(No Model.)

A. WELSH & H. J. ROGERS.

FIRE ESCAPE.

No. 395,467. Patented Jan. 1, 1889.

Fig. 1.

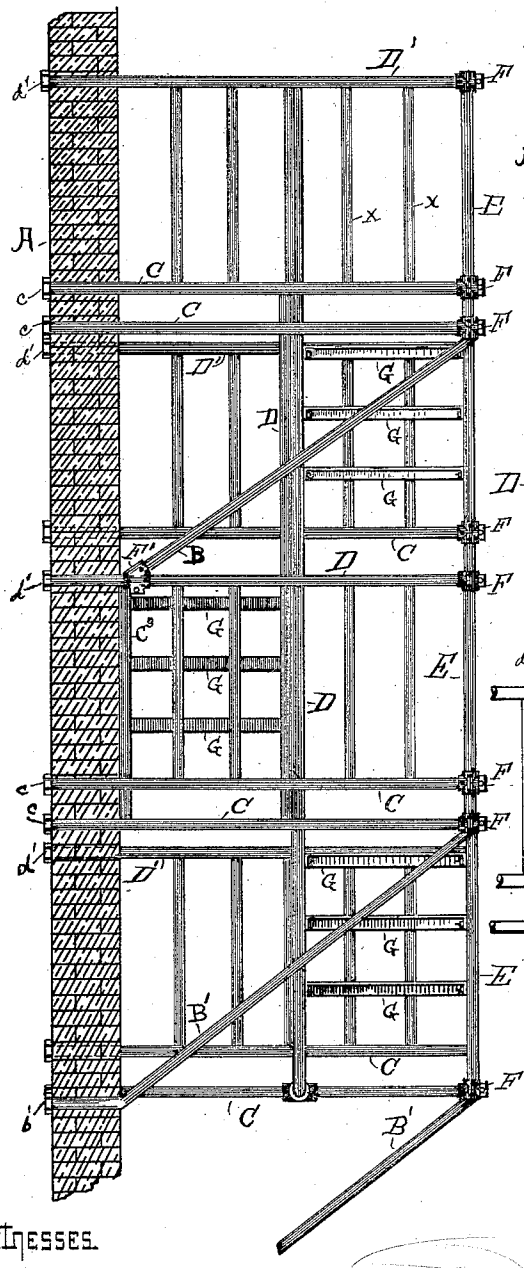


Fig. 2.

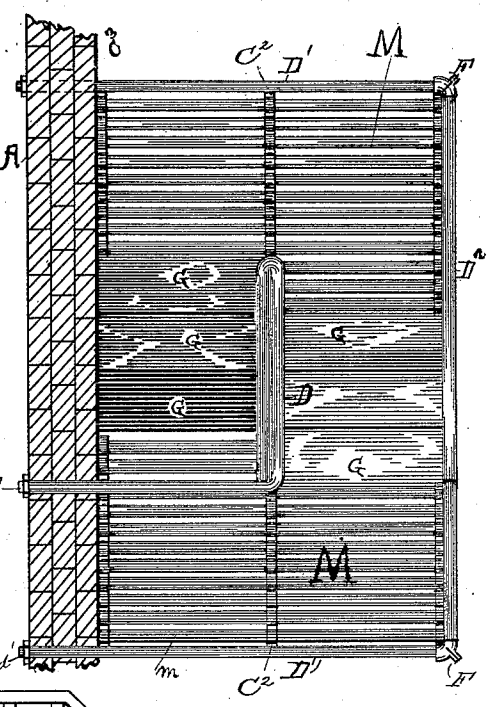
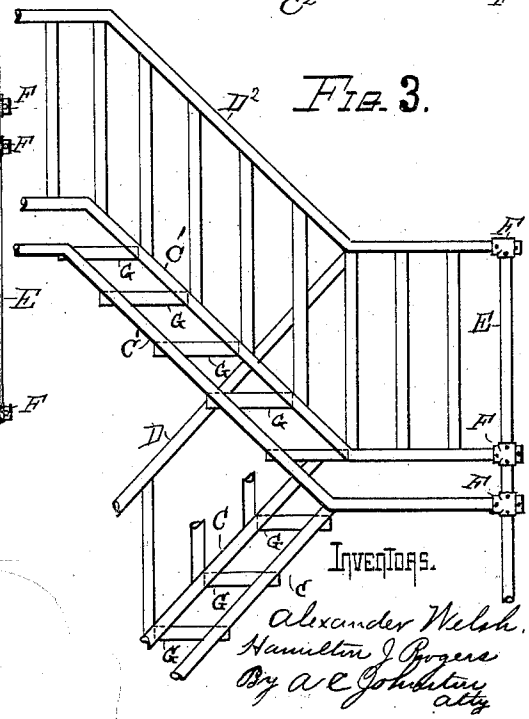


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALEXANDER WELSH AND HAMILTON J. ROGERS, OF BENNETT'S STATION, PENNSYLVANIA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 395,467, dated January 1, 1889.

Application filed September 14, 1888. Serial No. 285,412. (No model.)

To all whom it may concern:

Be it known that we, ALEXANDER WELSH and HAMILTON J. ROGERS, of Bennett's Station, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Fire-Escapes; and we do hereby declare the following to be a full, clear, and exact description thereof.

Our invention relates to an improvement in stairways or fire-escapes; and it consists in constructing the stringers, hand-rails, balusters, outer vertical supports, braces, and platforms of wrought-iron tubing, said parts being clamped and united together substantially as hereinafter described.

To enable others skilled in the art with which our invention is most nearly connected to make and use it, we will proceed to describe its construction and operation.

In the accompanying drawings, which form part of our specification, Figure 1 is an end elevation of our improvement, showing the manner of securing it to the wall of the building. Fig. 2 is a plan view of the fire-escape. Fig. 3 is a front elevation of the fire-escape or stairway.

Referring to the drawings by letter, A represents the outer wall of a building, to which our improved fire-escape is attached. The outer hand-rail of the stairway or fire-escape is composed of the sections D′ and D^2. The sections D′ are secured in the wall A and held therein by means of nuts *d′*, secured on their inner ends to the inside of the wall A. The section D^2 is bent or curved, as shown in Fig. 3 of the drawings, and is secured to the sections D′ D′ and the uprights E E, hereinafter described, by means of clamps or joints F, as shown.

D is the inner hand-rail, which is secured at one end, at the top of the escape, in the wall A, in the same manner as the sections D′ of the outer hand-rail. This rod or rail extends out at right angles to the building for a distance equal to about one-half the width of the platform or landing M, as shown. This rail is then bent at right angles and downward a sufficient distance to form a railing for the steps G, and is then bent upon itself to form the inner railing of the next lower flight of steps G, as shown in Fig. 2. This inner railing is bent in this manner until the bottom of the escape or staircase is reached.

C C are parallel stringers secured in the wall A in the same manner as the rails D and D′, and held therein by means of nuts *c*. These stringers C are of the same length as the rails D′ and parallel therewith.

C′ C′ are stringers of the same length as and conforming in shape with hand-railing D^2 and parallel therewith, and are secured to the stringers C C and the uprights E E by means of clamps F, as shown.

E E are vertical uprights extending from top to bottom of the apparatus, and are secured to the stringers and outer hand-rail sections at the corners farthest from the wall A, as shown.

B B are supports or braces secured in the clamps F′, which clamps are attached to hand-rails D′ and abut against the wall A of the building, and extend outward and upward, having their upper ends secured in recesses in or otherwise fastened to clamps F, as shown.

B′ is a support secured at its lower end in the wall A, and held therein by means of a nut, *b′*, as is evident. The brace B′ is then bent upward and forward, and is secured in clamp or joint F in the same manner as support or brace B.

C^2 C^2 are stringers secured to the stringers C C, and similar in form to the stringers C′ C′, and serve to support one end of the steps G G, as is evident.

F F are clamps used to attach the several parts in proper place to the uprights E E.

F′ is a clamp for securing brace B to the hand-rail D′, as is evident.

C^3 C^3 are stringers similar to stringers C^2, but having their inclined portions lying in the opposite direction to the stringers of the steps of the next flight above and lying against the wall of the building, and are secured to the stringers C C, as is evident.

G G are steps secured in any suitable manner to the stringers C′ and C^2 and to stringers C^2 and C^3, as shown.

M M are platforms or landings, which are composed of rods *m*, secured on stringers C′ C^2 C^3, as shown.

The steps are represented as being three in

a flight. This number we prefer; but any number may be used without departing from the spirit of our invention.

It is obvious that by having short staircases and platforms occurring at frequent intervals the danger to people descending to the ground falling over one another is greatly diminished.

Having described our invention, we claim—

1. In a stairway or fire-escape attached to the outside wall of a building, the outer hand-railing, the inner hand-railing, stringers, steps, uprights, and the braces secured to the building and to the uprights, all substantially as described.

2. In a fire-escape, the combination of the inner hand-railing secured to the wall of the building and formed of one continuous piece, and constructed substantially as described, the outer hand-railing composed of three sections, the double sets of stringers, the steps, and platforms, with the uprights and braces secured thereto by means of clamps, all constructed and arranged substantially as and for the purpose described.

3. In a permanent fire-escape attached to the outside wall of a building, the combination of the bars D′, secured to the wall A and held therein by means of the nuts *d*′, the bars D^2, curved as described and secured to the rods D′ and uprights E E by means of clamps F, the stringers C C, secured in the wall A and held therein by nuts *c*, the stringers C′ C′, attached to stringers C C and uprights E E by clamps F, and the stringers C^2 C^2 and C^3 C^3, secured to stringers C C, with the steps G, secured on stringers C′ C′ and C^2 C^2 and on stringers C^2 C^2 and C^3 C^3, uprights E E, braces B and B′, clamps F and F′, and the nuts *b* and *b*′, for holding said braces securely in the wall A, all constructed and arranged substantially in the manner as and for the purpose described.

4. In a stairway or fire-escape, the combination, with the stringers C′ C′ and C^2 C^2, constructed and arranged as described and attached to stringers C C, of the steps secured thereto as shown, substantially as described.

5. In a fire-escape of the character described, the rod or inner rail, D, secured to the wall A by nut, *d*, and curved and bent upon itself substantially in the manner described, said rod being formed in one continuous piece, as set forth.

6. In a fire-escape, the combination of the uprights E E, rails D′ D^2, the inner hand-rail, D, substantially as described, and the stringers C C C′ C′ C^2 C^2 C^3 C^3, with the braces B B′, clamps F F′, and nuts for securing said braces to the wall of the building, all constructed and arranged substantially in the manner as and for the purpose described.

In testimony whereof we have hereunto set our hands this 11th day of August, A. D. 1888.

ALEXANDER WELSH.
HAMILTON J. ROGERS.

Witnesses:
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