EDWARD H. GARRIGUES.

Improvement in Hod Elevator.

No. 120,189. Patented Oct. 24, 1871.

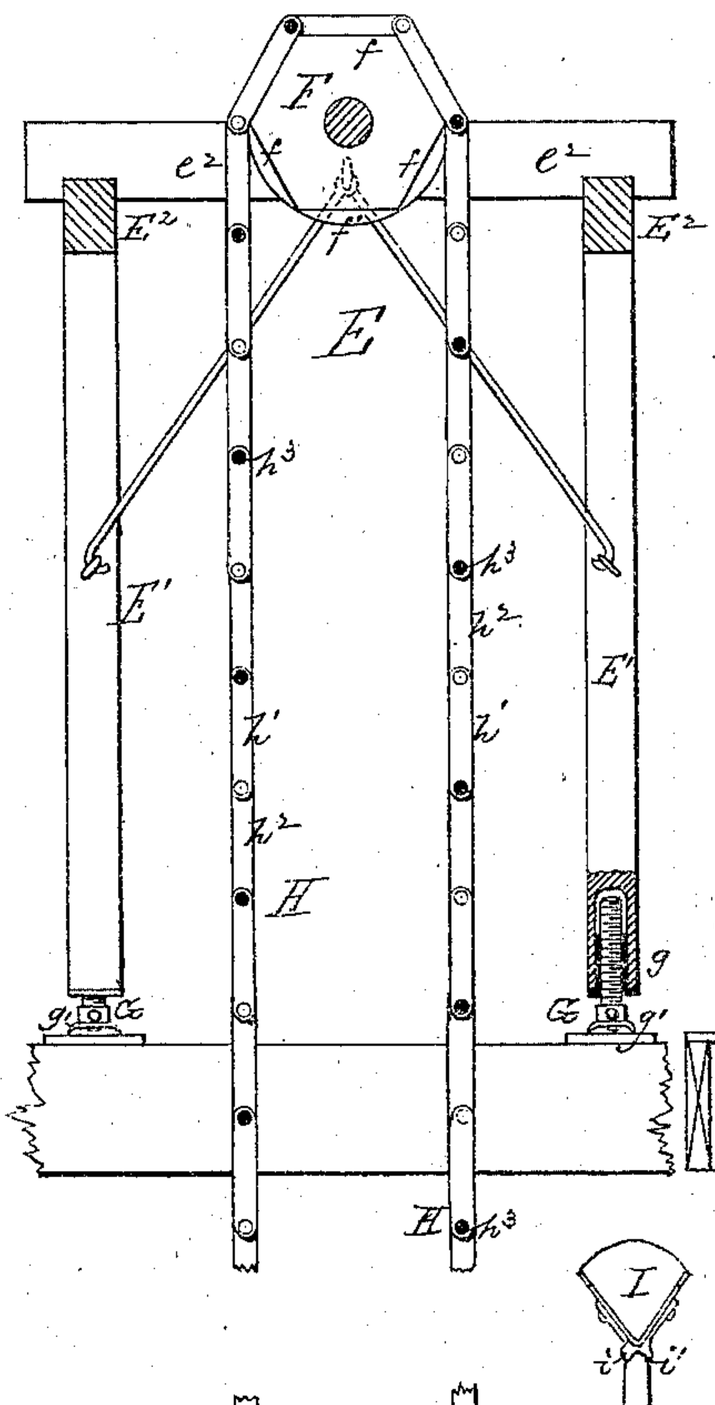

Fig 1

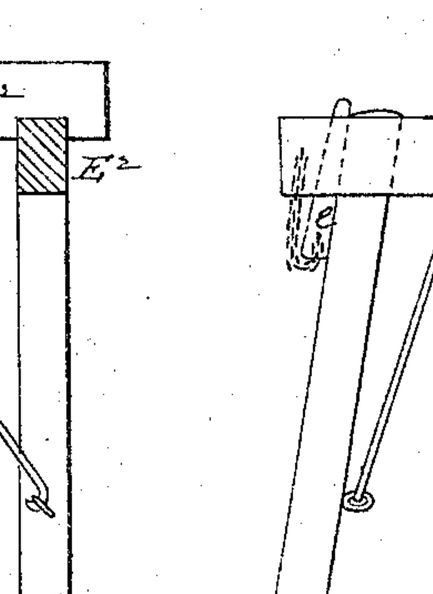

Fig 3.

Fig 4.

Fig 2.

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UNITED STATES PATENT OFFICE.

EDWARD H. GARRIGUES, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN HOD-ELEVATORS.

Specification forming part of Letters Patent No. 120,189, dated October 24, 1871.

To all whom it may concern:

Be it known that I, EDWARD H. GARRIGUES, of St. Louis, in the county of St. Louis and State of Missouri, have made certain new and useful Improvements in Hod-Elevators; and I do hereby declare that the following is a full and true description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

This invention relates to elevators or apparatus for hoisting mortar, brick, laths, &c., for building purposes. The nature thereof consists: First, in the combination of an upper frame of peculiar construction provided with flanged pulleys with an endless chain and lower hoisting apparatus, as hereinafter described. Secondly, in providing the upper carrier-frame with jack-screws carrying pronged washers for adjusting or lifting and securing said frame plumb in position. Thirdly, in the manner of securing, by a T-hook or bolt, the lower timbers of the hoist apparatus firmly to joists. Also, to certain detail construction of parts, all of which will now more fully be described.

To enable those herein skilled to make and use my said improvements, I will now more fully describe the same, referring to Figure 1 as a transverse sectional elevation, also showing details in section. Fig. 2 is a front elevation; Figs. 3 and 4, end and side views, respectively, of hods.

The hoist A is constructed of stout frame-work to support driving-gearing. It has spur-gear B, in which a pinion, B′, meshes, said gearing being secured to shafts *b b′* properly operating in journal-bearings. The driving shaft *b* is provided with hand-cranks for operation. On the lower shaft *b′* of said hoist A is secured the drum C. Said drum or pulley C has its sides cast to form square-shaped bearing-surfaces *c* and outside flanges *c′*, in manner clearly indicated in Figs. 1 and 2. Thus constructed the hoist A is secured to lower joists by a T-bolt consisting of an extension screw-bolt D, carrying at its lower end a bar, D′, its ends *d* turned upward to fit the joists when placed crosswise under the same. The screw-bolt D between joists passes up through base-timbers *a a′* of the hoist A. By means of a suitable wrench, *d′*, said hoist A is then firmly secured to the joists. The said T-bolt, as described, is made to adapt itself to all sizes of joists, as blocks can be inserted between the bar D′ and joists. In connection with the lower hoist A there is used an upper or carrier-frame, E. Said frame consists of stout timber E^1, united at top by a mortise-joint, to cross-timbers E^2. In the mortise-joint a key, *e*, attached to a chain, is inserted. (See Fig. 2.) A secure joint is thus made, all possibility of lateral play or spreading of the frame being avoided, as well as brace-rods in front of the frame where hods pass being avoided. Furthermore, on top said frame E, bolted securely to the cross-pieces E^2, are transverse timbers e^1 e^2. The said timbers e^1 e^2 support the follower-pulley F, secured to operate in proper bearings. The construction of said pulley F is similar to lower pulley C of the hoist A. It is cast with square-shaped bearing-surfaces *f* and flange *f′*, as shown in Figs. 1 and 2. The carrier-frame E with follower-pulley can readily be placed on the floor of joists perpendicular to the hoist A on the floor above, and is carried from floor to floor as the altitude of the building requires. In order, however, to avoid the inconveniences incurred in propping and otherwise securing the frame E in position its posts E^1 are provided with jack-screws G passing through a screw-nut into a mortised socket, *g*, as shown in Figs. 1 and 2; also, the jack-screws G carry a pronged washer or bearing, *g′*, so as to gripe into the flooring, forming a secure footing for the frame E. It is plain that in turning said jack-screws G the trestle-frame E with its follower F can at all times be secured plumb. Around both pulleys C and F the endless chain H passes. The said chain consists of the combination straight links *h* h^1, united to a third link, h^2, by the equidistant cross-rods or ladder-rungs h^3, as shown in Figs. 1 and 2. By thus constructing the chain H in links to fit in passing over the square bearings of the pulleys C F, it is evident a greater leverage is obtained, and the turning operation can be effected with greater dispatch and less manual labor than when the chain is formed in chain-links passing around a cylinder or fitted to engage in lugs at the sides of drums, as ordinarily. The hods I are provided at their nose-rods with double hooks *i* i^1. (See Figs. 3 and 4.) Said arrangement of double hooks prevents all vibratory play of hods when hung on the ladder-rungs. Bolted to the top of the hoist A is a spring-clutch or dog, i^2, for effectively checking the operation of the gearing devices.

In its operation the chain H with hods and material passes up one side, the empty hods coming down the opposite side. In elevating sills, caps, &c., strong iron hooks are used, and otherwise the material is fastened to the ladder to pass up, as previously described. The entire apparatus can be adjusted with dispatch to any part of the building; its operation, being decisive and quick, insures a better condition of delivered material, as mortar, brick, &c.; is cheap and durable in construction, besides being a saving of labor and time—advantages readily apparent.

Having thus fully described my said invention, what I claim is—

1. The combination of the upper frame E, provided with jack-screws G and flanged pulleys F, with endless chain H and hoisting apparatus A provided with flanged pulleys C and T-bolts D, substantially in the manner and for the purposes set forth.

2. The jack-screws G with pronged foot-bearings g', in combination with frame E, substantially as and for the purpose set forth.

3. The T-bolt consisting of screw-rod D and bar D′, in combination with hoisting apparatus A, as and for the purpose set forth.

4. The flanged pulleys C and F, endless chain H, frame E, key e, jack-screws G, pronged bearings g', hoisting apparatus A, screw-rod D, bar D′, spring-dog i^1, hods I with double hooks i i^2, all combined and constructed to operate in the manner herein shown and for the purposes set forth.

In testimony of said invention I have hereunto set my hand.

EDWARD H. GARRIGUES.

Witnesses:
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