

No. 614,286.

Patented Nov. 15, 1898.

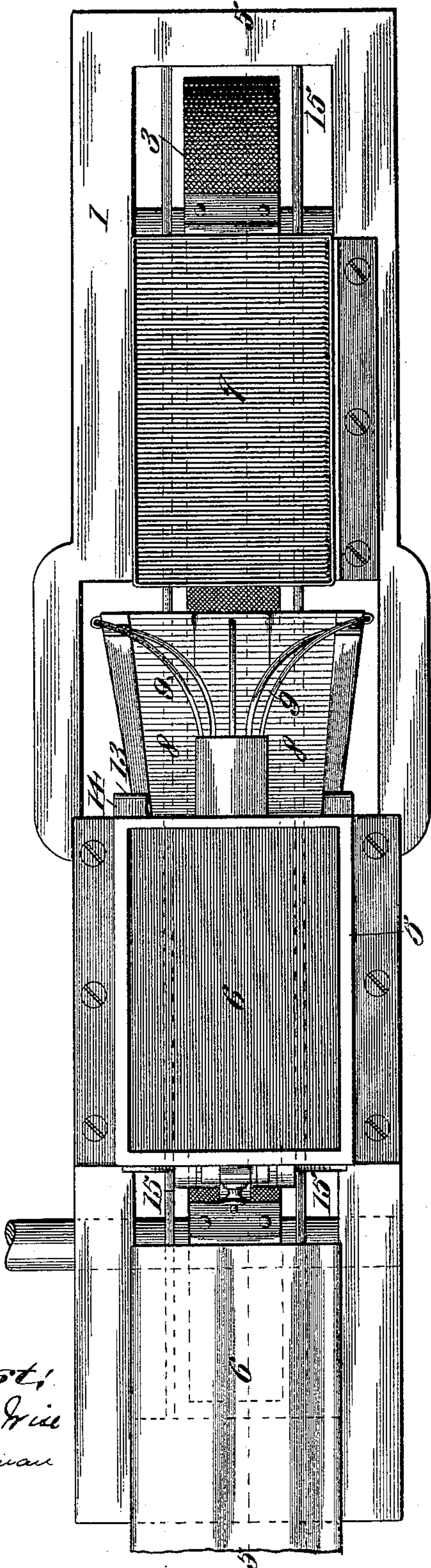
A. & L. BORLINGHAUS.
MACHINE FOR COVERING BOXES.

(Application filed Dec. 20, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



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Fig. 4.

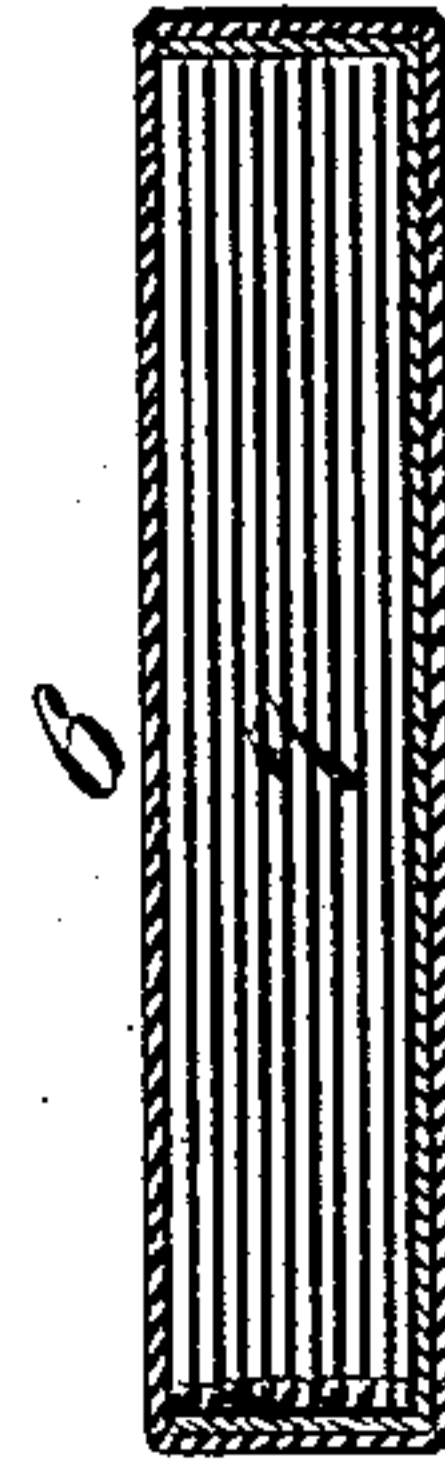


Fig. 3.

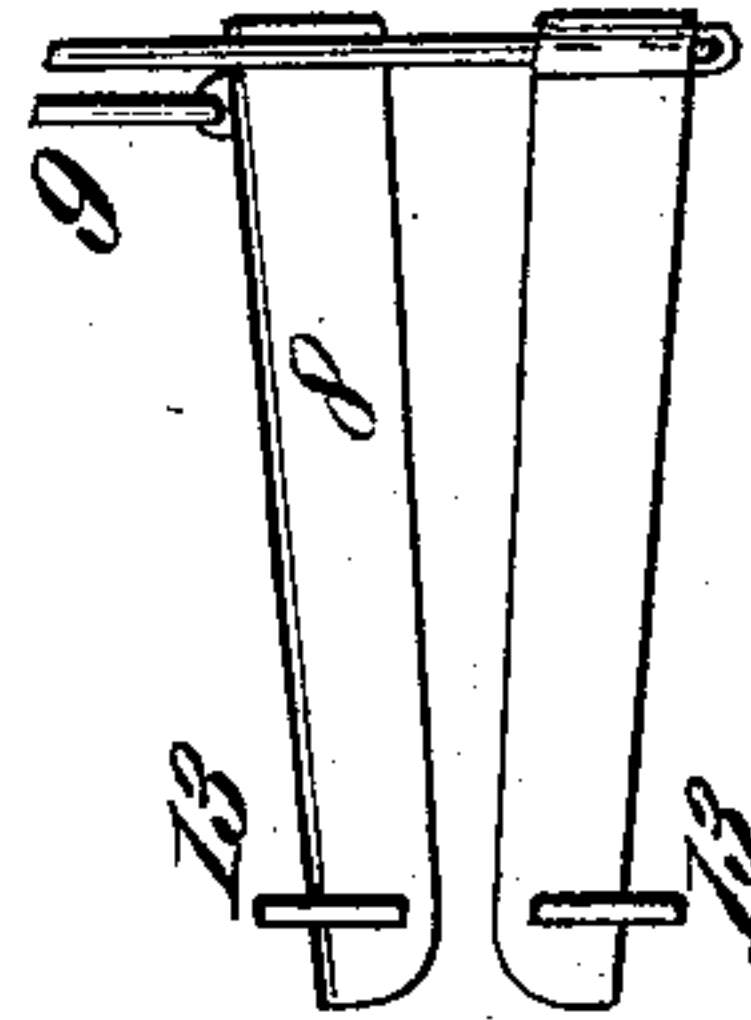
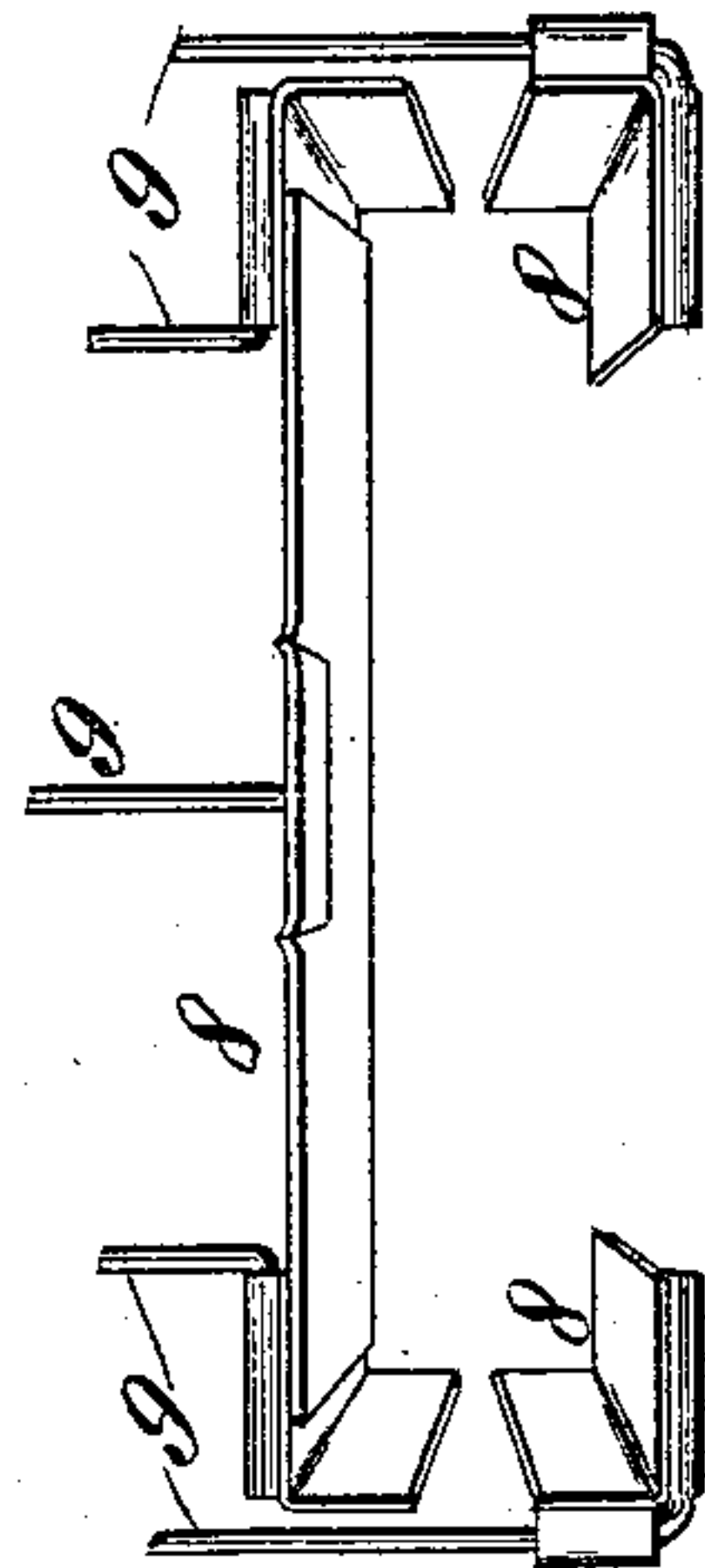


Fig. 2.



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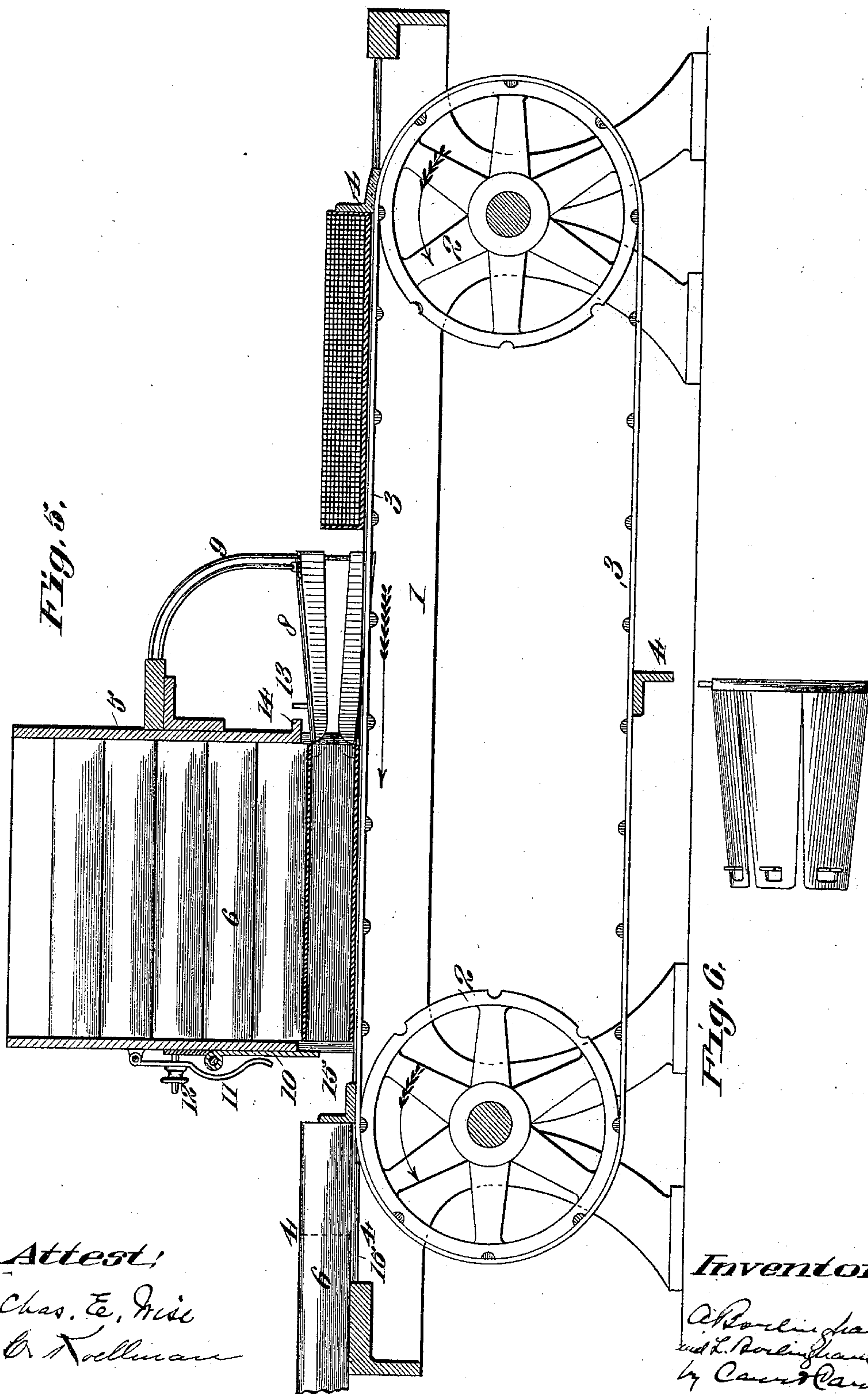
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

AUGUST BORLINGHAUS AND LOUIS BORLINGHAUS, OF ST. LOUIS,
MISSOURI, ASSIGNORS TO C. E. UDELL, TRUSTEE.

MACHINE FOR COVERING BOXES.

SPECIFICATION forming part of Letters Patent No. 614,286, dated November 15, 1898.

Application filed December 20, 1897. Serial No. 662,586. (No model.)

To all whom it may concern:

Be it known that we, AUGUST BORLINGHAUS and LOUIS BORLINGHAUS, citizens of the United States, residing in the city of St. Louis and State of Missouri, have invented a new and useful Machine for Covering Boxes, of which the following is a specification.

Our invention consists in a machine for inclosing filled boxes in their covers, as hereinafter described and claimed.

In the accompanying drawings, which form part of this specification, Figure 1 is a plan view of our device. Fig. 2 is an end view of the centering device. Fig. 3 is a side view of the centering device. Fig. 4 is a transverse section on the line 4 4 of Fig. 5 of a box filled with matches and incased in its cover. Fig. 5 is a longitudinal section of our device on the line 5 5 of Fig. 1, the covered box and upper covers in the receptacle being shown in elevation; and Fig. 6 is a view showing the centering device of a conical form.

Like symbols refer to like parts wherever they occur.

In the framework 1 of our device are journaled two drums or pulleys 2, over which passes an endless belt 3, which belt is provided on its outer surface with one or more transversely-arranged followers 4. Mounted on the framework above the endless belt or carrier is a bottomless hopper or receptacle 5 for the box-covers 6. The transverse sides of this receptacle terminate at a distance above the belt slightly greater than the height of a cover, thus constituting an opening in one side for the admission of a box 7 carried by the belt and an opening in the opposite side through which the box incased in its cover may be driven. The admission-opening is guarded by spring jaws or gates arranged to center the box on the belt in alinement with the bottom box-cover in the receptacle. These gates consist of four angular plates 8, each supported by a flexible wire or spring 9, fixed to the framework and adapted to yield to pressure on its plate. The four plates are arranged like the corners of a truncated pyramid whose axis is parallel with the belt. The converging ends of these angular plates normally rest in the admission-opening in

alinement with the sides of the receptacle, said sides being closer together than the height and width of the box, respectively, while the outer or diverging ends are farther apart. The horizontal portions of the outer ends of the lower angular plates are slightly lower than the level of the belt, while the inner ends are normally higher. The belt thus passes between said side pieces. In the corresponding position between the upper corner-pieces it is preferable to have a separate plate mounted on a spring, as shown.

Outside of the outlet-opening is located a gate 10, regulated to resist a predetermined pressure from the inside, but adapted to yield automatically to excessive pressure. In the device shown this gate consists of a hinged plate whose free end covers the upper portion of the outlet-opening. A spring 11 bears against this plate, and the pressure of the spring, and consequently the resistance of the gate, is regulated by a set-screw 12.

The operation of the device is as follows: The belt is driven by any suitable mechanism, and likewise boxes filled with matches or other articles are fed onto the belt in any suitable manner. The belt carries the box into the jaws of the centering device and the frictional contact of the box therewith drags the angular plates forwardly inside of the lowermost cover in the receptacle. The movement of the plates thus effected is limited by projections 13 on said plates striking against the side of the receptacle or against projections 14 thereon. As the follower on the belt pushes the filled box forward along on horizontal rods 15 or carries the box bodily, the box is thus driven inside of said cover, the pressure of the spring 11 on the outlet-gate being sufficient to overcome the friction between the box and the cover. When the box has fully entered the cover, however, the follower itself bears directly against the cover and the gate immediately yields to the superior force and permits the box incased in its cover to be carried out and delivered, as desired. Obviously the centering device and the gate return automatically to their normal position as soon as the box passes. So, also, it is obvious as soon as the lowermost cover

is removed from the hopper the entire column of covers falls into position to repeat the operation.

What we claim is—

- 5 1. A box-covering machine comprising a box-carrier belt, a receptacle for box-covers arranged above said belt and having its opposite sides terminate far enough above the carrier-belt to constitute respectively inlet
10 and outlet openings for the boxes, a device opposite the inlet-opening for centering the box in the lowermost cover, and an automatically-yielding gate over the outlet-opening, substantially as described.
- 15 2. In a box-covering machine, a receptacle for box-covers, a box-carrier at the bottom of said receptacle, said receptacle having an inlet-opening and an outlet-opening in its sides above the carrier, a centering device opposite
20 the inlet-opening consisting of spring-mounted plates converging into said opening and adapted to be dragged forward into the end of a box-cover in said receptacle, and an automatically - yielding gate over the outlet-
25 opening, substantially as described.
3. A centering device consisting of converging plates separately supported on springs, the converging ends of said plates being ar-

ranged to be spread apart and dragged forwardly into the inclosing device, substantially
30 as and for the purpose set forth.

4. In a box-covering machine, a receptacle for box-covers having a box-inlet opening, and a centering device consisting of four converging angular plates separately supported
35 on springs, the ends of said plates resting normally in said opening and adapted to be dragged forwardly a slight distance into the box-cover, substantially as and for the purpose set forth. 40

5. In a box-covering machine, a receptacle for box-covers, having a box-inlet opening, and a centering device consisting of four converging angular plates separately supported
45 on springs, the ends of said plates resting normally in said opening and adapted to be dragged forwardly a slight distance into the box-cover, and stops for limiting the forward movement of said plates, substantially as and for the purpose set forth.

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Witnesses:

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