J. HENGSTLER.

COMBINED ROLL SHUTTER AND LIFE SAVING LADDER.

APPLICATION FILED JUNE 8, 1908.

905,529. Patented Dec. 1, 1908.

Fig. 1.

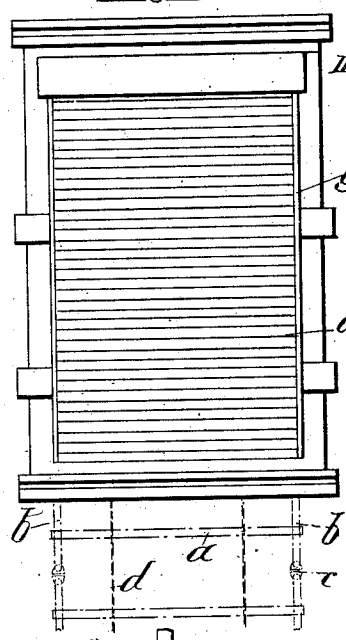


Fig. 2.

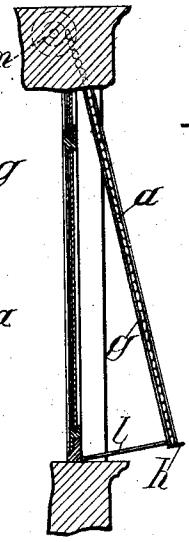


Fig. 6.

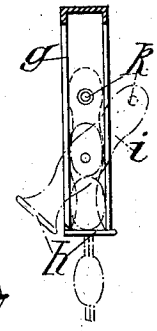
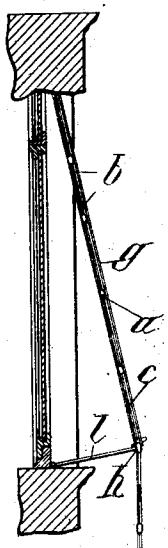


Fig. 3.



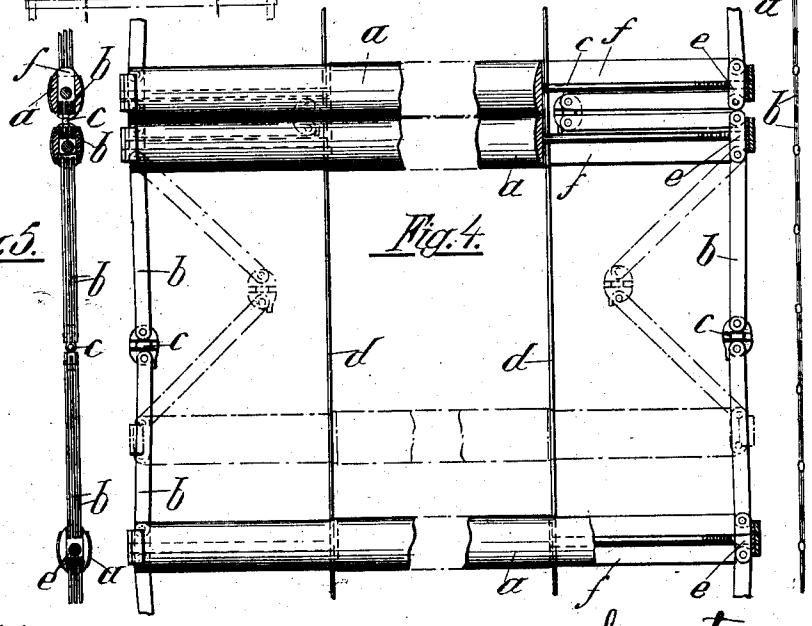


Fig. 5.

Fig. 4.

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JOHANNES HENGSTLER, OF ALDINGEN, GERMANY.

COMBINED ROLL-SHUTTER AND LIFE-SAVING LADDER.

No. 905,529. Specification of Letters Patent. Patented Dec. 1, 1908.

Application filed June 8, 1908. Serial No. 437,317.

To all whom it may concern:

Be it known that I, JOHANNES HENGSTLER, a citizen of the German Empire, residing at Aldingen, in the Kingdom of Würtemberg, Empire of Germany, have invented certain new and useful Improvements in a Combined Roll-Shutter and Life-Saving Ladder; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has for its object a roll shutter which may also be used as a life saving ladder in case of need.

The essential feature of the invention consists in the roll shutter being adapted to be extended for instance in the case of an outbreak of fire, the laths or bars, which usually lie closely together in roll shutters, being separated in such a way that they form a ladder after the manner of rope ladders. For this object the bars are connected with one another by means of connections of suitable length which are adapted to be folded or doubled up and when the roll shutter is used in the ordinary way to fit into the bars, so that they are then not visible. These links are also connected with one another in such a way that when the roll shutter is wound up they are able to adapt themselves to the curve. If now the roll shutter is to be used as a ladder it is merely necessary to release the fastening which holds the laths or bars together, whereupon they can be let down and thus form a ladder.

The object of the invention is shown in the accompanying drawings in one form of construction in which:—

Figure 1 shows the roll shutter closed; Fig. 2 is a side view of the same; Fig. 3, a similar view showing the use of the roll shutter as a life saving ladder; Figs. 4 and 5 are enlarged views of a portion of the same and show in front and side view the connection of the laths or bars; while Fig. 6 is an end view of a mechanism for fastening the laths or bars.

The roll shutter consists in the ordinary way of laths or bars *a* which fit closely to one another (Figs. 1 and 2) in the ordinary use of the roll shutter as means for closing a window. Now by the present invention these bars *a* are connected with one another by links *b* which are of such a length that the bars *a*, when the roll shutter is employed as a life saving ladder, separate to a suitable distance from one another. The links *b* are retained somewhat flexibly on pieces *e* of the bars *a* and are connected with one another by hinges *c* which allow them to be folded inwards (as shown in Fig. 4 in dotted lines) and also allow them to move aside laterally as is necessary when winding up the roll shutter. When the roll shutter is employed in the ordinary way these links *b* lie in recesses *f* of the bars *a*, so that the latter fit closely together. For letting down and winding up the bars *a* employed as a safety ladder, cords *d* are also provided which are connected with the lowermost bar which then collects all the bars when drawn or wound up, the links *b* folding inwards, which result may be attained for instance if the arrangement is adopted whereby these joints or links *b* cannot come into an entirely extended position (Fig. 4). The roll shutter as such and also as a life saving ladder, in order to facilitate its handling, may be arranged to extend from the window frame by means of struts or stays *l*. Usually these bars *a* lie in the ordinary manner in bars *g* which are open below but normally closed by an attachment *h*, in order to prevent any premature protrusion of the bars *a*. This attachment *h* may be attached for instance to a pivotal lever *i* or the like, which is provided with a projection *k* which latter by reason of the springiness of the lever *i* engages, in the fastening position, in a suitable recess of the bar *g* (Fig. 6). Now if the roll shutter is to be used as a safety ladder, the bar *g* must be released below by turning the lever *i* (Fig. 6 in dotted lines), whereupon the cords *d* are let down, so that the bars *a* escape and hang downwards like a ladder.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A flexible shutter mounted to be rolled

up, and having bars adapted to be displaced to certain distances when used as a safety ladder.

2. A flexible shutter mounted to be rolled up, and having bars adapted to be displaced to certain distances when used as a safety ladder, said bars being united by links or joints adapted to fold inwardly and be turned over laterally after the manner of a hinge.

In testimony whereof I affix my signature, in presence of two witnesses.

JOHANNES HENGSTLER.

Witnesses:

JEAN GULDEN,

HERM. HOPPE.