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EMERGENCY FIRE ESCAPE

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Fig. 1

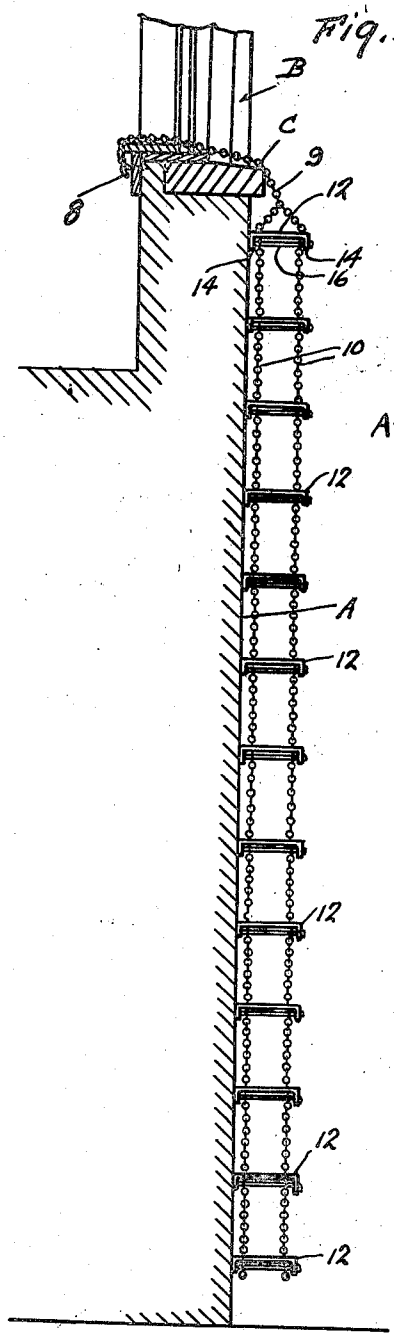
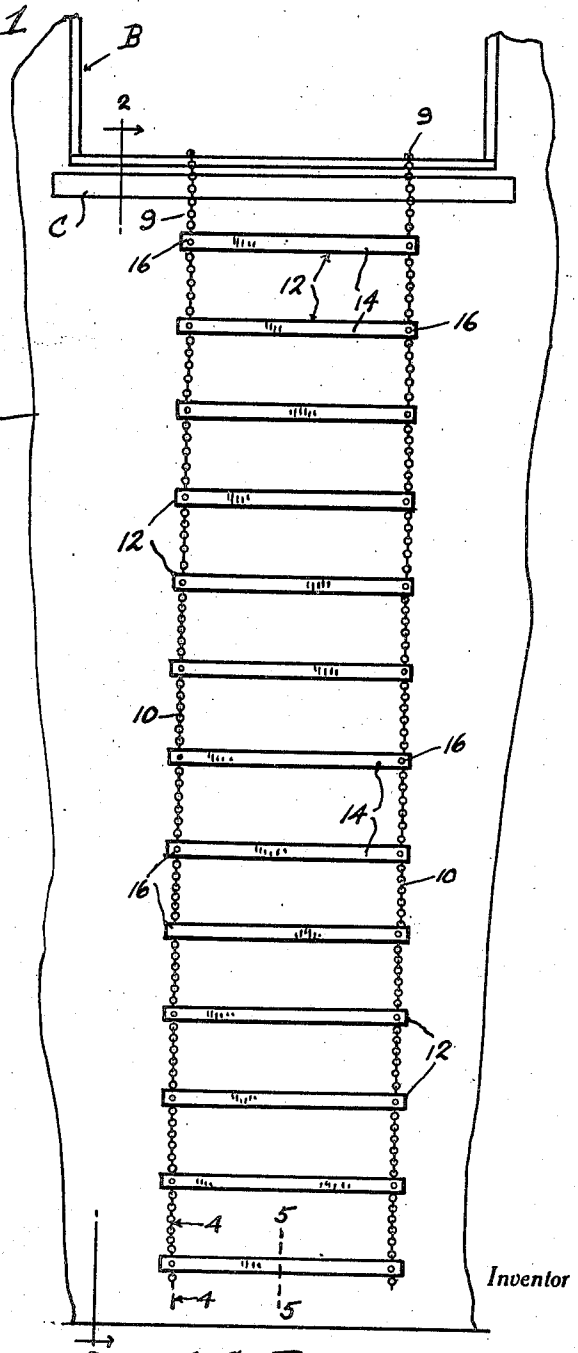


Fig. 2.



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Fig. 3.

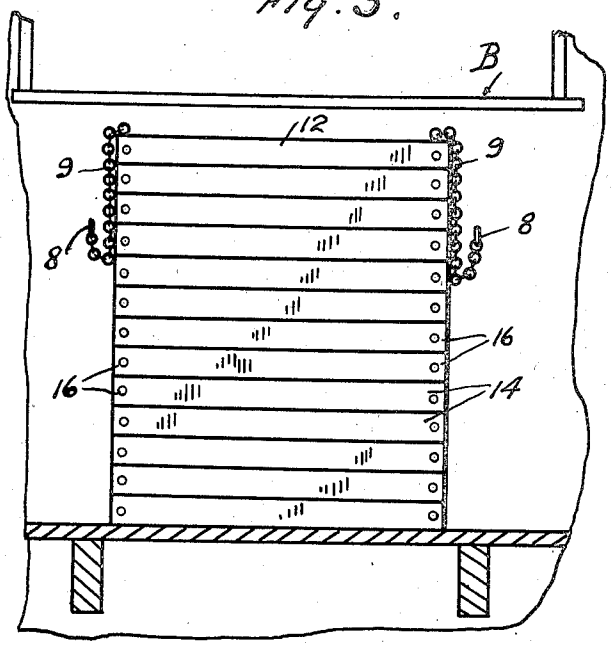


Fig. 6.

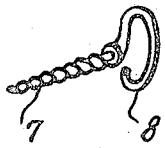


Fig. 4.

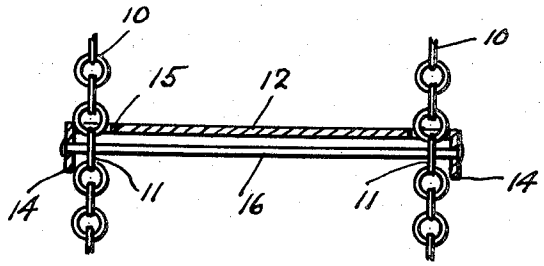
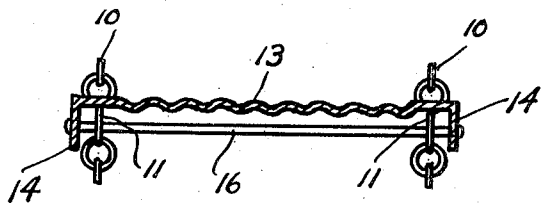


Fig. 5.



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EMERGENCY FIRE ESCAPE

Arnold C. Rapp, Covington, Va.

Application March 27, 1936, Serial No. 71,218

2 Claims. (Cl. 228—40)

The present invention, as is evident from a general observation of the drawings, is broadly classifiable as a flexible ladder-type fire escape usable wherever necessary or desirable to expedite exit from a burning or otherwise dangerous structure.

Those familiar with the prior state of the art to which the invention has specific reference are aware that it is structurally old to provide collapsible flexible chain and step structures for the purpose of ready emergency use and compact storage within the building when not in use.

In reducing to practice the general aims and principles of the present invention, it is my idea to generally improve upon structures in this particular category of safety ladders and fire escapes by providing an arrangement embodying a specifically new idea in the multiple chain and step coordination especially by cleverly and satisfactorily joining the steps to the depending hanger chains.

Other features and advantages of the invention may become more readily apparent from the following description and drawings.

In the accompanying drawings, wherein like numerals are employed to designate the corresponding details throughout the views:

Figure 1 is an elevational view showing a portion of a conventional building or similar structure illustrating how the ladder or fire escape is hung down outwardly of the window to facilitate ascent and descent of firemen and refugees;

Figure 2 is a vertical sectional view at right angles to Figure 1, the sections being substantially on the plane of the vertical line 2—2 of Figure 1;

Figure 3 is an elevational view of a fragmentary character showing how the duplicate steps or tread plates are stacked one upon the other in compact relationship for indoor storage purposes;

Figures 4 and 5 are enlarged detail sections taken on the planes of the lines 4—4 and 5—5, respectively, of Figure 1;

Figure 6 is a detail perspective view.

Referring now to the drawings by distinguishing reference numerals, it will be observed that the building structure is denoted by the letter A, the window indicated at B, and the conventional sill at C.

In practice, attaching screws 7 including appropriate fastening hooks 8 are mounted on the interior of the building, as shown for example in Figure 2. These serve to accommodate the upper single strand attaching chains 9 of the respective flexible hanger chains. In other words, there are two chain units and each one includes a single attaching chain 9 and a pair of depending spaced parallel ladder-forming chains 10. These chains are preferably made up of links 11. It will be evident, however, that it is not necessary to have a chain constructed completely of links, for only those particular links which support the respective steps or plates are absolutely required.

Any suitable number of tread plates may be utilized and each unit is the same in construction and comprises a horizontally disposable plate 12 whose main portion may be corrugated as indicated at 13 in Figure 5 to guard against foot slippage. Each plate is of channel-shaped cross-sectional form in transverse dimension, being open at opposite ends and formed with spaced parallel depending flanges 14. Adjacent the flanges, and near the opposite ends, each plate is provided with openings 15 of a size to permit passage of the links 11 therethrough to facilitate assembling. The assembling connection is made through the instrumentality of a pair of rods 16 for each step, these rods being attached at opposite ends to the end portions of the flanges 14 and extending through opposed pairs of the links 11, as shown to advantage in Figures 4 and 5. It is evident that this is the principal structural distinction of the invention.

It is to be observed from the description and the accompanying illustrative drawings that the essence of the invention is directed to the use of suspension or hanger chains or units wherein each unit includes the spaced parallel members 10 having especially designed plate-like steps or treads 12 attached thereto. More in particular, however, novelty resides in the apertured steps 12 to accommodate the links 11 of the respective chain members, wherein the links serve to accommodate the rods 16, the rods being riveted or otherwise fastened to the depending inner and outer flanges 14.

It is thought that the description taken in connection with the drawings will enable a clear understanding of the invention to be had. Therefore, a more lengthy description is thought to be unnecessary.

While the preferred embodiment of the invention has been shown and described, it is to be understood that minor changes coming within the field of invention claimed may be resorted to if desired.

I claim:

1. As a component part of a structural assemblage of the class described, a substantially rec-

tangular longitudinally corrugated plate provided with spaced parallel depending front and rear flanges, and provided adjacent said flanges and at opposite transverse ends with chain accommodation openings chains passing through said openings and attaching rods fastened to the end portions of the respective flanges directly beneath said openings and inserted through the links of the chain to support the plates in spaced relation on the chain, said flanges supporting the plates in spaced relation when the plates are in a stacked inoperative position to enclose the chain and rods between the plates.

2. A portable collapsible fire escape comprising hanger chains including open links, and a plurality of steps, each step being provided with depending flanges and connecting rods, passing through the flanges and the link to join the chains to the steps, said flanges supporting the plates in spaced relation when the plates are in a stacked collapsed position to enclose the chain and rods between the plates.

ARNOLD C. RAPP.