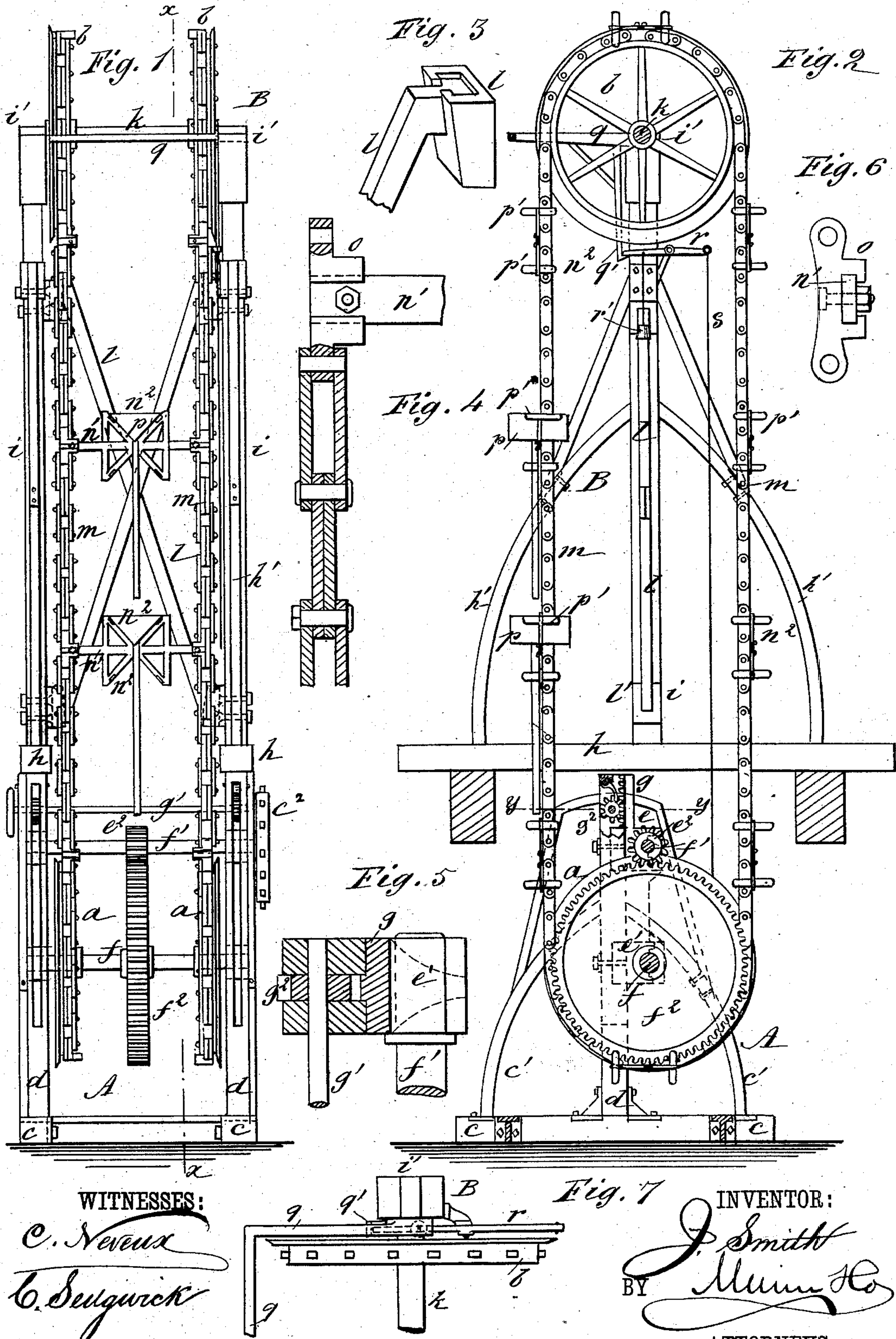


(No Model.)

J. SMITH.
Hod Elevator.

No. 239,866.

Patented April 5, 1881.



WITNESSES:

C. Neveu
C. Selgwick

Fig. 7

INVENTOR:

J. Smith
BY Min Ho

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES SMITH, OF PHILADELPHIA, PENNSYLVANIA.

HOD-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 239,866, dated April 5, 1881.

Application filed February 8, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES SMITH, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and Improved Hod-Elevator, of which the following is a full, clear, and exact description.

My improvements relate to apparatus for elevating bricks and mortar in hods; and the invention consists in certain novel features of construction for rendering the operation more perfect, and in a safety-stop for preventing the hods from being carried over the upper wheels.

In the accompanying drawings, Figure 1 is a front view of an elevator of the improved construction. Fig. 2 is a vertical section on line *x x*, Fig. 1. Fig. 3 is a detail view, showing the brace connections. Fig. 4 is a detail section of the chain. Fig. 5 is a detail section on line *y y* of Fig. 2, and Figs. 6 and 7 are detail views.

Similar letters of reference indicate corresponding parts.

A is the lower frame or stand, carrying chain-wheels *a a*, to which the power is applied; and B is the upper frame, carrying chain-wheels *b b*. It will be understood that the frame B will rest on the floor-beams and will be raised from time to time as the building progresses, the chains being at the same time lengthened to correspond.

The lower frame, A, consists of sill-pieces *c c* and standards *d d*, that are fixed on the sill-pieces and stiffened by side braces, *c' c'*, which sustain the standards against the side strain caused by the driving-belt. The standards *d* are slotted lengthwise to receive the pins or tenons of castings *e* that are formed with boxes *e' e'*, in which the cross-shafts *f f'* are sustained. The shaft *f* carries chain-wheels *a a*, and also a large gear-wheel, *f²*, that is engaged by a pinion, *e²*, on shaft *f'*, and shaft *f'* also carries a chain-wheel, *e²*, to which power will be applied by a chain-belt. The castings *e* are retained by bolts extending through the slots and provided with nuts and washers taking on the standards, so that the castings may be clamped to place as adjusted. From the upper ends of these castings racks *g* extend upward, and a cross-shaft, *g'*, journaled in the standard, carries pinions *g²*, that engage with the racks *g*. On shaft *g'* is a hand-wheel for

use in turning the shaft and thus raising and lowering the castings *e*. This construction permits the chains of the elevator to be readily tightened. The chain-wheels *a*, also the upper wheels, *b*, have their peripheries formed with bevel-sided grooves, and are formed at the bottom of the grooves with pins for engaging the chains.

The upper frame, B, is constructed substantially the same as the lower frame. *h h* are sill-pieces, supporting standards *i i*, that are braced by side braces, *h'*, and on the upper ends of the standards half-boxes *i'* are fitted for receiving a shaft, *k*, that carries the chain-wheels *b*. *l l* are braces extending from one standard *i* to the other, to prevent them from spreading. The ends of these braces are formed with T-flanges (see Fig. 3) that enter socket-pieces *l'* attached to standards *i*, so that the braces can be readily removed. This construction of the upper frame, by which the standards, braces *l*, and shaft *k* can be readily separated and put together again, is for convenience in raising the frame from time to time as the building progresses.

The chain-wheels *a a b b* carry two endless chains, *m m*, which are fitted with the hod-supporters, placed at suitable intervals. As shown most clearly in Fig. 4, the links of the chain consist, mainly, of flat plates connected at their ends by hooks and bolts with solid links *o* interposed at intervals. The solid links *o* are formed with under-cut recesses, into which the bars *n'* of the hod-carriers enter, and bolts passing through the bars and links hold the parts firmly, so that the hod-carriers are sustained by the two chains.

The hod-carriers consist of V-shaped arms or flanges *n²* on the bars *n'*, of a shape for receiving the hods represented at *p*. The flanges *n²* are vertical during the passage of the chains up and down, and, as shown, are double, so that one side can be used for elevating and the other side for receiving the hods to carry them down. The flanges *n²* are also formed with side lugs, *p'*, on which the body of the hods will rest, so that they will be held squarely with their handles extending straight down. This prevents the handles from becoming caught.

Upon the upper frame, B, is hung a lever,

5 q , having a latch-arm, q' , and beneath this is
 hung a lever, r , one end of which rests normally
 on the latch-arm q' , so as to be sustained there-
 by, while to the other end of lever r is con-
 10 nected a rod, s , that will pass to the cut-off le-
 ver of the engine which drives the elevator.
 A weight, r' , is suspended from lever r in a
 manner to pull down the lever and raise rod s
 when the lever is released by the latch. In
 15 this normal position of the parts the lever q
 extends in front of the chains and in the path
 of the hods, so as to be struck thereby when
 the hods reach the chain-wheels b . If a hod
 is not removed by the attendant it will thus
 20 raise lever q and trip-lever r , and the rod s be-
 ing then raised by the weight r' , the engine
 will be stopped. The hods are thus prevented
 from being carried over the chain-wheels.

By the use of chains and chain-wheels, as
 25 described, the hod-carriers are retained level
 as the chains cannot slip, and they may be
 readily tightened, as required. By using double
 chains, with the carrier between them, the
 hods cannot become caught and broken.

30 If the chain-belt is loosened by the tighten-
 ing of the elevator-chains the operation of the
 machine will not be stopped thereby, as would
 be the case if a common belt was used.

Having thus described my invention, I claim
 35 as new and desire to secure by Letters Pat-
 ent—

1. In hod-elevators, the hod-supporters, con-
 sisting of the bars n' , having V-shaped flanges
 n^2 , in combination with the two traveling end-
 less chains m , having recessed links that re- 35
 ceive bars n' , substantially as and for the pur-
 pose specified.

2. In hod-elevators, the slotted standards d ,
 castings e , formed with boxes e' e' , racks g ,
 pinions g^2 , shaft g' , chain-wheel shaft f , and 40
 driving-shaft f' , combined for operation sub-
 stantially as shown and described.

3. In hod-elevators, the shaft g' , pinions g^2 ,
 and racks g , combined with the casting e , car-
 rying the chain-wheel shaft and fitted to slide 45
 on its supporting-standard, substantially as
 shown and described.

4. In hod-elevators, the T-ended braces l
 and socket-pieces l' , in combination with the
 standards h of the upper frame, B, substan- 50
 tially as and for the purposes set forth.

5. In hod-elevators, the lever q , having latch-
 arm q' , weighted lever r , and rod s , fitted to
 stop the elevator by endwise movement, com-
 bined with the chain-wheels, chains, and hod- 55
 supporters, substantially as shown and de-
 scribed, for operation as set forth.

JAMES SMITH.

Witnesses:

JACOB A. SCHANDEIN,
 WM. C. WIMER.