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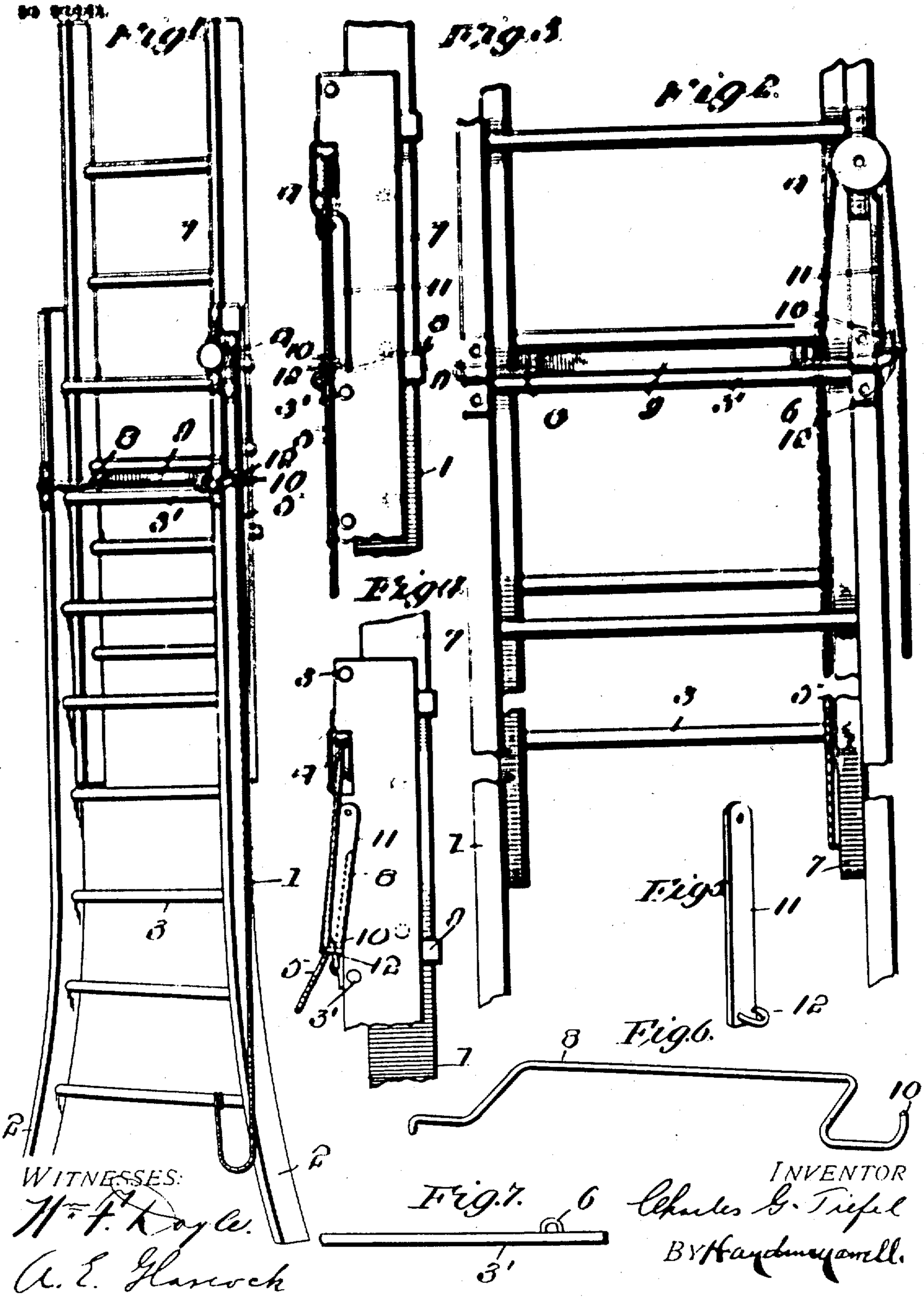
No. 750,504. PATENTED JAN. 26, 1904.

C. O. TIEFEL.

EXTENSION LADDER.

APPLICATION FILED MAY 13, 1903.

NO MODEL.



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No. 750,504. Patented January 26, 1904.

UNITED STATES PATENT OFFICE.

CHARLES G. TIEFEL, OF ROCHESTER, NEW YORK.

EXTENSION-LADDER.

SPECIFICATION forming part of Letters Patent No. 750,504, dated January 26, 1904.

Application filed May 13, 1903. Serial No. 156,925. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. TIEFEL, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Extension-Ladders; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention has relation to extension-ladders; and it consists in the novel construction and arrangement of its parts, as hereinafter shown and described.

The object of the invention is to provide a ladder having a base-section with a sliding section attached thereto and a means for sliding said section either for raising or lowering and holding the said sliding section in an elevated position, said means consisting of a pulley attached to the base-section, a cord passing through said pulley and being attached at its end to the lower end of the sliding section, a latch pivoted on the base-section and being adapted to swing under a round of the sliding section, the swinging end of said latch resting upon a support attached to the said base-section. The base-section is provided with a pivoted link which receives the extended end of the pivoted latch, the said cord also passing through said link and affording a means for lifting the latch out of the path of the rounds of the sliding section.

In the accompanying drawings, Figure 1 is a perspective view of the ladder. Fig. 2 is a side elevation of a portion of the ladder. Fig. 3 is an edge view of a portion of the ladder, showing the catch under one of the rounds of the sliding section. Fig. 4 is a side elevation of a portion of the ladder, showing the latch swung out of the path of the rounds of the sliding section. Fig. 5 is a perspective view of the link which is pivoted to the base-section. Fig. 6 is a perspective view of the catch; and Fig. 7 is a top plan view of one of the rounds of the base-section, having a guide-eye for the cord.

The lower ends of the side rails 1 of the base-section are flared out, as at 2, the said side rails being connected by means of the rounds 3. The pulley 4 is attached to one of the side rails of the base-section near the upper end thereof. The cord 5 passes over said pulley 4, then down through an eye 6, located on the round 3', and is secured at its lower end to the inner lower side and at the lower end of one of the side rails 7 of the sliding section of the ladder.

It will be observed that the guide 6 is located between the side rails of the sliding section of the ladder, and the cord 5 being attached to the inner lower side and at the lower end of the said rail 7 the tendency of the sliding section to bind is reduced when the cord 5 is manipulated, for the reason that the pull is transferred toward the center of the sliding section, and the cord 5 being located to one side does not interfere with the use of the sections. The base-section is provided with a pivoted catch 8, which is adapted to pass under a round of the upper section of the ladder, as shown in Fig. 1, the base-section 1 being provided with a support 9, upon which said catch rests when engaged by a round of the sliding section. (See Fig. 3.)

One end of the catch 8 is provided with bent extension 10. A link 11 is pivoted to one of the side rails of the base-section, and the extension 10 passes through the eye 12 of said link 11. The cord 5 also passes through said eye 12. The device is operated as follows: Presuming the parts to be in the positions as shown in Fig. 1, the cord 5 is pulled and the sliding section is elevated, the upper edges of the rounds thereof coming in contact with the lower side of the catch 8, the said catch is pushed out of the way, and the round passes above. When the said section is elevated sufficiently, the round descends upon the upper side of the catch 8 and the section is maintained in its elevated position. When it is desired to lower the upper section, the cord 5 is grasped and pulled away from the base-section 1 and at the same time the upper section is slightly elevated in a manner as indicated in Fig. 4. Thus the lower end of the link 11 is swung out, which carries with it

the extension 10 of the catch 8, and the said catch is elevated in the position as shown in Fig. 4 out of the path of the rounds of the sliding section of the ladder and the said section descends by gravity.

The advantage attained by having the eye 12 receive the end 10 of the catch 6 is that as the sliding section of the ladder is raised and lowered the catch 6 must be swung out of the path of the rounds of the sliding section of the ladder. This causes the end 10 of the said catch to describe quite an arc; but as the said end passes through the eye 12 in the manner as shown the arc described by the said eye is very slight, and consequently there is but little, if any, lateral friction offered to the cord at this point. Again, in order to operate the catch by giving the cord a lateral pull it requires but a slight movement of the eye 12 to operate the catch, the advantage of which is very apparent in ladders of long sections.

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

1. A ladder consisting of sections slidably attached to each other, a pulley attached to one section, a cord passing over said pulley and attached to another section, a catch pivoted to one section and adapted to engage another section, a link pivoted to one section and engaging said catch and said cord engaging said link.

2. A ladder consisting of sections slidably attached to each other, a pulley attached to one section, a cord passing over said pulley and attached to another section, a catch pivoted to one section and adapted to engage another section and having a bent extended end, a link pivoted to one section and receiving the end of said catch, said cord passing through said link.

3. A ladder consisting of sections slidably attached to each other, a pulley attached to one section, a cord passing through said pulley and attached to another section, a catch pivoted to one section and adapted to engage another section and having an end bent at an angle to a longitudinal axis thereof, said end being curved, a link pivoted to one section and receiving the curved portion of the end of said catch, said cord passing through said link.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES G. TIEFEL.

Witnesses:
E. M. GERMAN,
B. M. HATMAKER.