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C. C. M<sup>c</sup>CRACKEN

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EMERGENCY LADDER

Filed May 22, 1926

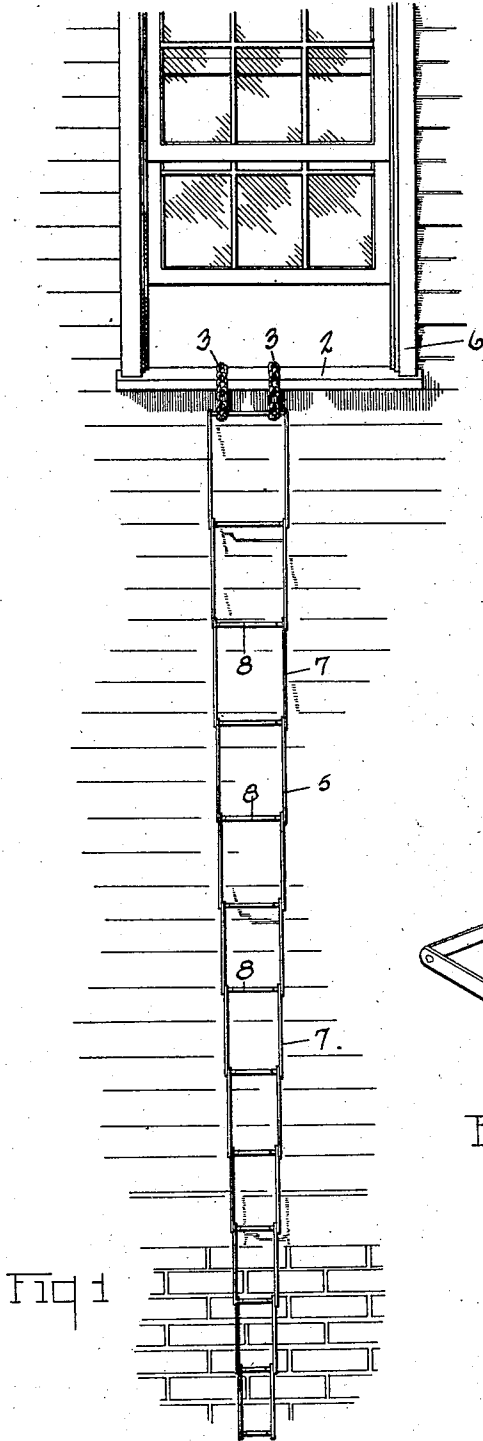


Fig 1

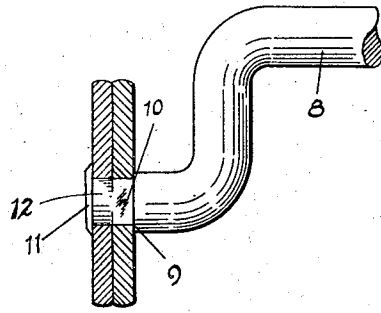


Fig 3

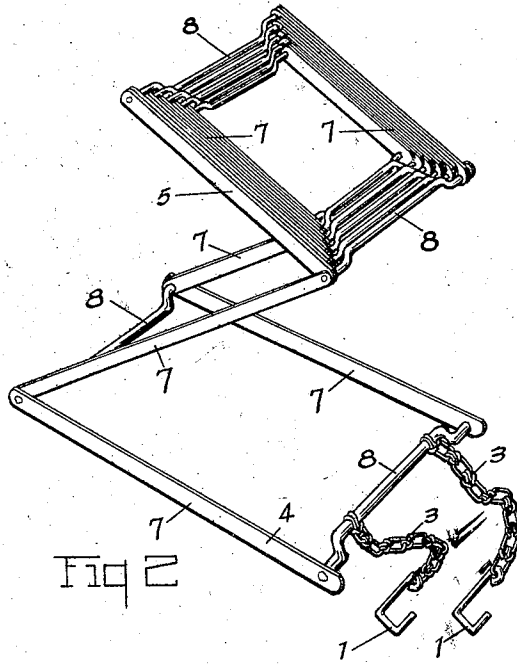


Fig 2

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## UNITED STATES PATENT OFFICE.

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## EMERGENCY LADDER.

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My invention has for its object to provide a folding emergency ladder that when folded will occupy a small space and when unfolded will constitute a rigid support for the user.

5 The steps or rungs of the ladder are so formed that they will protrude from the wall of the building whereby the feet of the user may be readily and securely placed on, and his hands may easily grasp the steps or  
10 rungs. Also the ladder is so constructed that it will not be moved outward from the wall at the point that it is grasped by the hands to a material degree nor will the rungs be tilted when supporting the weight  
15 of the user of the ladder, notwithstanding the outward projection or location of the rungs. Thus the invention provides a safe emergency ladder that may be readily utilized in descending along the wall of the  
20 building.

The invention may be contained in ladders that in the detail of their construction partake of different forms. To illustrate a practical application of the invention I have  
25 selected a ladder embodying the invention as an example of such structures and shall describe it hereinafter. The ladder selected for purposes of illustration is shown in the drawing.

30 Figure 1 illustrates a ladder in position for descent. Fig. 2 illustrates a perspective view of the ladder partly unfolded. Fig. 3 is a view of a section through a joint of the ladder.

35 The ladder shown in the drawings is formed of a plurality of connected frame parts and a means is provided for readily connecting the ladder with a sill of the window. The frames are so formed that they  
40 will lie one within the other. The larger frame being preferably the top frame when the ladder is located in the position for use. The ladder may be unfolded by merely connecting an end frame to a sill and holding  
45 the larger frame horizontally and allowing the other frames to drop. This will cause the ladder frames to descend and become supported by the sill. In the form of construction shown the hooks 1 are placed over  
50 the sill 2 of the window, the chains 3 being of sufficient length to enable the largest frame 4 of the ladder 5 to be easily held horizontally outside of the window which  
55 will permit the other frames of the ladder to drop towards the ground. The chains

will therefore suspend the upper end of the ladder from the window frame 6.

Each frame of the ladder is formed of a pair of side members 7 and a step or rung 8 and the frames are joined together by the  
60 rungs 8. The step or rung 8 of each frame is secured to the side members 7 so that it cannot turn relative thereto and is moreover located at the top of the frame. Each end of each of the rungs has a shoulder 9 and a  
65 squared portion 10 while the upper end of each side member or bar has a square opening fitting the squared portion which prevents rotation of the step or rung relative  
70 to the side members. The step or rung has two angular bends one at each end which places the body of the rung or step outside of the plane of the frame of which it forms  
75 a part. Thus when the ladder is placed against the wall, the step projects slightly and gives a "toe hold" on the ladder and a  
80 ready "grasp" of the rungs. Since each rung is locked to the sides of the frame and is located at the top of the frame, the weight of the body when the foot is placed on the  
85 rung will cause the lower ends of the sides to press against the wall of the building and prevent tilting of the projecting step or rung; while if the rung were located at the  
90 lower end of the frame, the upper ends of the sides would be tilted outward. Thus the rungs are maintained in their position when stepped on. Also when the rungs are  
95 grasped the downward pull presses the lower ends of the frame against the wall and because of the length of the sides as compared to the projection of the rung or step, the frame will lie flat against the wall (although  
100 it is pulled by the hand at the natural angle as when one is descending or climbing a vertical ladder.

In order that the ladder may be folded each outer end portion of the steps or rungs is provided with a cylindrical part 12 while  
105 the lower end of each side member of the frames is provided with an opening that fits the cylindrical part 12 and so as to rotate thereon. Each end of the step or rung 8 is headed as at 11 to rotatably secure the lower  
110 ends of the side members of the frames in position.

I claim:

In an emergency ladder, a plurality of frames, each frame formed of side bars and a step, the step being formed of a bar hav-

ing end portions bent at two right angles to project the body of the step outside of the plane of the side bars, each end of the step having a cylindrical portion and a portion  
5 other than cylindrical, the upper ends of the side bars connected to the step having openings for fitting the portions other than cylindrical for locking the step to the side

bars, the lower ends of the side bars having cylindrical openings fitting the cylindrical portions of the step of the adjoining frame, the ends of the steps riveted over the ends of the side bars of adjoining frames. 10

In testimony whereof I have hereunto signed my name to this specification.

CHARLES C. McCracken.