

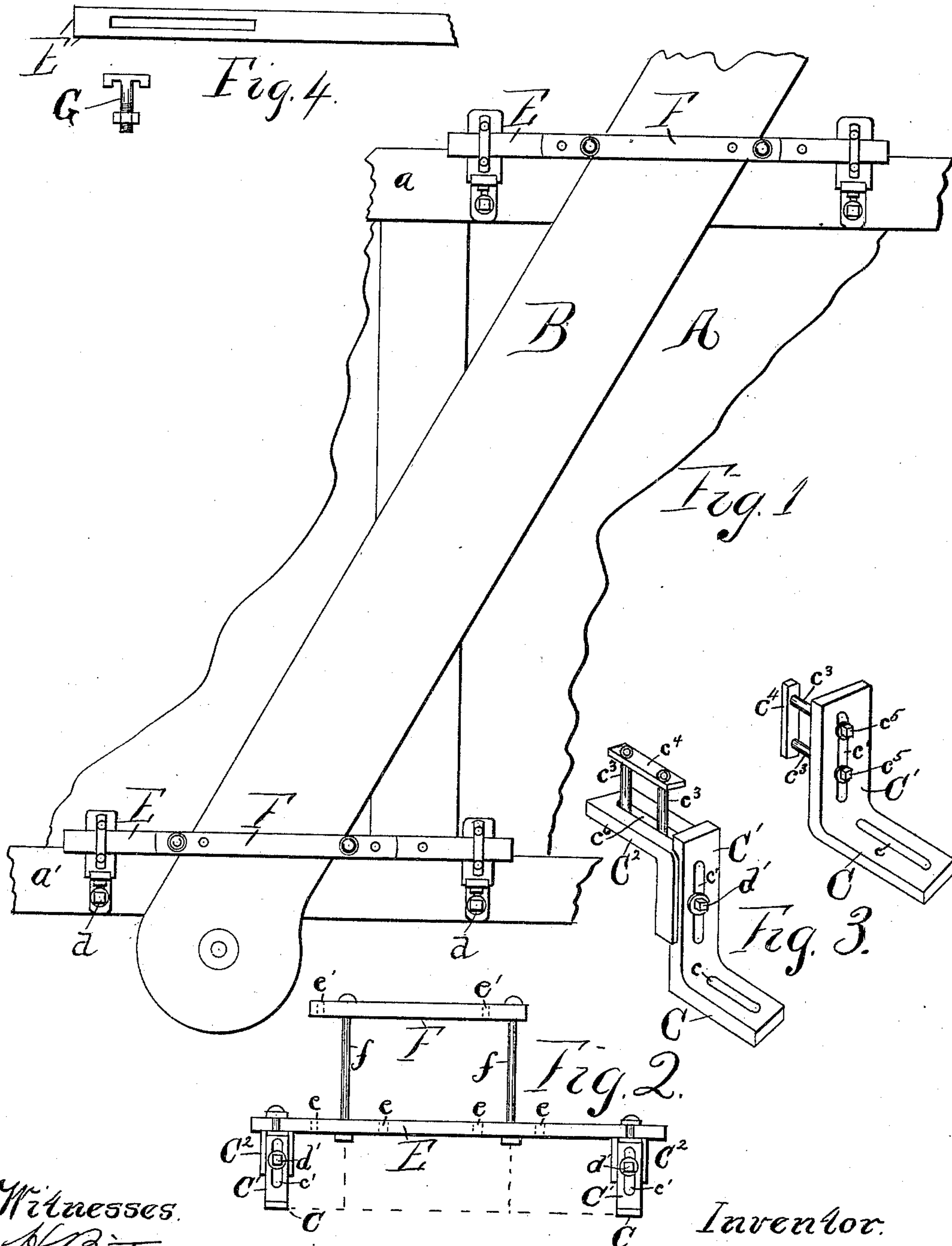
(No Model.)

S. B. HART.

ELEVATOR ATTACHMENT FOR GRAIN SEPARATORS.

No. 411,438.

Patented Sept. 24, 1889.



Witnesses.
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UNITED STATES PATENT OFFICE.

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ELEVATOR ATTACHMENT FOR GRAIN-SEPARATORS.

SPECIFICATION forming part of Letters Patent No. 411,438, dated September 24, 1889.

Application filed August 24, 1888. Serial No. 283,689. (No model.)

To all whom it may concern:

Be it known that I, STACY B. HART, a citizen of the United States of America, residing at Peoria, in the county of Peoria and State of Illinois, have invented a certain new, useful, and Improved Elevator Attachment for Grain-Separators, of which the following is a specification.

Figure 1 is a side elevation representing a portion of the side of a grain-separating machine with a portion of the grain-elevator attached to the same by my improved means. Fig. 2 is a detached view of the clamps and bars employed in securing the upper end of the elevator to the machine. Fig. 3 is a detached view of the clamps used in securing the lower end of the elevator to the machine. Fig. 4 is a modified form of the clamping-bar and its bolts.

Similar letters of reference indicate the same parts.

In the combined thrashing and winnowing machines, commonly termed "grain-separators," the grain delivered from the shakers or screens is received into a spout, which discharges it at the side near the lower edge of the machine.

Modern improvements in weighing and bagging machines have rendered it very desirable to use them in connection with grain-separators; but in order to employ them advantageously the grain must be raised from the discharge-spout by an elevator to a sufficient height to feed it properly into the weighing or bagging attachment.

There are in use throughout the country an immense number of grain-separators unprovided with weighing or bagging attachments, and their owners are desirous of adding such attachments as speedily and cheaply as possible. Here, however, arises a peculiar difficulty. The separators made by many different manufacturers differ in size and proportions of the frame and in having the discharge-spouts arranged at different places and elevations—sometimes at the right-hand side and sometimes at the left-hand side of the machine—so that it has proved practically impossible to manufacture and put on the market a standard elevator attachment

adapted to fit on the different separators in use and capable of being readily and easily applied.

The object of my invention is to supply this want; and to such end my invention consists in an elevator made adjustable to different grain-separators in the manner and by the means substantially as hereinafter fully described, and more particularly pointed out in the several claims hereto appended.

In the drawings, A represents a portion of the frame and side of a grain-separator, *a* being the top timber, and *a'* the bottom timber, of the frame; and B is the elevator arranged to receive the grain from the discharge-spout and conduct it to the top of the machine, the internal construction of the separator and elevator not being shown because already well known in the art and not forming a part of my invention.

In order to adapt the elevator-tube B to be applied to separator-frames of different sizes and forms, I provide means for adjusting it vertically, laterally, and longitudinally with respect to said frames, and for independently varying the adjustment of each of its ends. This I accomplish in the following manner: For each end of the elevator I provide a pair of brackets substantially as shown in Fig. 3, (consisting of an angle-iron plate *C C'*, slotted as shown at *c c'*), together with two clamping-bolts *c³ c³*, connected at their outer end by a strap or bar *c⁴*, and provided with a screw-nut *c⁵* at their inner end. The angle-irons *C C'* may be supplemented, if preferred, with a reverse angle-iron *C²*, slotted at *c⁶*, in order to increase the range of adjustment. Of these angle-irons the part marked *C* is applied vertically against the top or bottom timber of the frame, and bolted thereto by a bolt *d*, which passes through the slot *c* into the frame-timber, as shown in Fig. 1. The iron can be adjusted up and down on the bolt, and clamped tightly in place by screwing the nut of the bolt firmly against it. Thus fixed the part marked *C'* stands out horizontally from the frame-timber, and its slot *c'* enables the yoke *c³ c³ c⁴* or reverse-iron *C²* to be adjusted inward and outward by means of the screw-nuts on the ends of the

bolts $c^3 c^3$, or by a bolt d' used in connection with the part C^2 . A stout wooden bar E extends longitudinally of the frame, with its ends inserted into the yoke $c^3 c^3 c^4$, and thereby
 5 clamped firmly to the angle-irons. A series of holes is made through said bar, as shown in dotted lines at $e e$, Fig. 2, and a shorter bar F, also preferably provided with a series of holes $e' e'$, is connected to bar E by means of two
 10 bolts $f f$, having screw-nuts at their inner ends, the bar F and bolts $f f$ constituting a clamping-yoke, which extends around the elevator-tube and clamps it firmly to the inner bar E. The bar E (with the elevator-tube thus attached)
 15 can be adjusted longitudinally in its yoke or yokes $c^3 c^3 c^4$, the yokes can be adjusted inward or outward on the angle-irons, the angle-irons can be adjusted up and down on their retaining-bolts, the elevator-tube can
 20 be adjusted longitudinally in its clamping-yokes E $f f$ F, and the inclination of the tube can be varied both by sliding the bars E in their yokes and by changing the bolts $f f$ into different holes in the two bars, or either of
 25 them, at one end or both ends of said tube; hence ample provision is made for every possible adjustment that may become necessary to fit the tube properly to the side of any of the grain-separators now in use.
 30 As an inferior equivalent for the yokes $c^3 c^3 c^4$, the ends of the bar E may be slotted, as shown at E' , Fig. 4, and a single wide-headed or T-headed bolt G employed to bind it to the angle-irons, as shown in Fig. 4; and as a similar equivalent for the yokes F $f f$ the bar E
 35 can be placed outside of the elevator-tube, so as to clamp it firmly against the side of the separator-frame, as shown in dotted lines in Fig. 2; but I prefer the use of the yokes
 40 substantially as hereinabove set forth.

It is evident that for the purpose of properly adjusting the elevator to different grain-separators the lateral (or outward and in-

ward) adjustment is practically the most important of the several adjustments herein 45 described, and that in many cases the use of my clamping device at one end of the elevator will be sufficient, even if a non-adjustable attachment be used at the other end.

Having thus described my invention, what 50 I claim as new, and desire to secure by Letters Patent, is—

1. A clamping device consisting, essentially, of the doubly-slotted angle-irons C C', the longitudinally-movable bar E, supported by 55 said angle-irons, a yoke for clamping the ends of the bar to the angle-irons, and a yoke for clamping the elevator-tube to the bar, substantially as described, whereby said tube may be adjusted vertically, laterally, 60 and longitudinally with respect to the supporting-structure, as herein set forth.

2. The combination of the brackets C C', provided with a clamping device $c^3 c^4$, and the bar E, as and for the purpose stated. 65

3. The combination of the brackets C C', provided with a clamping device $c^3 c^4$, and the bar E and yoke F $f f$, as and for the purpose stated.

4. The combination of brackets made up 70 of the parts C, C', and C^2 , and provided with a clamping device $c^3 c^4$, and the bar E and yoke F $f f$, as and for the purpose stated.

5. The combination of an elevator-tube with a clamping-bar E, arranged at or near its end, 75 adjustably secured to the frame of a grain-separator, so as to be capable of a lateral adjustment with relation to the frame of said grain-separator, and provided with a series of holes e and a yoke F $f f$, for varying the 80 inclination of the tube, substantially as described.

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