

W. SMITH.

FIRE ESCAPE.

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974,929.

Patented Nov. 8, 1910.

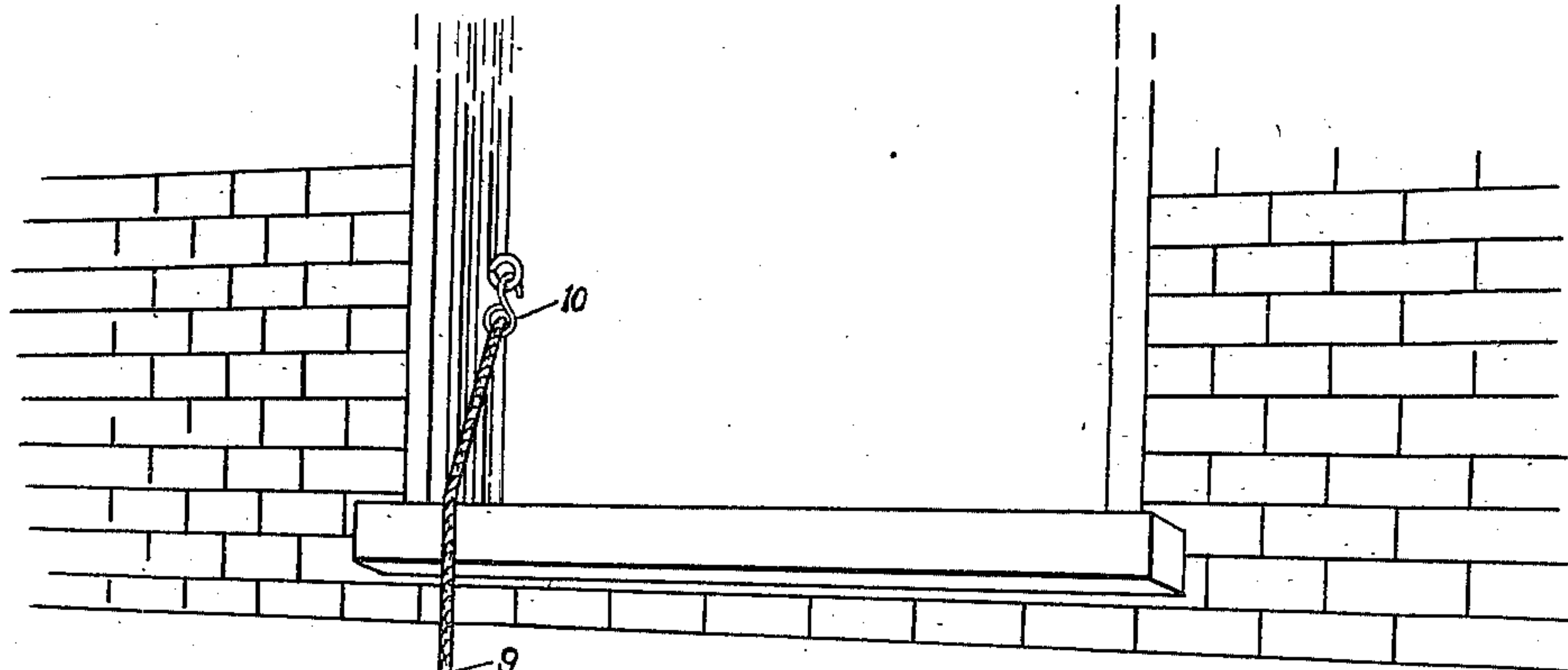


Fig. 1.

Fig. 2.

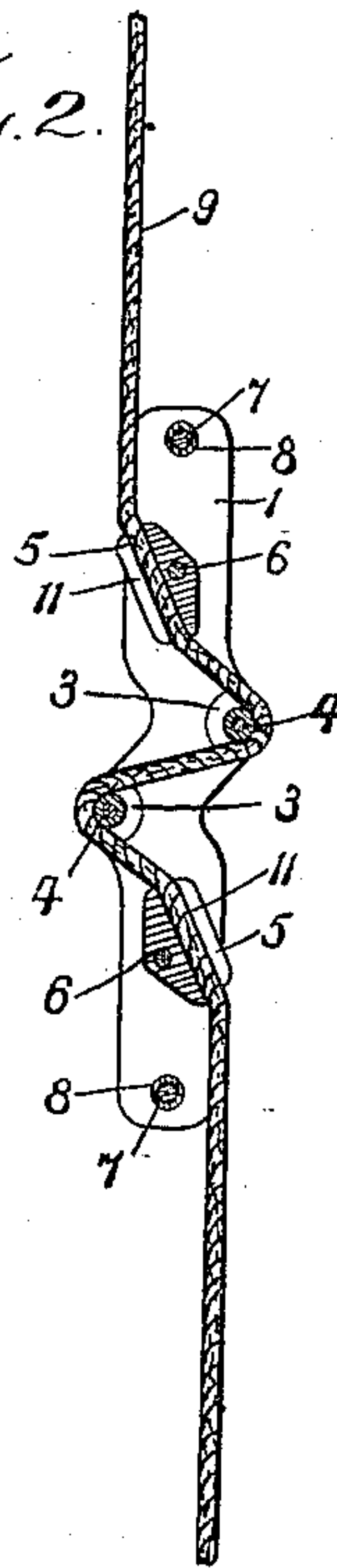
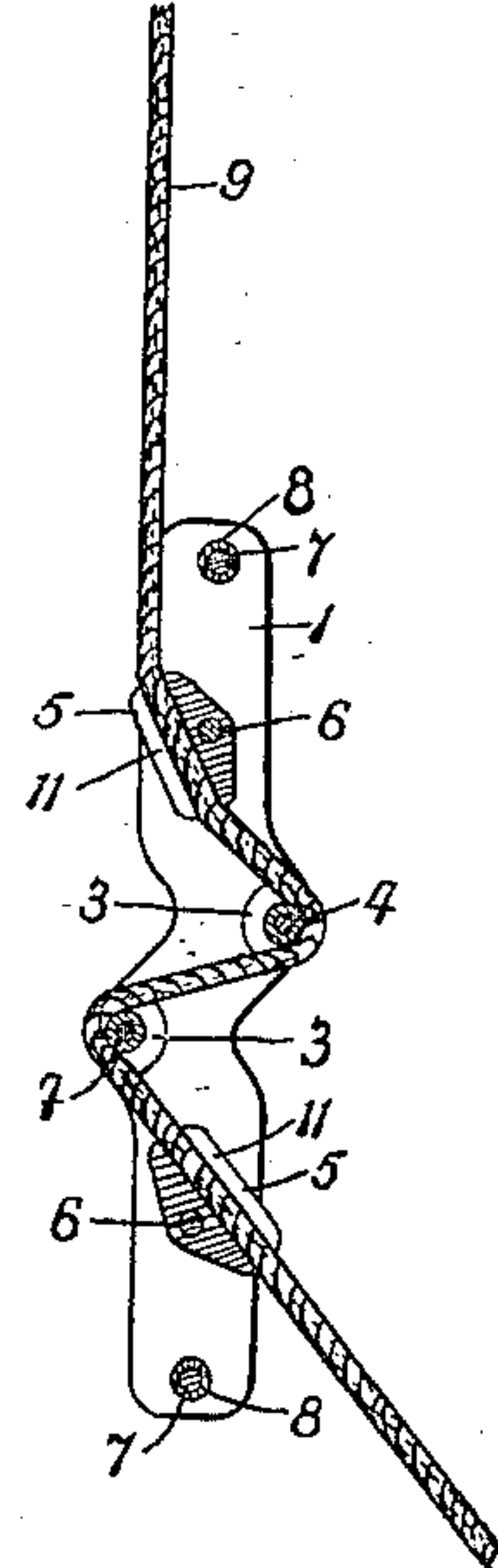


Fig. 3.



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FIRE-ESCAPE.

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To all whom it may concern:

Be it known that I, WILLIAM SMITH, a subject of the King of Great Britain, residing at the town of Harlem, in the Province of Ontario, in the Dominion of Canada, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

The invention relates to improvements in fire escapes, as described in the present specification and illustrated in the accompanying drawings that form part of the same.

The invention consists essentially in the novel arrangement and construction of parts, whereby a pulley block having a pair of pulleys and a pair of brake shoes journaled therein has a rope threaded therethrough and controlling the action of the brake shoes, a suitable loop being hooked to the lower end of said pulley block.

The objects of the invention are to devise a fire escape of very few parts, and of simple and durable construction, whereby the invention may be manufactured at low cost, and the operation of the same regulated in a very simple manner, and at the same time enable the pulley block to travel in either direction on the rope.

A further object of the invention is to provide a carrier loop, in which an unconscious person may be lowered to the ground, or several persons may be lowered at once, and the descent of the pulley block regulated from the ground.

In the drawings, Figure 1 is a perspective view of the fire escape in use. Fig. 2 is a side elevation of the pulley block with one side plate removed, and the brake shoe turned to retain the block from any downward movement on the rope. Fig. 3 is a side elevation of the pulley block with one side plate removed, and the lower brake shoe turned to lower the pulley block.

Like numerals of reference indicate corresponding parts in each figure.

Referring to the drawings, 1 are the side plates of the pulley block, having the mid-portion thereof offset at 2 on alternate sides in substantially S-shape.

3 are pulleys journaled on the pins 4 extending between the side plates 1 at the offset portions 2.

5 are brake shoes pivotally secured between the plates 1 by the pins 6 extending between said plates toward the ends thereof, said brake shoes having the grooved faces 11.

7 are pins extending between the plates 1 at the extremities thereof, and through the spacing tubes 8, which space the side plates apart sufficiently, so that the pulleys and brake shoes are free to turn on the pins which support them.

9 is a length of rope having a hook 10 secured at each end thereof, so that the rope may be readily fastened to any convenient place adjacent to the window, from which it is desired to escape. The rope 9 is threaded through the pulley block in a zig-zag manner, so that it passes over the grooved face of the brake shoe at one end of the block, and around the outer sides of the pulleys 3, and over the grooved face of the brake shoe toward the lower end of the block, as clearly shown in Figs. 2 and 3.

12 is a loop of rope or strap secured to the swivel snap hook 13, said hook being caught onto the pin 7 at the lower end of the pulley block when descending the rope, as shown in Fig. 1.

14 are small hand loops secured at intervals around the larger loop 12, providing a further means of support for a person using the fire escape.

In using the fire escape the upper end of the rope is preferably hooked onto an eye provided for the purpose on the side sill of the window, and the person using the same may readily control the descent of the pulley block on the rope by means of the brake shoe 11 at the lower end of the block by either setting the rope at an angle to the block or drawing the same inwardly in alignment with the block. The action of altering the rope is clearly shown in Figs. 2 and 3.

In Fig. 2 the rope is shown held in alignment with the pulley block, so that the brake shoe is tipped with the upper end forming a bend in the rope before it passes over the lower pulley, and this simple device causes sufficient friction on the rope to prevent its sliding free through the block, the upper brake shoe normally being in the same position, and causing a limited continuous friction on the rope where it leaves the pulley block. When it is desired to have the block descend it is only necessary to move the rope to the position shown in Figs. 1 and 3, so that the lower brake shoe is allowed to tip with the grooved face in alinement with the groove in the lower pulley, whereby the rope has a straight passage onto the lower pulley, and the friction thus removed, the block will

descend, the upper brake shoe causing enough friction to limit the speed.

It will be understood that the loops 14 may be made larger, and even of sufficient size for a person to place the same around their body, so that two or more people could descend at the same time.

It will also be readily seen that an insensible person may be placed in the loop and the descent of the block regulated by an assisting party on the ground, simply by holding the rope taut, or allowing the same sufficient slack to let the lower brake shoe tip to the position as shown in Fig. 3.

The rope can readily be overhauled after a descent has been made, until the block is drawn upwardly to the window, and the reverse end of the rope hooked onto the eye in the side sill, the snap hook 13 being hooked onto the pin 7 at the reverse end of the pulley block, when the block is ready for another descent.

A salient feature of the device is the simple manner of construction throughout, whereby there is no control lever required, and nothing which can in any way prove difficult or puzzling to a person operating the fire escape.

To provide for the adjustment of the speed at which the pulley block will descend, and also to provide for different sized ropes, the holes 15 are made in the side plates 1 for the insertion of the pins on which the brake shoes are pivoted, and whereby the said shoes will be closer to the pulleys, and

make a sharper bend in the rope where it passes onto the pulleys, as hereinbefore explained.

What I claim as my invention is:

1. In a device of the class described, in combination, a pair of side plates, spacing bars secured between said side plates at the ends thereof, a pair of pulleys journaled between said side plates in staggered arrangement one to the other, a pair of tiltable brake shoes pivotally secured between said plates toward the ends thereof and a rope threaded between said pulleys and said brake shoes on alternate sides thereof and controlling the tilt of said brake shoes.

2. In a device of the class described, in combination, a pair of plates having the mid-portion thereof of zig-zag form, a pair of pulleys journaled at the offset portion of said zig-zag mid-portion, a pair of tiltable brake shoes having grooves in one side thereof and pivoted at a point to one side of said grooves between said plates toward the ends thereof and a rope threaded around the alternate outer sides of said pulleys and resting in the grooves in said brake shoes and controlling the tilt of said brake shoes on their pivotal bearings.

Signed at the city of Ottawa, in the Province of Ontario, in the Dominion of Canada, this twenty-first day of October, 1909.

WILLIAM SMITH.

Witnesses:

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