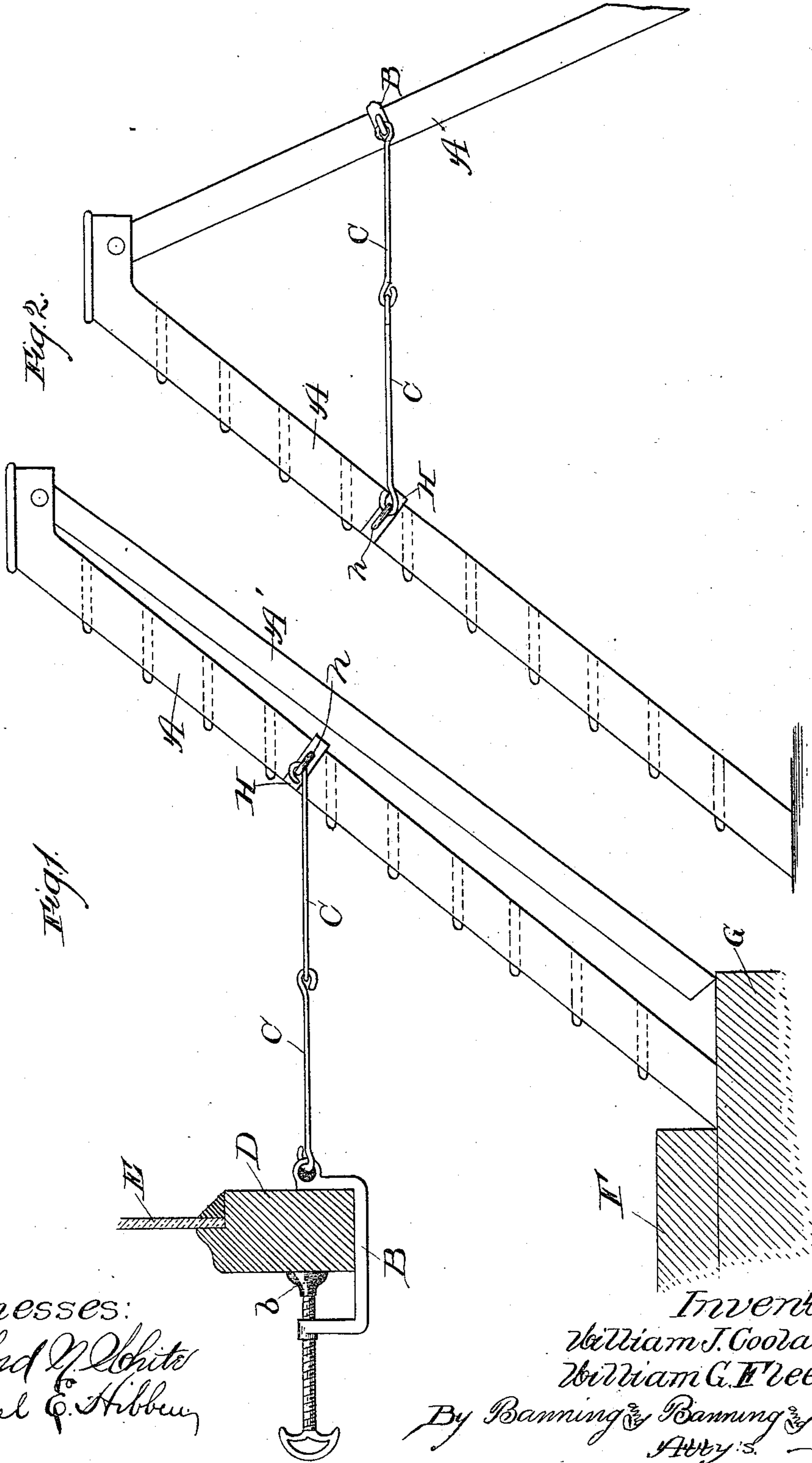


(No Model.)

W. J. COOLAHAN & W. G. FLEEMAN.
STEP LADDER.

No. 428,460.

Patented May 20, 1890.



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UNITED STATES PATENT OFFICE

WILLIAM J. COOLAHAN AND WILLIAM G. FLEEMAN, OF DUNNING, ILLINOIS.

STEP-LADDER.

SPECIFICATION forming part of Letters Patent No. 428,460, dated May 20, 1890.

Application filed November 19, 1889. Serial No. 330,888. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM J. COOLAHAN and WILLIAM G. FLEEMAN, both of Dunning, Cook county, Illinois, have invented a new and useful Improvement in Step-Ladders, of which the following is a specification.

It is often found necessary to get at the outside of a window to clean or glaze the same, or to paint signs, &c., upon the glass; and it is the object of our invention to provide a simple, economical, and safe means for supporting a step-ladder or similar structure outside of the window.

While we have shown and described the device as applied to a step-ladder, it is obvious that it might be applied to an ordinary ladder to support it the same way, and we do not, therefore, wish to limit ourselves to its use in connection with a step-ladder solely, the gist of our invention consisting in providing suitable means for supporting a ladder on the outside of the window.

The invention consists in the details and features of construction hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of a step-ladder attached to the outside of a window by means of our device, and Fig. 2 an elevation of such ladder adapted for use within the house.

A is the ladder; A', the movable leg thereof; B, a screw-clamp; C C, links connecting such clamp to the side of the ladder; D, a window-sash; E, the glass in the window; F, the window-sill; G, the stone or sub sill.

The step-ladder to which our invention is shown or applied is made in the ordinary manner and needs no description. We make out of any suitable material the screw-clamp B, provided, preferably, with a swiveling head *b* to adapt it to any inequalities of surface. To this clamp we attach a chain or rope. In the drawings we have shown this chain as comprising two links, and we consider this the preferable form; but it will be obvious that an ordinary chain might be used instead thereof, if desired. One end of this chain being attached to the clamp B, the other is secured to a ring *h*, which is carried by a plate *H*. This latter plate is made of any suitable metal, and is attached to one side of the step-

ladder, as shown. It is preferably made forked, so as to embrace the side of the ladder, which it serves to strengthen. We prefer to attach two of these clamps and chains to the ladder, one to each side, in order to hold it more firmly.

A ladder provided with our improvement may be used either outside of a window or in the house as an ordinary step-ladder, such latter use being in no way interfered with by our invention. It is used outside of the window in the following manner: The ladder is thrust out of the window, and can be stood upon the stone sill, bearing against the sill *F*, as shown in Fig. 1. The clamps *B* are then passed over the under side of the sash *D* and tightly screwed against the same, thus holding the ladder firmly in position, the foot of the ladder being kept from sliding by its engagement with the window-sills. To remove it, unscrew the clamps and draw the ladder in through the window.

When it is desired to use the ladder in the house, the clamp is simply swung around on the chain and screwed against the movable leg, so as to keep it from opening too widely. It will thus be seen that while adapted to be used as an ordinary step-ladder around the house it is also capable of being attached to the outside of a window when desired.

We have spoken of a chain as the means of connecting the clamp to the ladder; but this is merely for the sake of convenience, inasmuch as any other suitable means of connecting such clamp and ladder may be used instead of a chain, if desired.

We claim—

The combination of a step-ladder adapted to rest upon a window-sill and a clamp attached to the fixed leg of such ladder by means of a flexible connection, such clamp being adapted to engage with the window-sash to support the ladder outside of the window, or with the movable leg of the ladder to prevent such leg from opening too widely, substantially as described.

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