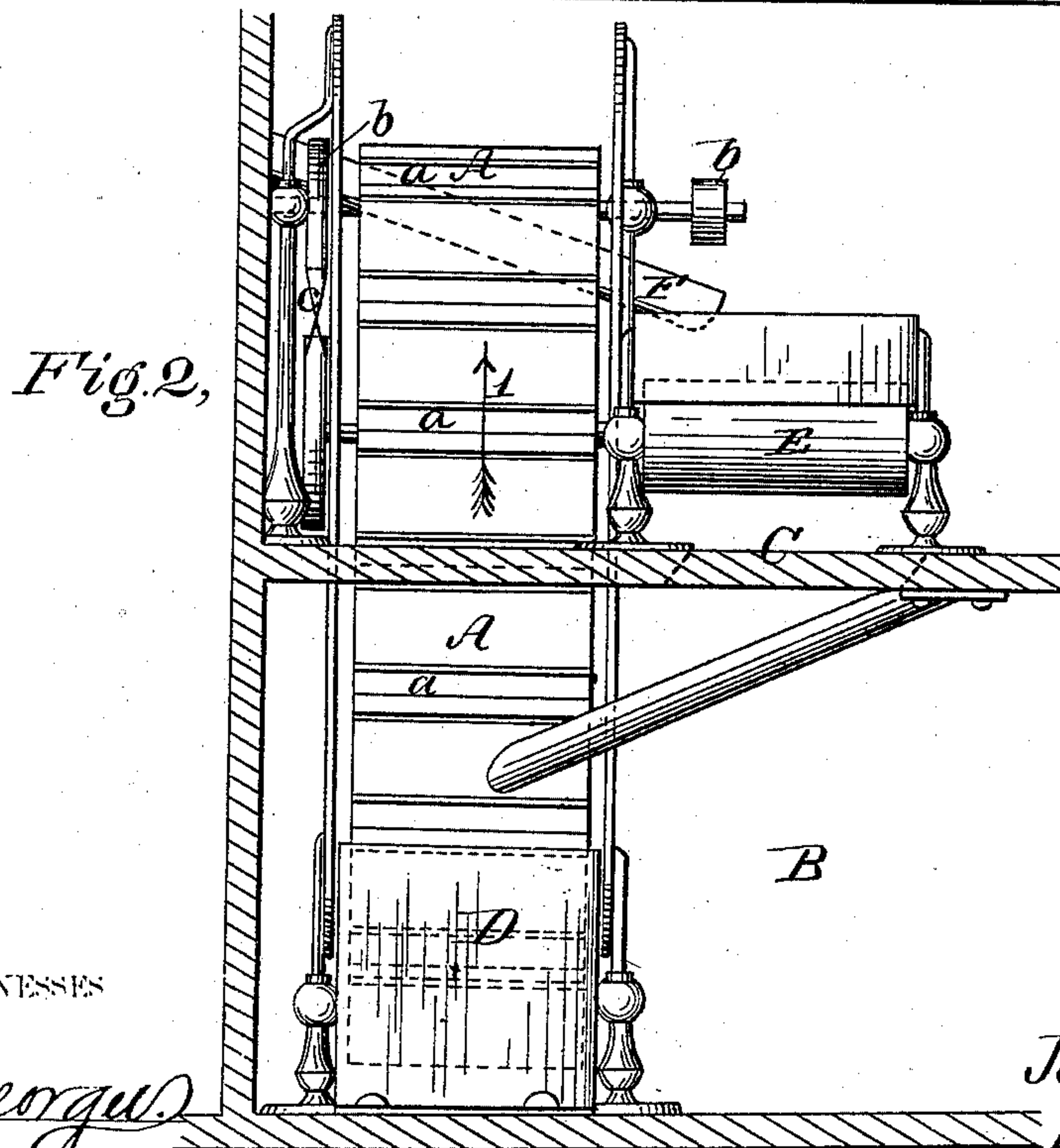
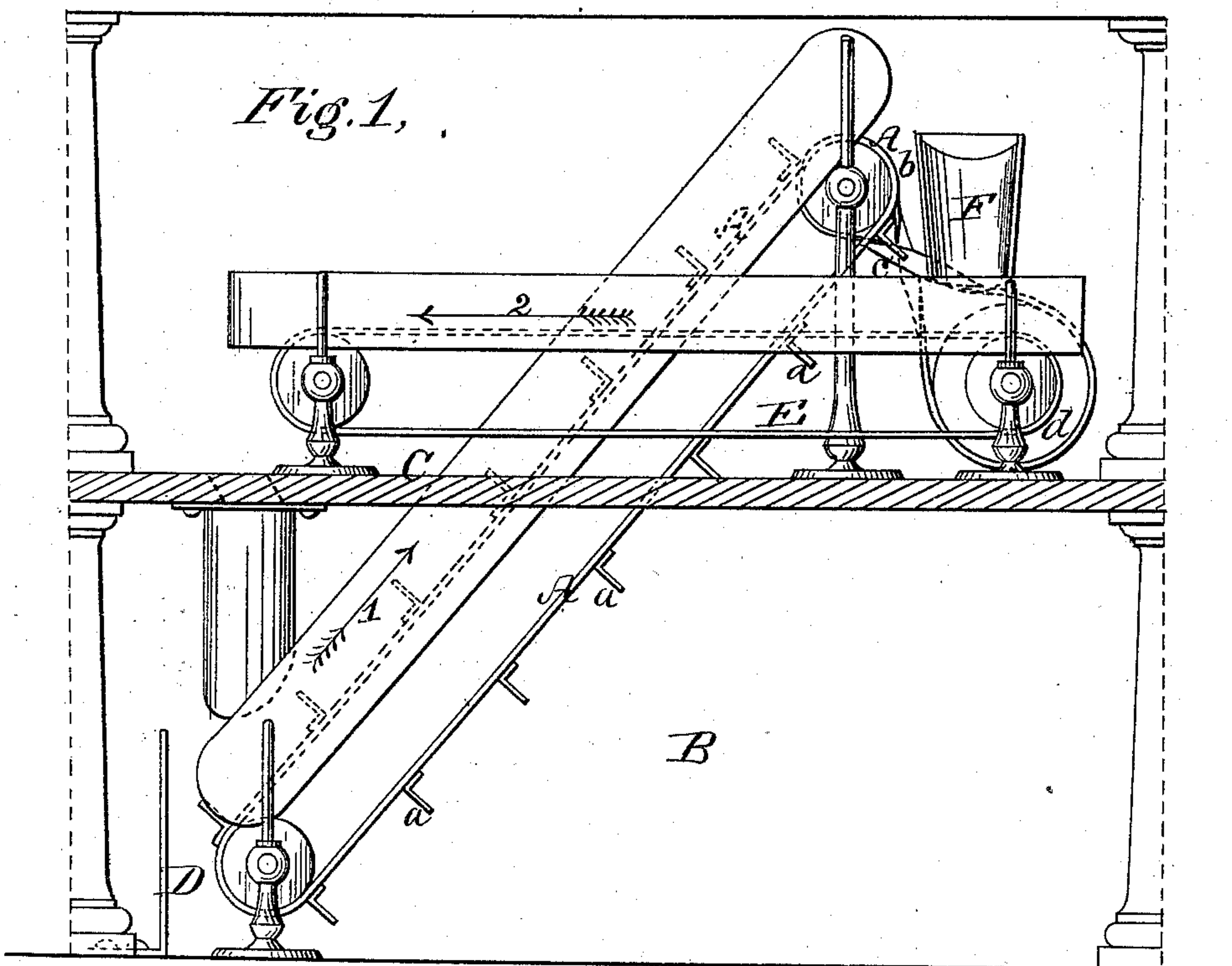


(No Model.)

2 Sheets—Sheet 1.

J. P. HILLARD.
Combined Elevator and Carrier.
No. 229,703. Patented July 6, 1880.



WITNESSES

George W. Pick

INVENTOR

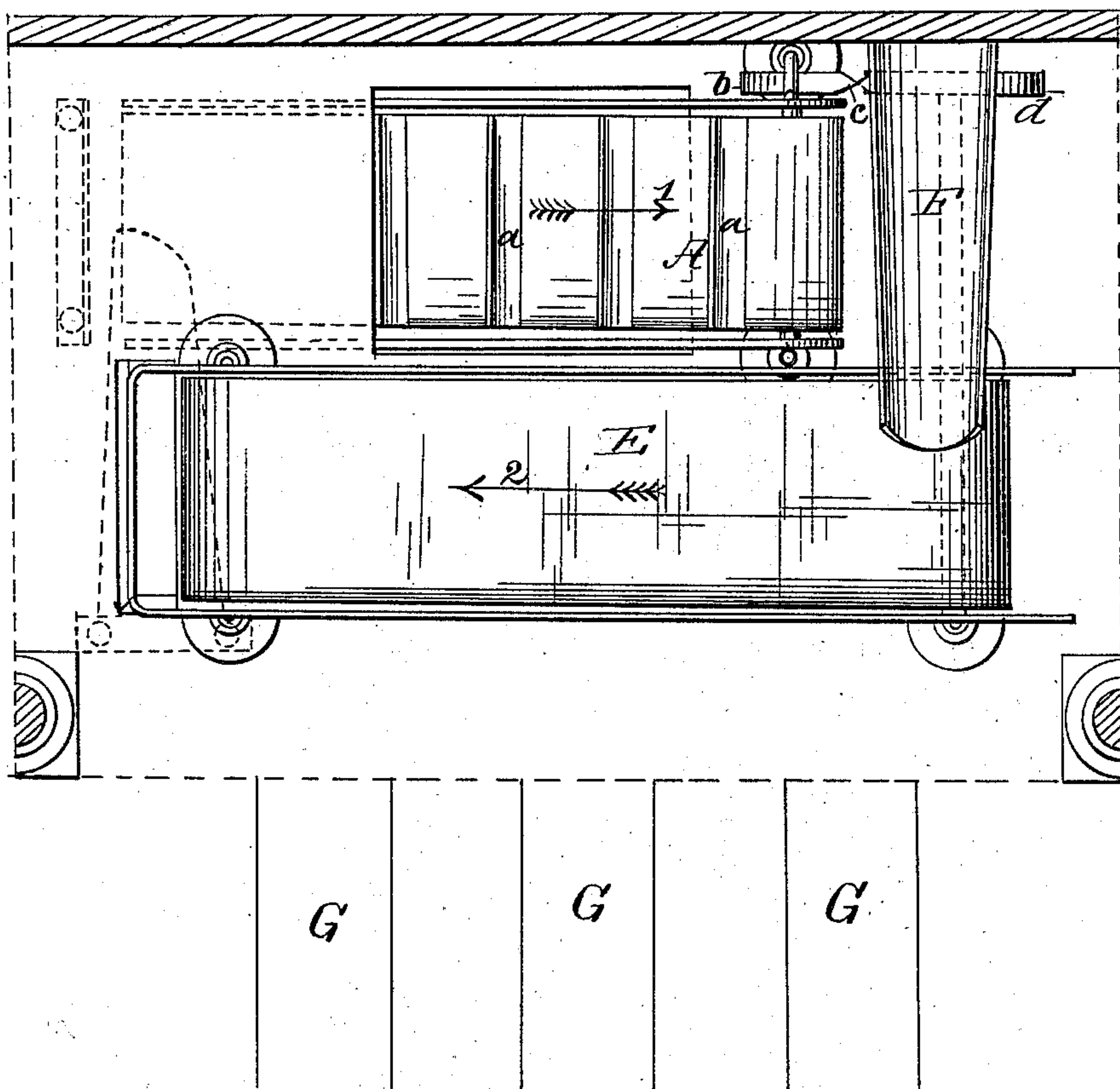
James P. Hillard,
by *W. Bailey*
his ATTORNEY.

(No Model.)

2 Sheets—Sheet 2.

J. P. HILLARD.
Combined Elevator and Carrier.
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Fig. 3,



WITNESSES

George W. Hillard
E. F. Dick

INVENTOR

James P. Hillard,
by W. Bailey
his ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES P. HILLARD, OF FALL RIVER, ASSIGNOR TO WHITEHEAD & ATHERTON MACHINE COMPANY, OF LOWELL, MASS.

COMBINED ELEVATOR AND CARRIER.

SPECIFICATION forming part of Letters Patent No. 229,703, dated July 6, 1880.

Application filed June 10, 1880. (No model.)

To all whom it may concern:

Be it known that I, JAMES P. HILLARD, of Fall River, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Devices for Combined Elevators and Carriers, to be used in connection with lapping-machines or other suitable machinery for preparing and working cotton, of which the following is a specification.

The object of my invention is to furnish means whereby the cotton may be elevated from one room or story of a building to another, and there delivered conveniently for the operatives to feed the lappers.

To this end I combine two instrumentalities—namely, an endless elevator apron or belt, which conveys the cotton from the room below up to the room where it is to be delivered and a carrier-apron which receives the cotton as it drops or is delivered from the elevator and carries the same along in a position convenient for the operatives to feed the lappers, whose feed-aprons stand at right angles with the carrier-apron.

In order to take care of any cotton that may pass by the operatives, I form in the floor, or otherwise provide at the farther end (relatively to the feed) of the carrier-apron, a hole or chute, through which the cotton as it drops from the carrier-apron passes, and is directed back to the elevator, to be again raised by the latter. In this way I prevent loose cotton from gathering on the floor and remove danger of fire from that cause.

The nature of my invention and the manner in which the same is or may be carried into effect will be understood by reference to the accompanying drawings, in which—

Figure 1 is a side elevation, Fig. 2 is an end elevation, and Fig. 3 is a plan, of an apparatus embodying my invention.

The endless elevator-apron A is of any suitable construction, being provided with ledges, fingers, or other suitable devices *a*, which will pick up and hold the cotton. The apron extends from the lower floor or room, B, through and above the floor C of the upper room. At its lower end it runs in a bin or other suitable

inclosure or hopper, D, from which it takes the cotton. This apron moves in the direction of the arrow 1, and movement is imparted to it by any suitable means, in this instance through the instrumentality of its upper roll, *b*, which is power driven.

E is the endless carrier-apron, which moves in the direction of the arrow 2. This apron at one end is in convenient proximity to the elevator-apron, which at its upper end rises above the carrier-apron.

A trough or chute, F, catches the cotton as it drops from the elevator-apron and conveys the same to the carrier-apron. The latter apron is driven by any suitable means, in this instance by belting *c*, which extends between the power-driven roll *b* and the prolonged shaft of the carrier-apron roll *d*.

In Fig. 3 I have indicated, at G, the feed-aprons of the lappers, which are arranged at proper intervals along and in convenient proximity to the carrier-aprons, standing at right angles to the latter.

The cotton which is brought up and dropped by the elevator is conveyed by the guide-trough F to the carrier-apron, which carries it along, so as to be within convenient reach of the operatives attending the several lappers.

In order to take care of any loose cotton that may pass by the operatives on the carrier-apron, I provide at the farther end of the latter a chute or return-passage extending down through the floor and leading back to the elevator bin or hopper D. Any cotton dropping from the carrier-apron will fall into this return-passage, through which it will pass back to the elevator.

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

1. The combination of the elevator-apron and the carrier-apron, arranged and continuously operating, as hereinbefore set forth, to elevate the cotton and carry it along in convenient proximity to the lappers or other cotton-preparing machines.

2. The combination of the elevator-apron for raising the cotton from one floor to another, the carrier-apron for receiving and car-

rying along in convenient proximity to the
lappers or other machinery the cotton deliv-
ered to it from the elevator-apron, and the re-
turn chute or passage for conducting back to
5 the elevator the cotton which falls from the
rear or farther end of the carrier-apron, sub-
stantially as hereinbefore set forth.

In testimony whereof I have hereunto set
my hand this 4th day of June, 1880.

JAMES P. HILLARD.

Witnesses:

JOHN W. CUMMINGS,
N. HATHEWAY.