Oct. 25, 1960 E. J. BROWN 2,957,540

FIRE ESCAPE CAGE

Filed Oct. 30, 1957 2 Sheets-Sheet 1

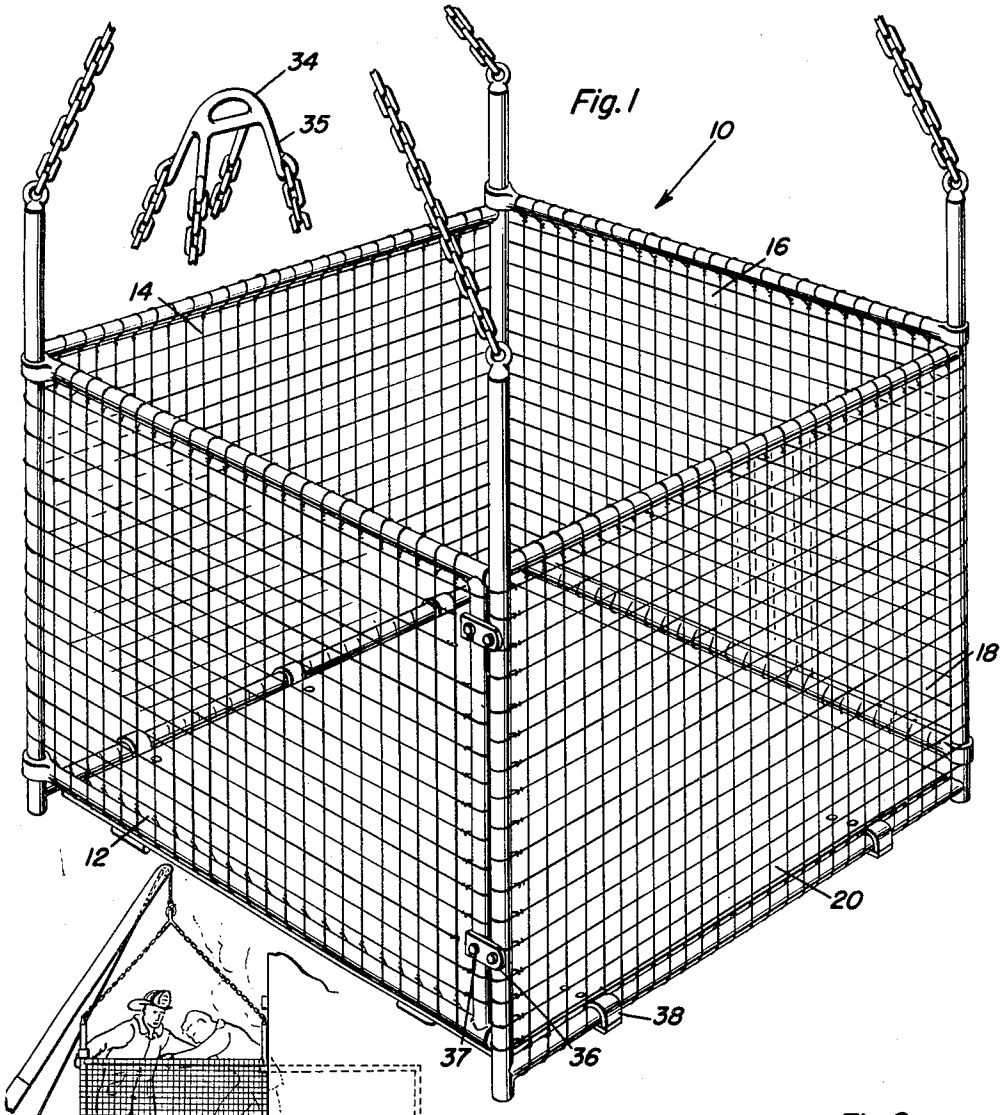


Fig. 1

Fig. 6

Fig. 7

Elmer J. Brown
INVENTOR.

BY Thomas A. O'Brien and Harvey B. Jackson
Attorneys

Oct. 25, 1960 E. J. BROWN 2,957,540

FIRE ESCAPE CAGE

Filed Oct. 30, 1957 2 Sheets-Sheet 2

Fig.2

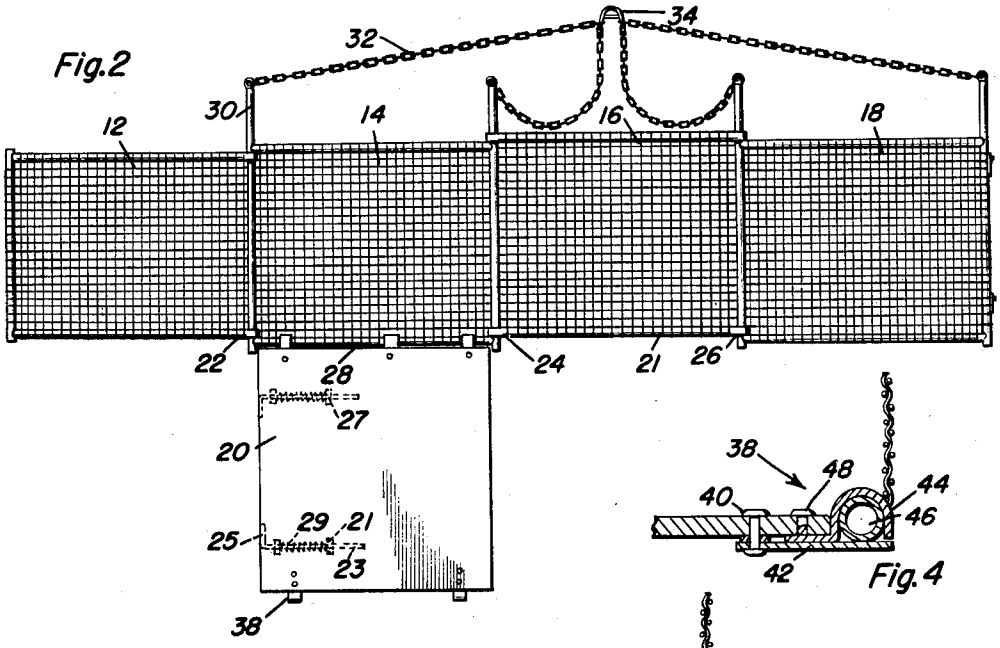


Fig.4

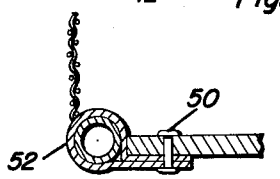
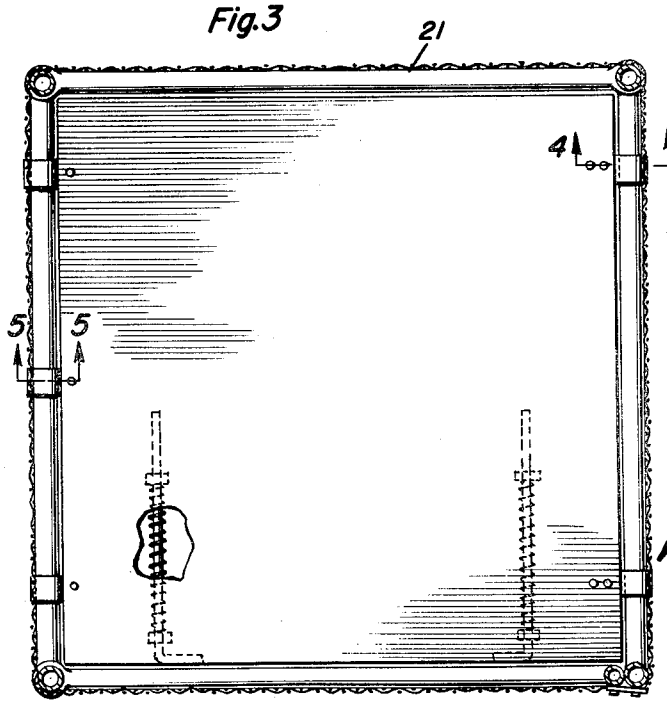


Fig.5

Fig.3



Elmer J. Brown
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

United States Patent Office 2,957,540 Patented Oct. 25, 1960

2,957,540

FIRE ESCAPE CAGE

Elmer J. Brown, 423 N. 5th St., Bismarck, N. Dak.

Filed Oct. 30, 1957, Ser. No. 693,413

3 Claims. (Cl. 182—113)

The present invention generally relates to a rescue device and more specifically to a fire escape cage providing novel structure and improved results therein.

A principal object of the present invention is to provide a new rescue device in the form of a fire escape cage which is adapted to be raised to the window of a burning building for the purpose of liberating persons and property from within.

Furthermore, it is an object of this invention to provide a portable and collapsible fire escape cage which is light, strong and quickly and easily assembled.

A more specific object of this invention is to provide a fire escape cage which contains the novel feature of having a pivotally connected wall which is adapted to be swung inside the window of a burning building to allow easy entrance to the cage.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part thereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of the cage in assembled condition, the upper ends of the chains being broken away. An insert to Figure 1 shows the terminating portions of the chains attached to a ring;

Figure 2 is a plan view of the cage in unfolded condition;

Fig. 3 is a sectional view showing the structure of the floor and the four walls;

Figure 4 is a sectional view through plane 4—4 of Figure 3 showing details of detachable cooperating means between the floor and wall of the cage;

Figure 5 is a sectional view through plane 5—5 of Figure 3 showing details of pivotal connecting means between the floor and wall of the cage;

Figure 6 is a bottom view of the cage in folded condition;

Figure 7 illustrate the cage in use wherein a pivotally connected cage wall is shown in open position within a building.

Referring now specifically to the drawings, it will be seen that the numeral **10** generally designates the cage of the invention having four walls shown as **12**, **14**, **16** and **18** and a bottom plate **20**. Each wall is illustrated as being of screen material having a pipe frame **21** and the bottom plate of any solid material strong enough to sustain the weight of several persons. As clearly shown in Figure 2, the walls are series and pivotally connected at connections **22**, **24** and **26**. The plate **20** is pivotally connected to the wall **14** at **28**.

The vertical pipes of frames **21** are extended above the wall as at **30** where they terminate in chains **32**. The four chains converge towards a common point and are attached to respective legs **35** of a ring member **34**.

It will be noted that detachable locking means are shown existing between walls **12** and **18**, the two walls not permanently joined at both their ends. Pivotal

members **36** are pivotally attached to the pipe frame **21** of wall **18** and contain a U-shaped recess therein which cooperates with projection **37** on the pipe frame of wall **12** to keep wall **12** in proper position. Detachable means also exist on plate **20**. These means are generally designated as **38** as shown in section in Figure 4. A rivet or bolt **40** rotationally holds tab means **42**. A semi-circular member **44** overlies pipe **46** and is permanently held in place by an extension plus a bolt **48**. The construction and operation of these detachable means should now be apparent. Tab means **42** rotates about the axis of bolt **40** and when an alignment with **44** will maintain the bottom plate member in the position shown in Figure 1. When member **42** is rotated 180° from the position shown in Figure 4, there will be nothing to prevent the operator of the cage from rotating the bottom plate around hinge connection **28** to bring it in close relation with wall **14**.

Affixed to the bottom of plate **20** are two pairs of eye members **21**. Rotatably and slidably supported by said eye members **21** is an anchor **23** which contains an anchoring portion **25** and a body portion **27**. Fixedly mounted on said body portion **27** is a spring **29** which biases said anchor **23** to a closed position as is illustrated in Figures 1 and 3.

Figure 5 is self-explanatory, showing a rivet or bolt **50** holding extension means of a collar **52** which fits around the bottom pipe of wall **14** in pivotal relationship.

Figure 6 shows the device in its folded form whereby it may be easily transported by a fire engine or car. The device when folded in the position of that of Figure 6 is only about five inches thick. When ready to be put in use the device of Figure 6 may be opened to the position shown in Figure 2. When the ring **34** is hooked onto an aerial ladder or boom, the chains **32** fall into place causing the walls to generally form the sides of a cube. The bottom plate **20** which should be held near side wall **14** when the walls are being formed at right angles, can then be lowered so that the semi-circular member **44** will engage pipe **46**. If tab means **42** are then rotated into the position shown in Figure 4 the bottom plate will securely be held between wall **14** and wall **18**. When wall **12** is swung into place and pivotal members **36** engaged, the device will assume the condition as shown in Figure 1. It will then be ready for use and may be utilized in the manner shown in Figure 7. It is to be noticed that an aerial ladder or boom raises the cage to a desired window, probably carrying firemen to aid any injured party. At the desired level the firemen will release pivotal members **36** and swing side wall **12** into the window as is shown in Figure 7. He will also pull the anchors **23** forward toward the window sill through eye members **21** and rotate the anchor **23** so anchor portions **25** point downwardly on the inner side of the window and hold the case in position. The wall **12**, being within the window frame, helps stabilize the cage so persons and property may be liberated from the building and placed in the cage.

It should be clear from the preceding recitation that the device disclosed provides an inexpensive, reliable, and convenient rescue device.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A fire escape cage comprising four serially arranged

walls pivotally connected in a straight line, a bottom plate pivotally extending from a first of said walls, detachable means carried by said bottom plate for detachably connecting said bottom plate to a second of said walls, cooperating means terminally carried by the terminal walls of said line of serially connected walls for perpendicularly retaining the walls relative to each other, each of said walls having a pipe frame, said detachable means including an open arcuate member adapted to overlie a portion of said frame and a rotatable tab for cooperating with said member to virtually enclose said frame portion, and anchor means carried by said bottom plate, said anchor means including at least one anchor having a pair of perpendicular legs, a first of said legs resiliently slidably secured to said bottom plate, a second of said legs adapted to extend through a window for engagement with a window sill for retaining said cage proximate said window.

2. A fire escape cage comprising four serially arranged walls pivotally connected in a straight line, a bottom plate pivotally extending from a first of said walls, detachable means carried by said bottom plate for detachably connecting said bottom plate to a second of said walls, cooperating means terminally carried by the terminal walls of said line of serially connected walls for perpendicularly retaining the walls relative to each other, said cooperating means including a plurality of pivotal members terminally carried by a first terminal wall, said members including U-shaped recesses, projections terminally carried by a second terminal wall, said projections adapted to cooperate with said U-shaped recesses, and anchor means carried by said bottom plate, said anchor means including at least one anchor having a pair of perpendicular legs, a first of said legs resiliently slidably secured to said bottom plate, a second of said legs adapted to extend through a window for engagement with a window sill for retaining said cage proximate said window.

3. A fire escape cage comprising four serially arranged walls pivotally connected in a straight line, a bottom plate pivotally extending from a first of said walls, detachable means carried by said bottom plate for detachably connecting said bottom plate to a second of said walls, cooperating means terminally carried by the terminal walls of said line of serially connected walls for perpendicularly retaining the walls relative to each other, and anchor means carried by said bottom plate, said anchor means including at least one anchor having a pair of perpendicular legs, a first of said legs resiliently slidably secured to said bottom plate, a second of said legs adapted to extend through a window for engagement with a window sill for retaining said cage proximate said window.

References Cited in the file of this patent

UNITED STATES PATENTS

470,689	Lee	Mar. 15, 1892
665,707	Tromanhauser	Jan. 8, 1901
1,126,583	Sobra	Jan. 26, 1915
1,593,945	Macklem	July 27, 1926
2,308,608	Kennedy	Jan. 19, 1943
2,483,022	O'Neill	Sept. 27, 1949
2,640,734	Meng	June 2, 1953

FOREIGN PATENTS

71,979	Switzerland	Mar. 16, 1916