

(No Model.)

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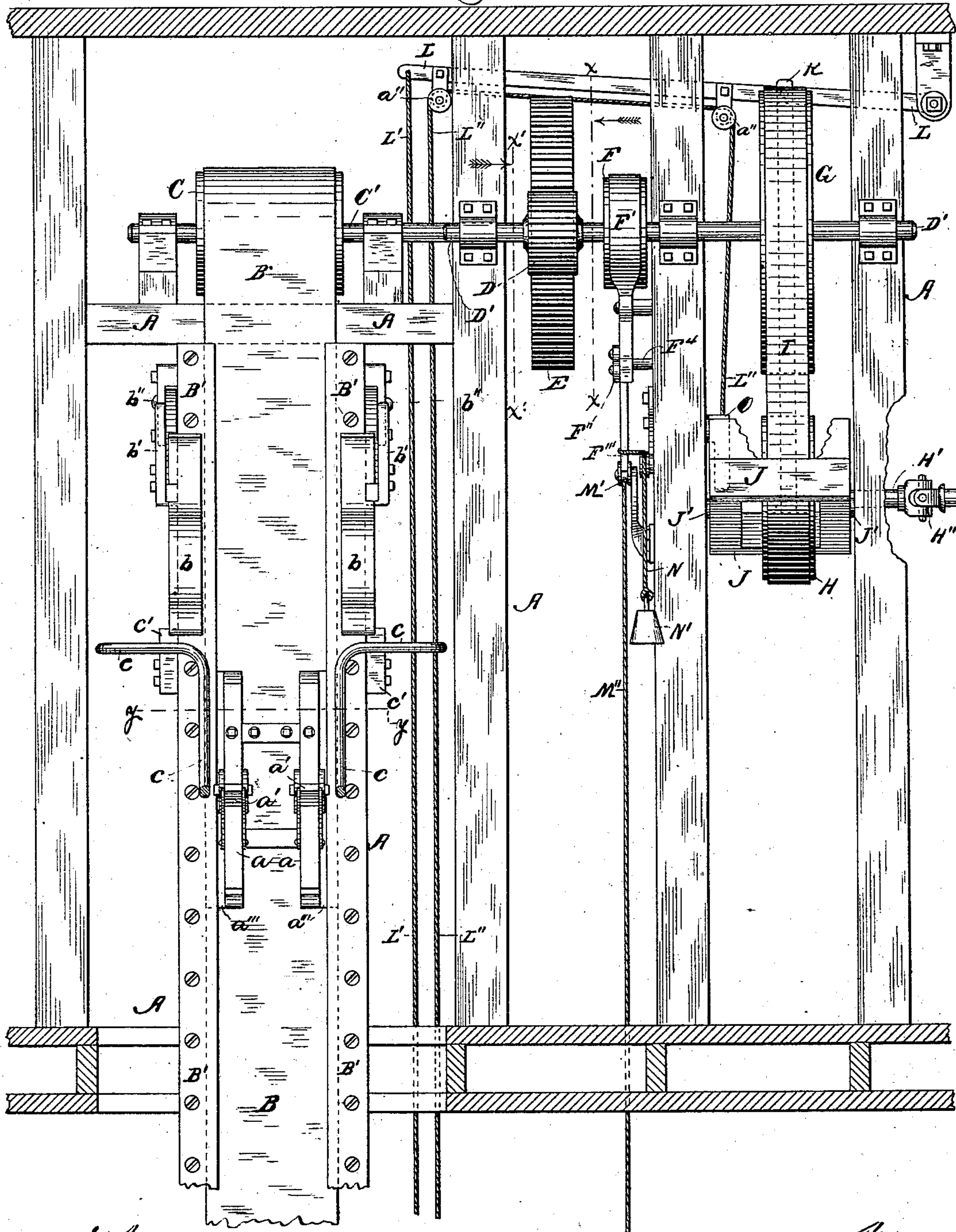
A. CONRAD.

ELEVATOR FOR BAGS, &c.

No. 294,015.

Patented Feb. 26, 1884.

Fig. 1.



Witnesses.

Henry Frankfort,
W. S. Baker.

Inventor.

Adam Conrad
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(No Model.)

4 Sheets—Sheet 2.

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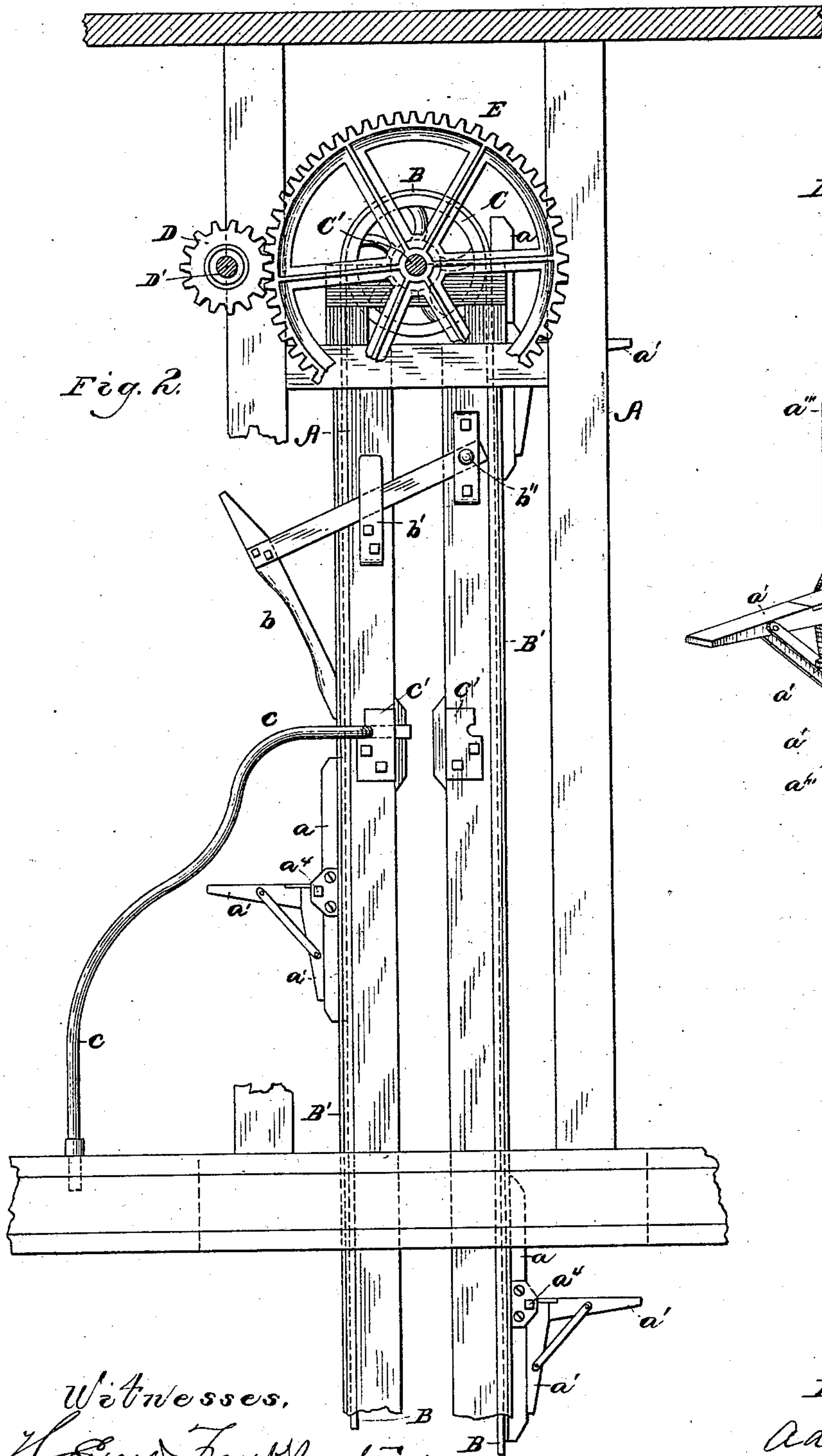


Fig. 2.

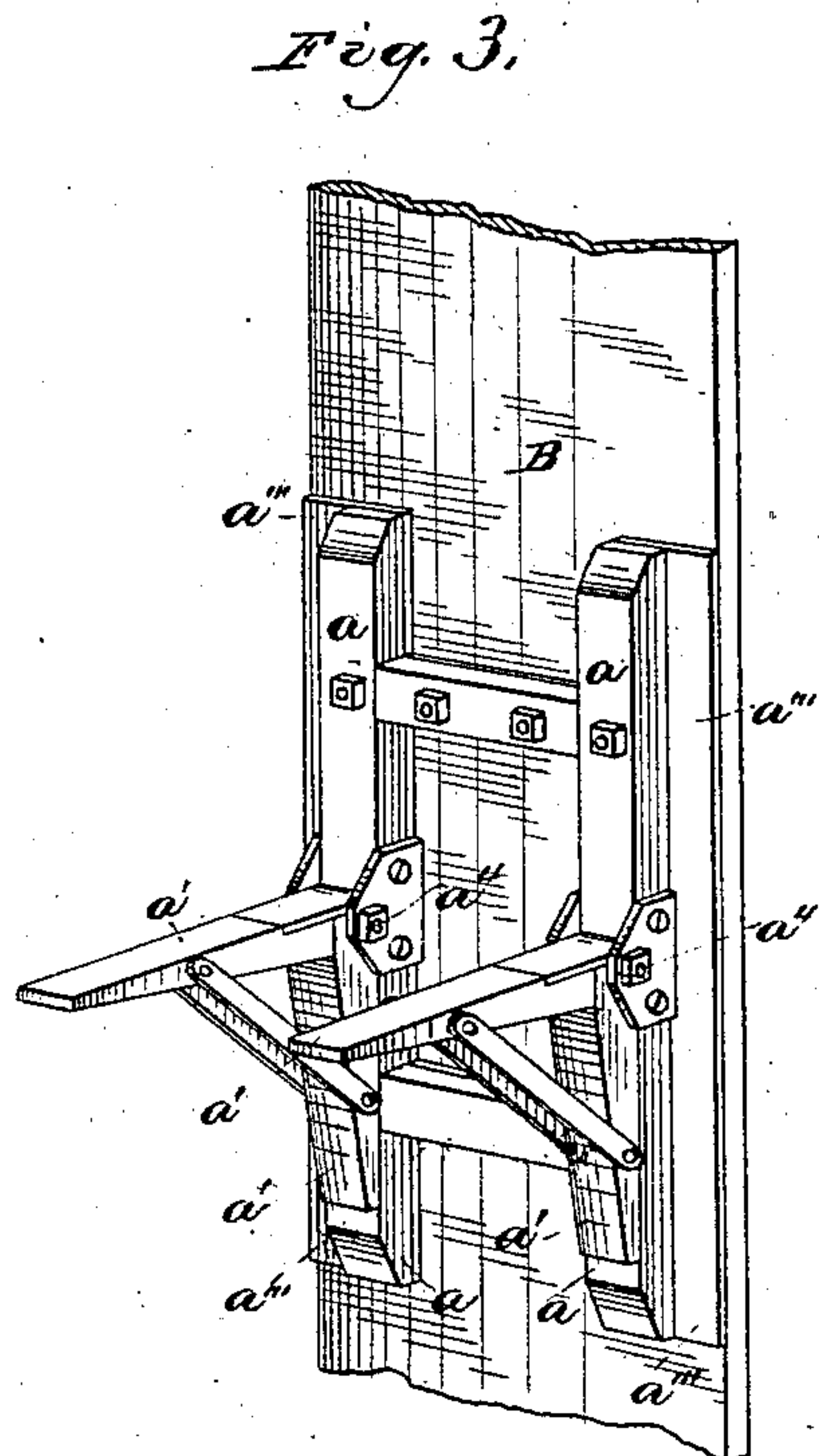


Fig. 3.

Witnesses,
Henry Frankfurter,
W. L. Baker.

per.

Inventor,
Adam Conrad
A. M. Stout
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(No Model.)

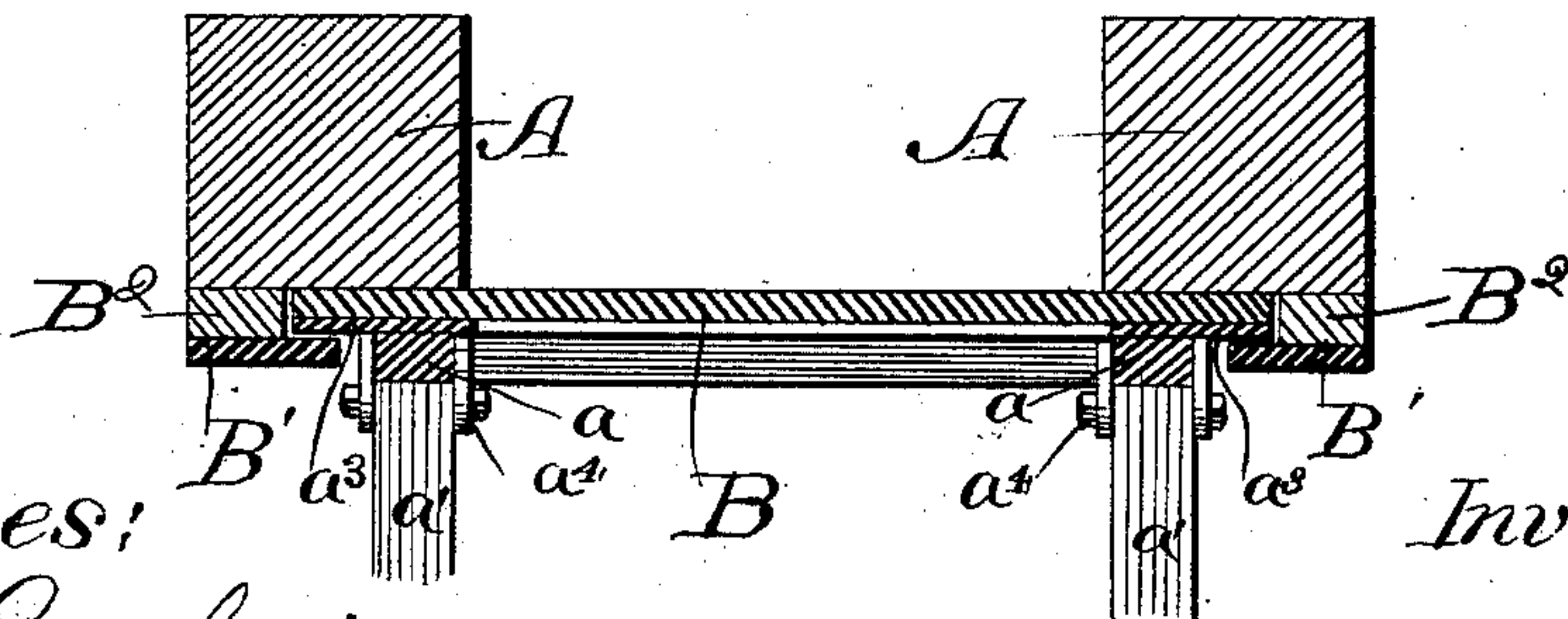
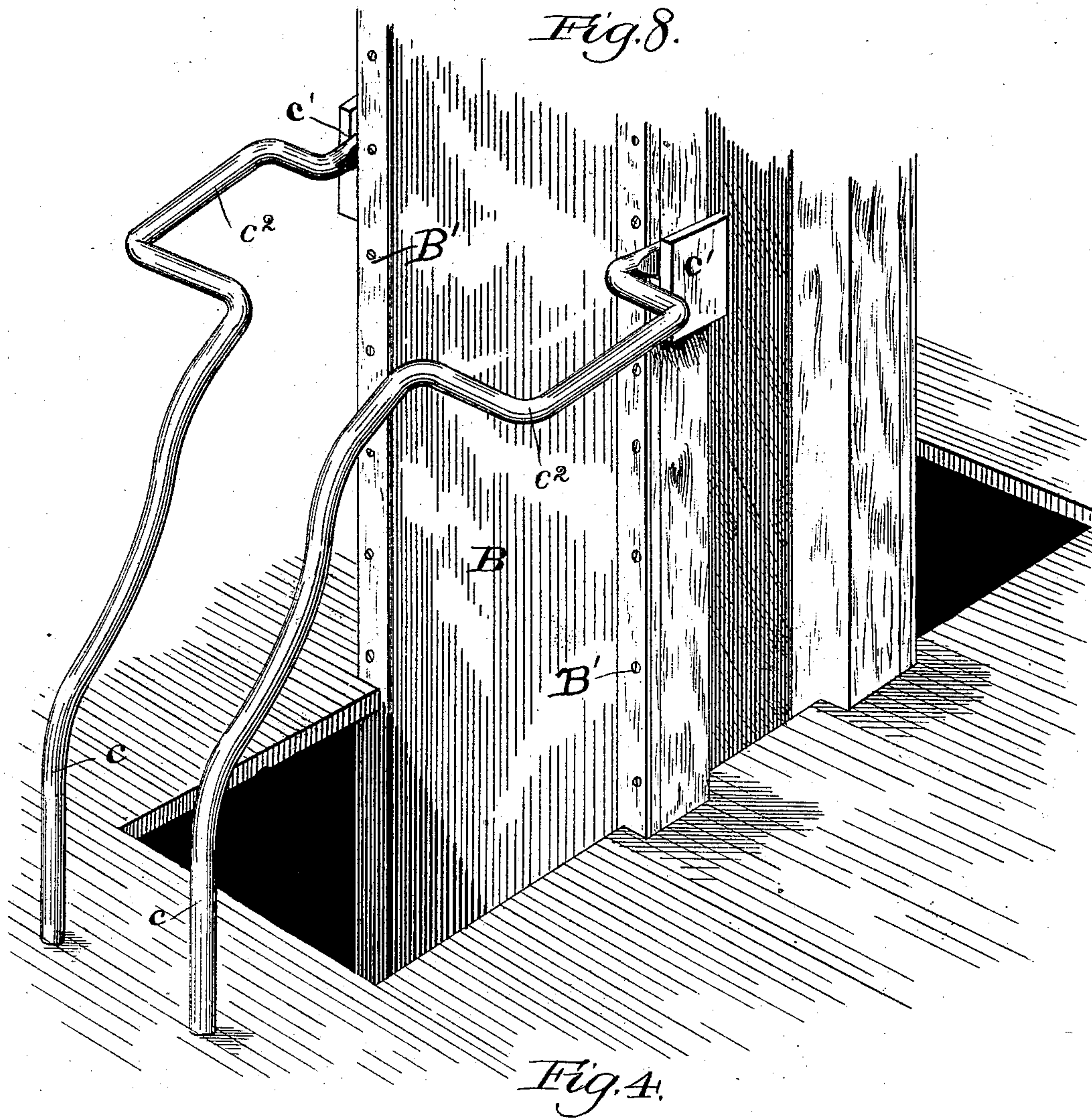
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Patented Feb. 26, 1884.



Witnesses: B³ a³ a³
Chas. E. Gaylord.
Frederick Goodwin


 a² Inventor:
 adam Conrad
 By a. m. stout atty

(No Model.)

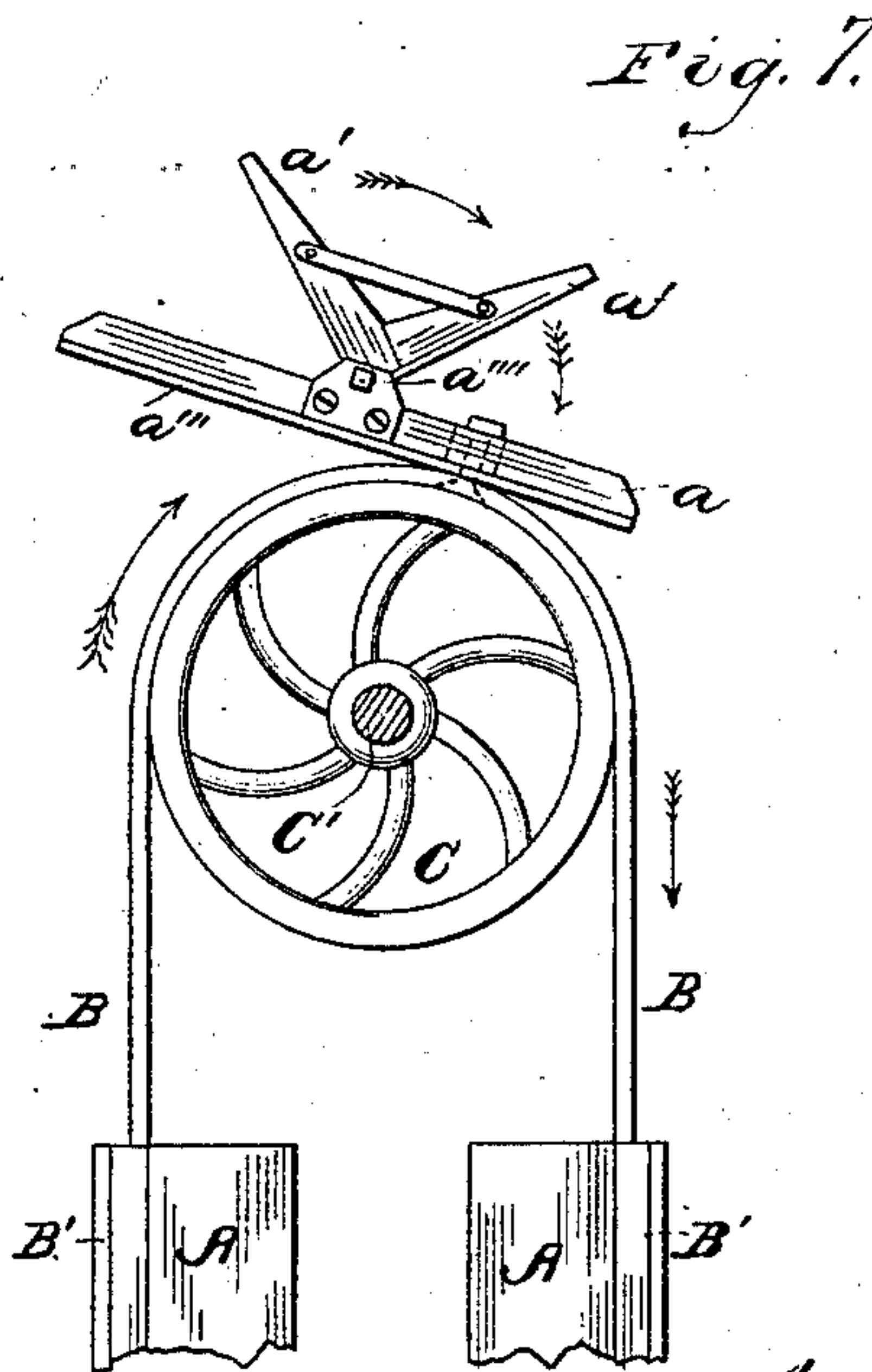
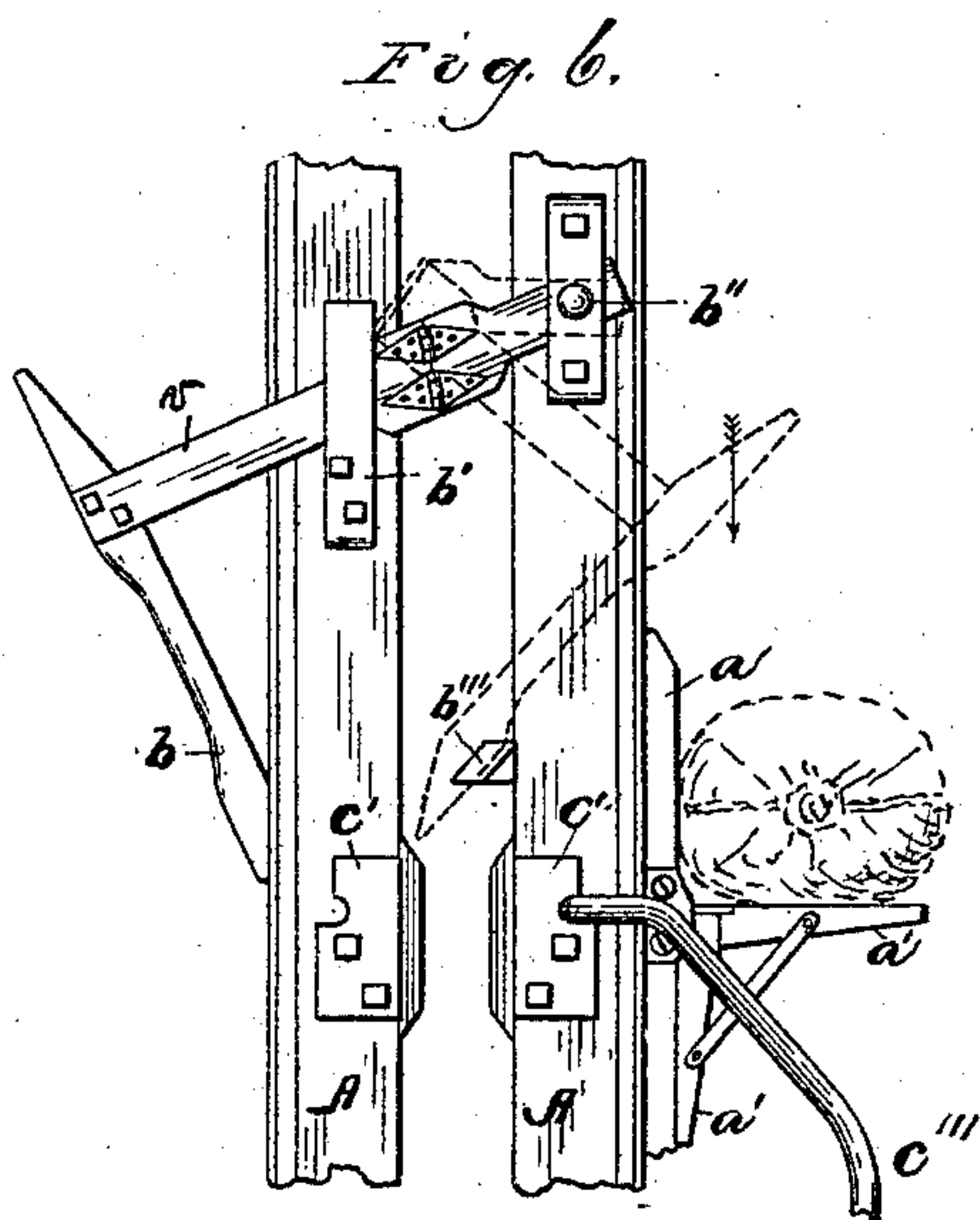
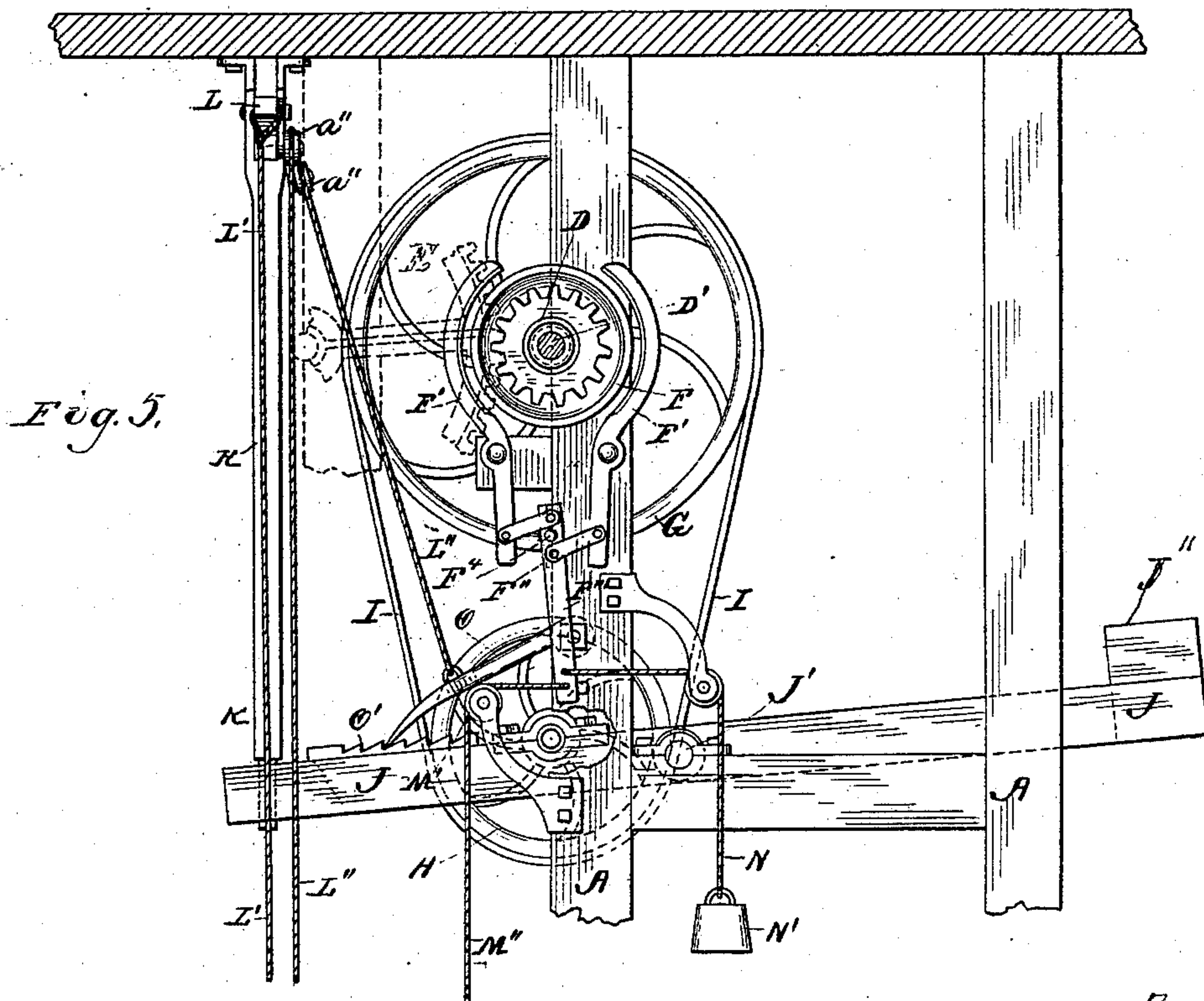
4 Sheets—Sheet 4.

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Patented Feb. 26, 1884.



Witnesses
H. C. Frankfurter,
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Inventor.
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UNITED STATES PATENT OFFICE.

ADAM CONRAD, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
ALBERT DICKINSON.

ELEVATOR FOR BAGS, &c.

SPECIFICATION forming part of Letters Patent No. 294,015, dated February 26, 1884.

Application filed October 24, 1883. (No model.)

To all whom it may concern:

Be it known that I, ADAM CONRAD, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in
5 Elevators for Bags, of which the following is a specification.

The nature and object of my invention will be hereinafter described with reference to the accompanying drawings, in which—

10 Figure 1 represents a front elevation of an elevator embracing my improvement in its construction; Fig. 2, a vertical cross-section of the same, taken as indicated by the broken line *xx* in Fig. 1; Fig. 3, a perspective of the
15 endless elevator-belt B, with the carrying devices in position on the same; Fig. 4, a horizontal section of the same, made as indicated by the broken line *yy* in Fig. 1; Fig. 5, a vertical cross-section, made as indicated by the
20 broken line *xx'* in Fig. 1; Fig. 6, a detail view of the automatic devices for dumping or unloading packages; Fig. 7, a detail view of the carrying devices, designed to illustrate their position when in the act of passing around
25 the belt-pulley C or the pulley below; and Fig. 8, a like view, on an enlarged scale, of the skids *c* and their bearings.

A indicates the two uprights or supports, which are fastened to the topmost floor above
30 and the lowermost one below; H, the driving-pulley, to which the power is applied through its shaft H', which is itself connected to the engine through the universal coupling H"; J, a cross-frame, upon which are bolted the
35 bearings of the shaft H', and the frame pivots or rocks upon shaft J'; O', a rack-bar fastened on the frame J; O, a pawl pivoted to one of the upright supports A; G, a large belt-pulley mounted upon shaft D'; and I, its belt,
40 encircling it and the pulley H, adapted and designed to convey power from the shaft H' to shaft D'; F, a brake-pulley mounted upon shaft D' and operated by the two brake-shoes F', one on each side, and both pivoted to
45 proper bearings in the frame. The brake-shoes are held normally engaged with pulley F by the weight N' on cord N, attached to the vertical lever F³ on pivot F⁴, connected by

two links, as shown, to the brake-shoes F'. The cord M", running over guide-sheave M', 50 connected with lever F³, is used by hand to disengage the brake-shoes F' when required. The weight J² tilts the frame J when the pawl O is raised from the teeth of the rack-bar O' by hand by means of the cord L², running over 55 pulley *a''* on the lever L, which is hinged to the floor above and pivoted to the vertical rod *k*, and rests with its foot upon the frame J. The application of the power to shaft D' is made by depressing the frame J, and thus 60 tightening the belt I upon pulley H by means of force applied by the hand to cord L', attached to the outer end of lever L, which forces frame J downward by means of the vertical rod *k*. The pulley H, its frame J, shaft 65 H', belt I, and pulley G are designed merely to throw the elevator out of connection with the power when required and the brake to hold the elevator when so disconnected.

D is a pinion on shaft D', and meshes with 70 the large cog-wheel E, which is mounted upon shaft C', which itself carries the belt-pulley C, and this last-named pulley and the like one below (not shown in the drawings) are traveled over by the endless belt B, upon which 75 are bolted a series of carriers, (shown in Figs. 3 and 7,) which consist of the bed-plate *a'''*, made preferably of metal, to which is fastened a wooden frame, *a*, and to this frame the two 80 arms *a'*, rigidly fastened together at right angles to each other, are hinged, as shown in the drawings at *a⁴*. These carriers, in pairs, are fastened to the belt B, with suitable intervals between the pairs around the belt, so that when it is set in motion around its pulleys the 85 carriers may carry up and deliver bags and packages upon one side of the uprights A, and carry down and deliver others upon the other side at the same time, and the deliveries may be made upon any floor of the building or ware- 90 house in which the elevator is employed.

The result of the mechanism shown and described is that when the belt B travels in the direction indicated by the arrows in Fig. 7, a pair of the carriers having ascended upon the 95 belt and passed beyond the center of pulley

C, will tilt upon their hinges and appear as shown in Fig. 7, and upon their descent the bar a' , which was below in the ascent, will be above.

5 In order to secure true action on the part of belt B and prevent its buckling or yielding in any direction under the weight of packages, the two uprights A may be cut away in front from the inner edges—say, two-thirds of the
10 distance across to their outer edges—or their front faces may be left plain, and bars B^2 , about one-third as wide as an upright, A, may be fastened against the outer side of the face of each upright, and then to these bars B^2 may
15 be securely fastened the plates B' , which should be a few inches wider than bars B^2 , so that recesses for the edges of the belt B behind the plates B' and in front of the upright A will be formed so that the belt cannot yield edge-
20 wise or from the front to rear. The recesses or ways so formed serve also to guide and stay the reversible carriers, for the bed-plates a^3 of the carriers are made much wider than their frames a , and their outer edges pro-
25 ject into the described recesses or ways about as far as the edges of the belt do, and any strain caused by the weights upon the carriers against the belt will be sustained by the up-
30 rights A, immediately behind it. Thus the plate guides and confines both the belt and the carriers.

The unloading or dumping device shown in Fig. 6 consists of the bars b and v , rigidly attached to each other, and the bar v is pivoted
35 at b'' and confined in bracket b' . Now, as the package resting on the bars a' is carried up, it passes the lower end of bar b , and is forced outwardly by it until bar v attains nearly a horizontal position, when it is forced off the
40 carriers altogether. The bar v is provided with a hinge, so that it can be folded back upon the stop b'' , out of the way, when required. This device, in pairs, is for use when bags and
45 packages are to be carried upward, as from one floor to another above it; and whenever they are thrown off, they are caught and conveyed away from the belt and onto the floor by devices which I have invented for that purpose. These devices are preferably made of
50 round rods of iron, and bent into the peculiar form shown in the drawings. These skids c rest with their lower ends on the floor, and their upper ends in sockets or brackets in or upon uprights A. They are bent widely asun-
5 der near their upper ends, and form loops c^2 , in order to allow a long bag or package to pass up between them; and then, after sufficient loops have been formed, they are again bent toward each other, and then extended in par-
60 allel directions, as shown, in order that when the bag falls upon them, as it will do, some distance from the belt, its ends, respectively, may project so far beyond the skids as not to be liable to bend downward and fall between
65 them.

In order to catch and remove out of the way

and onto the floor bags and packages descend-
ing from an upper to a lower floor, I have pro-
vided the skids c''' , in pairs. Their feet may
70 have sockets in the floor, and their upper ends sockets in or brackets upon the uprights A, and their upper ends are just outside the carriers; and the latter, as they pass down, leave the
75 bags or packages upon them to slide or roll down upon the floor.

I will here add a few words of explanation of the parts and their operation, described in the first part of this specification. When the
80 pawl is engaged with the rack-bar, the tilting-frame J is held down against the weight J^2 , and the belt I is held taut upon the pulley H, and the power is transmitted to the elevator through the shaft D' , pinion D, and cog-wheel F and shaft C' ; but when the power is to be
85 taken off, the pawl is disengaged by means of force upon cord L^2 , when the weight J^2 will raise pulley H, which will then revolve free of the belt I.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The endless belt B, provided with the tilting reversible carrier composed of the frame
90 a and the two arms a' , rigidly connected together and pivoted or hinged to the frame, substantially as and for the purpose described.

2. The described dumping device, composed of the bar b and of the bar v , rigidly attached thereto, and pivoted at b'' , adapted to throw
95 off packages in their upward passage, substantially as described.

3. The described dumping device, consisting of bar b and bar v , rigidly fastened there-
100 to and pivoted at b'' , and provided with a hinge, as shown in Fig. 6, adapting it to be folded back out of the way when packages are to be elevated above it, substantially as described.

4. The skids c , bent laterally, as shown, so as to form loops c^2 in each one, and leave
105 space for a bag to pass up between them, and made detachable and interchangeable for use on any floor in the building, the lower ends resting on or in the floor, and their upper ends loosely in sockets or brackets, adapted to allow packages to pass up between them
110 and then catch them when thrown off the carriers and guide them to the floor, substantially as described.

5. The rods c''' in pairs, having bearings for their upper ends in the uprights A, and for
115 their lower ends in or upon the floor, and detachable, adapted to receive bags or packages in their downward passage and guide them out of the way and upon the floor, substantially as described.

6. The combination of the lever L, having one end pivoted to the main frame, and hav-
120 ing pivoted to it the fulcrum-bar k , and the pivoted weighted frame J, bearing its pinion H and shaft H' , substantially as described.

7. The brake for the pulley F, composed of the two shoes F' , pivoted at their lower ends
130

to the main frame, and the vertical lever F'', working on pivot F', and operating the brake-shoes by the two links, as shown in Fig. 5, substantially as described.

- 5 8. The combination of the pawl O, pivoted on the main frame, and the rack-bar O' on the inner end of pivoted frame J, adapted to

hold that end down against the weight J² on the other end of the same, substantially as described.

ADAM CONRAD.

Witnesses:

W. C. YOUNG,
E. F. RUNYAN.