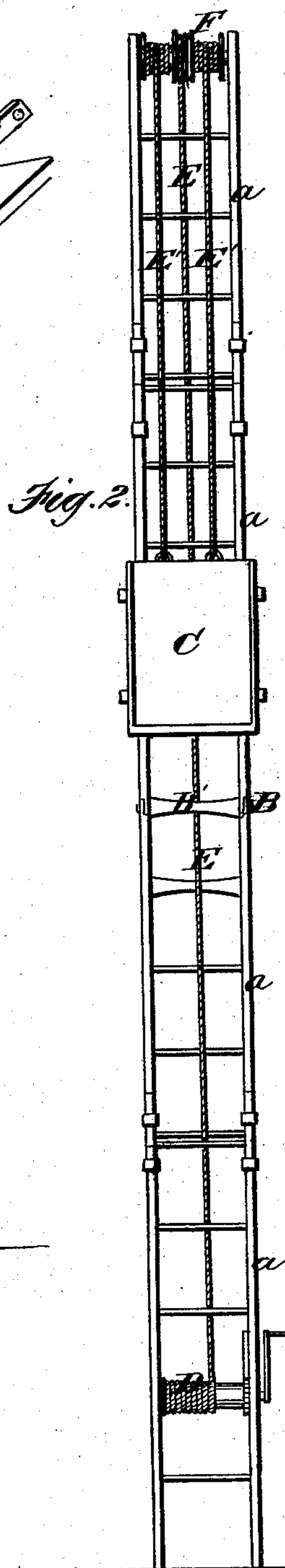
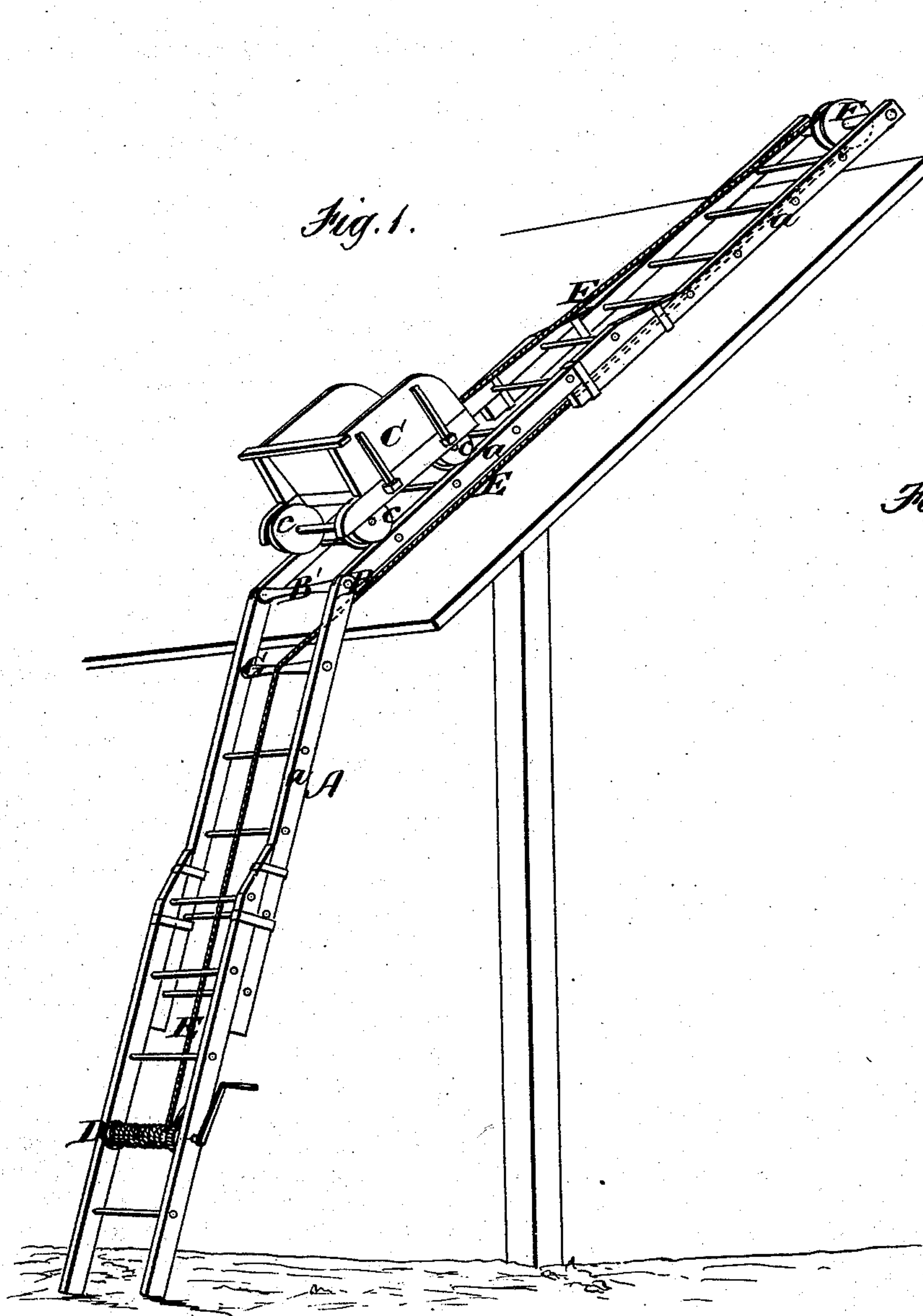


J. CONRAD & J. FAHRINGER.

Apparatus for Elevating Building-Materials.

No. 156,541.

Patented Nov. 3, 1874.



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# UNITED STATES PATENT OFFICE.

JACOB CONRAD AND JERRY FAHRINGER, OF MONTOURSVILLE, PENN.

## IMPROVEMENT IN APPARATUS FOR ELEVATING BUILDING MATERIAL.

Specification forming part of Letters Patent No. **156,541**, dated November 3, 1874; application filed August 22, 1874.

*To all whom it may concern:*

Be it known that we, JACOB CONRAD and JERRY FAHRINGER, both of Montoursville, in the county of Lycoming and State of Pennsylvania, have invented certain new and Improved Elevating Apparatus; and we do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1 is a perspective view, and Fig. 2 a plan view, illustrating our invention.

Similar letters of reference in the accompanying drawings denote the same parts.

This invention has for its object to provide cheap, simple, and efficient means for elevating building materials, and other heavy bodies, to the roofs of buildings; and to this end it consists of a jointed extension-ladder adapted to rest on the roof and against the side of a building, its sides constituting tracks for the passage of a truck or car from the ground to the summit of the building, suitable hoisting appliances being provided, all of which we will now proceed to describe.

In the drawings, A represents an extension-ladder composed of sections *a* connected by bands or clamps, and adapted to slide, in lengthening or shortening the ladder, in the usual manner. The ladder is adapted to rest on the roof and against the side of a building, and at or near its center is a joint, B, which enables the upper portion to be inclined in accordance with the pitch of the roof, as shown in Fig. 1. The joint B is formed by passing a pivotal rod through the lapped ends of the sections, said rod being, preferably, of metal, and passing through a tubular rung or pulley, B'. The side rails of the ladder are, preferably, provided on their outer faces with metallic plates or tracks extending the entire length of the ladder, and constituting tracks for the passage of a car or truck, C, the latter being provided with flanged wheels *c* running on said tracks like ordinary car-wheels. At the points where the sections *a* overlap and slide upon each other, the ends of the rails of the outer sections are tapered or beveled to a point, as shown in Fig. 1, so as to offer no impediment to the passage of the car or truck. The rear wheels of the truck are of greater diameter than the front ones, as shown in Fig. 1. At the lower end of the ladder is a wind-

lass, D, provided with the usual crank-pawl and ratchet, and adapted to be operated by a person standing on the ground. From the windlass D a rope or chain, E, extends to the upper end of the ladder around a pulley, F, journaled at said upper end, and from thence passes downward, and is attached to the truck or car, as shown. The rope, in its passage from the windlass to the car, runs on the outer side of the rungs of the ladder until it reaches the rung G immediately below the joint B. This rung is journaled so as to turn freely, or, if desired, it may be provided with a small pulley to prevent undue friction of the rope at the angle of the ladder. From the rung G the rope passes on the under side of the ladder to the pulley F, and from thence downward on the outer or upper side of the ladder.

It will be seen that, when the car is loaded and properly placed on the track, by turning the crank of the windlass it can be drawn with ease to the summit of the building or to any intermediate point. The rope is prevented from rubbing against any stationary surface, its only points of contact being with the revolving rungs G B' and pulley F; hence its friction is reduced to the minimum, the rung or pulley B' sustaining the rope when the car is below the joint B. When heavy weights are to be elevated we extend the rope E only to the pulley F, securing it to the periphery of the latter, and connect the axle of said pulley by two ropes, E' E', one on each side of the pulley, to the car or truck, as shown in Fig. 2. By this means we obtain an increase of power, although the speed is decreased.

We claim as our invention—

1. The extension-ladder A, having the ends of its sections tapered, and provided with a joint, B, which can be adjusted vertically to adapt it to buildings of varying heights, substantially as described.

2. The extension-ladder having the ends of its sections tapered, and provided with a joint, B, adjustable vertically, in combination with the car C, windlass D, cord E, pulley F, and revolving rungs G B', substantially as described, and for the purposes set forth.

JACOB CONRAD.

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