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*H. and G. Luckenbach,
Impd. Fire Escape.*

No. 119,161.

Patented Sep. 19, 1871.

FIG. 4.

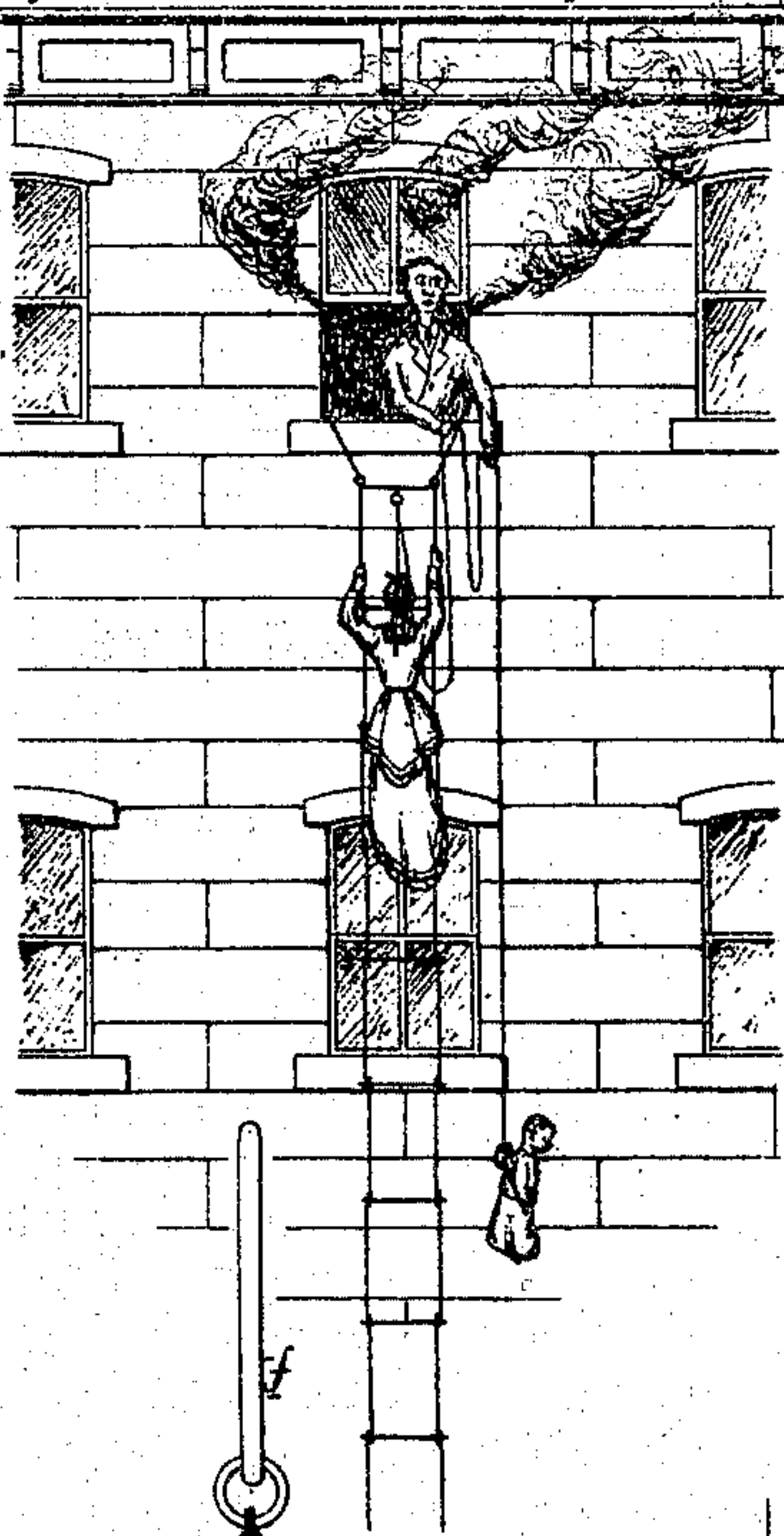


FIG. 2.

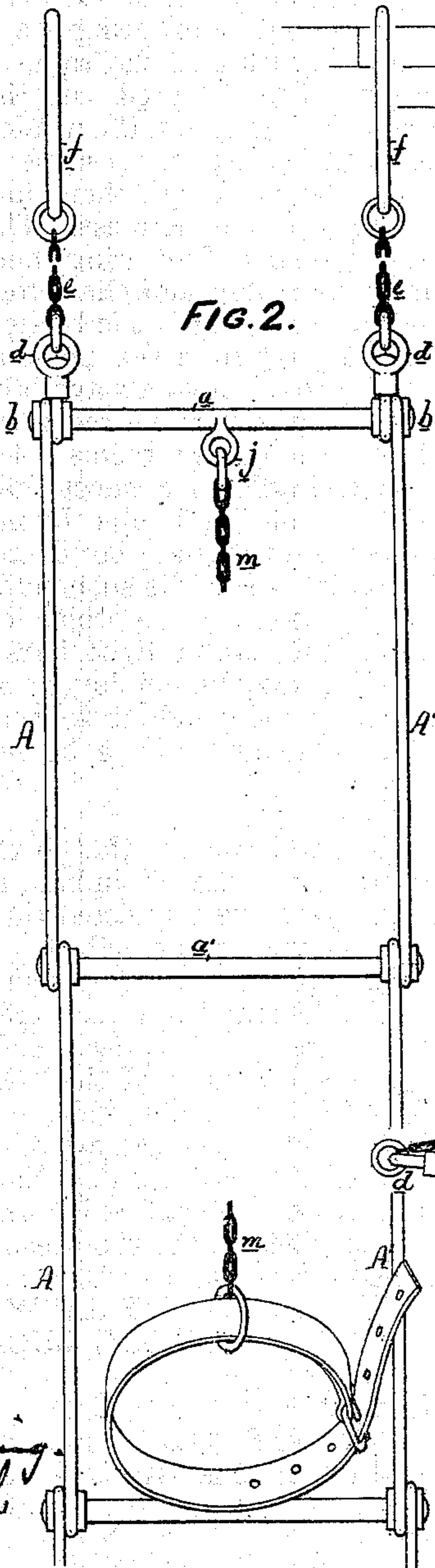


FIG. 1.

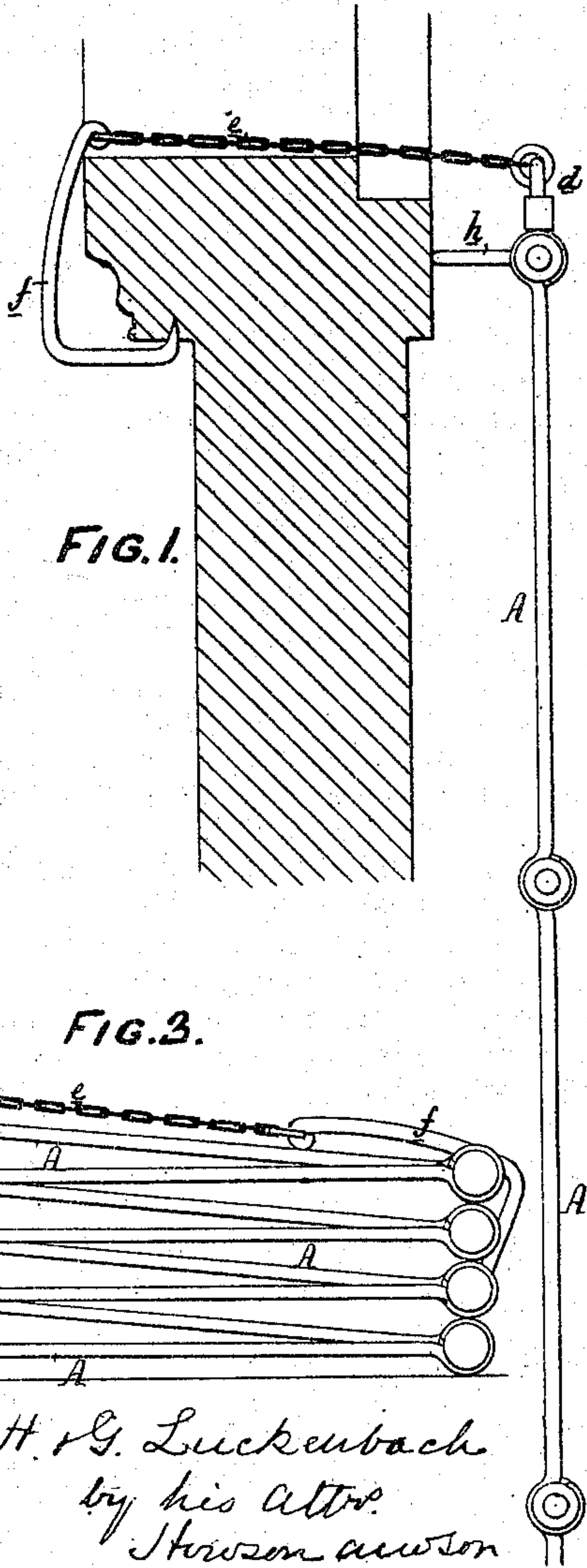
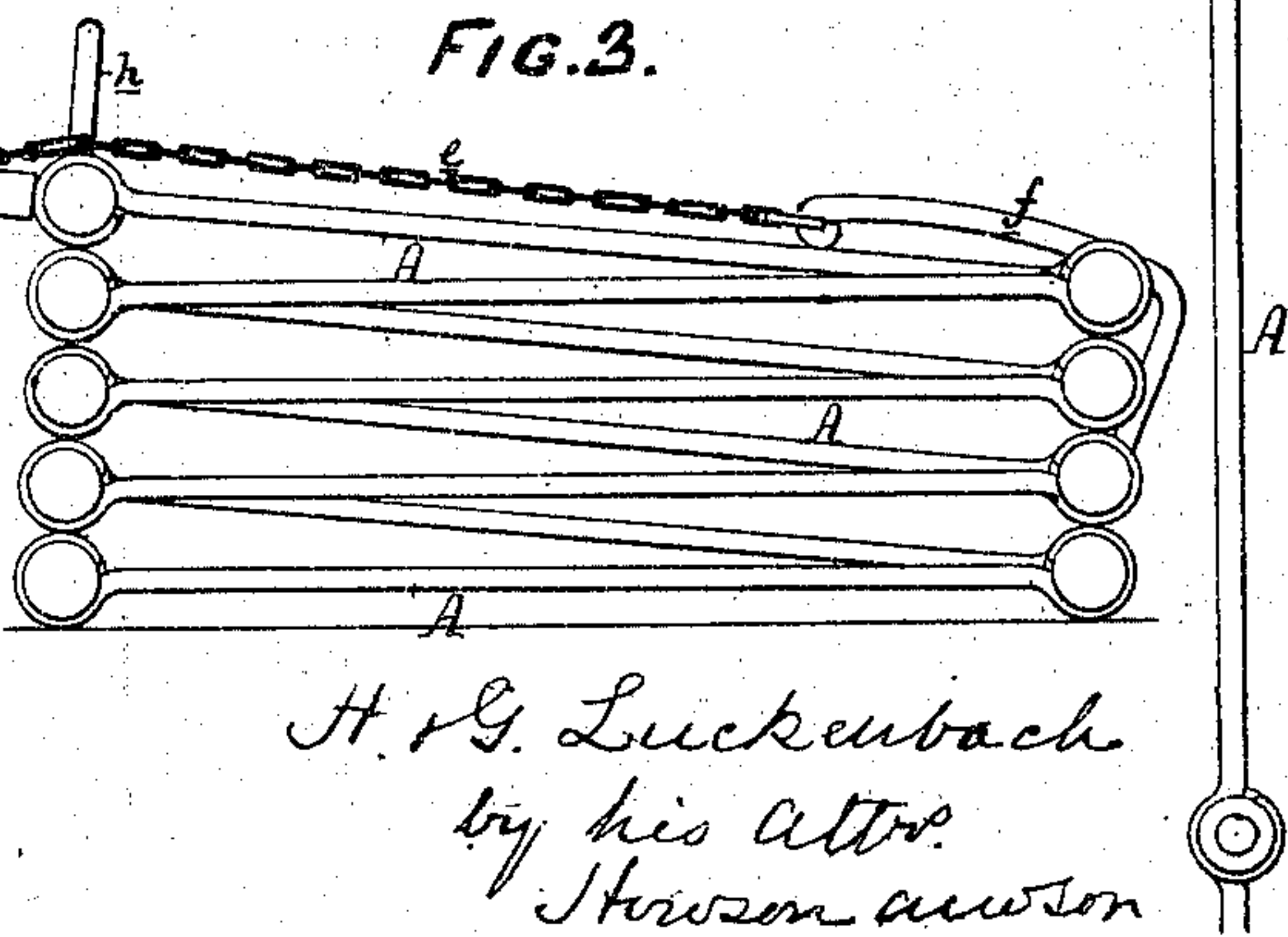


FIG. 3.



WITNESSES,

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UNITED STATES PATENT OFFICE.

HENRY LUCKENBACH AND GEORGE LUCKENBACH, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO WILLIAM F. WARBURTON, OF SAME PLACE.

IMPROVEMENT IN FIRE-ESCAPE LADDERS.

Specification forming part of Letters Patent No. 119,161, dated September 19, 1871.

To all whom it may concern:

Be it known that we, HENRY LUCKENBACH and GEORGE LUCKENBACH, both of Philadelphia, county of Philadelphia, State of Pennsylvania, have invented an Improved Fire-Escape, of which the following is a specification:

Our invention consists of a folding-ladder constructed and provided with the appliances described hereafter, so as to form an efficient fire-escape for the easy removal of inmates and property from burning buildings.

Figure 1 is a side view of part of the fire-escape as it appears when suspended from a window. Fig. 2, a front view of the same. Fig. 3, the apparatus as it appears when folded; and Fig. 4, a front view of a building, showing the manner of using the fire-escape.

A series of metal rods or links, $A A'$, are jointed to transverse bars or rungs $a a'$, so as to form a ladder which can be folded into small compass, as shown in Fig. 3, similar to those hitherto employed for a like purpose. At the junction $b b$ of the upper rung a with the highest links in the series are secured eyes $d d$, which are connected by chains $c e$ to hooks f , of a form best adapted for catching beneath the sill of a window inside the room, as seen in Fig. 1, the highest transverse bar a having a projection, h , which, when the ladder is suspended from the window, bears against the sill and maintains the pendent ladder free from contact with the wall. An eye, j , is also attached to or forms a part of the upper rung a , and to this eye is connected a chain, m , provided at its lower end with a strap or other attachment suitable for the ready lashing of the chain to the body of a child or other inmate which has to be removed from a burning dwelling. To the lower end of the ladder should also be connected a like strap for embracing the body. The ladder may be made of light but strong wire, and the whole apparatus may be folded into a compass small enough to be packed in a traveler's trunk, or the apparatus may be deposited in a room ready for use when required.

In case of a fire which has made such headway as to cut off ordinary avenues of escape, the ladder is gradually lowered over the sill of the window by the inmate, whose strength and

presence of mind will insure cautious manipulation.

If desired a child or helpless inmate of the room may, before lowering the ladder, be lashed to the lower rung of the same by means of the strap, and then lowered with the ladder, which, when suspended from the window, becomes a secure medium for the escape of those whose courage has not failed them, and for the escape of those who are helpless. The chain m is an effective means of lowering them to the ground; in fact, the ladder and chain together afford the means of removing not only the inmates but valuable property from the burning building, and the apparatus is not only available for the escape of the inmates of upper rooms of a building, but of those who occupy rooms below.

It is desirable to connect the eyes $d d$ to the upper end of the ladder by means of swivel-joints, so that there may be no tendency of the ladder to twist when it is suspended from the window. By securing the projection h to the upper round of the ladder light bars for the sides of the ladder may be employed, while by making the hooks f independent they can be attached at other points should there be no sill within the window.

I claim—

1. In combination with the upper round and its projection h the chain-belt, suspended from the bar by an eye connected thereto at right angles, as shown and described.

2. The eyes connected to the lower round of the said ladder, and adapted to receive the straps, as and for the purpose described.

3. The combination of the ladder, constructed as described, and the independent hooks $f f$ connected by chains and swivel-joints to the upper end of the ladder, as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

HENRY LUCKENBACH.
GEORGE LUCKENBACH.

Witnesses:

WM. A. STEEL,
JNO. B. HARDING.