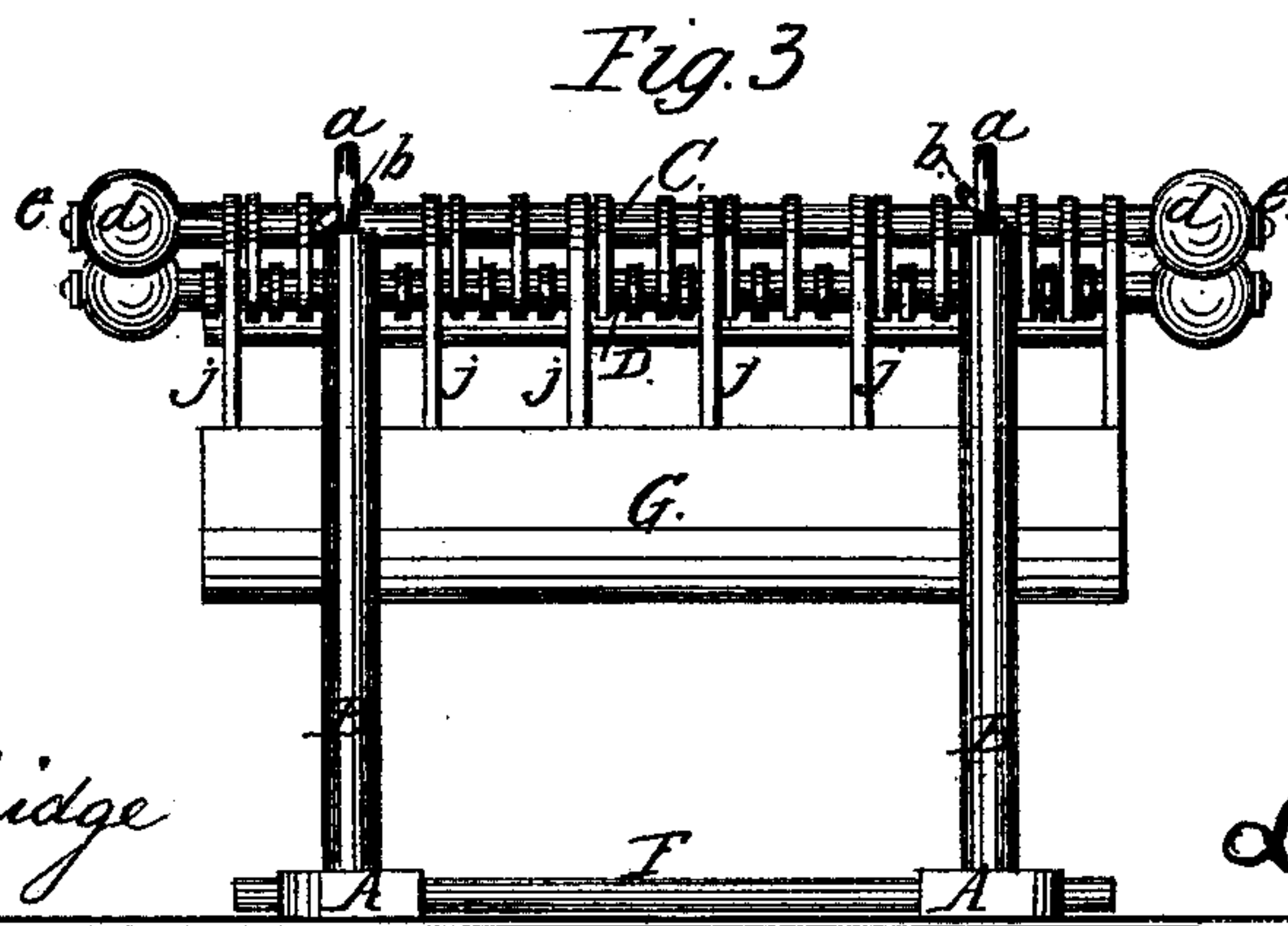
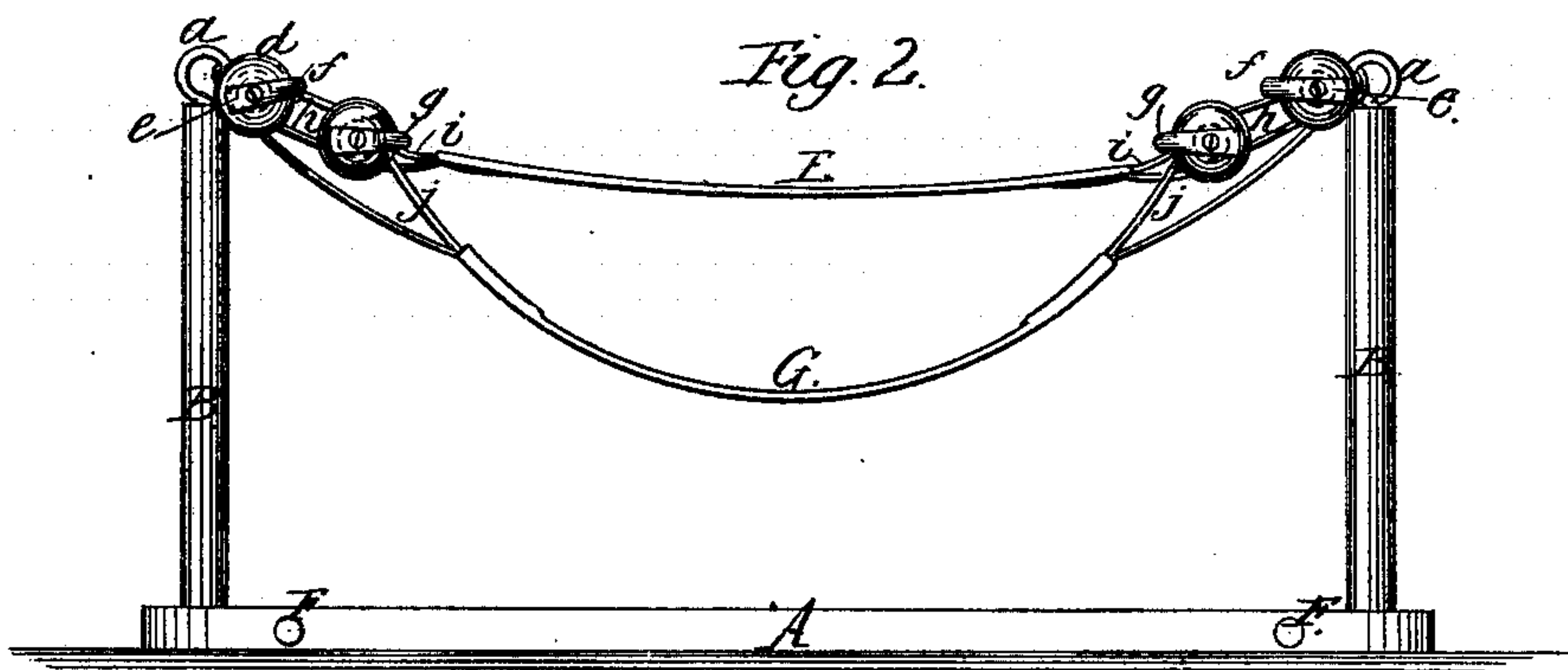
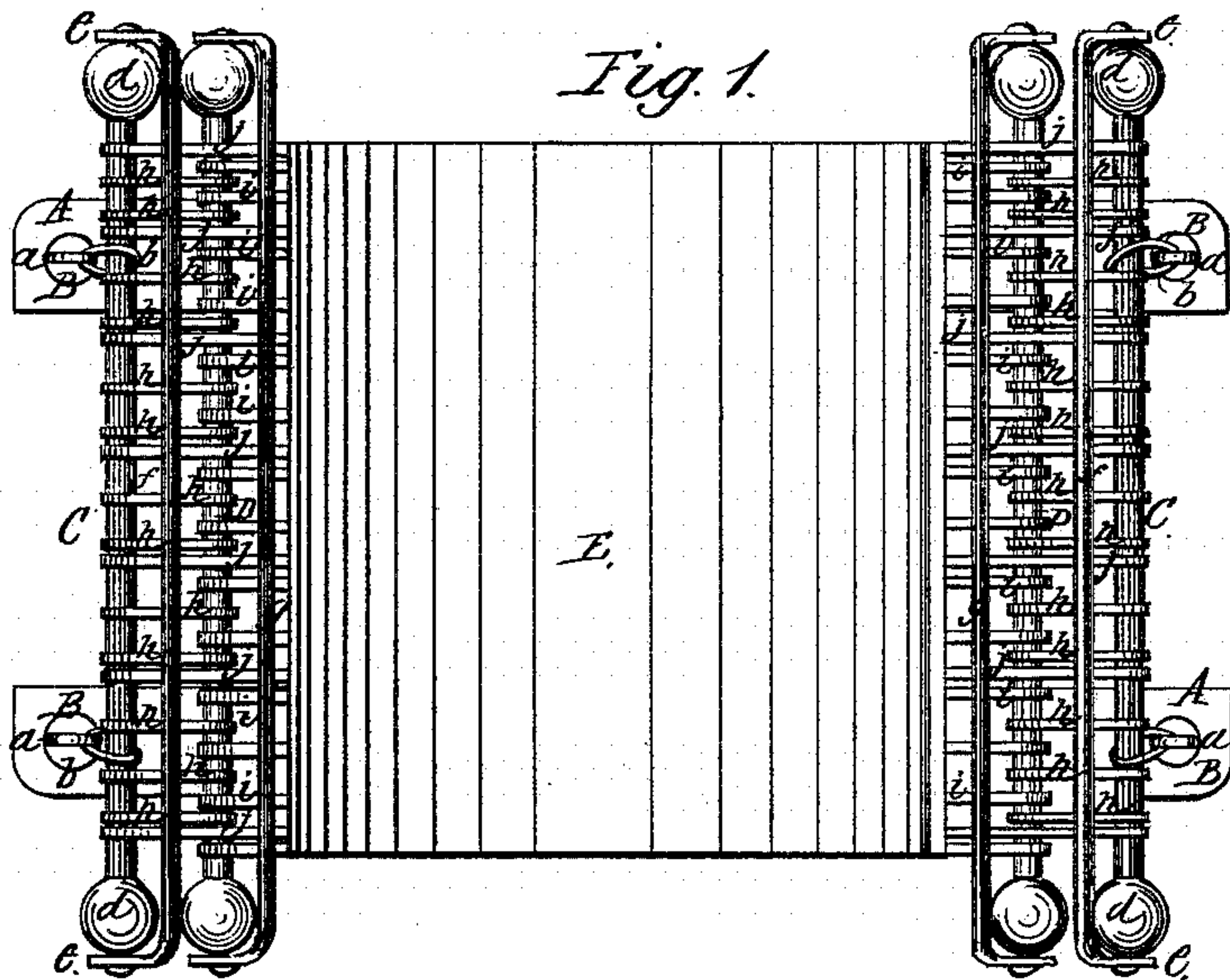


L. TEVEN.
Fire Escape.

No. 229,561.

Patented July 6, 1880,



Witnesses

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UNITED STATES PATENT OFFICE.

LOUIS TEVEN, OF NEW YORK, N. Y.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 229,561, dated July 6, 1880.

Application filed November 24, 1879.

To all whom it may concern:

Be it known that I, LOUIS TEVEN, of the city, county, and State of New York, have invented a new and Improved Fire-Escape, of which the following is a specification.

My invention relates to improvements in mattresses for breaking the fall of persons jumping from burning houses.

The object of my invention is to provide a yielding surface to arrest the descent of the body, but so arranged that contact with the ground will be prevented.

The invention consists of two mattresses arranged one above the other. The upper mattress is elastically connected at its ends with the frame of the apparatus, and the lower mattress is inelastically connected therewith, whereby when a falling body strikes the upper mattress the latter yields and gradually breaks the fall until it reaches the second mattress, which gradually prevents the further yielding of the upper one, and thereby stops the descent of the falling body.

In the accompanying drawings, Figure 1 is a top or plan view of my improved fire-escape. Fig. 2 is a side elevation of the same, and Fig. 3 is an end elevation of the same.

Referring to the drawings, A A are the bottom plates of the frame of the apparatus, and B B B B are the four or more uprights of the said frame. In eyes *a* at the top of the uprights are rings *b*, and in the rings *b* are placed rods C C, which connect the row of uprights at each end of the apparatus. The rods C may be united to the post B by other means than the eyes *a* and rings *b*. The rods C have knobs or enlargements *d* at the ends to prevent them from slipping out of the rings *b*, and to the knobs *d* may be fixed the ends *e e* of thinner rods *f*, which are parallel to the rods C. These rods *f* serve the purpose of guards to prevent the tapes and elastic bands, hereinafter referred to, from slipping off the rods C.

D D are a pair of other rods, similar in construction to the rods C. They may also be provided with guard-rods *g*; but the guard-rods *f* and *g* are not essential. Each of the rods D is connected with one of the rods C by numerous rubber or other elastic bands, *h*.

E is the upper mattress, made of suitable fabric, either in one or more sheets. Said mat-

tress is connected at the ends with the two rods D D by means of numerous inelastic loops, *i*. The elastic bands *h* form the elastic connection of the mattress E, through the rods D, with the supporting-rods C, and thence with the frame of the apparatus, so that when a body falls on the mattress E said mattress yields to the pressure or weight of said body.

G is the lower or under mattress, also made of a sheet or sheets of fabric, or of straps or girths. It is held in a slackened condition under the mattress E by inelastic loops or tapes *j* extending from the ends of the mattress G to the rods C C, one side of said loops being preferably passed above and the other below or under rods D D.

The mattress E, it will be observed, is held by its elastic connections with the frame nearly taut, while the mattress G is slackened, so that its middle portion sags or hangs some distance below the mattress E, as clearly shown in Fig. 2 of the accompanying drawings.

The operation of the apparatus is as follows: The apparatus is placed on the ground in a position convenient to receive a person about to jump or fall from a burning house. When such person, in attempting to escape, jumps or falls into the mattress E, said mattress yields under the weight and pressure, and gradually breaks the fall of the body, instead of stopping it abruptly, as would be the case were it more rigidly connected with the frame; but when the mattress E yields sufficiently to come in contact with the under mattress, G, the latter gradually stops the further descent of mattress E and of the body thereon, and thereby prevents the body from coming in contact with the ground, and also by cushioning the mattress E it prevents said mattress from rebounding so suddenly as to throw the body violently off.

When the apparatus is not in use it can be quickly and compactly folded in the following manner: The standards B are withdrawn from the bottom plates, A, and folded parallel to the rods C and D and to the ends of the mattresses E G, (the eye-and-ring connection of said standards with the rods C C allowing them to be so folded,) and then said standards and mattresses are rolled up together in a round bundle. The cross-bars F F, connecting the bot-

tom plates, A A, are then withdrawn, and said cross-bars and plates A are put together in a bundle; but the bottom may be made in one piece, if desired.

5 I claim—

1. As an improvement in fire-escapes, the mattress E, elastically connected with the frame of the apparatus, in combination with the under mattress, G, connected with said
10 frame by inelastic tapes or loops, in the manner and for the purpose substantially as described.

2. In combination with the mattress E, provided with the loops *i*, the rods D D, elastic
15 bands *h*, and rods C, connected with the uprights B, in the manner and for the purpose substantially as described.

3. The mattress G, provided with the inelastic loops *j*, in combination with the rods C, connected with the uprights B of the frame of
20 the apparatus, and with an upper elastic mattress, substantially as described.

4. The frame of the apparatus, composed of bottom plates, A, uprights B, and rods C, in combination with the elastically-connected
25 mattress E and inelastically-connected mattress G, both mattresses hanging on the rods C, substantially as described.

LOUIS TEVEN.

Witnesses:

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