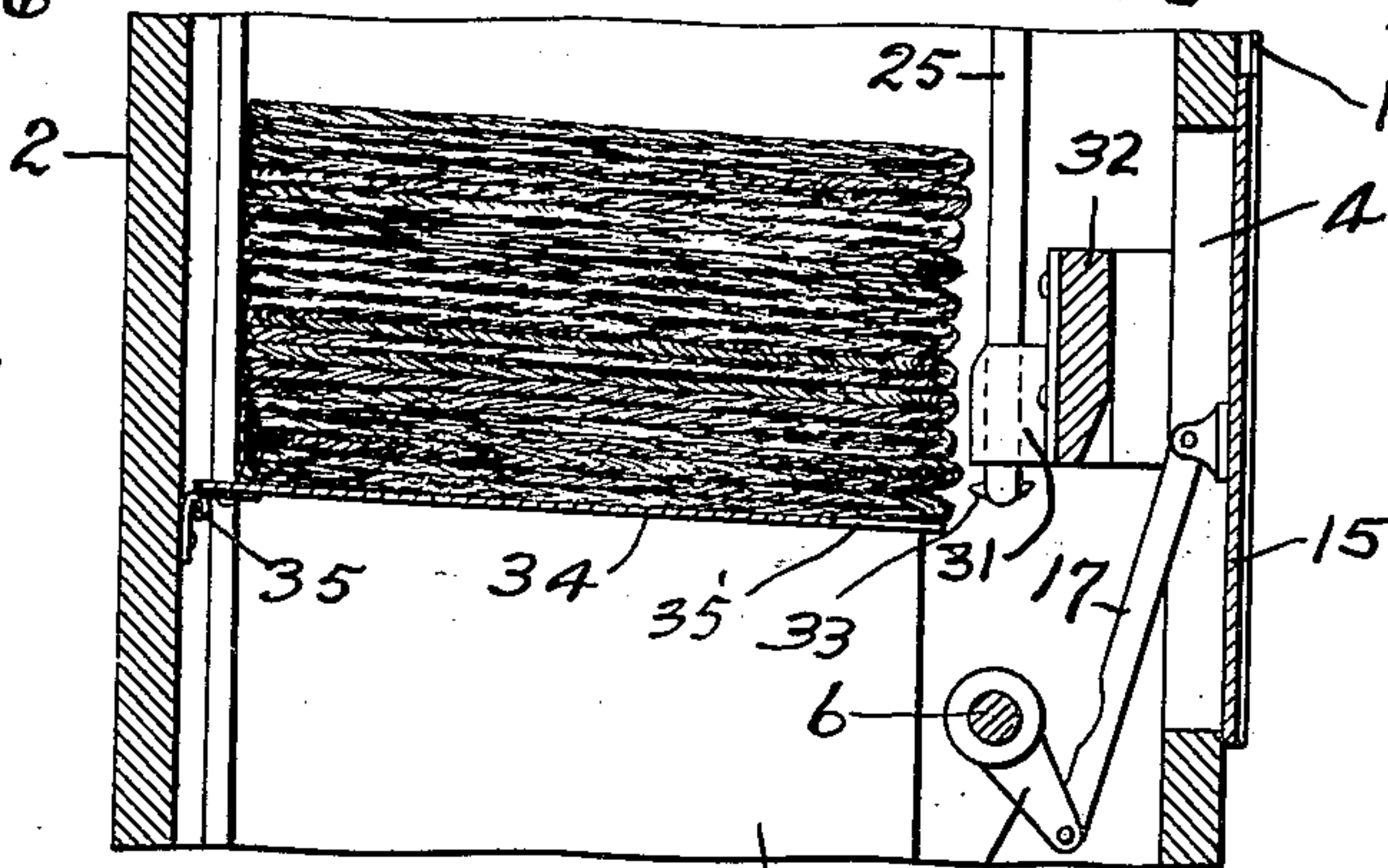
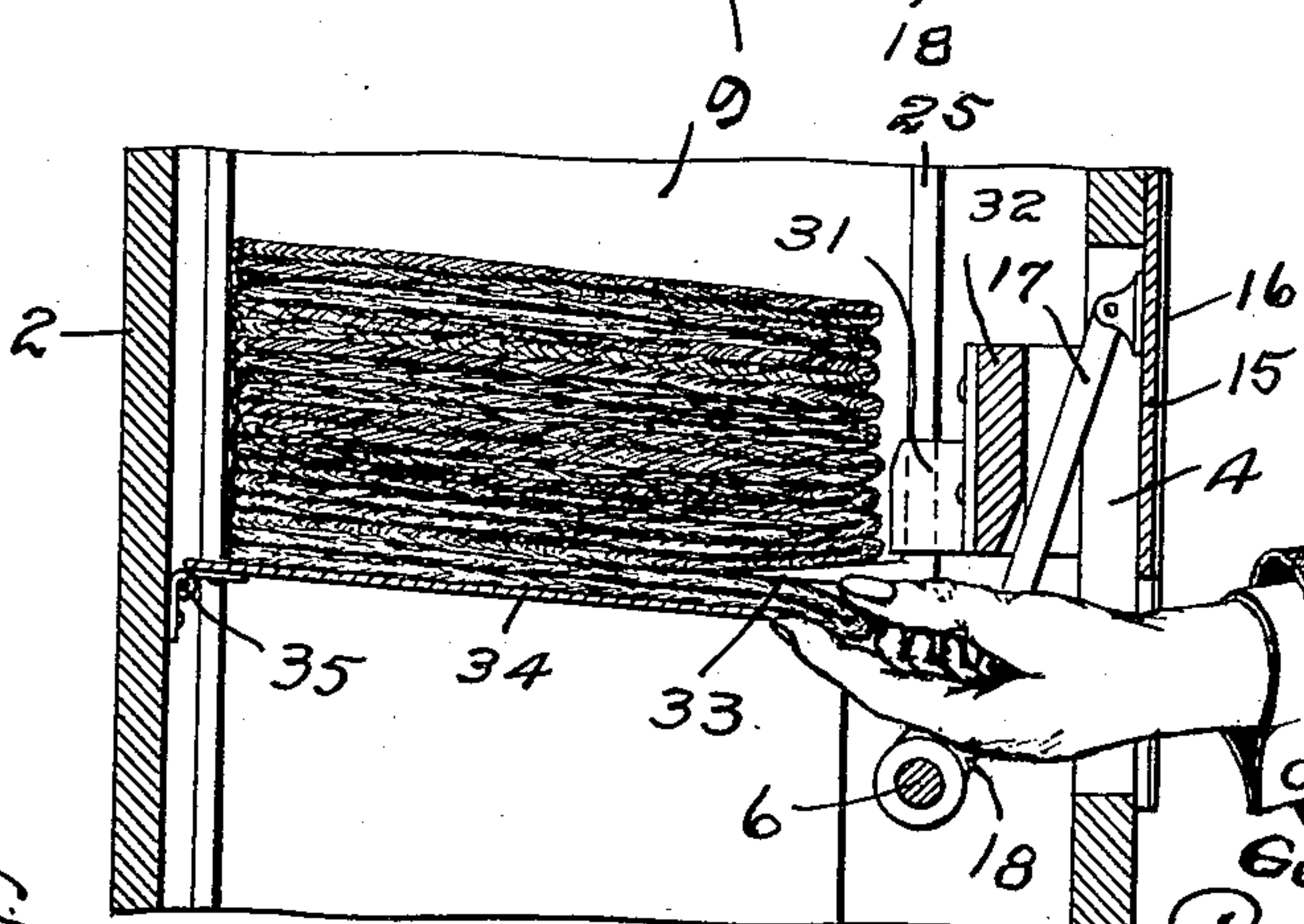


FIG. 6



Witnesses  
E. H. Staudt  
M. C. Brown

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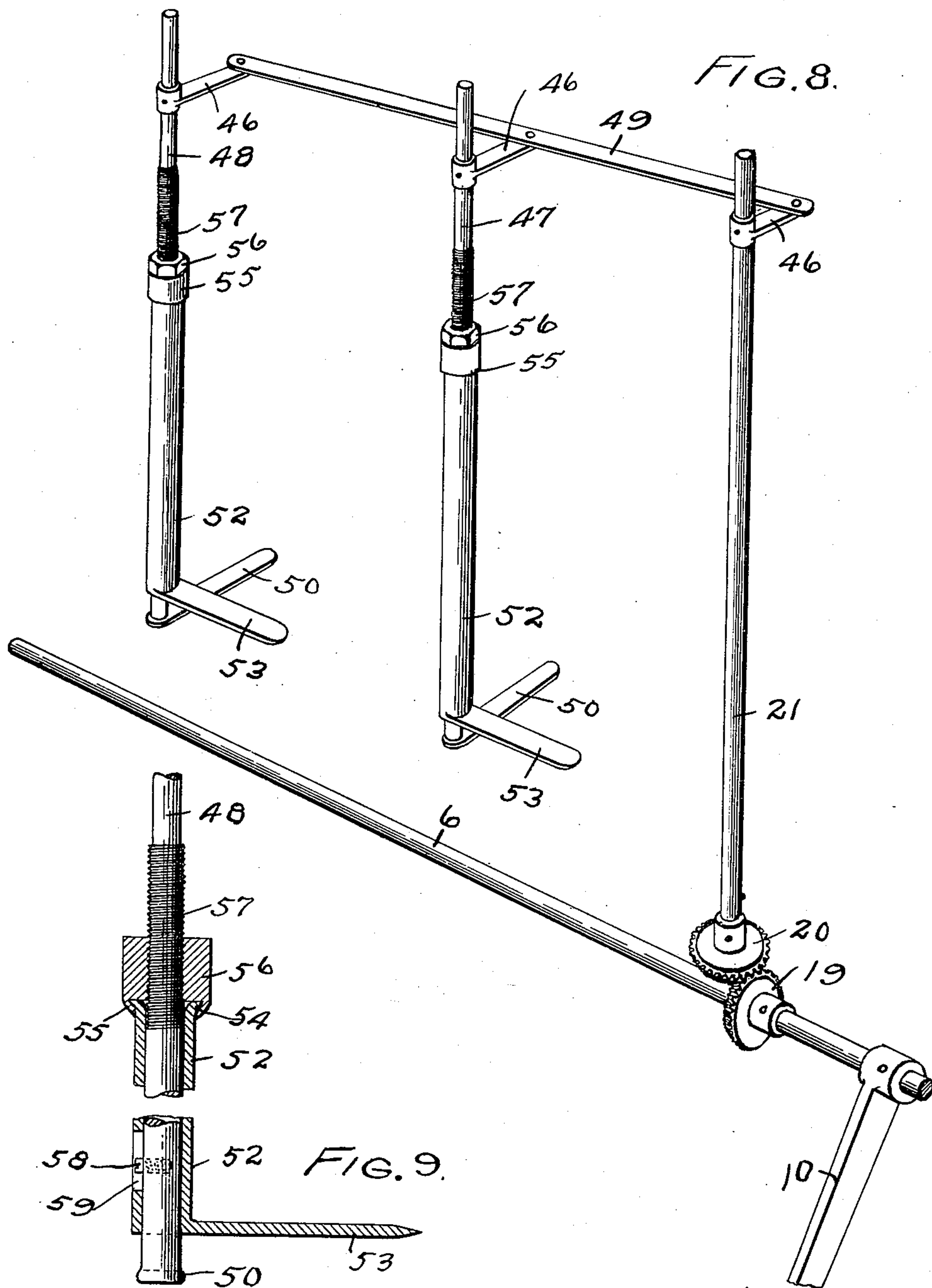
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NO MODEL.

5 SHEETS—SHEET 4.



Witnesses  
E. J. Standa  
M. C. Hooper

Inventor  
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By Paul Paul  
his attorneys



No. 742,804.

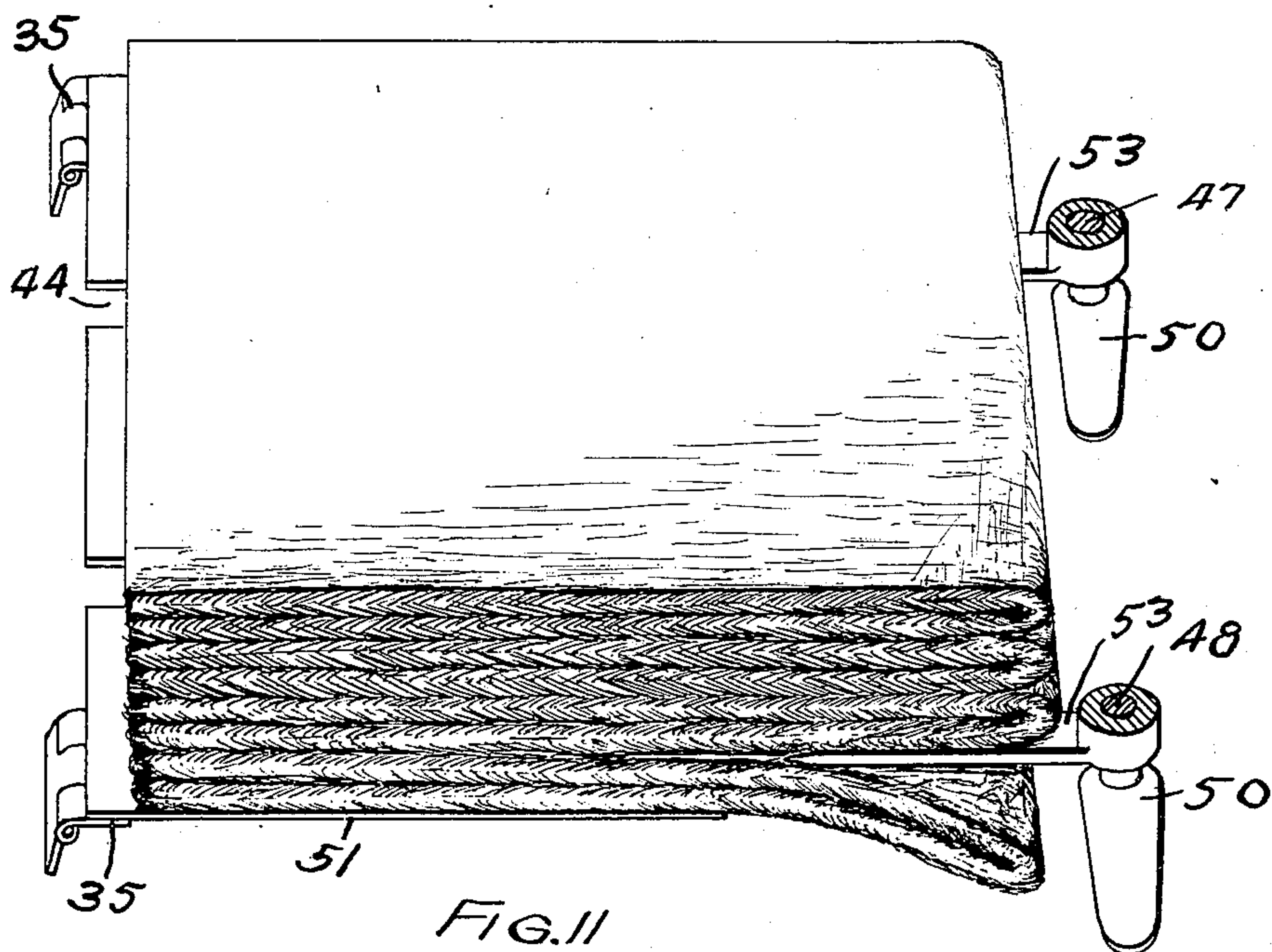
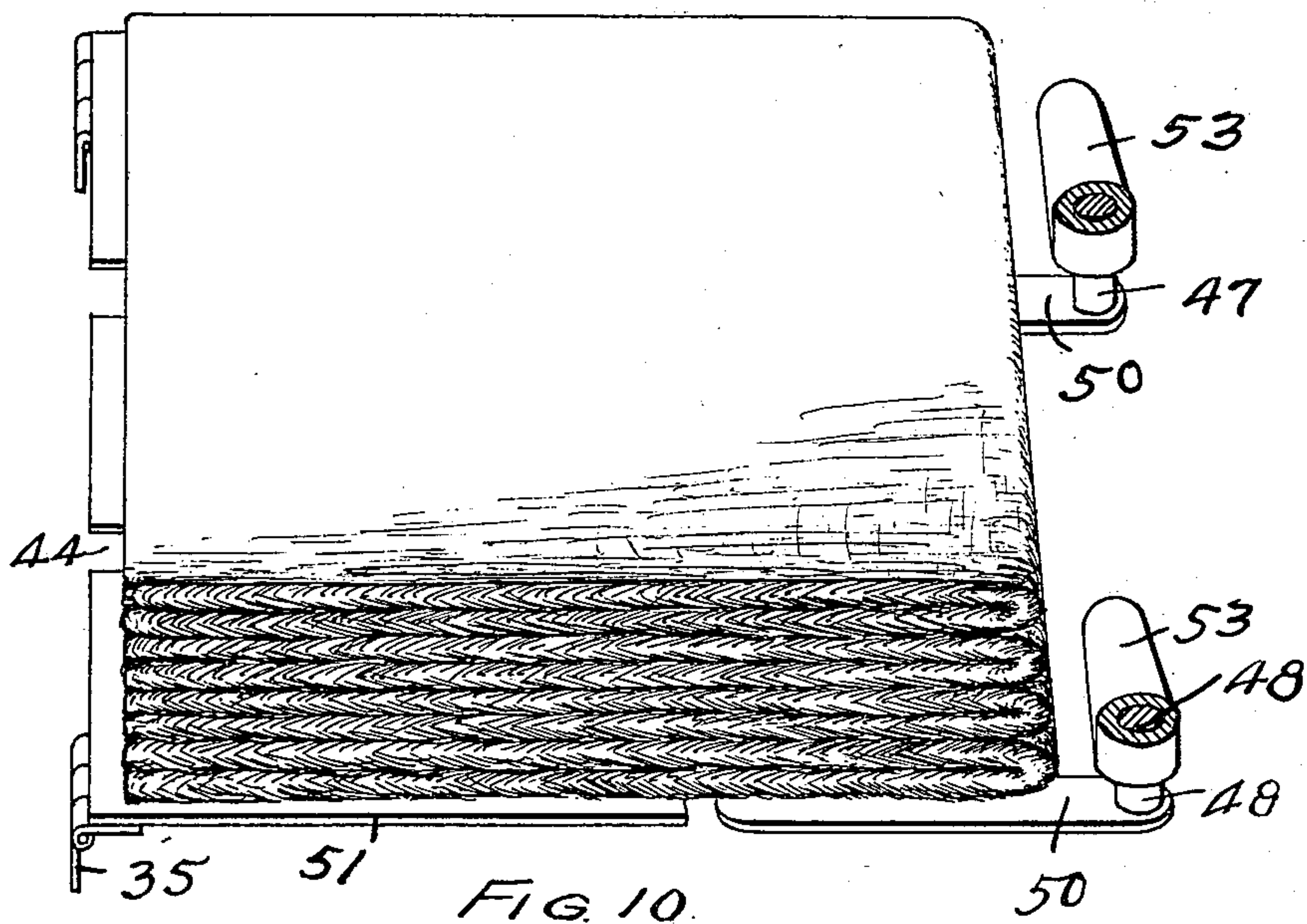
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NO MODEL.

5 SHEETS—SHEET 5.



Witnesses  
E. J. Staudt  
M. C. Noonan

Inventor  
George Rupley  
Paul & Paul  
By his attorneys



# UNITED STATES PATENT OFFICE.

GEORGE RUPLEY, OF DULUTH, MINNESOTA, ASSIGNOR TO THE VENDING MACHINE COMPANY, OF DULUTH, MINNESOTA, A CORPORATION OF MINNESOTA.

## VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 742,804, dated October 27, 1903.

Application filed August 18, 1902. Serial No. 120,095. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE RUPLEY, of Duluth, St. Louis county, Minnesota, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

My invention relates to a vending-machine having a mechanism controlled by the weight of a coin deposited therein for delivering newspapers, articles of merchandise, magazines, and other periodicals.

The object of the invention is to dispense with the cumbersome awkward racks that are usually employed in machines of this kind and are so inconvenient to handle and require so much time for adjustment when the box is being filled.

A further object is to provide a machine which can be adjusted to deliver newspapers and other articles of different thickness and will positively prevent the discharge or withdrawal of more than one paper at a time or upon the deposit of but a single coin.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in a box having a delivery-opening, a suitable support within the box for newspapers or other articles placed one above the other therein, and oscillating fingers adapted to pass between the forward edge of the bottom article and the one above it.

Further, the invention consists in providing fingers that are normally below the edge of the bottom paper to aid in supporting it and those above, said supporting-fingers being withdrawn when the separating-fingers are inserted between the bottom paper and the one above.

Further, the invention consists in a sliding guard-plate that normally closes the delivery-opening in the front of the box.

Further, the invention consists in providing means for varying the adjustment of the supports according to the thickness of the articles placed thereon.

Further, the invention consists in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical transverse section of a vending-machine embodying my invention looking toward the front of the box from the inside. Fig. 2 is a vertical section from front to back, showing the adjustable support for the papers and the fingers in their retracted position. Fig. 3 is a similar view showing the fingers swung around over the support to separate the papers. Fig. 4 is a horizontal section looking down on the support and the fingers whereon the articles to be sold are placed. Fig. 5 is a detail section showing the box filled with papers and ready for use. Fig. 6 is a similar view showing the delivery-opening exposed and the bottom paper separated from the others by the finger mechanism. Fig. 7 is a perspective of the guard-plate and fingers and their operating mechanism. Fig. 8 is a similar view showing fingers for supporting the bottom of the pile of papers and adapted to be withdrawn to permit the delivery of the paper. Fig. 9 is a detail showing the manner of adjusting the fingers to vary the distance between those that enter between the papers and those that support the papers at the bottom. Fig. 10 is a perspective showing the fingers with the package of papers resting thereon. Fig. 11 is a similar view showing the supporting-fingers withdrawn and the separating-fingers inserted between the bottom paper and the one above.

In the drawings, 2 represents a suitable box or casing having a hinged cover 3, through which the papers or other articles are placed in the box and provided in its front wall with a delivery-opening 4, through which the hand of the purchaser is thrust to remove the bottom paper or other article that is being sold.

5 represents a coin-chute through which a coin of suitable denomination is delivered; but as this coin-actuated mechanism forms no part of my present invention I have not attempted to illustrate and will not describe the same herein, it being sufficient to state that the machine is provided with the usual rock-shaft 6, having a notched disk 7, secured thereon, that is engaged by an arm 8, which



in turn is controlled by the coin-actuated mechanism. A partition 9 separates the coin-actuated mechanism from the space in the box wherein the papers or other articles are placed. A lever 10 is provided on the shaft 6, projecting through a slot 11 in the front of the box, the hub of said lever being provided with a lug or extension 12, that is connected with a post 13 in the wall of the box by a coiled spring 14. This spring normally holds the lever in the bottom of the slot and returns the shaft and its connecting mechanism to their normal position when the lever is released after being raised to operate said mechanism and release a paper. A plate 15 is provided in the front of the box over the opening 4 vertically slidable in guides 16 and connected by links 17 with arms 18, that are secured on the rock-shaft 6. When the lever is raised to rock said shaft, the guard-plate 15 will be raised also, exposing the opening in front of the box and allowing the purchaser to thrust in his hand to remove the paper.

The shaft 6 is provided with a beveled pinion 19, meshing with a similar pinion 20, that is secured on an upright shaft 21, which at its upper end has a right-angled extension 22, pivotally connected with a bar 23, that is also secured to corresponding right-angled extensions 24 on the upper ends of standards 25. The shaft 21 is supported in a guide 26, provided on a cross-bar 27, that is secured to the front wall of the box near the top thereof, and said shaft is also guided in a bracket 28, that is secured on a low partition 29, that extends from the back of the box nearly to the front wall thereof. The standards 25 are supported by clips 30 on the bar 27 and on similar clips 31, secured to a bar 32 on the front of the box near the partition-wall 29. Rocking of the shaft 6 has the effect of oscillating the shaft 21 in its bearings and causing the bar 23 to be moved lengthwise and partially rotate the standards 25. These standards are provided at their lower ends with horizontal fingers 33, which when the standards are partially revolved enter between the folded forward edge of the bottom paper and the corresponding edge of the one above, separating them one from another and allowing the bottom paper to be drawn out from the pile.

The papers or other articles to be sold are supported within the box upon a shelf or plate 34, supported, preferably, by hinges 35 on the rear wall of the box and adapted to be oscillated vertically to vary the distance between its forward edge and the ends of the oscillating fingers 33. The plate 34 is preferably provided with a recess 35' in its forward edge to permit the purchaser to conveniently grasp the folded edge of the paper to be withdrawn. Said plate is also provided with laterally-extending lugs 36, which lap over the partition 29 and a block 37 on the opposite outer wall of the box and support the forward edge of the plate and the articles

thereon. To permit the adjustment of the forward edge of said plate to vary the distance between it and the fingers 33, I provide thumb-screws 38, which pass through the lugs 36 and engage the top of the partition 29 and the block 37. When the box-cover is open, the person in charge by manipulating the thumb-screws 38 can readily adjust the supporting-plate to adapt the machine for delivering the comparatively thin daily papers or the thick unwieldy Sunday editions. The box is provided on each side with vertically-arranged rods 39 and 40, secured by clips 41 and 42 near the top and bottom and presenting an unobstructed surface to the descent of the papers as they are delivered. At the back of the box I prefer to provide rods 43, that are secured at their outer ends to the rear wall and, passing through slots 44 in the plate 34, are adjustably secured by clips 45 to the box-bottom. The bent lower ends of these rods are slidable in clips 45 to permit the adjustment of the rods, according to the desired depth of the machine, for the dimensions of the paper or other article to be sold. The slots 44 are of sufficient length to allow the adjustment of the rods 43 and the plate 34 without interference.

In operation when a coin has been deposited in the chute and the lever raised the fingers will be swung in between the bottom paper or article and the one above, the folds in the papers presenting rounded edges to permit the fingers to be conveniently slipped in between them. The fingers will be of sufficient length to prevent any but the bottom paper being removed, and when said fingers are in their normal position the guard-plate will conceal the delivery-opening and absolutely prohibit the removal of a paper until the coin mechanism has been actuated by the deposit of a coin.

In Figs. 8, 9, 10, and 11 I have shown a modified construction which consists in providing an arm 46 near the upper end of the shaft 21 and connecting said arm with similar arms or standards 47 and 48 by a bar 49. The lower ends of the shafts or standards 47 and 48 are provided with fingers 50, which normally project beneath the forward portion of the papers or articles placed in the machine and cooperate with a narrower hinged shelf 51 to sustain the papers or articles, said fingers being preferably longer than those heretofore described and adapted to extend a considerable distance beneath the package of papers and prohibit any possibility of the bottom paper being folded and drawn out between the ends of the fingers and the hinged shelf. Upon the standards 47 and 48 I arrange sleeves 52, having laterally-extending fingers 53 at their lower ends that extend in a direction substantially at right angles to the fingers 50 and in planes that are substantially parallel and above the same. The upper ends of the sleeves 52 have slightly-flaring flanged por-



tions 54, that are inclosed by annular flanges or rings 55 on nuts 56, that are threaded to engage the threaded portions 57 of said standards. These nuts are vertically movable on the threads of said standards and can be readily raised or lowered to adjust the fingers 53 and vary the distance between them and the fingers 50, according to the thickness of the newspaper or other article that is to be delivered. Suitable lock-nuts are preferably provided on the threaded portions of the standards to prevent premature movement of the nuts 56 and the sleeve supported thereon. The fingers 53 being substantially at right angles to the fingers 50, it is evident that when the operating-lever is raised to rock the shaft 6 as the fingers 50 are swung around from under the bottom paper of the pile to permit its withdrawal the fingers 53 will pass between the edge of the bottom paper and the one above it, and when the fingers 50 are entirely withdrawn from under the edge of the paper the fingers 53 will have passed over the edge of said paper, between it and the paper above, and will prevent the delivery of more than one paper or other article at a time. The sleeves 52 are preferably secured on the standards 47 by means of set-screws 58, passing through slots 59 in said sleeves into threaded holes in said standards. Upon removing these screws the sleeves may be revolved and raised or lowered on the standards to adjust the fingers 53 with respect to the fingers 50.

35 The following is a brief description of the operation of the machine: The purchaser having deposited a coin of the proper denomination in the chute can operate the rock-shaft and swing the separating-fingers in between the edge of the bottom paper and the one above, as indicated in Fig. 6. At the same time the guard-plate will be raised, exposing the opening through which the purchaser may thrust his hand, as shown in Fig. 6, and withdraw the bottom paper of the pile, while the others will be supported at their forward edges and prevented from being withdrawn by the fingers. If the mechanism shown in Fig. 8 is employed, the fingers 50 will be normally under the forward edge of the papers, and upon the rock-shaft being operated these fingers will be moved a quarter-revolution, while the fingers 53 on the level above the fingers 50 will be swung in between the forward edge of the bottom paper and the one next above, whereupon the purchaser will insert his hand through the delivery-opening and remove the bottom paper, as before. As soon as the paper is withdrawn the purchaser will release the operating-handle and the spring will return the rock-shaft, the fingers, and their connecting mechanism to their normal position and the guard-plate will close the delivery-opening and positively prevent the removal of any papers until another coin has been deposited in the chute.

I do not wish to be confined in this case to the particular means employed for operating the oscillating fingers, nor for adjusting the support whereon the articles to be sold are placed, as the same is capable of various modifications by any one skilled in the art without departing from my invention.

I claim as my invention—

1. The combination, with a vending-machine box having a delivery-opening, of a support for the rear edges of newspapers or other articles placed one above another therein, oscillating forward supports, and fingers provided above said forward supports and arranged to be thrust in between the forward edge of the bottom paper and the one next above when said forward supports are withdrawn from beneath said bottom paper, substantially as described. 85

2. The combination, with a vending-machine box provided with a suitable delivery-opening, of an oscillating support provided within said box and whereon the newspapers or other articles to be sold are piled one above the other, means for adjusting said support to raise or lower the forward edge of the same, oscillating horizontally-arranged fingers provided near the forward edge of said support, and means for operating said fingers to swing them in between the forward edge of the bottom article and the corresponding edge of the one above. 95

3. The combination, with a vending-machine box provided with a suitable cover and a delivery-opening, of a support whereon the newspapers or other articles to be sold are piled one above the other, fingers provided near the forward edge of said articles and adapted to pass between the edge of the bottom article and the one above, a guard-plate normally closing said delivery-opening, and means for operating said fingers and said guard-plate. 100

4. The combination, with a vending-machine box provided with a suitable cover and a delivery-opening, of a plate hinged at the rear of said box and whereon the articles to be sold are piled one above the other, upright standards provided near the forward edges of the articles on said support, fingers provided on said standards, a vertically-sliding guard-plate normally closing said delivery-opening, and means for partially rotating said standards to swing said fingers between the bottom article and the one above and simultaneously raising said guard-plate, substantially as described. 115

5. The combination, with a vending-machine box provided with a suitable delivery-opening, of a support within said box whereon the newspapers or other articles to be sold are piled one above the other, a rock-shaft, and means for operating the same, upright standards provided near said support, a suitable mechanism connecting said standards and said shaft, whereby when said shaft is rocked 125 130



said standards will be partially rotated, fingers provided on said standards above the level of the forward edge of said support and adapted when said shaft is rocked to pass between the edge of the bottom article and the corresponding edge of the article above, substantially as described.

6. The combination, with a vending-machine box having a suitable delivery-opening, of a hinged support provided therein and whereon the newspapers are placed one above the other with their folded edges toward the front of the box, means for raising or lowering the forward edge of said support, a horizontal rock-shaft, and means for operating the same, upright standards provided near said support and partially rotated by the rocking of said shaft, fingers provided on said standards and adapted to pass between the folded edge of the bottom paper and the one above when said shaft is rocked, substantially as described.

7. The combination, with a vending-machine box provided with a delivery-opening, of a support whereon newspapers are piled one above the other, a horizontal rock-shaft, and means for operating the same, an operating-lever thereon, a sliding guard-plate normally closing said delivery-opening and connected with said shaft to be operated thereby, oscillating fingers provided near said support and above the level of the lower edge of the same and adapted to enter between the folded edge of the bottom paper and the one above, and a suitable mechanism connecting said fingers and said rock-shaft.

8. The combination, with a vending-machine provided with a delivery-opening, of a support whereon newspapers or other articles may be piled one above the other, a rock-shaft provided with an operating-lever, a spring normally holding said lever in its depressed position, a sliding guard-plate normally closing said delivery-opening and connected with said shaft and raised when said shaft is rocked, standards connected with said shaft and partially rotated thereby, and horizontal fingers provided on said standards and adapted to enter between the forward folded edge of the bottom paper and the one above.

9. The combination, with a vending-machine box provided with a delivery-opening, of a horizontal rock-shaft, a lever therefor, a spring normally holding said lever in its depressed position, a sliding guard-plate normally closing said delivery-opening, arms provided on said shaft, and links connecting said guard-plate and said arms.

10. The combination, with a vending-machine box having a delivery-opening, of a support whereon the articles to be sold are arranged one above the other therein, supporting-fingers projecting beneath the forward edge of the bottom article, dividing-fingers arranged substantially at right angles to said supporting-fingers and above the level of the

same a distance corresponding substantially to the thickness of each article to be delivered, and means for oscillating said fingers simultaneously to withdraw said supporting-fingers from beneath the bottom article and insert said dividing-fingers between said article and the one above.

11. The combination, with a vending-machine box having a delivery-opening, of a support provided therein at the rear of the box and whereon the articles to be sold are piled one above the other, oscillating supporting-fingers provided at the front of the box and adapted to project beneath the bottom article of the pile, dividing-fingers arranged substantially at right angles to said supporting-fingers and above the level of the same a distance corresponding substantially to the thickness of the articles to be delivered, means for adjusting said dividing-fingers vertically, and means for oscillating said supporting and dividing fingers.

12. The combination, with a vending-machine box having a delivery-opening, of a hinged shelf provided within said box at the rear thereof and whereon articles to be sold are piled one above the other, oscillating fingers whereon the forward portions of said articles are supported, partially-rotating standards whereon said fingers are secured, dividing-fingers mounted on said standards above said supporting-fingers and adapted to enter the space between the bottom article and the one above when said standards are partially rotated, a rock-shaft, and means for operating the same, and a suitable mechanism connecting said rock-shaft and said standards.

13. The combination, with a vending-machine box having a suitable delivery-opening, of a support provided within said box near its rear wall whereon the papers are piled one above the other, oscillating supporting-fingers near the front of said box and extending beneath the forward portion of the articles placed therein, dividing-fingers near said supporting-fingers above the level of the same a distance substantially equal to the thickness of the articles to be delivered, a guard-plate normally closing said delivery-opening, and means for simultaneously moving said guard-plate and oscillating said fingers, substantially as described.

14. The combination, with a vending-machine box having a delivery-opening, of a suitable support provided within said box near its rear wall whereon the articles to be delivered are piled one above the other, upright standards arranged near the front of said box, supporting-fingers provided thereon and extending beneath the forward edges of the articles resting upon said support, dividing-fingers also arranged upon said standards above the level of said supporting-fingers, means for adjusting said dividing-fingers on said standards according to the thickness of the articles to be sold, a horizontal rock-shaft, an oper-



ating-lever for moving said shaft in one direction, a spring for returning said shaft to its normal position, an operative mechanism connecting said shaft with said standards, whereby when said shaft is rocked by the movement of said lever said supporting-fingers will be withdrawn and said dividing-fingers will be inserted between the forward edge

of the bottom article and the one above, substantially as described. 10

In witness whereof I have hereunto set my hand this 14th day of August, 1902.

GEORGE RUPLEY.

In presence of—

RICHARD PAUL,

C. G. HANSON.