

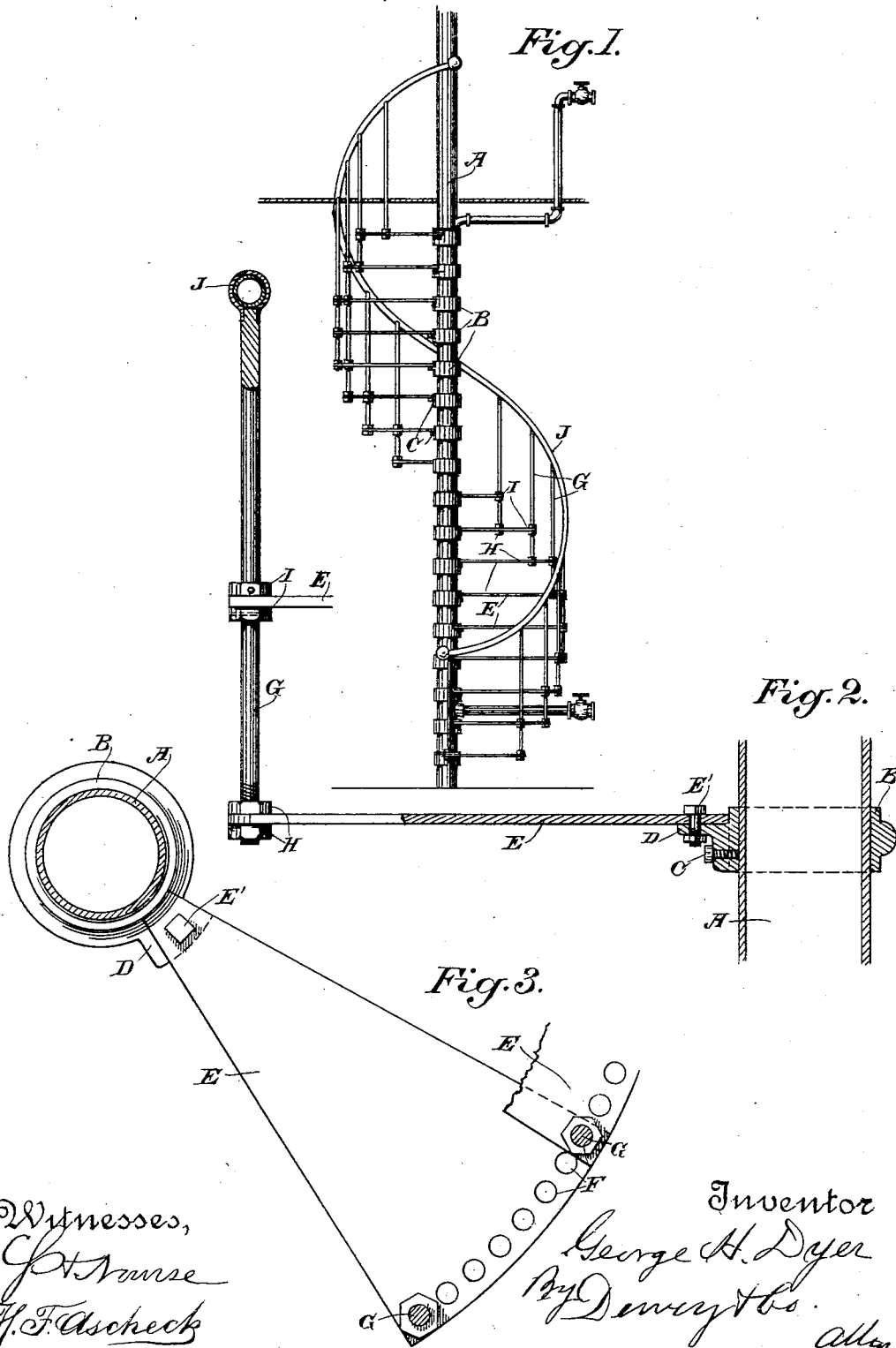
(No Model.)

2 Sheets—Sheet 1.

G. H. DYER.
ADJUSTABLE STAIRWAY AND FIRE ESCAPE.

No. 580,262.

Patented Apr. 6, 1897.



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Fig. 4.

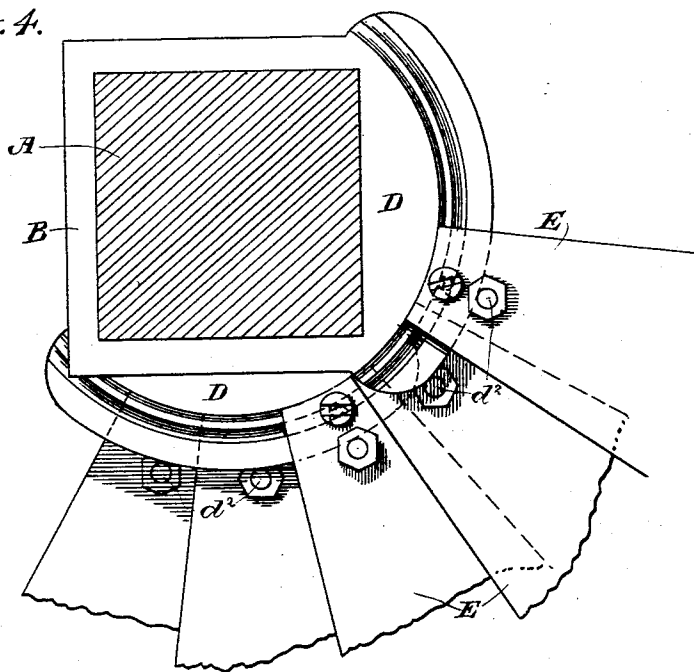


Fig. 5.

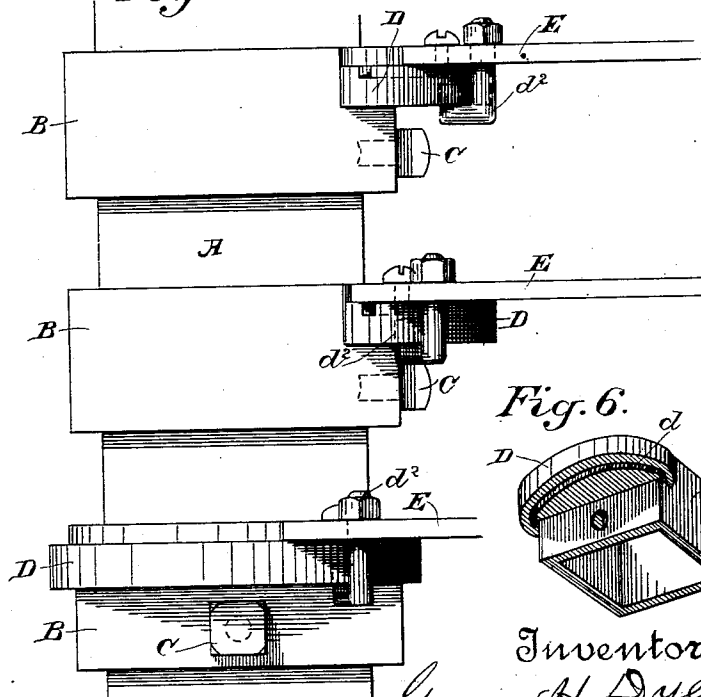
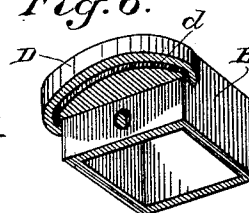


Fig. 6.



Witnesses,
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UNITED STATES PATENT OFFICE.

GEORGE H. DYER, OF SAN FRANCISCO, CALIFORNIA.

ADJUSTABLE STAIRWAY AND FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 580,262, dated April 6, 1897.

Application filed July 2, 1896. Serial No. 597,827. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. DYER, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Adjustable Stairways and Fire-Escapes; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in stairways. It is especially adapted for stairways in which the direction of the exit and entrance at the opposite ends must be regulated to suit the points where the landings are located.

It consists in certain details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a general view of my invention. Fig. 2 is an enlarged sectional view of one of the steps. Fig. 3 is a plan of one of the steps and its connections. Fig. 4 is a similar view showing it applied to a rectangular post. Fig. 5 is an elevation of the same. Fig. 6 is a detail of one of the bands.

The object of my invention is to provide a simple and easily-adjustable means of building spiral and other stairs so that the position of the landings at top and bottom may be accurately located without the necessity of laying out anew each set of stairs to suit the particular location.

This device is especially adapted for use as a fire-escape in conjunction with stand-pipes which are used upon the exterior buildings for conveying water for fire purposes, and is also available in stores and buildings in which it is desirable to reach galleries and where there may be posts in such positions that they can be utilized for the purpose.

A is a central column, which may either be already in position or it may be set for the particular purpose. This column may also be the stand-pipe which extends up outside the building and serves for the connection of engines, so as to raise water to the top of the building in case of fire. In the latter case it is set sufficiently far from the wall to admit the spirally-arranged steps.

B B are a series of rings or collars which

are made to fit the column and may either be slipped over it when it is being put together or set in place or the rings may be made in halves and bolted together, so that they can be placed upon the column and secured at any time. These rings are provided with set-screws or clamps C, by which they are fixed at the desired point upon the column. Upon one side of each of these rings is a projecting lug or support D, which is adapted to receive and support the inner end of the step E, which is secured thereto by bolts E'. These steps may be made of any suitable material, but in the present case I have shown them as made of three-sixteenth-inch steel plate, and they diverge from the point where they are bolted to the lugs outwardly, being made also of any desired length.

The outer periphery of the steps may be curved to correspond with the center about which they are supported, and they have a great number of holes F made through them to receive the standards by which the outer ends are supported. These standards G are screw-threaded at the lower end to receive the locking-nuts H, and at a point above this, equal to the height or rise between the steps, is another set of collars I, which support the outer end of the next adjacent step, these collars being secured by pins, or, if preferred, the standard may be screw-threaded to this point, thus allowing of an easy adjustment of the distance between the steps to correspond with the position of the supporting central rings. These parts may all be gotten out in quantity and ready for use whenever and wherever desired, it only being necessary to know the size of the central standard about which the stairway is to be constructed, and the rings for this purpose can be made for the particular work when this size is known.

The plates forming the treads of the stairs are made of any width at the outer end, and by means of the holes through the outer ends it will be seen that they can be adjusted with relation to each other and the connecting-standards, so that they can be regulated for any given height of step for any desired number of turns of the spiral in reaching the point to be attained at the top, and they may also

be regulated exactly to suit the point of outcome or the landing-platform where the stairs are to terminate.

5 J is the hand-rail, to which the upper ends of the standards are connected, as shown, the outer ends of the steps being suspended and adjusted therefrom.

10 If the device is employed in conjunction with stand-pipes for fire-escapes, it will be seen that the branch pipes for the various floors can be easily taken from the stand-pipe at points below the landing, so as not to in any way interfere with the stairway.

15 If the central post is rectangular or shaped otherwise than cylindrical, the bands or rings B will be made to fit it, and each one may have the projecting lug or support D made in the form of a segment occupying one side of the rectangle.

20 A curved groove or channel d is made in the lower face of each segmental support, and a bent hook-shaped lock-bolt d^2 passes through the step, the lower end turning up so as to enter the groove or channel and the upper screw-threaded end having a nut by which it is securely locked to the step. This construction allows the steps to be moved horizontally about the arc of the segment and adjusted with relation to each other to suit the rise and
30 tread and the position of the landings.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A combination in a stairway of a step-support, collars and means whereby they are 35 adjustably clamped upon the support, said collars having supporting-lugs, segmental tread-plates having horizontal, flat-faced inner ends adapted to fit and be secured upon said lugs and standards by which the outer 40 ends are adjustably connected and supported.

2. In a stairway, a step-support, collars fitting thereto and set-screws whereby they are secured at any point thereon, said collars having lugs projecting horizontally from the 45 sides, segmental tread-plates, the inner ends of which are fitted to the lugs, bolts passing vertically through the plates and lugs and securing one to the other, the outer ends of said plates having a series of perforations around 50 the periphery, standards adapted to be secured to two or more of the steps with devices whereby they are adjustably secured to said steps.

In witness whereof I have hereunto set my 55 hand.

GEORGE H. DYER.

Witnesses:

S. H. NOURSE,
JESSIE C. BRODIE.