No. 716,109. Patented Dec. 16, 1902.

# H. RODDE.

## AERIAL CLIMBING APPARATUS AND SUPPORT.

(Application filed Sept. 29, 1902.)

(No Model.)

Fig. 1.

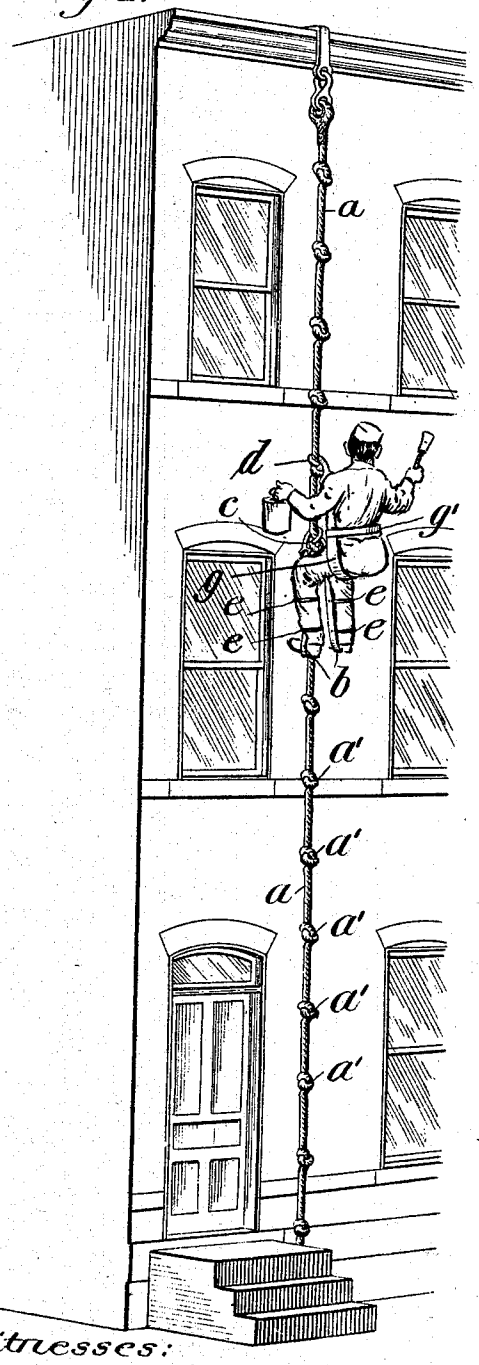



Fig. 2.

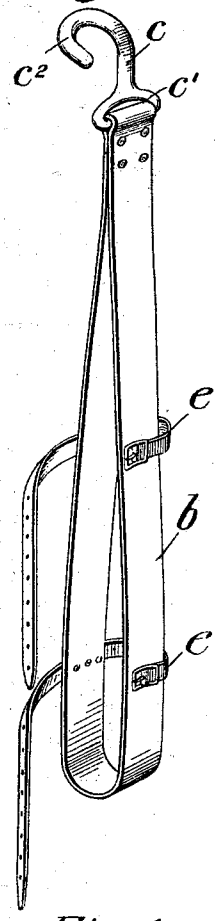



Fig. 3.

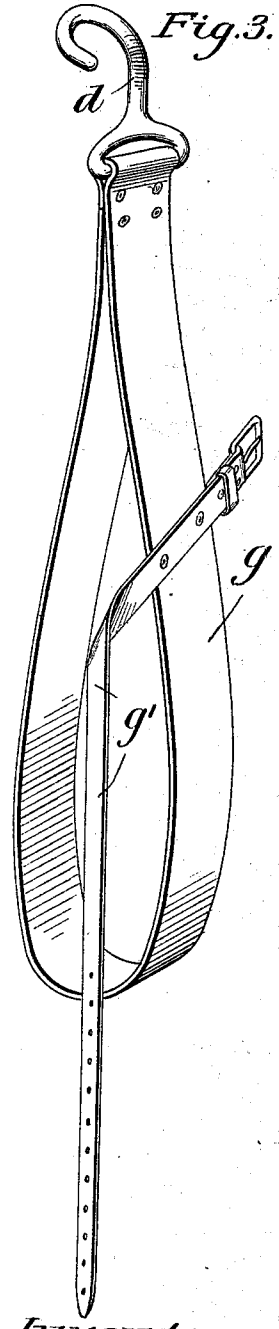
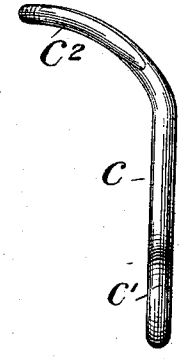



Fig. 4.




Witnesses:

E. P. Fargo

F. R. Fitton

Inventor:

Henry Rodde

by William H. Hall

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

HENRY RODDE, OF NEW YORK, N. Y.

## AERIAL CLIMBING APPARATUS AND SUPPORT.

SPECIFICATION forming part of Letters Patent No. 716,109, dated December 16, 1902.

Application filed September 29, 1902. Serial No. 125,228. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY RODDE, of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Aerial Climbing Apparatus and Supports, of which the following is a specification.

My invention relates to means employed by painters and similar artisans or mechanics for reaching elevated positions on high structures and supporting themselves when at work thereupon, and is intended to supplant the ordinary boatswain's chair and swinging scaffold, in which a platform supported at both ends is used.

The present invention seeks to provide a light, strong, durable, and simple apparatus for the purpose capable of being manipulated by the person using the same without assistance and designed not only to provide means for rapidly and easily climbing to the desired elevation, but to provide a comfortable body rest or seat which may be brought into operation when said elevation is attained, said rest being constructed to securely hold the user of the apparatus in any position his body may assume, even should control of the same be lost through an attack of vertigo or ailment having a similar effect, and which will permit the user to maintain both of his arms and hands free.

To this end the invention includes a guide and main support intended to be secured to the upper portion or top of the structure it is desired to climb and work upon, this guide having a plurality of stations arranged at regular intervals in the length thereof, preferably formed by fixed abutments, a support or stirrup designed to be secured to each leg of the user of the apparatus, each stirrup being provided with means for detachably engaging said guide and the abutments thereon and to coact with the latter to support the stirrups and any weight thrown thereupon, and a body-support designed to provide a seat for the user of the apparatus, the latter support being likewise provided with means for detachably engaging said guide and the abutments thereon and for coacting with the latter to support the weight of the user's body.

The invention further includes the details of construction and combination of parts, as will be hereinafter described, and particularly pointed out in the claims.

While the invention is susceptible of many modifications without departing from its spirit, I have disclosed in the accompanying drawings what I now conceive to be the preferred embodiment of the same.

In the drawings, Figure 1 shows the invention employed as a scaffold as the same would be used by a house-painter. Fig. 2 is a detail perspective view of one of the stirrups forming a part of the apparatus. Fig. 3 is a similar view of the body-support forming a part of the apparatus, and Fig. 4 is a detail view in elevation of one of the guide-engaging members.

As disclosed in Fig. 1 of the accompanying drawings, a suitable main support or guide is indicated by the letter $a$. This guide, as shown, is intended to be secured at one end above the roof or at the eaves of a house or similar structure to depend freely from said point of securement and is provided at regular intervals in the length thereof with a plurality of equidistant-spaced stations formed by fixed abutments $a'$. The guide is preferably constructed of a rope of the desired size, length, and texture or of a plurality of sections suitably secured to one another, and the abutments $a'$ thereon are preferably formed by knotting the rope, although, as will be understood, devices separate from the rope may be secured to the same to provide abutments and means other than a rope may be employed as the guide.

In order to climb or scale the guide to reach the desired elevation or part of the structure from which the guide is suspended to be operated upon, a pair of stirrups $b$ are provided, each having a gripping or engaging member $c$, designed to engage the guide $a$ and coact with the fixed abutments $a'$ thereon. Each stirrup is preferably formed by a flexible loop designed to receive the foot of the person using the apparatus and to be secured about the leg and a gripping member $c$, which preferably consists of a hook having an elongated eye $c'$ to receive the loop and an offset or laterally-deflected bill $c^2$, designed to engage the guide $a$ and coact with the abutments $a'$ thereupon. I preferably form the loop of a flat leather strip, passing one end of the same

through the eye of the engaging hook and then securely rivet the ends of the strap to the main portions of the same adjacent to said hook, which provides a main loop and a supplemental loop which receives the hook and permits the same to swing or pivot therein. While a leather strip is well adapted for the purpose, it will be understood that the same may be constructed of any suitable textile material having sufficient strength. The particular construction of this stirrup forms but a subordinate feature of my invention, and the same may be modified or varied in construction within a wide range without departing from the spirit of the same. Secured at one end to the sides of each loop are fastening-straps *e*, adapted to be passed around the leg after the foot is placed within the bail of the loop to securely hold the stirrup in position. The said bail of the loop preferably rests in the instep or arch of the foot, the lower strap *e* of each pair is passed about the ankle and securely buckled, and the upper strap *e* is passed around the leg below the knee and also buckled in position.

In operation one of the stirrups is secured by the person using the apparatus to each of his legs, the foot being placed within the bail of the loop and the straps *e* being thereafter drawn taut and buckled to securely fasten the stirrups in position. The user then raises one foot, as in the act of stepping, and with the corresponding hand places the bill of the hook *c*, secured to the stirrup fastened to said foot about the guide *a*, resting the same above one of the abutments *a'* thereon. The weight of the body is then thrown upon that foot, and as the hook of the stirrup fastened thereto engages the upper side of the abutment the stirrup is prevented from slipping, and thus provides a purchase for the user. The other foot is then raised and the hook of the stirrup secured thereto engaged with the guide *a* and rested upon the upper side of the abutment *a'* next above that engaged by the stirrup secured to the foot first mentioned. The weight of the body is then thrown upon the second foot and the hook of the stirrup secured to the first foot disengaged from the guide and reëngaged therewith above the abutment next above that with which the hook of the stirrup secured to the second-mentioned foot is in engagement. This operation or procedure is continued until the desired elevation or part of the structure to be operated upon is reached.

To support the user when the desired elevation is attained or the working position reached, a body-support *g* is provided, which also comprises a loop of flexible material having an engaging member *d* in the form of a hook associated therewith, said hook being similar in shape and mounted in a similar manner to the hook *c*. The loop *g*, as shown particularly in Fig. 3, is constructed in substantially the same manner as the stirrup described, the looped portion thereof, however, being of somewhat greater area and being provided with a single waist-strap *g'* instead of the straps *e*, which are associated with the stirrup, as described.

During the climbing operation or the period when the user is ascending the guide *a*, as before described, the body-support or loop *g* is preferably swung over one shoulder and under the opposite arm. When the desired elevation or position is attained, the loop *g* is swung off the shoulder and the hook *d* thereof engaged with the guide *a* above the abutment *a'* two or three stations above the abutment with which the uppermost hook *c* is in engagement. The user then seats himself within the bail of the loop *g* and draws the strap *g'* about his body approximately at his waist and securely buckles the ends of the same. The hooks *c* may then be entirely disengaged from the guide *a*, if desired; but usually the lower hook is merely disengaged and then reëngaged with the guide *a* above the abutment with which the uppermost hook *c* is in engagement. The apparatus as then arranged provides a secure seat for the user, a back-support, and comfortable foot-rests. As will be noted, when the strap *g'* is securely buckled it is impossible for the user to fall or become disengaged from the body-support *g*. Both arms and hands are left entirely free, and the positions of the body and legs may be changed as desired without liability of accident.

It will be appreciated that the particular way of carrying the body-support *g* during the climbing action is unimportant, as instead of swinging the same over one shoulder the support may be at the outset fastened about the body by the strap *g'* and hang freely from the waist.

The construction and operation of my invention will be readily understood upon reference to the foregoing description and accompanying drawings, and it will be appreciated that the parts and combinations may be varied within a wide range without departing from the spirit of the same.

I claim—

1. In an apparatus of the class described and in combination, a guide member having a plurality of stations regularly spaced from one another in the length thereof, stirrups having means for engaging and disengaging said guide member and adapted to be supported therefrom at said stations, a body-support and means secured thereto for engaging and disengaging said guide adapted to also be supported therefrom at said stations, substantially as described.

2. In an apparatus of the class described and in combination, a guide member having a plurality of regularly-spaced abutments in the length thereof, a stirrup having an engaging member designed to be engaged and disengaged from said guide member and to

rest upon said abutments, and a body-support having a similar engaging member, substantially as described.

3. In an apparatus of the class described and in combination, a guide member having a plurality of fixed abutments in the length thereof, regularly spaced from one another, a stirrup comprising a flexible portion and a rigid engaging member carried thereby, and a body-support comprising a similar flexible member and rigid engaging member associated therewith, substantially as described.

4. In an apparatus of the class described and in combination, a guide member having a plurality of fixed abutments in the length thereof, regularly spaced from one another, a stirrup comprising a flexible loop and a rigid engaging member secured thereto designed to engage and disengage said guide and to rest upon said abutments, and a body-support, substantially as described.

5. In an apparatus of the class described and in combination, a guide member having a plurality of fixed abutments in the length thereof, a pair of stirrups, each of said stirrups comprising a flexible member and a rigid hook designed to engage and disengage said guide member and to rest upon said abutments, substantially as described.

6. In an apparatus of the class described and in combination, a guide member having a plurality of fixed abutments in the length thereof, a pair of stirrups, each of said stirrups comprising a flexible member and a rigid hook having an offset or deflected bill, designed to engage and disengage said guide member and to rest upon said abutments, substantially as described.

7. In an apparatus of the class described and in combination, a guide member having a plurality of fixed abutments in the length thereof, and a pair of stirrups, each of said stirrups comprising a flexible loop, an engaging hook having an offset or deflected bill portion, and a pair of fastening-straps secured to said loop, substantially as described.

8. In an apparatus of the class described and in combination, a guide member having a plurality of fixed abutments in the length thereof, and a body-support comprising a flexible loop, a rigid engaging hook secured thereto, and a waist-strap also secured to said loop, substantially as described.

9. In an apparatus of the class described and in combination, a guide member having a plurality of fixed abutments in the length thereof, and a supporting member comprising a flexible loop and a rigid hook secured thereto, designed to be engaged and disengaged from said guide member and to rest upon said abutments, substantially as described.

10. In an apparatus of the class described and in combination, a guide member having a plurality of fixed abutments in the length thereof, and a supporting member comprising a flexible loop and a rigid hook secured thereto, designed to be engaged and disengaged from said guide member and to rest upon said abutments, said loop having a securing-strap associated therewith, substantially as described.

11. In an apparatus of the class described and in combination, a guide member having a plurality of fixed abutments in the length thereof, and a supporting member comprising a flat strap, a rigid hook having an eye and a deflected bill, one end of said strap being passed through said eye, rivets securing the ends of said strap to the body of the same in proximity to said hook to provide a main loop portion and a supplemental loop for the reception of the hook, and a supplemental strap secured to said main looped portion, substantially as described.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at New York, in the county of New York and State of New York, this 22d day of September, 1902.

HENRY RODDE.

Witnesses:
JOHN E. DONOVAN,
B. B. MYERS.