

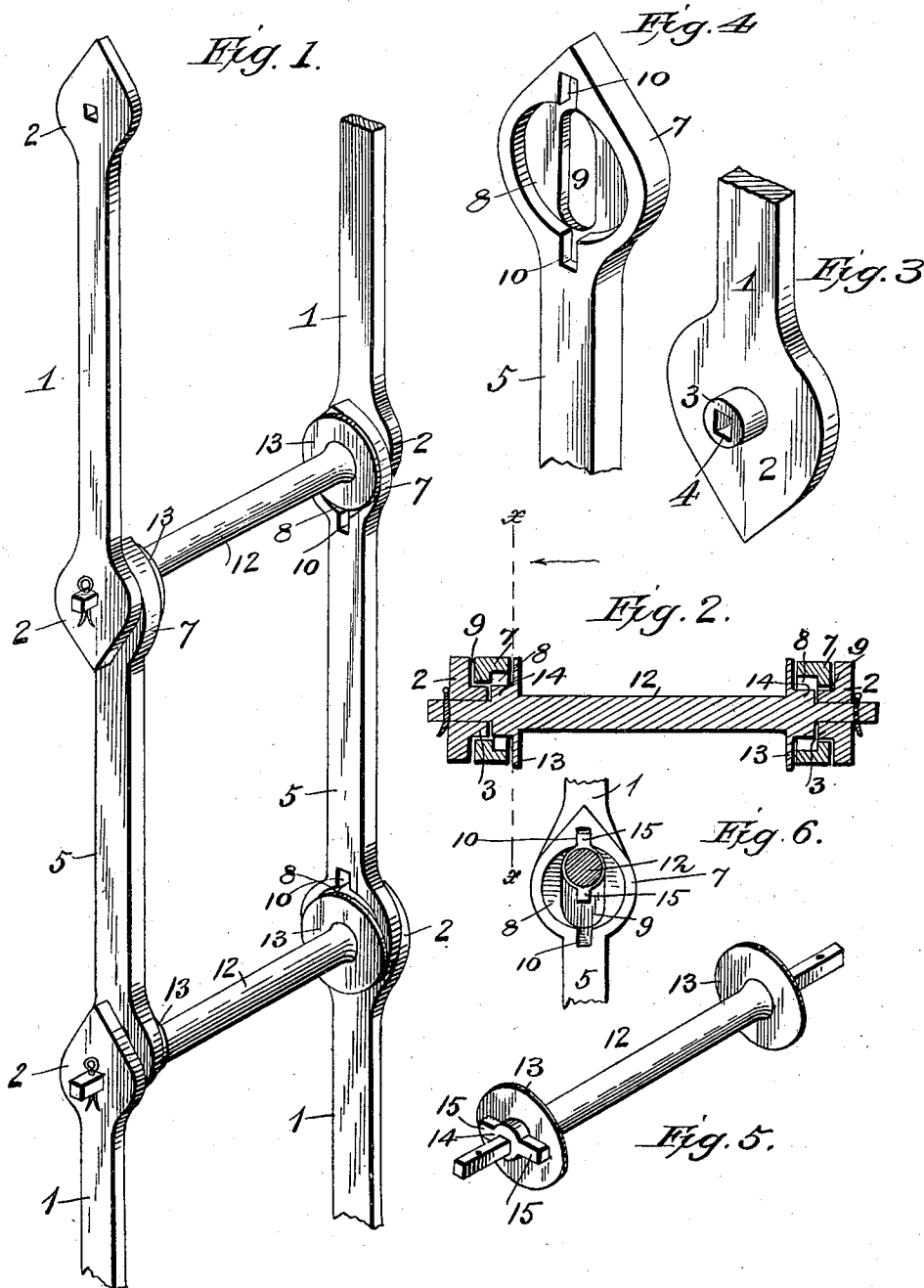
No. 628,824.

Patented July 11, 1899.

H. J. MAIER.
FIRE ESCAPE.

(Application filed Apr. 18, 1899.)

(No Model.)



WITNESSES:
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UNITED STATES PATENT OFFICE.

HENRY J. MAIER, OF LOCUST GAP, PENNSYLVANIA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 628,824, dated July 11, 1899.

Application filed April 18, 1899. Serial No. 713,447. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. MAIER, a citizen of the United States, residing at Locust Gap, in the county of Northumberland and State of Pennsylvania, have invented new and useful Improvements in Fire-Escapes, of which the following is a specification.

My invention relates to fire-escape ladders which can be folded when not in use, so as to occupy but little room or space, and which are adapted to be connected at one end to any stationary object in a room or to a window-sill; and the object is to provide an improved construction of the same by which when the ladder is lowered from the window the different sections comprising the same will be rigidly connected or locked at their joints, so as to prevent swinging of the device when a person is descending the same.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a perspective view showing a portion of a ladder constructed in accordance with my invention. Fig. 2 is a cross-sectional view taken centrally through one of the rounds. Fig. 3 is a detail perspective view of one of the arms of one of the ladder-sections. Fig. 4 is a similar view of one of the arms of another section. Fig. 5 is a similar view of one of the rounds. Fig. 6 is a section on the line *xx*, Fig. 2.

Before proceeding to describe the invention in detail I would state that the ladder is composed of a number of alternately-arranged sections which are connected together by the rounds in such manner that the said sections can be folded upon each other.

Referring now to the said drawings, the reference-numeral 1 designates two opposite arms which constitute one section of the ladder. Each of these arms consists of a bar of wood, metal, or other suitable material formed at each end with a head or enlargement 2, having a central angular hole with a boss 3 at the inner side, also formed with a corresponding hole 4.

The numeral 5 designates the arms of the next or adjoining section, each of which consists of a wood, metal, or other bar formed at each end with a head or enlargement 7, formed in the inner side with a circular recess 8 and

in the outer side with an oblong opening 9, intersecting therewith. Said head is also formed with two opposite depressions 10, intersecting with said recess.

The numeral 12 designates the rounds, which may also be made of wood, metal, or other suitable material, and each is formed near the ends with a collar 13. The body portion of the round is preferably cylindrical in shape, while the ends outside the collars are made square or angular.

The numeral 14 designates a block having an angular hole therein which engages with the angular end of the round and is formed with two opposite lugs 15. The said rounds when made of metal can have the collars and blocks made integral therewith.

The manner of assembling the parts is as follows: The angular ends of the rounds are passed through the oblong openings 9 of the arms 5, with the blocks 14 seated in the recesses 8. The arms 1 are then engaged with said angular ends of the rounds, with their hubs seating in the oblong openings 9. It will be noticed that by reason of said oblong openings the arms 5 can have a limited movement with respect to the rounds and the arms 1, which are connected with the rounds, and when the lugs 15 are disengaged from the opening 9 the rounds and arms 5 can rotate with respect to each other. The said arms 1 and 5 are alternately arranged—that is to say, when in use they extend in opposite directions from the rounds.

The operation is as follows: Supposing the arms 1 to be connected with a window-sill or other stationary object, then when the ladder is lowered for use as it drops the upper lugs of the blocks will engage with the upper depressions 10 of the arms 5, and thus lock the same and prevent any turning of the rounds, and will also make a rigid joint between said arms and the rounds. By reason of the angular ends of the rounds engaging with the corresponding holes in the arms 1 the latter cannot rotate on said rounds; but in folding, the lugs of the block being disengaged from the depressions of the arms 5, the latter and the rounds can turn with respect to each other.

From the above it will be seen that I provide a very efficient ladder which can be used as a fire-escape or for other purposes, and as

the different sections lock as the ladder is dropped wobbling or swinging of the ladder is prevented.

Having thus fully described my invention,
5 what I claim is—

1. In a fire-escape or other ladder, the combination, with the rounds having angular ends, the collars and the block formed with opposite lugs, of the sections connected with
10 said rounds formed in the inner sides with circular recesses and opposite depressions with which said lugs are adapted to engage, and with oblong openings through which said ends project, and the arms formed with an-
15 gular openings and bosses engaging with said angular ends of the rounds, substantially as described.

2. In a fire-escape or other ladder, the com-

bination, with the rounds having angular ends, the blocks made integral therewith and
20 formed with opposite lugs, and the arms formed with oblong openings through which said ends project, and formed in the inner sides with circular recesses and with oppo-
25 site intersecting depressions with which said lugs are adapted to engage, of the arms having angular openings engaging with the said angular ends of the rounds, substantially as described.

In testimony whereof I have hereunto set
30 my hand in presence of two subscribing witnesses.

HENRY J. MAIER.

Witnesses:

E. P. BURKET,
BENNETT S. JONES.