

(No Model.)

4 Sheets—Sheet 1.

A. O. SLENTZ.

GRAIN BINDING HARVESTER.

No. 388,793.

Patented Aug. 28, 1888.

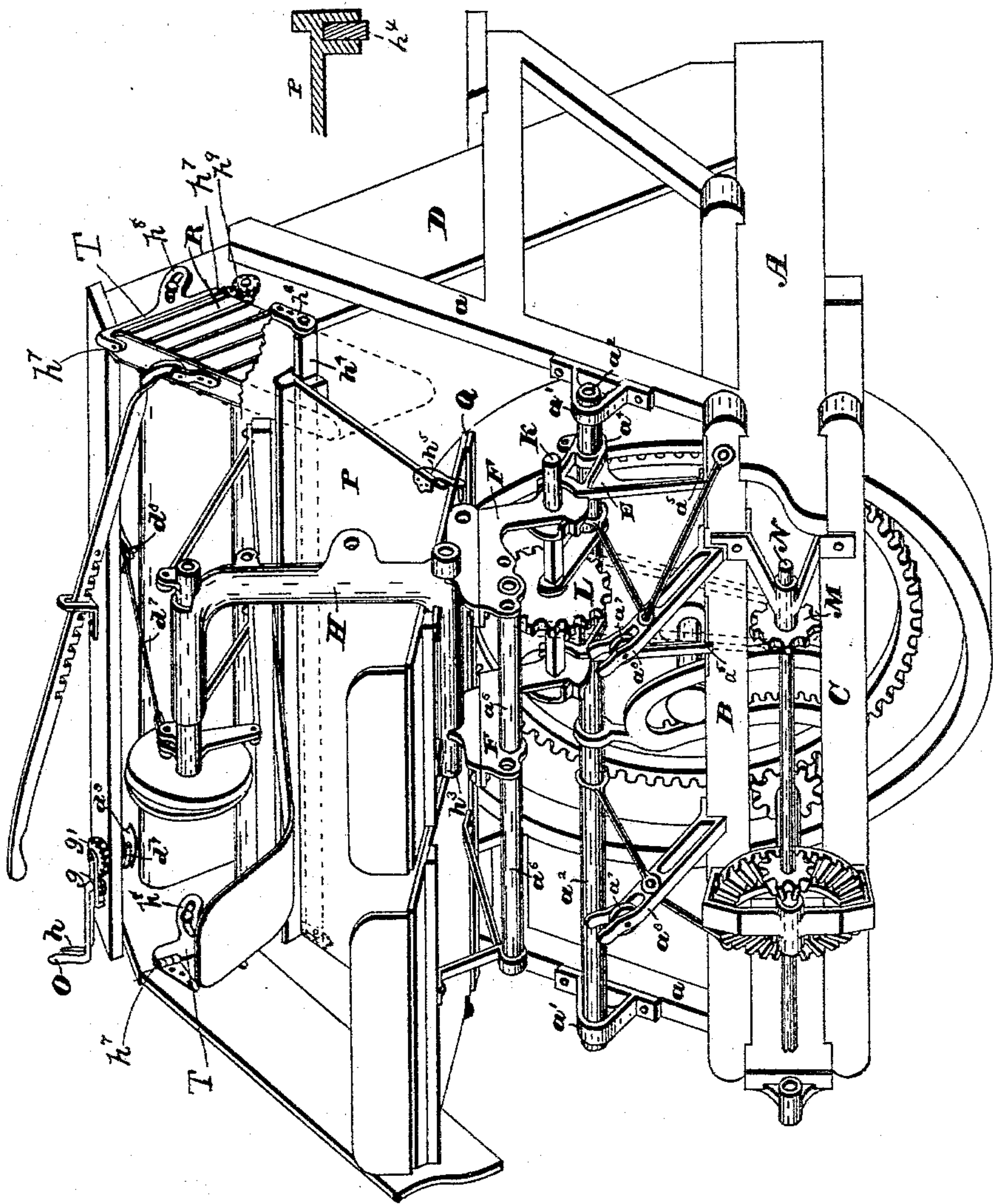


Fig. 1.

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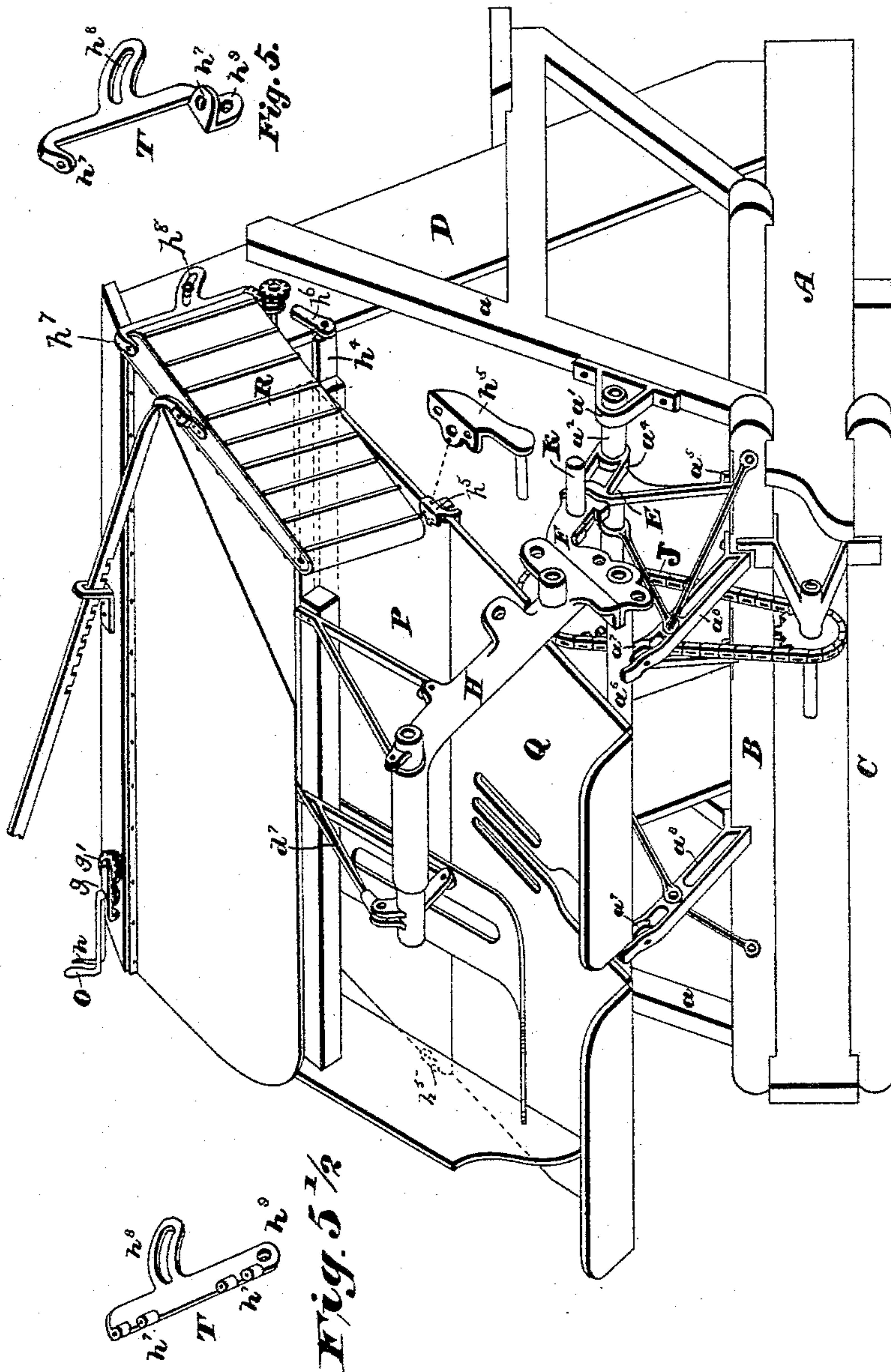
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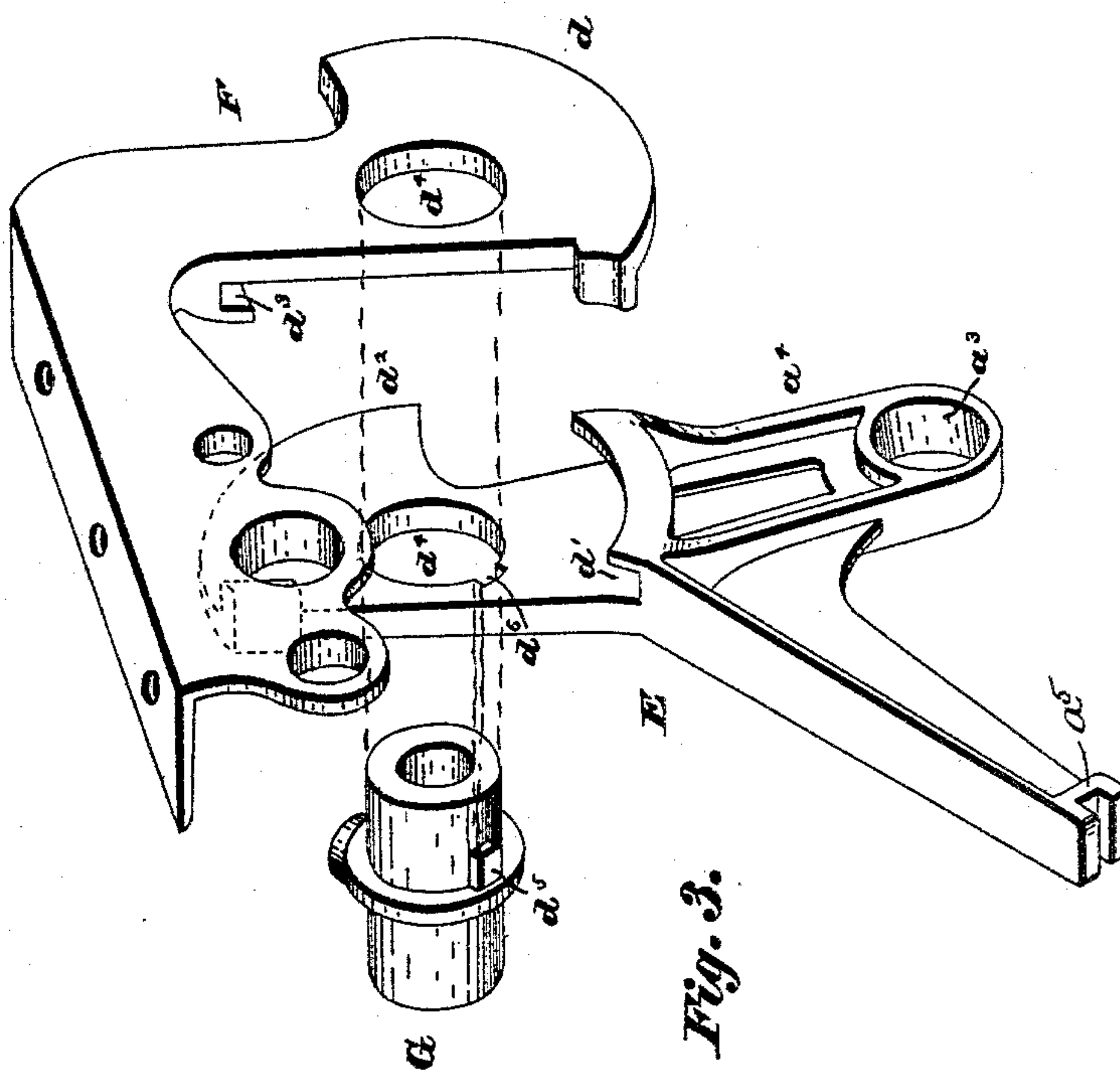
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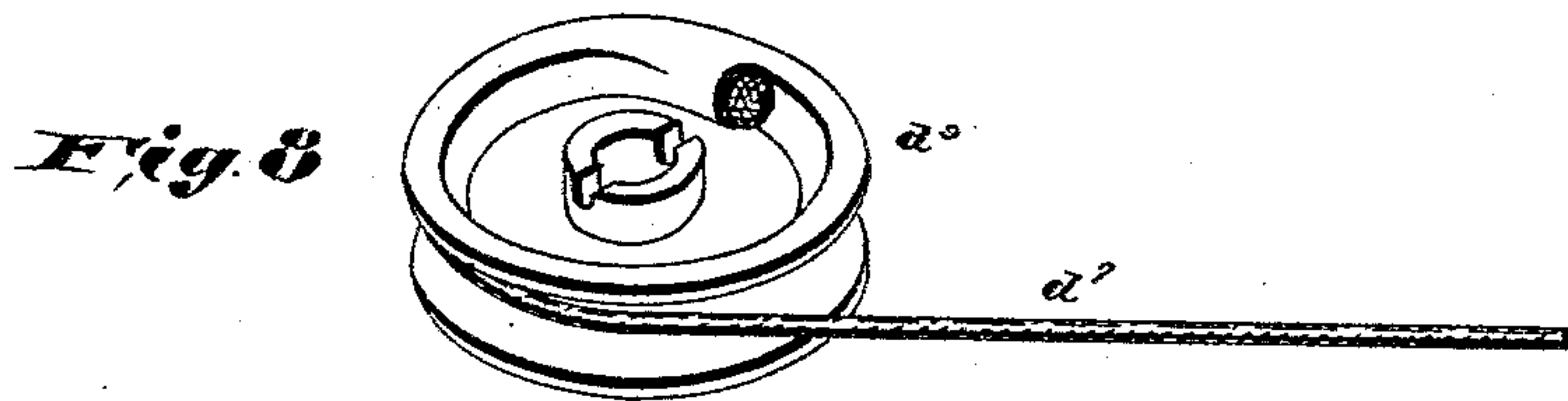
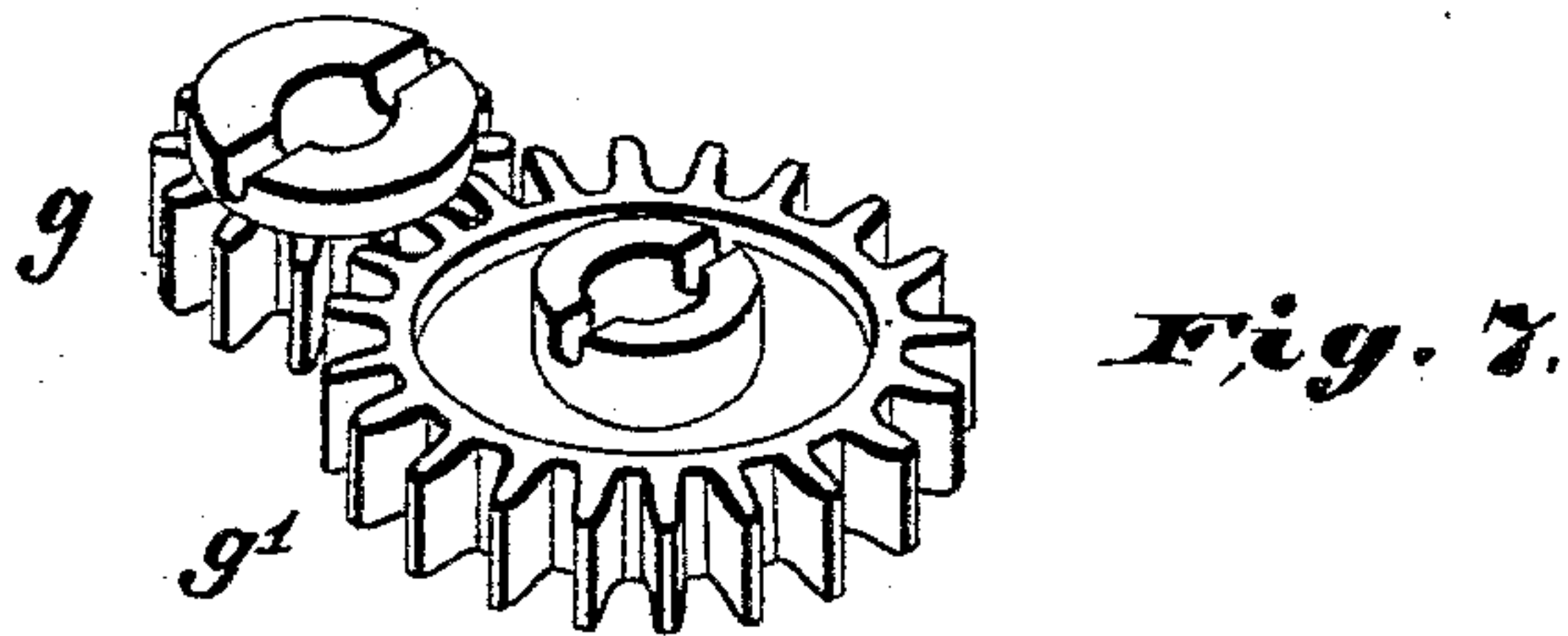
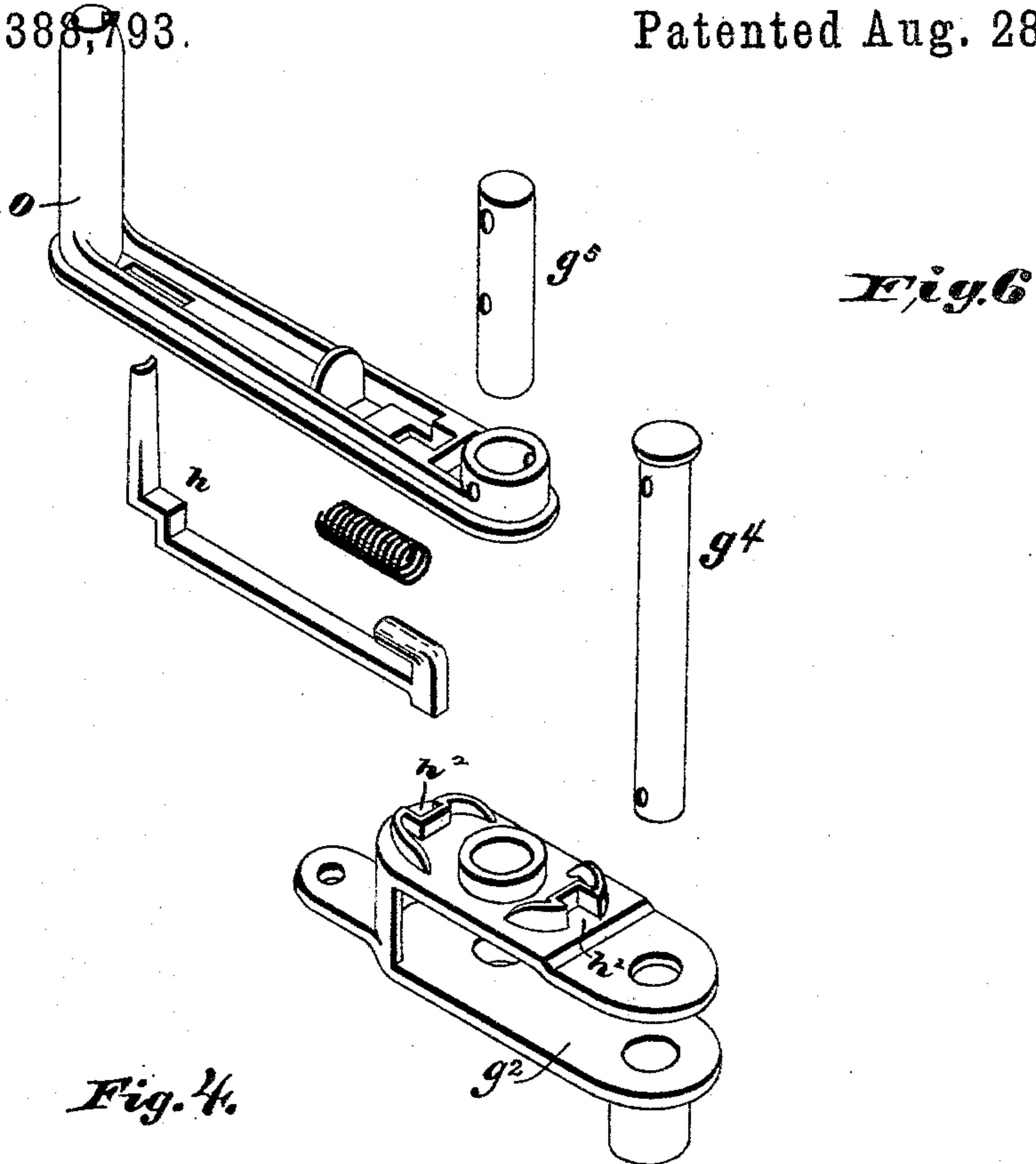
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ALBURTICE O. SLENTZ, OF CANTON, OHIO, ASSIGNOR TO THE PEERLESS REAPER COMPANY, OF SAME PLACE.

GRAIN-BINDING HARVESTER.

SPECIFICATION forming part of Letters Patent No. 388,793, dated August 28, 1888.

Application filed September 30, 1886. Serial No. 214,956. (No model.)

To all whom it may concern:

Be it known that I, ALBURTICE O. SLENTZ, a citizen of the United States, and a resident of Canton, county of Stark, State of Ohio, have
5 invented a new and useful Improvement in Grain-Binding Harvesters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

10 My invention relates to improvements in grain-binding harvesters; and it consists in providing means by which the binder may be rotated about the binder and packer actuating shaft, for the purpose of raising the binder to
15 pass obstructions during the progressive movement of the machine in the field, and to fold up the binder parts to shorten the width of the machine for convenience in transportation.

20 My invention also relates to the detail and combination of parts, as hereinafter described and set forth in the claims.

As my invention is applicable to many of the well-known forms of grain-binding harvesters now in use, I will proceed to describe
25 my improvements, referring only to the harvester parts as conjunctional thereto.

Figure 1 is an isometrical view of a grain-binder embodying my improvements and a fragment of a harvester from the right-hand
30 front, showing the binder folded up. Fig. 2 is an isometrical view from same point, showing the binder in normal position with some parts removed to show more clearly the parts to which I wish to call especial attention.

35 Fig. 3 is an isometrical view comprising the binder-actuating-shaft journal-box and the parts forming the hinges by which the binder is held in position, and by which it may be raised up and folded. The parts in this view
40 are enlarged for the purpose of elucidation, and will be hereinafter lettered and explained.

Fig. 4 is a perspective view of the bracket for supporting gearing which operates in the adjustment of the binder. Fig. 5 is a view of
45 the supporting-hinge for grain-adjuster. Fig. 5½ is a view of a supporting-hinge for the board S. Fig. 6 shows detail views of the crank, latch, and pins for securing the crank and gears in the bracket. Fig. 7 shows the gears,
50 and Fig. 8 the pulley on the same spindle with the large gear.

Similar letters of reference will indicate corresponding parts in all of the drawings hereunto attached.

A represents the front bottom frame-piece 55 of a harvester-frame; B and C, the end cross-pieces; *a a*, the frame-braces, to which are attached the brackets *a'*, in which rests the binder-supporting beam *a''*. Said beam is passed through the aperture *a'''* in the arm *a''* 60 of the hinge-piece E. The foot *a'''* of this part of the hinge-piece rests, when the binder is folded, on a slide or rib on the frame-piece B; but when the binder is down, with the bar *a'''* resting on the rollers *a'''* in standards *a'''*, the 65 feet *a'''* will be raised a short distance off the slide. This is caused by the weight of the binder hanging outside of the roller, the point of support, so that when the binder is in that position it may be more easily moved forward 70 and back to adjust it to the length of the cut grain. Hinge-pieces E and F are adapted one to the other, as shown by the drawings, Figs. 1 and 2, the flange *d'* of piece F resting in the groove *d'* in piece E, and the flange *d''* of piece 75 E resting in the groove *d''* of piece F, and when so placed together the journal-box G is placed in the perforations *d''*, the lug *d'''* resting in the notch *d'''* in piece E, thus forming a center-pin or pivoted point about which the hinge- 80 piece F, with the binder-frame H attached thereto, as shown in Figs. 1 and 2, may be raised up for the purpose of passing obstructions, or may be folded up against or upon the harvester to shorten the width of it for con- 85 venience in transportation from field to field or through narrow highways.

The binder and packer actuating shaft K is passed through the journal-boxes G, in which it may be rotated to give motion to the binder 90 parts, which may be of any of the forms generally known as the "Appleby," or any of the modifications thereof, which is so well known that it will require no explanation at this time. A portion of said shaft K is or may be 95 square, and on said portion is placed a sprocket-wheel, L, a chain, J, connecting it with sprocket M on shaft N.

It may be noticed in this connection that the raising up or folding of the binder parts will 100 in no way interfere with the rotation of this shaft or other movement of parts of the har-

vester or binder; neither is it necessary for the purpose of raising up or folding the binder parts to disconnect or remove any of the parts thereof.

5 A wire cord, d' , is attached to the binder-frame H, as shown, and passed over a roller, d^8 , to spool d^9 , about which it may be wound by the use of the handle-crank O, which has a geared connection with the spool d^9 . There is
10 also provided in connection with this said crank O a locking-bolt, h , and a notch or notches, h^2 , in which the end of said bolt may rest for the purpose of sustaining the binder when raised up (by winding the cord on the
15 spool) at any given height within the limits of movement. The gear-wheels g g' are supported by frame g^2 and pins g^4 g^5 , to which the crank O and spool d^9 are attached, as shown, Fig. 1. To allow of this raising and folding
20 movement, hereinbefore mentioned, the binder-deck is composed of two sections, P and Q.

Section Q is rigidly connected to the lower part, h^3 , of the binder-frame H, and may be rotated about the actuating-shaft K with the
25 binder-frame for the purpose of raising the binder, as hereinbefore stated. Section P is supported by cross-bar h^4 , which is connected to and supported by the elevator-frame D through loop h^6 . The bar h^4 , on which the up-
30 per edge of the section P is loosely mounted and adapted to slide longitudinally, may have a yielding or a pivoted connection with the elevator-frame D, that will allow it to rock or rotate with the deck-section P as its lower end
35 is raised or lowered by the movement of section Q; or the deck-section P may have a hinged connection about the bar h^4 . The two sections P and Q are connected by grasping-fingers h^5 , connected with section P at each end thereof
40 and reaching down and under section Q, as shown in Fig. 1. These fingers are so connected as to allow section Q to slide through between the finger and the lower edge of section P. Section Q is so grasped by the finger
45 h^5 , attached to section P, that the said section P may be moved forward and back on the supporting-bar h^4 as the binder is so moved.

To adapt the grain-butter or grain-adjuster R to rise and fall with the binder-deck as the
50 binder may be raised to pass obstructions during the progressive movements of the machine, a hinged support, T, is provided with a pivoted connection, h^9 , with the main frame, the axis of which is at right angle with the vertical hinge h^7 , by which the adjuster is connected
55 to the hinge piece or support T. The said hinge-piece is also provided with a slot, h^8 , circular about its pivotal connection with the harvester-frame, through which a thimble and
60 bolt may be passed to hold the parts in proper working position, and by which the vertical movement of the adjuster may be limited.

The operation is as follows: If it becomes necessary during the progressive movement
65 of the machine while operating it in the field to raise the binder, it may be done by the operator turning the crank O without leaving

his seat, winding up the cord, and thereby raising the binder, as desired, and in which position it may be locked by the locking-bolt h without interrupting the operation of the machine and be lowered by a reverse movement.

To fold the binder up to pass a tree or other obstruction, or for transportation on the highway, the grain butter or adjuster may be moved out off from the binder-deck and the binder raised or folded up against the harvester, as hereinbefore stated.

Having thus fully described the nature and object of my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a grain-binding harvester, the combination, with the harvester-frame, of a binder-supporting frame having a hinge-connection with the harvester-frame about the binder and packer actuating shaft, a binder-deck, one part of which is connected with the harvester-frame and another part with the binder-frame, the parts being so connected together as to be held in operative position while the binder-frame is being folded, and means for raising and lowering the binder-deck during the progressive movement of the machine, whereby the binder may be raised to pass obstructions or folded over upon the machine, substantially as set forth.

2. In a grain-binding harvester, the combination, with a binder-frame pivotally secured to the harvester about the binder and packer actuating shaft, and a binder-deck, one part of which is connected with the harvester-frame and another part with the binder-frame, the parts being so connected as to be held in operative position while the binder-frame is being folded, of gearing connecting the binder and packer actuating shaft with a drive-shaft, and a lifting device leading from the binder-frame to a point within reach of the operator, by which the binder-frame may be moved bodily about the binder and packer actuating shaft as an axis without throwing the gearing out of operative adjustment, substantially as set forth.

3. The combination, in a grain-binding harvester, of a binder-supporting frame having a hinge-connection with the harvester about the binder and packer actuating shaft, a binder-deck, one part of which is connected with the harvester-frame and another part with the binder-frame, the parts being so connected together as to be held in operative position while the binder-frame is being folded, a crank having a spring-actuated clutch and a lifting-connection between the binder-supporting frame and the crank, whereby the operator may raise the binder without disconnecting the shaft from its driver to pass over obstructions during the progressive movement of the machine or fold the binder over upon the machine and sustain it in said position for convenience in operating and transporting it, substantially as set forth.

4. The combination, with a grain-binding

harvester, of a binder-supporting frame having a hinge-connection with the harvester about the binder and packer actuating shaft, binder-supporting standards, a binder-deck, 5 one part of which is connected with harvester-frame and another part with the binder-frame, the parts being so connected together as to be held in operative position while the binder-frame is being folded, and means by which the 10 operator may raise the binder from the standards and lower it onto the standards, substantially as set forth.

5. In a grain-binding harvester, the combination, with a binder adapted to be raised up and folded upon the machine, of a grain-deck 15 composed of an upper and lower section having a yielding and sliding connection at the point of engagement and a cross-bar supported on the harvester-frame, upon which the upper 20 section is loosely mounted and adapted to rock and slide longitudinally, substantially as set forth.

6. In a grain-binding harvester, a grain-adjuster provided with a hinge consisting of a 25 bracket having perforations to receive a bolt,

on which the adjuster turns, and also having a tail-piece provided with a slot in the arc of a circle adapted to receive loosely a bolt at right angles to the hinge-bolt for the purpose of allowing the movement of the adjuster in two 30 directions, as set forth.

7. In a grain-binding harvester, a grain-adjuster having a vertical hinge, h^7 , a horizontal hinge, h^9 , and a circular slot, h^8 , substantially as described, and for the purpose set 35 forth.

8. In a grain-binding-harvester, the combination of the hinge-pieces E and F, the former provided with the groove d' and flange d^2 , and the latter with the groove d^3 and flange d , 40 adapted to engage the flange d^2 and groove d' of the piece E, respectively, and the sleeve G, as a hinge and a support for the actuating-shaft and the binder, substantially as set forth.

In testimony whereof I have hereunto set my 45 hand this 24th day of September, A. D. 1886.

ALBURTICE O. SLENTZ.

Witnesses:

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W. K. MILLER.