L. VAN BROWN.

STORE LADDER.

APPLICATION FILED JAN. 24, 1913.

1,090,803.

Patented Mar. 17, 1914.

2 SHEETS—SHEET 1.

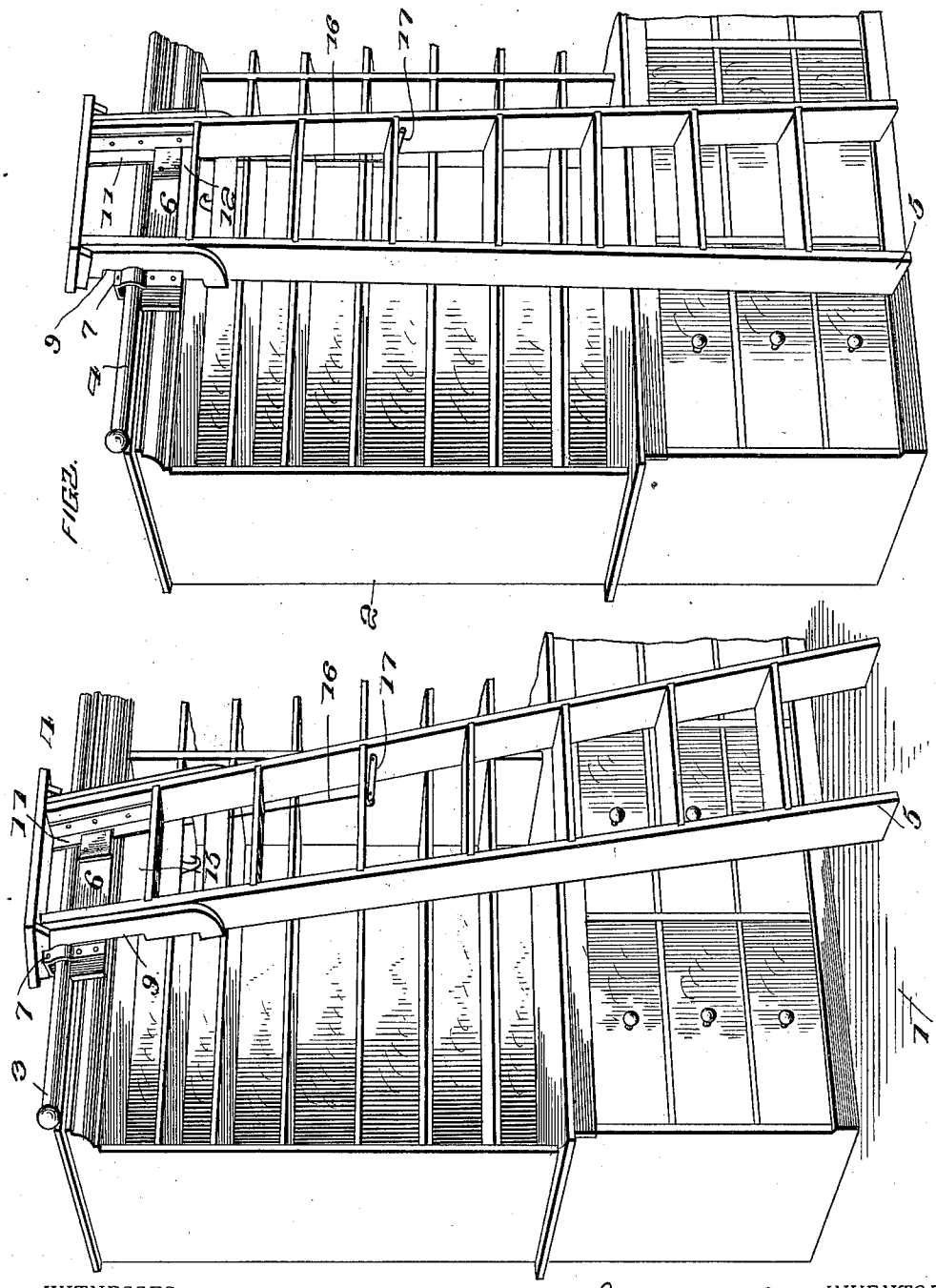


FIG. 1.

WITNESSES

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2 SHEETS—SHEET 2.

FIG. 4.

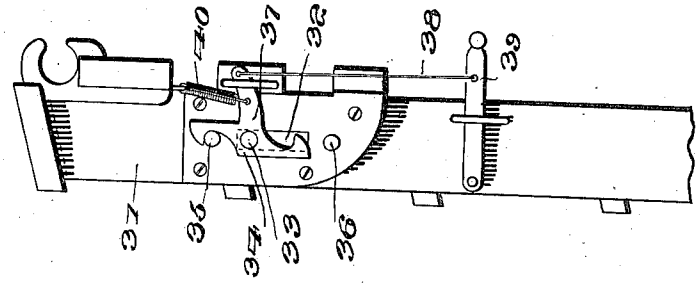
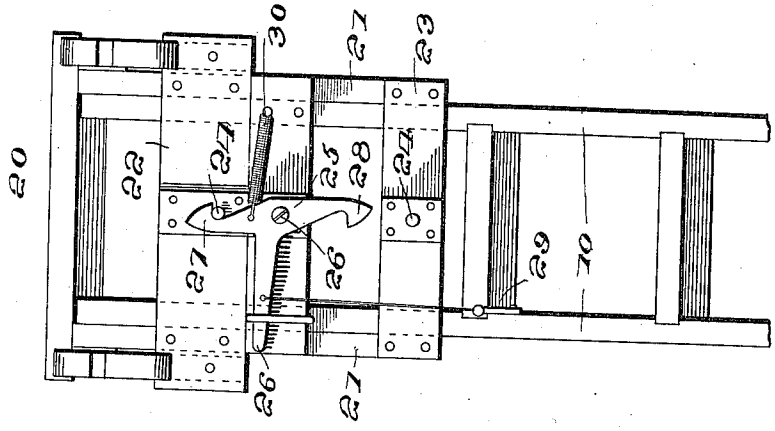


FIG. 3.



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LEWIS VAN BROWN, OF ASHEVILLE, NORTH CAROLINA.

STORE-LADDER.

1,090,803. Specification of Letters Patent. Patented Mar. 17, 1914.

Application filed January 24, 1913. Serial No. 743,939.

To all whom it may concern:

Be it known that I, LEWIS VAN BROWN, a citizen of the United States, and resident of Asheville, in the county of Buncombe and State of North Carolina, have invented new and useful Improvements in Store-Ladders, of which the following is a specification.

This invention relates to ladders, and more particularly to that type of ladders which are supported from, and travel along a track supported upon the shelves of a store.

The objects of the invention are first to provide a ladder which when not in use is suspended from a track and is free to move thereon, and at the same time a ladder which will occupy a position close to the shelves and thus take up but little room; second to provide a ladder which when in use will be entirely immovable on the track, the lower extremity thereof resting upon the floor and the body portion thereof standing at the most desirable angle for use, and third a ladder which will have all of the above mentioned advantages and at the same time will be easily handled and cheap to manufacture.

Referring to the drawings, Figure 1, is a perspective view of a set of shelves with the ladder supported therefrom in operative position. Fig. 2 is a similar view showing the ladded in its operative position. Fig. 3 is a view showing a modified form of latch and ladder construction, and Fig. 4 is a view of a third form of latch and ladder construction.

Referring more particularly to the drawings, the numeral 1 designates the floor of a room in which the device is intended for use, and 2 a plurality of shelves.

Suitably supported by brackets 3 on the upper outer edge of the shelves 2 is a track 4 which track is preferably round in cross-section. A ladder 5 is adapted to travel along this track said ladder being suspended therefrom by means of the hanger 6 which in turn carries the roller cages 7 that embrace the track. Said roller cages are substantially U-shaped in cross section. and are provided with rollers 8 which travel along the track.

The rear edge of each of the side rails 10 of the ladder is cut away as at 9 to permit of a sliding movement of the ladder with respect to the hanger 6. The inner face of each of the side rails of the ladder is provided with an angle iron or the like 11 which is overlapped by a metal plate 12 carried by the hanger 6 and forms a track or guide therefor.

On the rear face of the hanger 6 is a stud or the like 13. Pivoted to one of the steps of the ladder as at 14^1 is a member 14 having its upper extremity formed with a hook 15 which is adapted to engage the stud 13. The other end of the member extends parallel to the step of the ladder and has connected to it a wire or the like 16. The wire 16 extends downwardly along one of the side rails 10 of the ladder, and is connected to a pivoted operating hand lever 17. From the foregoing it will be seen that by operating the hand lever on its pivot, the hook 15 is disengaged from the stud 13, and the ladder is free to move with respect to the hanger 6. A coil spring 18 is connected at one extremity to the member 14 and at the other extremity to one of the side rails 10 of the ladder, and it is the purpose of this spring to hold the hook in a position where it will at all times engage the stud 13.

In the device shown in Fig. 3, the hanger forms the top step 20 of the ladder, and is provided with downwardly extending members 21 which embrace the side rails 10 of the ladder. The hanger in this form is provided with an upper and lower cross piece 22, and 23 each of which is provided with a stud 24. Pivoted to the ladder as at 26 is a member 25 having an upper and lower hook 27 and 28 adapted to alternately engage the studs 24. The member 25 has an extension 29 to which is secured a wire or other suitable operating means which in turn is connected at its opposite end to an operating hand lever 29 pivoted to one of the side rails 10 of the ladder. A spring 30 is employed to keep one of the hooks at all times in engagement with one of the studs. Thus it will be seen that by means of the operating hand lever, the hooks 27 and 28 are engaged with, and disengaged from the studs 24 at will.

In the form shown in Fig. 4, the hanger also forms the top step of the ladder, and is provided with depending members 31 which in this case, however, are provided with slots 32 through which extends the free extremities of a shaft 33 pivoted in the ladder. Rigidly secured to each extremity of

the shaft 33 is a double ended hook 34, which carried by each of the depending members 31 is an upper and lower stud 35 and 36 respectively, with which the double ended hook is adapted to alternately engage. One of the hooks 34 is provided with a right angle extension 37, and to this extension is connected the upper end of an operating wire or the like 38 the lower extremity of which is connected to an operating lever 39 pivoted to one of the side rails of the ladder. To the right angle extension 37 is connected one extremity of a coil-spring 40 its opposite extremity being suitably connected to the ladder. The purpose of this spring is to keep one of the hooks at 34 in engagement with one of the studs 35 and 36.

In operation it is obvious that the device shown in Figs. 1 and 2 the ladder is held suspended from the hanger 6 by reason of engagement of the hook 15 with the stud 13, this being the position of the ladder when not in use. When it is desired to use the ladder, the lower extremity thereof is moved outwardly, and the operating lever moved to dis-engage the hook 15 with the stud 13 which permits the ladder to move downwardly with respect to the hanger 6 until its lower extremity engages the floor when the device is ready for use.

In the constructions shown in Figs. 3 and 4 the operation is the same as above described with the exception that owing to the employment of a double ended hook, the ladder is locked in its operative position as well as in its inoperative position which is not true of the form shown in Figs. 1 and 2, in which form the ladder is locked only in its inoperative position.

What is claimed is:—

1. In a store ladder, the combination with an elevated track, of a hanger slidably carried on the track, a ladder carried on said hanger and vertically adjustable thereon, stops to limit the upper and lower adjustment of the ladder on the hanger, a double-acting latch carried on the ladder adapted to engage the hanger when adjusted in extreme upper and lower positions, and a lever for releasing said latch from locked position, substantially as described.

2. In a store ladder, the combination with an elevated track, of a telescoping sectional ladder slidably carried on the track, the sections of said ladder being vertically adjustable on each other, stops to limit the upper and lower adjustment of the sections, a double-acting spring-pressed pivoted latch carried on one of said sections and adapted to engage the other section and rigidly lock them at their extreme upper and lower positions, and a lever for releasing said latch from locked position, substantially as described.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."