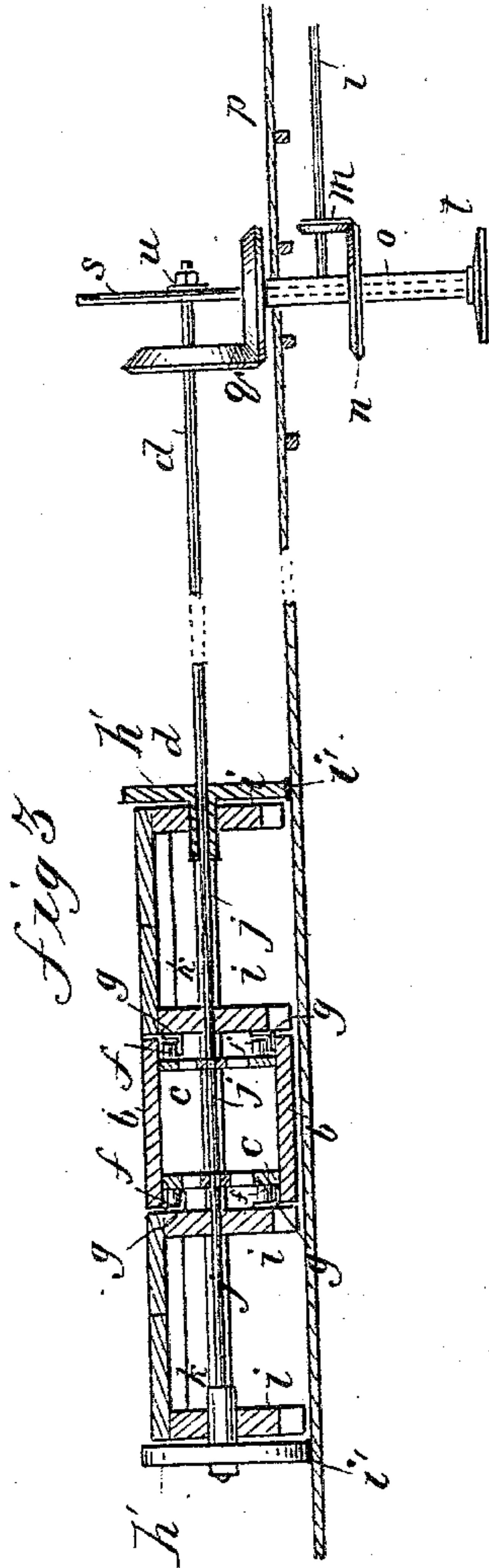
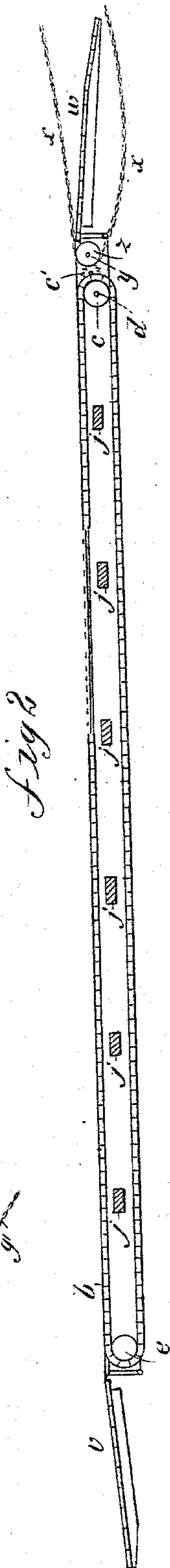
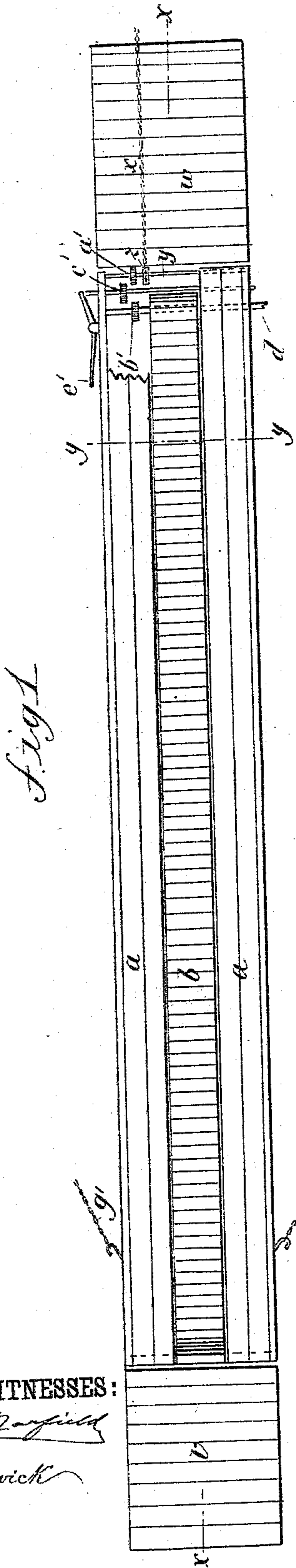


(No Model.)

H. N. PHARR.
ELEVATOR ATTACHMENT TO SHIPS' GANG PLATFORMS.
No. 288,109. Patented Nov. 6, 1883.



WITNESSES:

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HENRY N. PHARR, OF LA GRANGE, ARKANSAS.

ELEVATOR ATTACHMENT TO SHIPS' GANG-PLATFORMS.

SPECIFICATION forming part of Letters Patent No. 288,109, dated November 6, 1883.

Application filed May 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY N. PHARR, of La Grange, in the county of Lee and State of Arkansas, have invented a new and Improved Elevator Attachment to Ships' Stage or Gang Platforms, of which the following is a full, clear, and exact description.

My invention relates to an endless elevator attachment to stage or gang planks or platforms for steamboats and other vessels, to facilitate the delivery of goods over the same by the use of steam-power, to be applied directly to the elevator shaft or drum by an engine or engines located on the stage, or through intermediate gearing connecting the elevator with a driving-engine located in the hold or other part of the vessel; and the nature of my invention consists of the combination, with the foregoing, of certain devices, all as hereinafter fully described.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of a gang-platform or stage with aprons attached at the ends, and with an endless elevator attachment according to my invention. Fig. 2 is a longitudinal section of Fig. 1 on the line *x x*. Fig. 3 is a transverse section of Fig. 1 at the line *y y*; also a section of a portion of the deck of a stage, and an elevation of driving-gear for transmitting the power of an engine located in the hull of a vessel to the elevator on the stage.

Along the middle portion of the stage *a* or gang-platform I propose to arrange an endless belt or chain of lugs or slats, *b*, to run from end to end over a driving-drum, *c*, at one end, and a carrying-drum, *e*, at the other end, the said elevator or carrier being provided with rollers *f*, and the stage with angle-iron ways *g*, for the rollers to run on. The stage may be constructed in any approved way; but I prefer to use four longitudinal stringers, *i*, arranged at equal distances apart and connected by cross-stays *j*, extending through all the stringers at the middle transversely, and duly fastened to them, and floor-stays *k*, connecting the outer and intermediate stringers, respectively, leaving the space between the intermediate stringers free for the elevator.

To work the elevator the power may be ap-

plied from a driving-shaft, *l*, in the hold of the vessel, to which the engine may be connected in any approved way, said shaft gearing by a bevel-pinion, *m*, with a wheel, *n*, on a tubular shaft, *o*, extending up through the deck *p*, and gearing by a pair of bevel-wheels, *q*, with the shaft *d* of the drum *c*. For supporting the shaft *o*, and also for providing a bearing in which the end of shaft *d* may be readily fitted and detached as the stage is put in place and removed, I have a vertical shaft, *s*, fixed in any suitable stand, *t*, in the bottom of the vessel, and extending up through shaft *o*, and to the upper deck, for its support, if desired, in which a bearing is provided for the end of shaft *d*, wherein said shaft may be placed and readily secured by a nut and washer, *u*, suitably applied to revolve with the shaft without disarrangement thereby, and so that the shaft may be put in and taken out readily. I propose, however, as before stated, to employ one or more engines located directly on the stage in any approved way, and having steam supplied through steam-hose, instead of the arrangement above described, whenever it may be preferred to do so; and this I propose to apply also to grading railroads, canals, and lawns, in the construction of large buildings, and to such other purposes as it may prove suitable.

The stage will have the usual aprons, *v* and *w*, hooked on the ends, respectively, and over the upper one I propose to run an endless chain, *x*, from a shaft, *y*, to any other shaft, drum, or pulley-block attached anywhere on the vessel, to be used as an extension of the elevator *b*, when required, the shaft *y*, whereby the said chain is driven by a suitable chain-pulley, *z*, being provided with a toothed wheel, *a'*, with which it is made to gear at any time, as required, with the wheel *b'* on shaft *d*, by an intermediate wheel, *c'*, arranged to be shifted into and out of gear with said wheels *a' b'* by a lever, *e'*, or other means, as preferred.

Thus it will be seen that I have provided a simple and efficient contrivance for handling freight to load or unload steamboats and other vessels, it being understood that the elevator is to be geared to run either way at will.

The chains *g'* are to be used to secure the stage at either or both ends.

I propose to apply rollers *h'* to the upper

ends of the stringers *i*, to rest on thin flat iron tracks *i'*, arranged on the deck *p*, concentric with the shaft *s*, in order that the platform may be shifted or changed in position on the 5 deck without being detached from shaft *s*; and I prefer to arrange said rollers in the axis of the shaft *d*, by making them with hollow hubs or axes, and the shaft *d* to pass through them.

Having thus described my invention, I claim 10 as new and desire to secure by Letters Patent—

1. The platform having endless carrier *b*, drums *c e*, and rollers *h'*, and being geared with the hollow driving-shaft *o*, and arranged to shift or change position around said shaft

without being disconnected from it, substan- 15 tially as described.

2. In a ship's stage or gang-platform having an endless carrier, *b*, the drum *c*, having a projecting shaft, *d*, detachably fitted in the shaft *s*, and gearing with the driving-shaft *l* 20 of an engine located in the vessel by bevel-wheels *q*, hollow shaft *o*, and wheels *n m*, said hollow shaft being mounted on the standing shaft *s*, substantially as described.

HENRY NEWTON PHARR.

Witnesses:

T. J. HORNE,
P. C. WEST.