

(No Model.)

2 Sheets—Sheet 1.

F. W. KEYS.  
HOD ELEVATOR.

No. 333,134.

Patented Dec. 29, 1885.

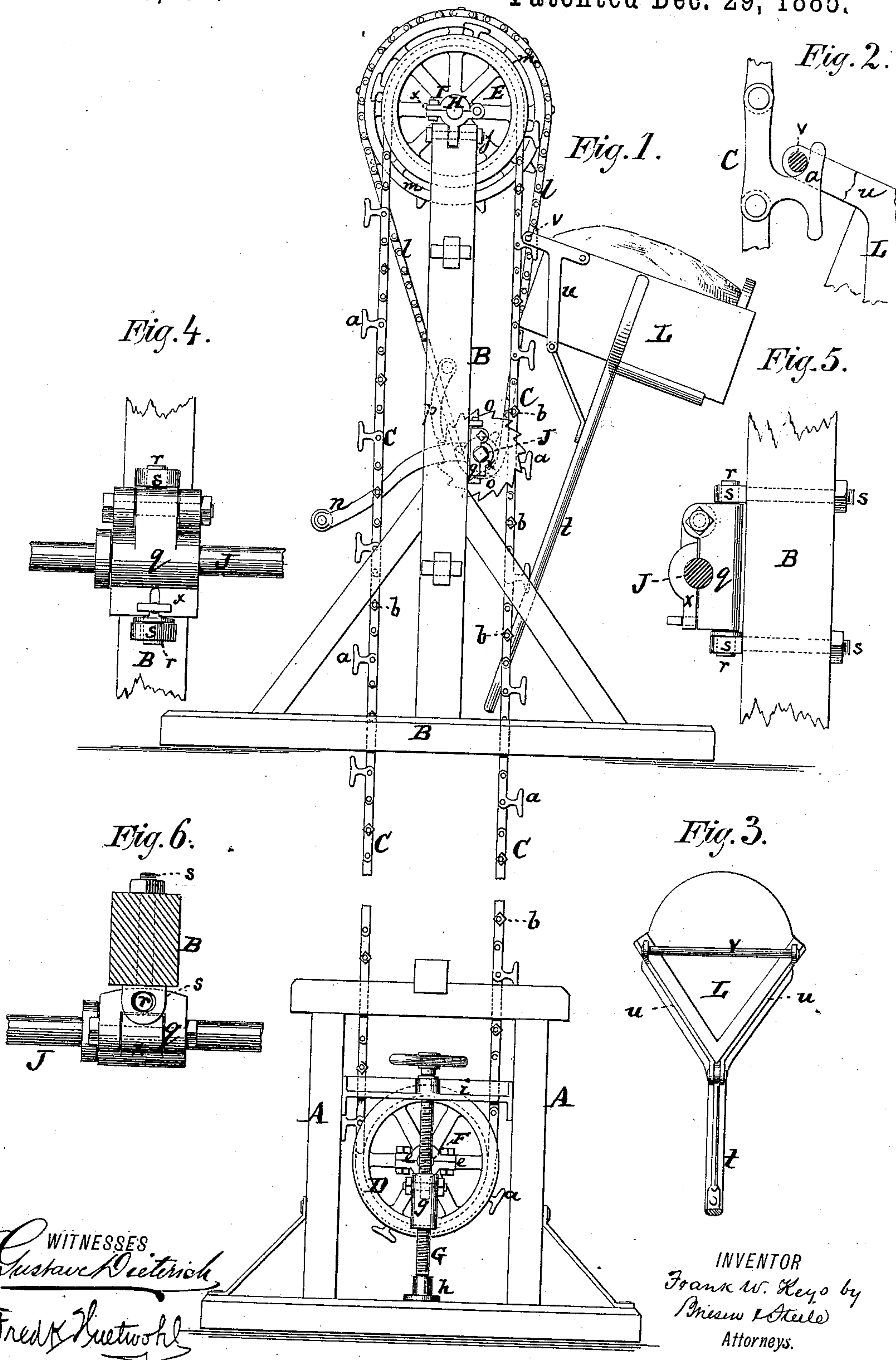


Fig. 2.

Fig. 1.

Fig. 5.

Fig. 4.

Fig. 3.

Fig. 6.

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2 Sheets—Sheet 2.

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Fig. 7.

Fig. 8.

Fig. 9.

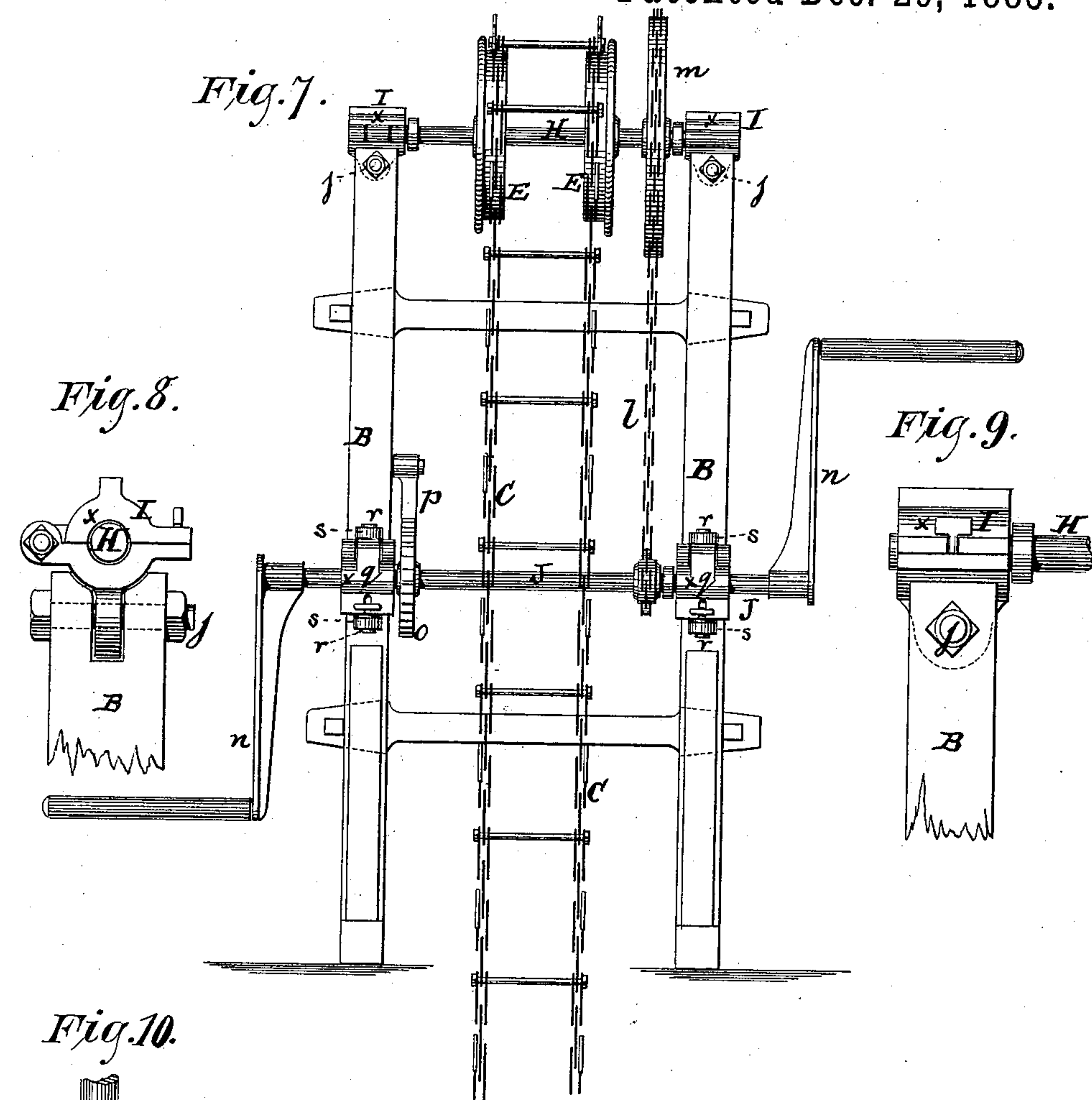


Fig. 10.

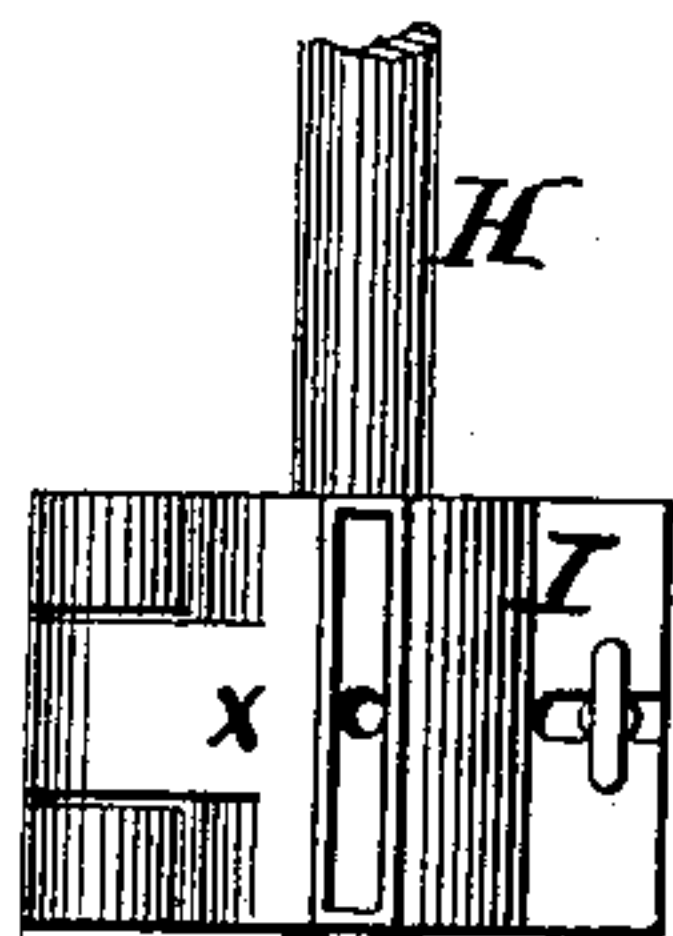
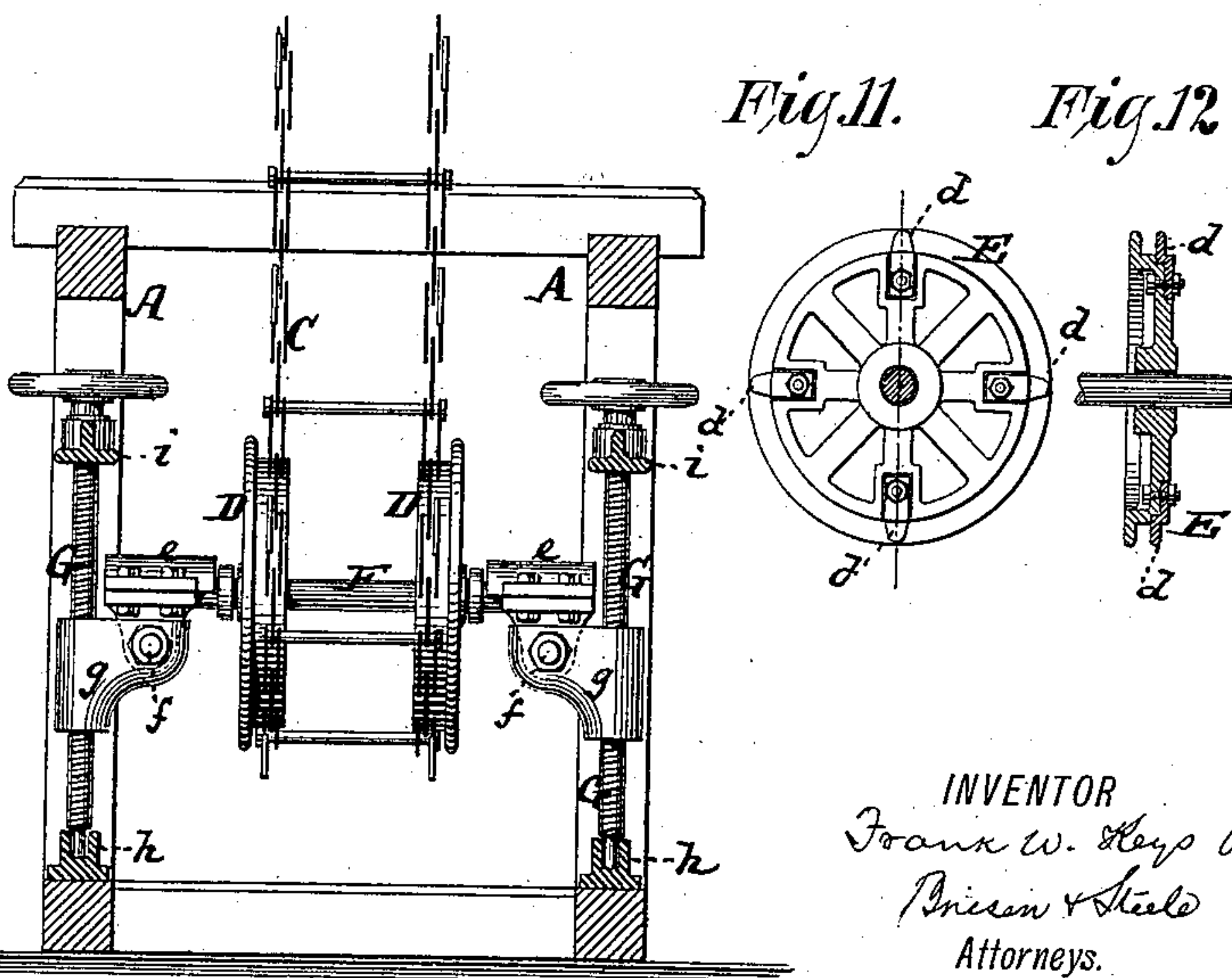


Fig. 11.

Fig. 12.



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# UNITED STATES PATENT OFFICE.

FRANK W. KEYS, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO  
DANIEL DULL, OF SAME PLACE.

## HOD-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 333,134, dated December 29, 1885.

Application filed June 6, 1885. Serial No. 167,338. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK W. KEYS, a resident of New York city, in the county and State of New York, have invented an Improved  
5 Hod-Elevator, of which the following is a full, clear, and exact description, reference being made to the accompanying drawings, in which—

Figure 1 is a side view of my improved hod-elevator. Fig. 2 is an enlarged side view, partly in section, of the chain and so much of the hod as connects with the chain. Fig. 3 is an end view of the hod. Fig. 4 is an inner  
10 face view of one of the bearings of the driving-shaft in the elevator. Fig. 5 is a side view of said bearing, showing the driving-shaft in section. Fig. 6 is a top view of said bearing, showing the post that carries it in section. Fig. 7 is a face view of the elevator, its lower  
15 part being shown in section. Fig. 8 is an enlarged side view of one of the upper bearings. Fig. 9 is an enlarged face view of the same. Fig. 10 is an enlarged top view of the same. Fig. 11 is a side view of one of the wheels  
20 around which the elevating-chain passes, and Fig. 12 a cross-section thereof.

This invention relates to a new apparatus for elevating hods; and it consists in instrumentalities for keeping the bearings of the  
30 several shafts that are used in the hod-elevator properly self-adjusting, and in instrumentalities for properly connecting the elevator with a hod, all as hereinafter more fully described.

In the drawings, the letter A represents the lower frame, and the letter B the upper frame, of the hod-elevator. The lower frame is to be put on the ground or in a cellar, while the upper frame is to be placed on an upper floor,  
40 or at such an altitude as may be necessary for the purpose for which the instrument is intended to be used. These two frames are connected by a pair of chains, C C, which run over chain-wheels D D and E E, that are respectively hung  
45 in the frames A and B. The chains C C are parallel and are constructed of jointed links, some of which links (the drawings show every third link) have outwardly-projecting hooks *a a* formed thereon. The two chains C C are at  
50 proper intervals connected by transverse rungs *b b*. The rungs are the same distances

apart from one another as are the hooks *a a*. The wheels E are provided with projecting teeth *d d*, (see Figs. 11 and 12,) which teeth are set in grooved or slotted portions of the wheels,  
55 and secured in position thereon by screws in such manner that they may be adjusted and readily replaced on the wheel, if broken.

The lower set of wheels D D in the frame A is mounted upon a shaft, F, which has its bearings in boxes *e e*. Each of these boxes is pivoted at *f* in a block, *g*, which is carried by an upright screw, G. The lower end of this screw sets in a socket, *h*, while the upper part of the screw is swiveled in a rigid cross-bar, *i*, of the  
60 frame A. By turning each screw the block *g* pertaining to it may be raised or lowered at will, and thus the height and level of the shaft can be readily adjusted. The upper set of wheels, E E, is mounted upon a shaft, H, which  
65 is hung in bearings I I. These bearings are shown in the enlarged views, Figs. 8, 9, and 10. Each of the bearings I is pivoted by a horizontal pivot, *j*, in the uprights of the frame B. Thus it will be seen that the two shafts F  
70 and H of the chain C are both hung in pivoted bearings, so that as the chain is revolved any strain which, by the loaded hods, may be exerted upon such chain, and which may tend to draw it out of the vertical direction, may  
80 be absorbed by these pivoted bearings. The frame B also carries the driving-shaft J, which carries a sprocket or chain wheel, and connects by a chain or belt, *l*, with another chain wheel or pulley, *m*, that is mounted upon the  
85 shaft H. The driving-shaft J has a crank-handle, *n*, or other contrivance for turning it, and should also carry a ratchet-wheel, *o*, which engages with a click, *p*, to prevent the load from running back. The shaft J is also hung  
90 in pivoted bearings *q q*, that are more fully shown in Figs. 4, 5, and 6—that is to say, said bearings have upper and lower trunnions, *r r*, that enter the slotted heads of screws *s s*, which are secured in the uprights of the frame B. In  
95 these slotted heads the trunnions *r r* of the pivoted bearings *q* are self-adjusting, so that any inequality of strain on the whole mechanism will be absorbed by these adjustable bearings.

The hod itself is shown at L in the drawings, and is provided with a shank, *t*, of the



usual kind. At that end of the hod which is to come nearest the chains C C its inclined sides are embraced by metallic straps *u u*, which are connected by a cross-bar, *v*. This cross-bar is to be placed over a pair of hooks, *a a*, of the chains C, while the lower part of the shank *t* bears against one of the rungs *b*, as is clearly shown in Fig. 1 of the drawings.

The operation of the mechanism will be readily understood from the foregoing specification. Each hod L, when loaded, is, by its cross-bar *v*, put on a set of hooks, *a*, and the hod is then let go, so that the shank *t* will bear against the outer side of one of the rungs *b*. When the crank-handle *n* is taken hold of to turn the shaft J, the shaft H will be revolved and the hods on the chains thereby raised to the desired height. Whenever the distance between the shafts F and H is to be varied, which may frequently happen, as the instrument is to be used in different buildings, the chains C C are readily elongated or shortened by adding to or removing therefrom the proper number of links. Any remaining adjustment as to the length of the chains may be obtained by turning the screws G G.

As the apparatus is to be exposed to rough usage, the adjustability of the bearings of the several shafts becomes very important. The bearings I prefer to provide with hinged caps *x*, as shown. The straps *u* and bar *v* also serve to brace and strengthen the hod.

I claim—

1. In a hod-elevator, the combination of the frame A, pivoted bearings *e e*, shaft F, and

chain C, with the frame B, pivoted bearings I I, and shaft H, substantially as herein shown and described.

2. The combination of the frame A, having cross-bars *i i*, with the screws G G, blocks *g g*, pivoted bearings *e e*, and shaft F, substantially as and for the purpose specified.

3. The frame B, combined with the screws *s s*, which have laterally-slotted heads, and with the pivoted bearings *q*, having trunnions *r r*, substantially as described.

4. The combination of the frame A with the pivoted bearings *e e*, hung therein, shaft F, chain C, shaft H, wheels E and *m*, pivoted bearings I I, frame B, chain *l*, shaft J, chain-wheel thereon, and pivoted bearings *q*, substantially as described.

5. The combination of the hod L, having shank *t* and cross-bar *v*, said cross-bar being in front of and at a distance from said hod, with the chains C C, having hooks *a* and rungs *b*, all arranged to suspend the hod from the hooks *a* by the cross-bar *v*, substantially as described.

6. The combination of the hod L, having shank *t*, straps *u*, and cross-bar *v*, which cross-bar is at a distance from said hod, with the chains C C, having hooks *a* and rungs *b*, all arranged to suspend the hod from the hooks *a* by the cross-bar *v*, substantially as described.

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