

N. SLAVIN.

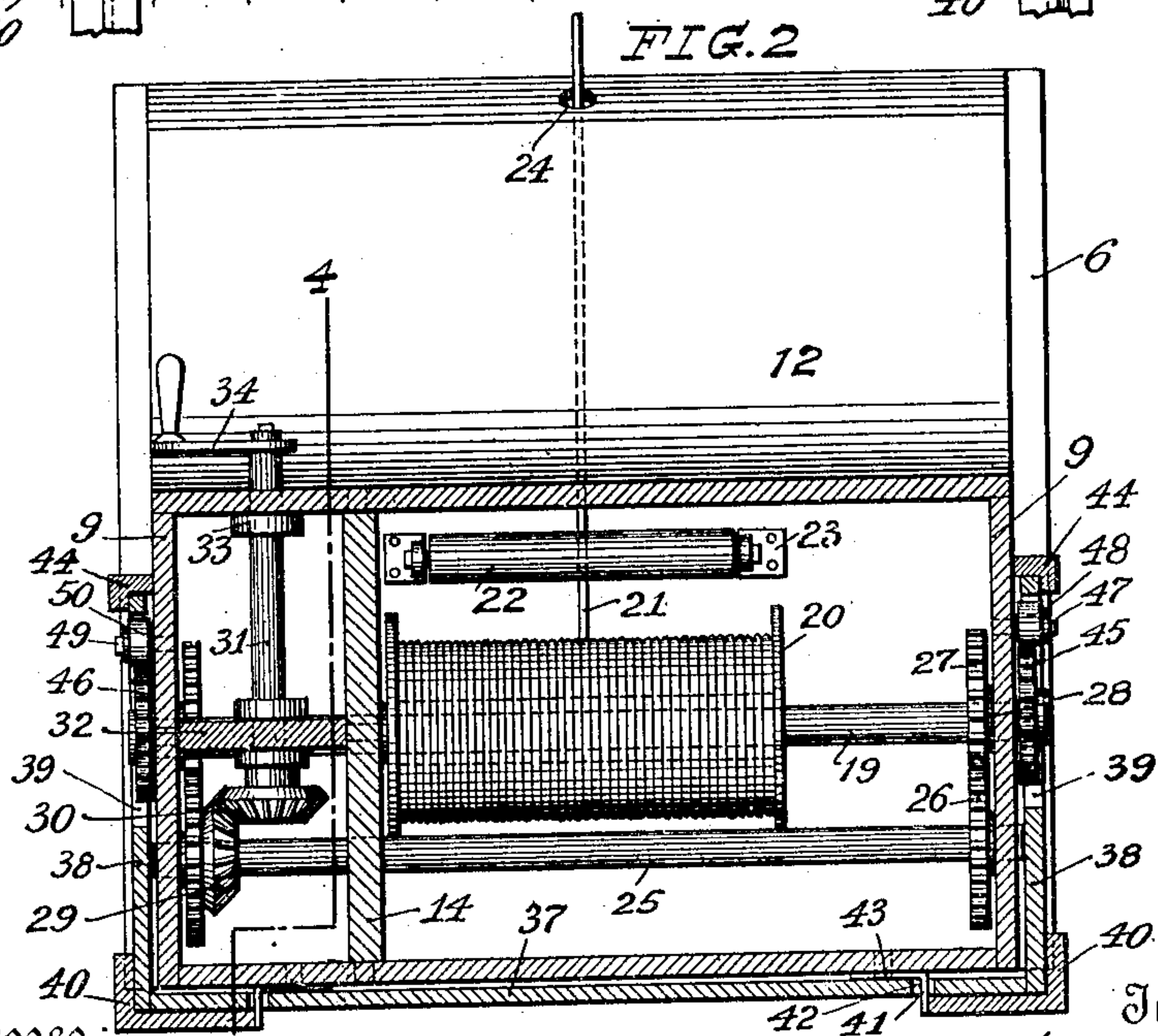
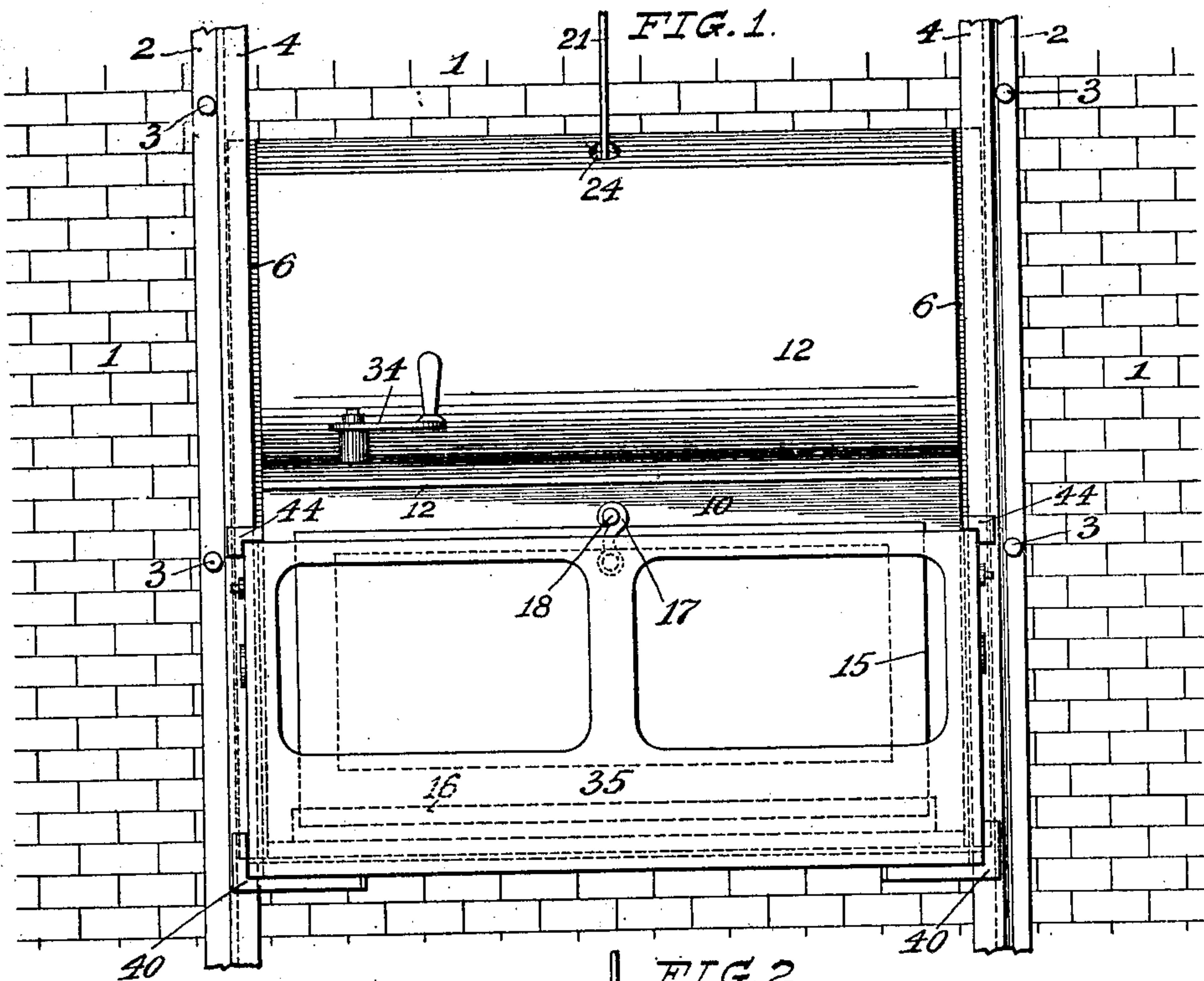
FIRE ESCAPE.

APPLICATION FILED SEPT. 16, 1908.

920,200.

Patented May 4, 1909.

2 SHEETS—SHEET 1.



Witnesses:  
Isidor M. Silbermann  
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Inventor  
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By his Attorney, Sigmond Koenig.

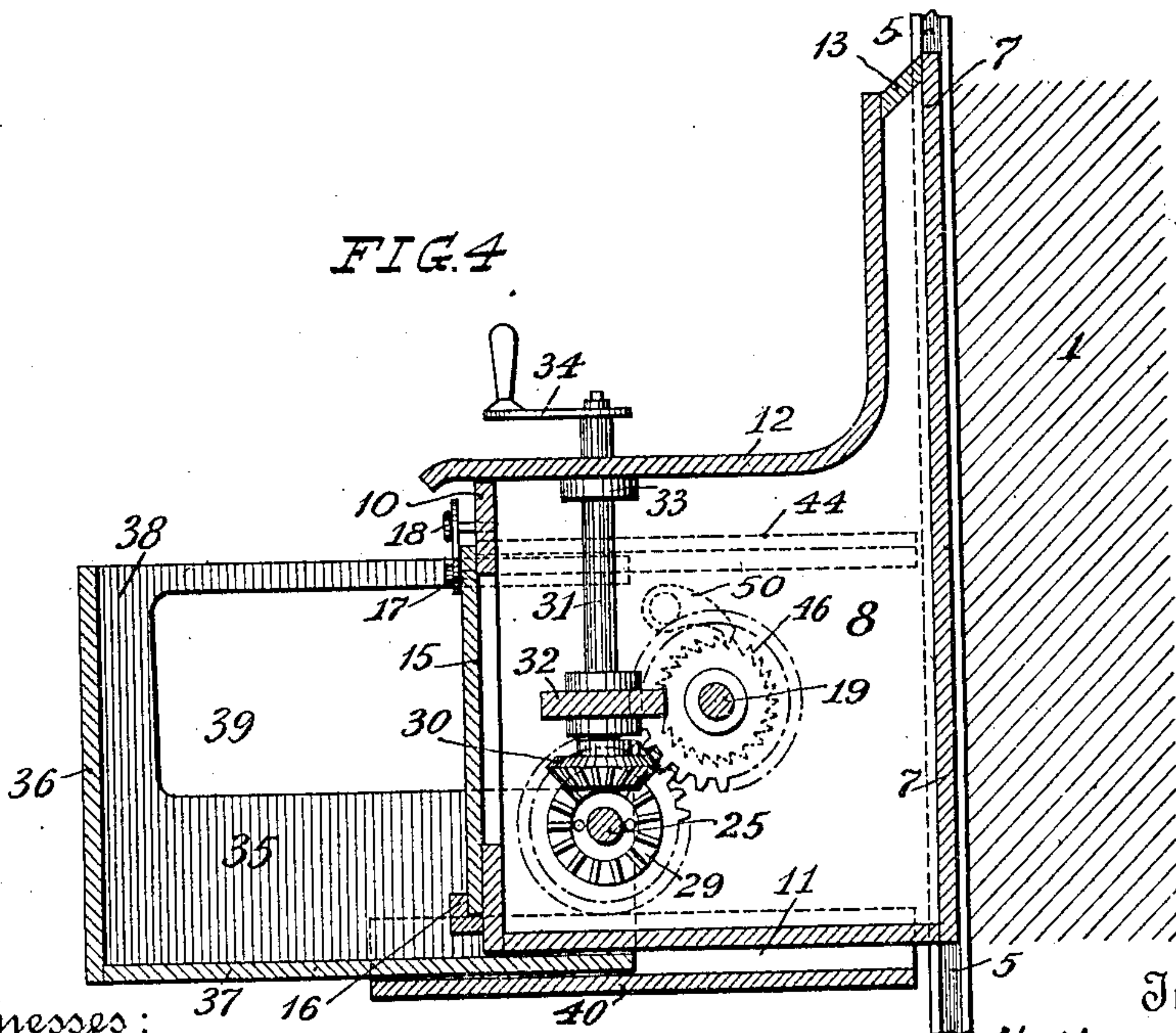
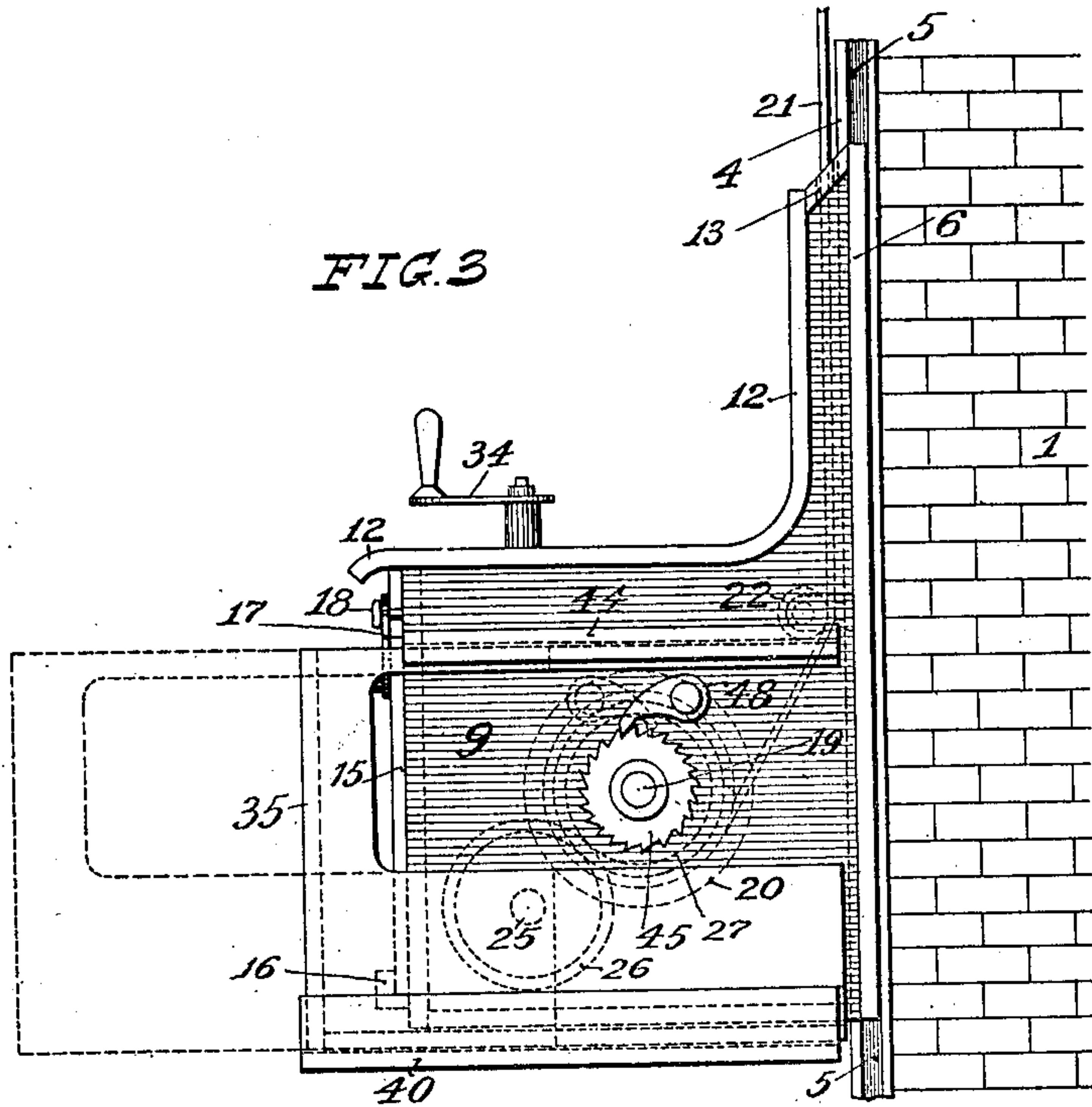
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# UNITED STATES PATENT OFFICE.

NATHAN SLAVIN, OF NEW YORK, N. Y.

## FIRE-ESCAPE.

No. 920,200.

Specification of Letters Patent.

Patented May 4, 1909.

Application filed September 16, 1908. Serial No. 453,238.

*To all whom it may concern:*

Be it known that I, NATHAN SLAVIN, a subject of the Czar of Russia, and resident of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

This invention relates to fire escapes and the object thereof is to provide a fire escape in a manner as hereinafter set forth whereby a person or persons can be transported safely from one point to another, that is to say, from the second or third story or from the roof of a building to the ground or from the second or the third story to the roof of a building in case of fire or for any other suitable cause.

A further object of the invention is to provide a vertical traveling fire escape with means in a manner as hereinafter set forth and which when operated will cause the traveling carrier of the fire escape to ascend or descend as the case may be, the wall of a building, and to furthermore provide the fire escape with means to prevent the traveling carrier from moving in a direction opposite to that desired by the operator.

Further objects of the invention are to provide a fire escape which shall be simple in its construction and arrangement, strong, durable, efficient in its use, conveniently operated, readily set up with respect to the walls of a structure and inexpensive to manufacture.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations, and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings, Figure 1 is a front elevation of a fire escape in accordance with this invention showing the adaptation therewith in connection with the wall of a structure, the wall and guide rails being broken away. Fig. 2 is a sectional elevation of a fire escape in accordance with this invention. Fig. 3 is an end elevation of the fire escape showing it positioned with respect to the wall of a structure and further showing in dotted lines the

supporting cage extended, and, Fig. 4 is a transverse section.

Referring to the drawings by reference characters, 1 denotes the wall of a building and 2 a pair of guide rails which extend vertically and are secured in position upon the wall by the hold fast devices 3. The guide rails 2 are offset as at 4 and the said offset portions grooved so as to provide the guide channels 5 into which extend the flanges 6 of the back 7 of the traveling carrier referred to generally by the reference character 8. The carrier 8 not only comprises the back wall 7 but also the side walls 9, the apertured front wall 10, the bottom wall 11 and the angle-shaped top wall 12 as well as the auxiliary top wall 13. The carrier is somewhat in the form of a chair and is provided with a partition 14 and a closure plate 15 for the opening in the front wall 10. The plate 15 at its lower end is supported upon an angle-shaped flange 16 and carries a latch 17 which engages over the headed stud 18 whereby the plate 15 is retained in position to close the opening in the front wall 10. The headed stud 18 is secured to and projects outwardly from the front wall 10.

Extending through the partition 14 and journaled in the end walls 9 is a rotatable shaft 19 carrying a drum or spool 20 upon which is adapted to wind and unwind from a flexible elevating and lowering member 21 preferably, a wire cable. The upper end of the cable 21 is fixed to a suitable support (not shown) and the said cable bears against a guide roller 22 arranged within the carrier 8 and which is journaled in the brackets 23 secured to the inner face of the back wall 7. The cable 21 extends up through the carrier and for this purpose an opening 24 is provided in the auxiliary top wall 13 approximately centrally thereof and which is clearly shown in Figs. 1 and 2. From the foregoing arrangement of parts, it is evident that when the shaft 19 is rotated in one direction, the cable 21 will unwind thereby lowering the carrier 8 and that when the shaft 19 rotates in the opposite direction, the cable 21 will wind on the drum thereby elevating the carrier 8.

The shaft 19 is rotated through the medium of an operating mechanism therefor, the said operating mechanism being actuated by a person supported by the carrier 8. The said operating mechanism for the shaft 19



consists of a longitudinally extending rotatable shaft 25 journaled in the end walls 9 in the partition 14. Each end of the shaft 25 in close proximity to the inner faces of the end walls 9 has mounted thereon gear wheels 26 which mesh with the gear wheels 27 carried by the ends of the shaft 19. Spacing collars are provided for the gear wheels 26 and 27. The shaft 25 in close proximity to one of the gear wheels 26 has fixed thereon a beveled pinion 29 which meshes with a beveled pinion 30 carried on the lower end of a vertically extending operating shaft 31. The shaft 31 near its lower end is journaled in a partition 32 which is fixed between one of the end walls 9 and the partition 14. Stop collars 33 are carried by the shaft 31 whereby vertical movement of the operating shaft 31 is prevented. This shaft 31 extends through the top wall 12 and has connected thereto a handle 34 to allow of the convenient rotating of the said shaft 31 when occasion so requires.

From the foregoing arrangement of parts, it is evident that when the shaft 31 is rotated in one direction, motion will be transmitted to the shaft 19 causing thereby the cable 21 to unwind off the drum 20 and that when the shaft 31 is operated in the opposite direction, motion will also be transmitted to the shaft 19 revolving the drum 20 and causing the cable 21 to wind upon the drum. When the cable unwinds the carrier 8 is lowered and when the cable winds upon the drum, the carrier 8 is elevated.

The carrier 8 is guided in its movement through the medium of the rails 2, these latter also prevent the carrier from swinging outwardly from the wall of the structure to which the rails 2 are secured. The carrier 8 further comprises an adjustable cage 35 for supporting one or more persons during the travel of the carrier 8. The cage 35 is so mounted with respect to the carrier 8 that it can be pulled outwardly to the position shown in Fig. 4 so as to support one or more persons. The cage 35 is of a length and height as to inclose the bottom and a portion of the end walls and front wall when moved to its normal position as clearly shown in Fig. 3. The cage 35 comprises a front wall 36, a bottom 37 and a pair of side walls 38 which are cut away as at 39 to provide a clearance for certain elements of the operating mechanism of the drum 20 to be hereinafter referred to. The cage 35 is supported at its bottom by a pair of angle-shaped brackets 40 arranged at and spaced from the lower corners of the carrier 8. The brackets 40 have connected thereto angle-shaped supporting arms 41 which extend through elongated slots 42 formed in the bottom 37 of the cage and are secured to the bottom 11 of the carrier by the hold fast devices 43. The slots 42 not only provide means whereby the

cage 35 can be shifted outwardly upon the brackets 40 but the inner walls of said slots 42 constitute abutments to arrest the outward movement of the cage 35. The cage 35 is supported at its top through the medium of the laterally extending angle-shaped brackets 44 which overlap the top of the side walls 38 and are secured to the end walls 9 of the carrier 8.

The shaft 19 projects from each end wall 9 of the carrier 8 and on each of said projecting ends of the shaft 19 is fixed a ratchet wheel, these latter are indicated by the reference characters 45 and 46, the teeth of the wheel 45 being oppositely disposed with respect to the wheel 46. Pivoted upon a laterally extending stud 47 which is fixed to one of the end walls 9 of the carrier 8 is a pawl 48 adapted to engage the teeth of the wheel 45 and pivoted upon a laterally extending stud 49 which is secured to the other end wall 9 is a pawl 50 which is adapted to engage the teeth of the wheel 46. The pawls 47 and 50 are adapted to prevent backlash, that is to say, when the carrier 8 is moving in one direction, the pawl 48 engages the ratchet wheel 45 and will arrest the backward movement of the drum and when the carrier is traveling in the opposite direction, the pawl 50 will engage the wheel 46 and arrest the back rotation of the drum 20. The cut-away 39 is provided in the end walls 38 to form a clearance for the ratchet wheels 45 and 46 and pawls 47 and 50. When the cage 36 is shifted outwardly to the position shown in Fig. 4, it is evident that either of the pawls can be thrown out of engagement with its respective ratchet wheel, sufficient space being had between the pivot of the pawl and the inner face of the bracket 44 as clearly shown in Fig. 4 and in dotted lines in Fig. 3.

What I claim is:

1. A fire escape comprising the combination with a pair of guide rails, of a vertically movable carrier guided by said rails, a suspension cable for the carrier, a drum journaled within the carrier and adapted to have the cable wind thereon and unwind therefrom, means supported by the carrier for operating said drum in either direction, and an outwardly adjustable cage supported by the carrier.

2. A fire escape comprising the combination with a pair of guide rails, of a vertically movable carrier guided by said rails, a suspension cable for the carrier, a drum journaled within the carrier and adapted to have the cable wind thereon and unwind therefrom, means supported by the carrier for operating said drum in either direction, means to prevent the back rotation of the drum, and an outwardly adjustable cage supported by the carrier.

3. A fire escape comprising the combination with a pair of guide rails, of a vertically



movable carrier guided by said rails, a suspension cable for the carrier, a drum journaled within the carrier and adapted to have the cable wind thereon and unwind therefrom, means supported by the carrier for operating said drum in either direction, an outwardly adjustable cage supported by the carrier, and means for limiting the upward movement of the cage.

4. A fire escape comprising the combination with a pair of guide rails, of a vertically movable carrier guided by said rails, a suspension cable for the carrier, a drum journaled within the carrier and adapted to have the cable wind thereon and unwind therefrom, means supported by the carrier for operating said drum in either direction, means to prevent the back rotation of the drum, an outwardly adjustable cage supported by the carrier, and means for limiting the upward movement of the cage.

5. A fire escape comprising the combination with a pair of guide rails, of a vertically movable carrier guided by said rails, a suspension cable for the carrier, a drum journaled within the carrier and adapted to have the cable wind thereon and unwind therefrom, means supported by the carrier for operating said drum in either direction, an outwardly adjustable cage supported by the carrier, and a guide roller arranged within said carrier for said cable.

6. A fire escape comprising the combination with a pair of guide rails, of a vertically movable carrier guided by said rails, a sus-

pension cable for the carrier, a drum journaled within the carrier and adapted to have the cable wind thereon and unwind therefrom, means supported by the carrier for operating said drum in either direction, means to prevent the back rotation of the drum, an outwardly adjustable cage supported by the carrier, and a guide roller arranged within said carrier for said cable.

7. A fire escape comprising the combination with a traveling carrier, a guiding means therefor, of a suspension cable for elevating and lowering said carrier, a drum, mechanism for winding the cable on and unwinding it off the said drum, and means exteriorly operated and operatively connected with said mechanism for operating the latter.

8. A fire escape comprising the combination with a traveling carrier, a guiding means therefor, of a suspension cable for elevating and lowering said carrier, a drum, mechanism for winding the cable on and unwinding it off the said drum, said means exteriorly operated and operatively connected with said mechanism for operating the latter, and an outwardly adjustable cage supported from the carrier.

Signed at the city of New York in the county of New York and State of New York this seventeenth day of August A. D. 1908.

NATHAN SLAVIN.

Witnesses:

NATHAN COHEN,  
SAMUEL SOHN.