

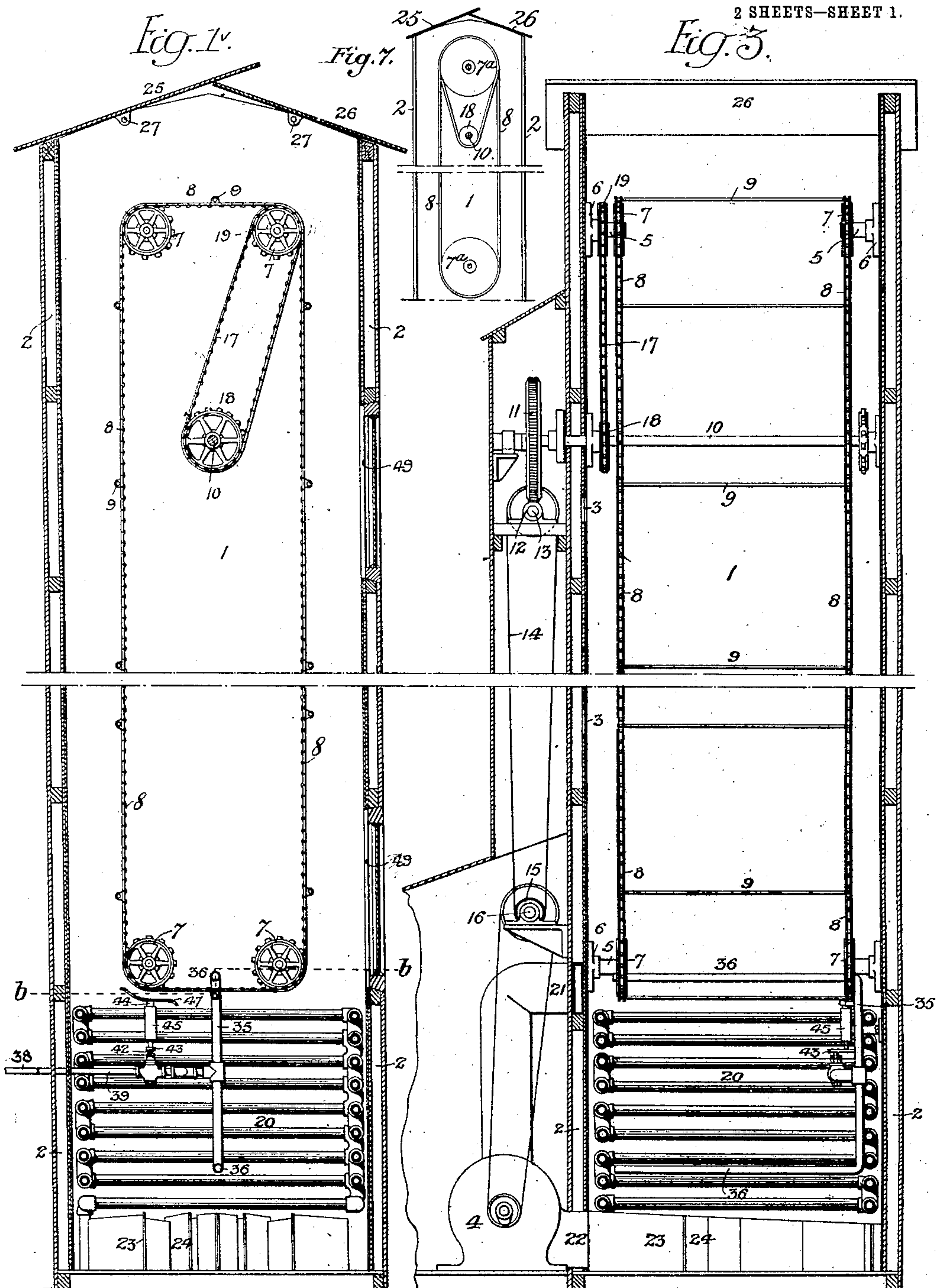
No. 835,265.

PATENTED NOV. 6, 1906.

F. S. TAYMAN.
DRIER.

APPLICATION FILED JAN. 31, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

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Inventor:

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2 SHEETS—SHEET 2.

Fig. 2.

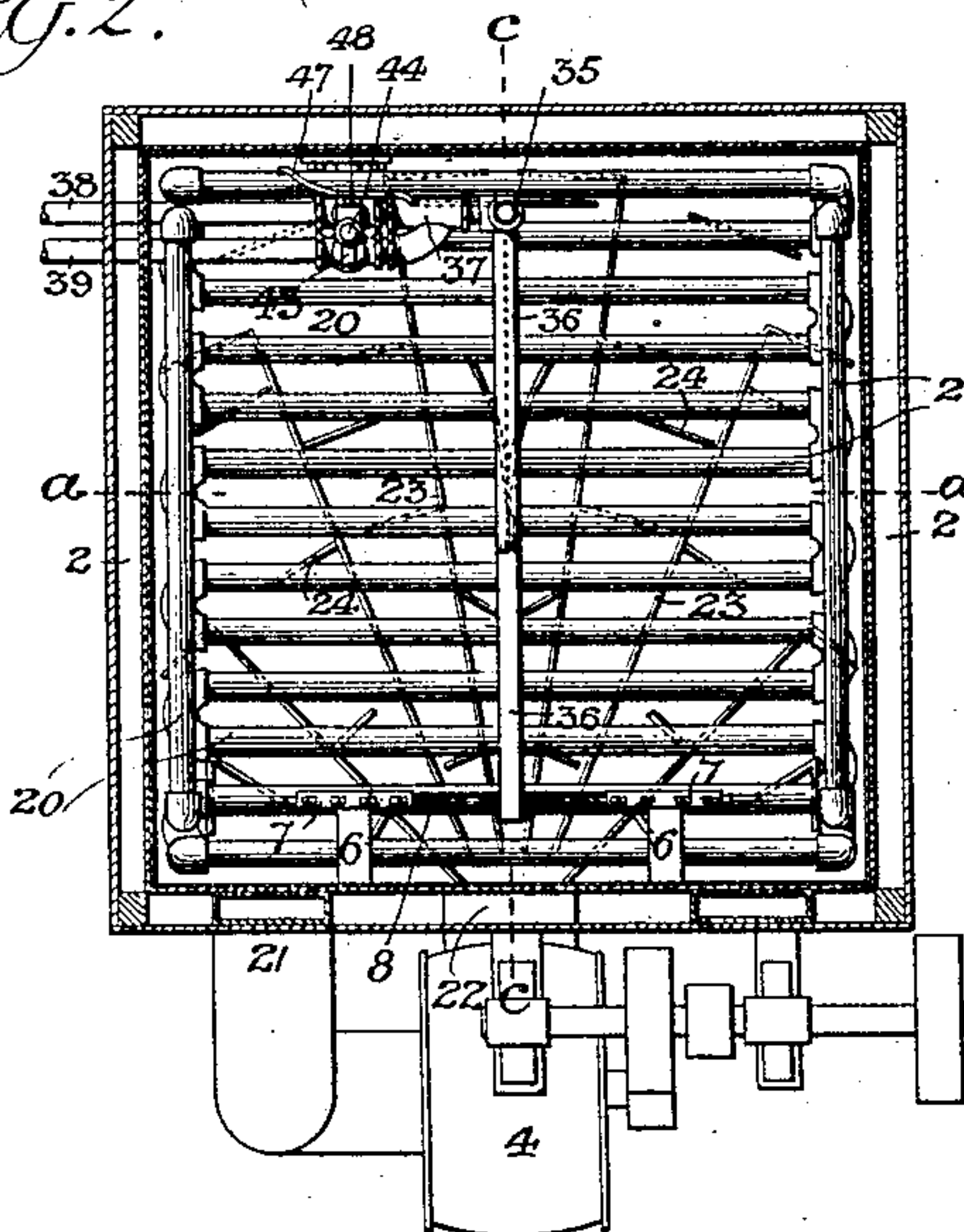


Fig. 4.

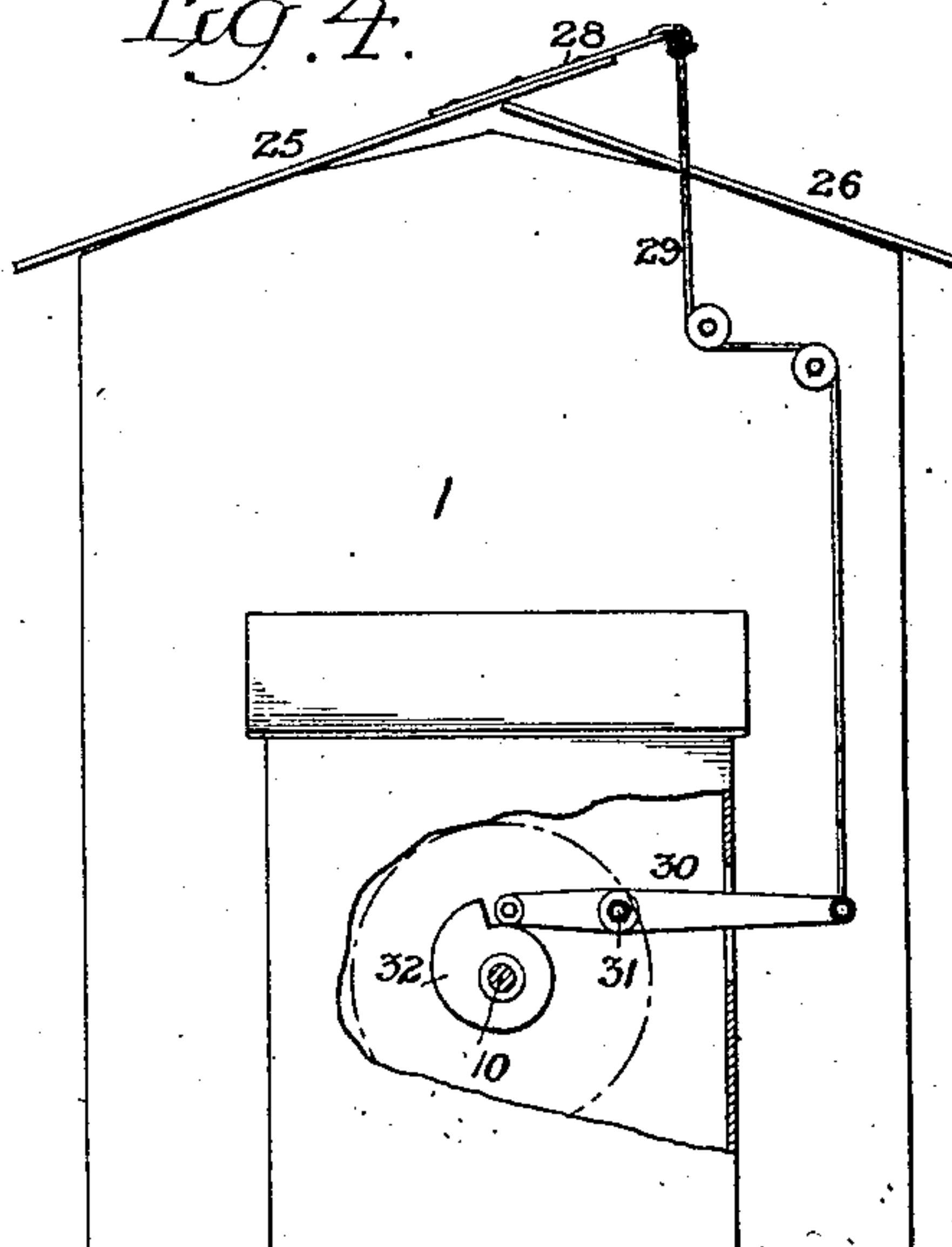
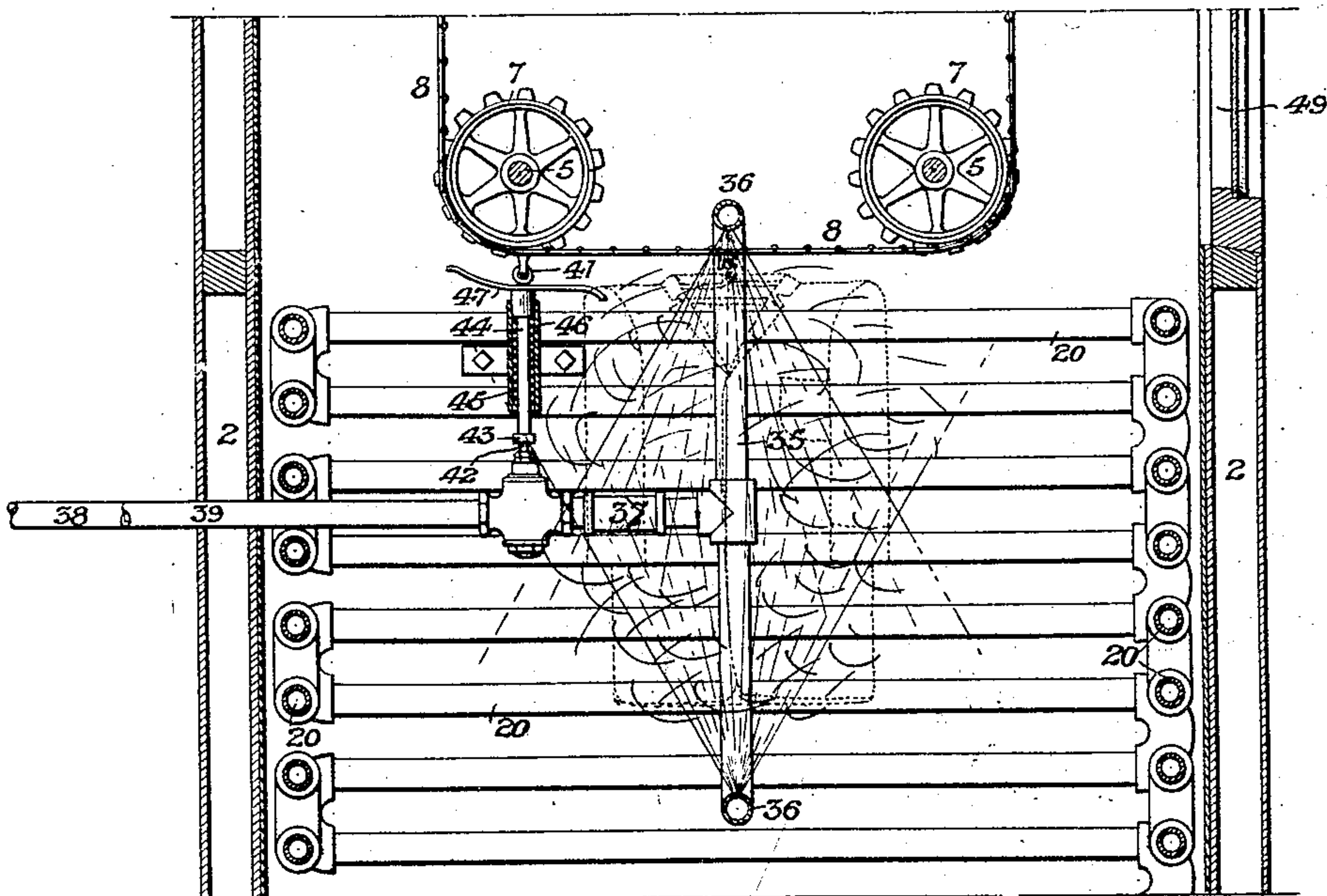
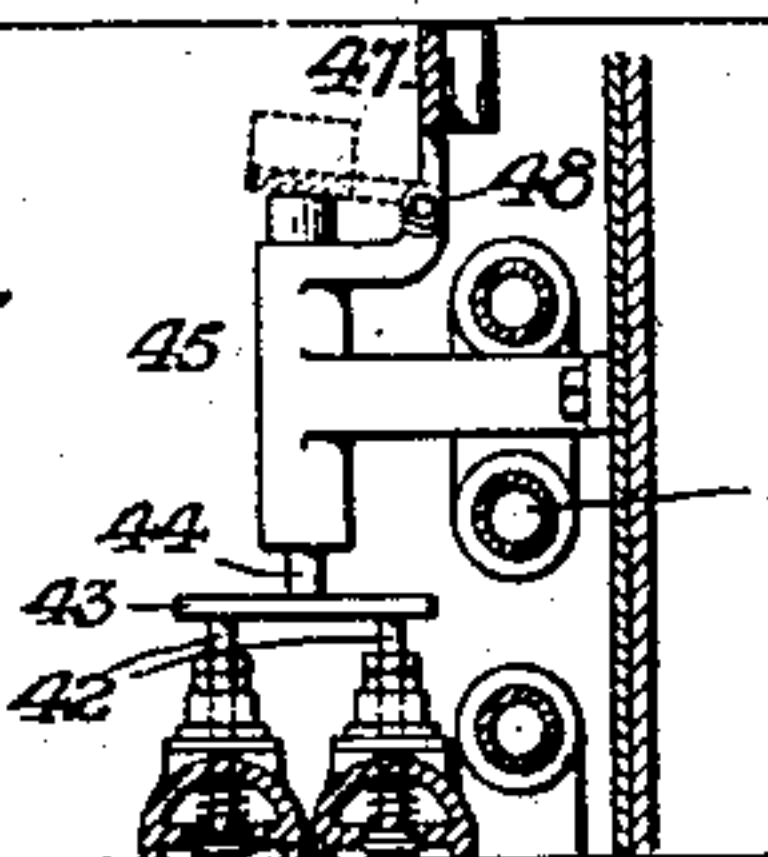


Fig. 5.



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Fig. 6.



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UNITED STATES PATENT OFFICE.

FRANKLIN S. TAYMAN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR
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DRIER.

No. 835,265.

Specification of Letters Patent.

Patented Nov. 6, 1906.

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To all whom it may concern:

Be it known that I, FRANKLIN S. TAYMAN, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Driers, of which the following is a specification.

My invention relates to driers of the vertical stack type in which an endless carrier for the material to be dried is arranged within said
10 stack.

My invention comprises certain improvements in driers of this character, including means for effecting a proper distribution of the heated air within the stack, the automatic
15 exhaustion of the moisture, and automatically-operated means for sprinkling the dried material preparatory to the further manipulation of the same.

My invention is fully shown in the accompanying drawings, in which—

Figure 1 is a sectional elevation of a stack-drier made in accordance with my invention, taken on the line *a a*, Fig. 2. Fig. 2 is a sectional plan view of the drier, taken on the
25 line *b b*, Fig. 1. Fig. 3 is a sectional elevation at right angles to Fig. 1, taken on the line *c c*, Fig. 2; and Fig. 4 is a view in elevation of the upper part of the stack, partly broken away and showing the mechanism for operating the
30 movable roof. Fig. 5 is an enlarged view of the lower part of the stack, showing the spraying mechanism in action. Fig. 6 is a sectional view of the valves controlling the spraying means and the means whereby said
35 valves are operated; and Fig. 7 is a diagrammatic view, on a reduced scale, of a stack having a modified form of conveyer.

Although the structure forming the subject of my invention may be employed in any
40 laundry for the purpose of drying various articles of wearing-apparel preparatory to ironing the same and may further be employed for drying other material, it has been designed especially for the purpose of drying
45 white linen or duck coats.

In the drawings, 1 represents the stack, having hollow walls 2, which serve as a means of passing the warm air leaving the stack at various points 3 throughout its length to a
50 fan-blower 4, located outside the stack, whereby it is returned to said stack at the bottom of the same.

Arranged within the stack and suitably journaled on shafts or spindles 5, carried by suitable brackets 6, secured to the walls of
55 said stack, are a series of sprocket-wheels 7, over which the chains 8 pass, which chains are connected together by rods 9, upon which the coats, other garments, or other material to be
60 dried may be hung.

In the upper part of the stack I mount a shaft 10, carrying a worm-wheel 11, which receives power from a worm 12, mounted on a shaft 13, suitably journaled and driven in
65 any suitable way from any suitable source of power—for instance, by a belt 14 from a pulley 15 on the power-shaft 16. The sprocket-wheels 7 are driven from the shaft 10 by means of a chain 17, which passes around a
70 wheel 18 on said shaft and around a wheel 19, connected to turn with one of said sprocket-wheels 7. In the lower part of the stack I provide a series of steam-pipes 20, disposed
75 over the bottom and adjacent the four walls of the same and extending upwardly for a distance of four or five feet, being suitably connected with a source of steam generation. These pipes create a very hot zone at the base
80 of the stack and serve to heat the incoming air from the fan-blower.

In order to distribute throughout the stack the heated air collecting therein, I provide the fan-blower 4, mounted on the outside of the stack at the base of the same, having an
85 intake 21 connected to the hollow wall of the stack and an outlet 22 at or near the floor of said stack. To distribute the air from said blower, I provide a series of vanes 23, secured to the floor or bottom of the stack-well and
90 having side deflectors 24, which cause the air blown into the stack to rise in different currents and thoroughly permeate the material or garments to be dried.

The air in the stack necessarily becomes very moist, due to the extraction of the
95 moisture from the wet garments or other material therein, and to afford some exhaust therefor and expedite the drying operation I provide a roof composed of sections 25 and
100 26, hinged at 27, and means, as shown in Fig. 4, to lift the same at intervals. The section 25 of the roof is provided with an arm 28, extending beyond the edge of the same, which arm is connected by a chain or cord 29

to one end of a lever 30, pivoted at 31 on the side of the stack. On the shaft 10 I mount a cam 32, adapted to engage the opposite end of said lever at regular intervals and by raising said end depress the opposite end connected to the roof-section 25, whereby said roof-sections will be turned on their pivots and the outer ends raised at regular intervals.

Although I have shown small sprocket-wheels 7, around which the chains 8 pass, it will be understood that I may employ single sprocket-wheels 7^a, of enlarged size at top and bottom of the stack, over which the chains 8 may pass, as shown in the diagram view Fig. 7, without departing from my invention.

After the coats or other garments have been dried in the starch it is necessary to sprinkle the same before they may be ironed, and it is often desirable to sprinkle other material after the same has been dried. For this purpose I provide a sprinkling device, an enlarged view of which is shown in Fig. 5. This comprises a pipe 35, having a pair of perforated arms 36, disposed adjacent to the lower run of the chains carrying said garments, coats, or other material, which pipes are connected by a Y-coupling 37 with steam and water supply pipes 38 and 39, respectively, whereby the material or garments may be sprayed and the latter thereby dampened sufficiently to insure the proper ironing of the same. This spraying attachment is designed to be operated automatically after the material or garments have reached a dry condition, and for this purpose the following means are employed: Carried by one of the chains 8 at suitable intervals, being disposed in proper position with relation to the rods 9, carrying the coats or other garments, are the rollers 41. Each of the pipes 38 and 39 are provided with valves arranged to open against the pressure, being normally held to their seats by such pressure and also by suitable springs. Each valve has a stem 42 projecting through the casing, and these stems are joined by a cross-bar 43. This cross-bar is provided with a stem 44, disposed in a casing 45, carried by the stack, a spring 46 being provided to keep it normally in the raised position, although the springs holding the valves to their seats may be sufficient to keep this stem raised. Disposed at the top of this stem is a plate 47, and pressure being applied to this plate the stem 44 will be depressed, opening the valves in the pipes 38 and 39, and steam and water will be discharged simultaneously in the form of spray through the perforations of the pipe-arms 36. The plate 47 is depressed by the rollers 41 to effect the opening of the valves, and this plate is curved, so that the pressure may be maintained for a sufficient length of time to effect the desired dampening of the garments or other material. The forward end

of this plate is also curved, so that the rollers can readily ride onto the same.

As it is only necessary to spray the material after it has been thoroughly dried or to dampen the garments after they have been dried in the starch, the plate 47 is hinged at 48, as clearly shown in Fig. 6, so that it may be turned out of the way during the time the garments are being dried.

The stack has openings 49 for access to and examination of the conveyer and the material carried thereby, such openings being closed by doors.

I claim—

1. The combination in a drier, of a stack having hollow walls, a conveyer mounted in said stack, means for driving said conveyer, a hinged roof carried by the stack, and means operated by the conveyer-driving mechanism for lifting said roof at intervals.

2. The combination in a drier, of a stack having hollow walls, a conveyer mounted in said stack, means for driving said conveyer, a hinged roof carried by the stack, a projection carried by said roof, a cam operated by the conveyer-driving mechanism, and a connection between the roof and cam for lifting said roof at intervals.

3. The combination in a drier, of a stack having hollow walls, conveying mechanism mounted in said stack, said walls having apertures leading from the interior of the stack, a fan-blower arranged to draw the air through said walls and discharge it into the lower portion of the stack, means for driving said fan, and means for heating the air in the lower portion of the stack.

4. The combination in a drier, of a stack having hollow walls, conveying mechanism mounted in said stack, said walls having apertures leading from the interior of the stack, a fan-blower arranged to draw the air from the stack through said walls and discharge it into the bottom of the stack, means for driving said fan, means for heating the air in the lower portion of the stack, and means for diverting the air discharged into said stack.

5. The combination in a drier, of a stack having hollow walls, a conveyer mounted within said stack, means for driving said conveyer, a steam-pipe, a water-pipe, a common outlet with spray-apertures connected to said pipes, valves controlling the flow through said pipes, and means actuated by the conveying mechanism for opening said valves at certain intervals.

6. The combination in a drier, of a stack having hollow walls, conveying mechanism mounted within said stack, means for driving said conveyer, a steam-pipe, a water-pipe, a common outlet with spray-apertures connected to said pipes, valves controlling the flow through said pipes, a rod for operating said valves, a swinging plate coacting with

said rod and adapted to be disposed adjacent to the conveying mechanism, and means carried by said conveying mechanism for depressing said plate and actuating the valves whereby the material or garments in transit through the machine may be properly sprayed or dampened for further manipulation.

7. The combination in a drier, of a vertical stack, a conveyer mounted wholly within said stack, means for heating said stack and effecting the circulation of air therein, and a spraying device mounted in the lower part of said stack adjacent the heating means and in position to act upon the material carried by said conveyer.

8. The combination in a drier, of a stack, conveying mechanism mounted in said stack, means for heating the lower part of the stack, means for discharging air into the lower portion of the stack to be heated and circulated therein, and a spraying device located adjacent the heating means.

9. The combination in a drier, of a stack, conveying mechanism mounted in said stack, a fan-blower arranged to draw in air and discharge it into the bottom of the stack, means for driving said fan, means for heating the air in the lower portion of the stack, and a series of vertical vanes on the bottom of the stack well for diverting the air discharged into said stack.

10. The combination in a drier, of a stack, a conveyer mounted within said stack, means for driving said conveyer, a spraying device mounted in said stack, and means actuated by the conveying mechanism for operating said spraying device at intervals.

11. The combination in a drier, of a stack, conveying mechanism mounted within said stack, means for driving said conveyer, a steam-pipe, a water-pipe, a common outlet with spray-apertures connected to said pipes, valves controlling the flow through said pipes, and means carried by said conveying mechanism for actuating said valves whereby the material or garments in transit through the machine may be properly sprayed or dampened for further manipulation.

12. In a drier, a stack having a movably-supported roof, and means for automatically opening and closing said roof at regular intervals.

13. In a drier, a stack having a roof composed of two hinged sections, one overlapping the other, and means for automatically operating the overlapping section whereby the roof may be opened and closed at regular intervals.

14. The combination in a drier, of a stack, a conveyer mounted within said stack, means for driving said conveyer, a steam-pipe, a water-pipe, a common outlet with spray-apertures connected to said pipes, means controlling the discharge from said pipes, and means actuated by the conveying mechanism for operating said controlling mechanism.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses

FRANKLIN S. TAYMAN.

Witnesses:

MURRAY C. BOYER,
JOS. H. KLEIN.