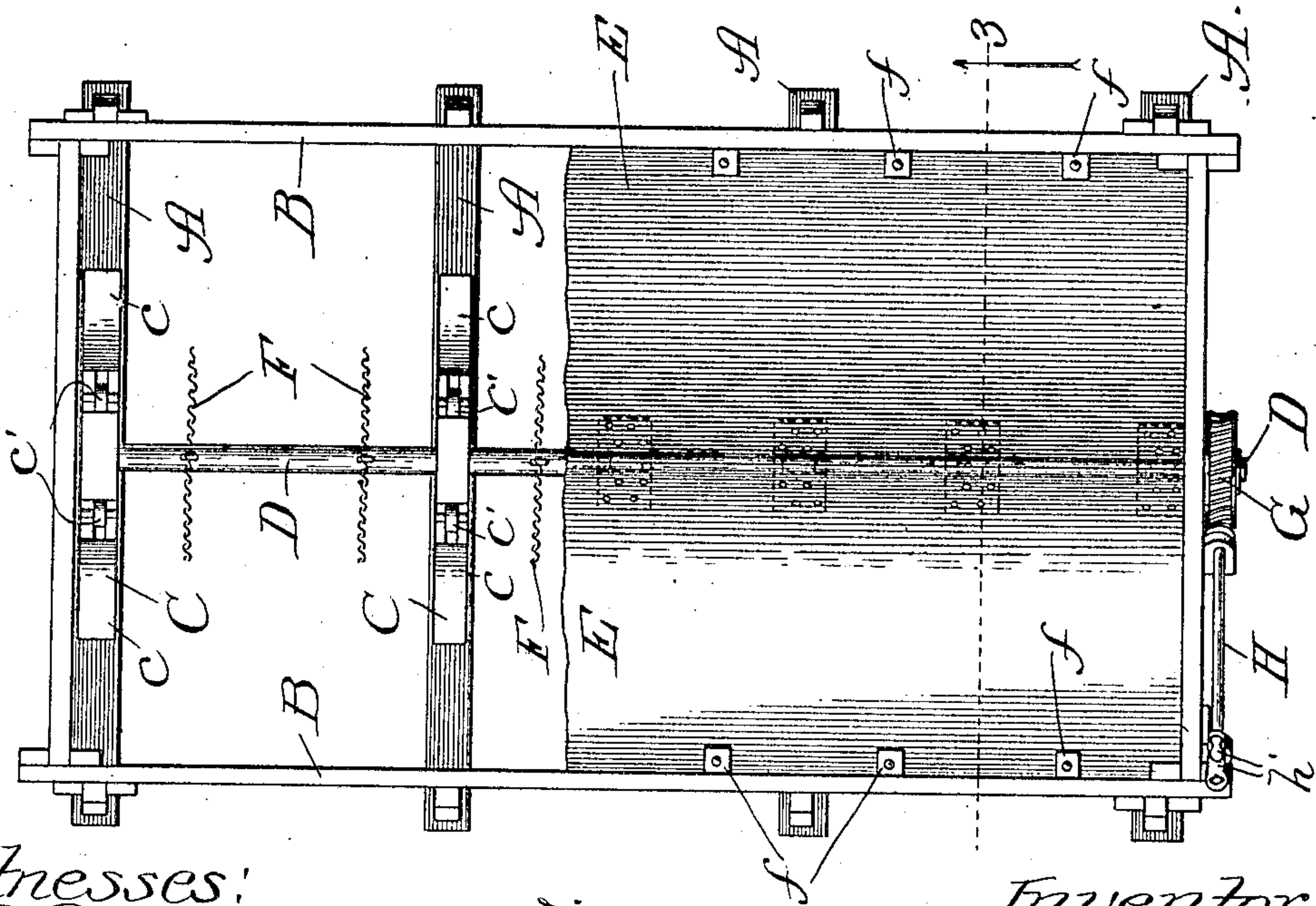
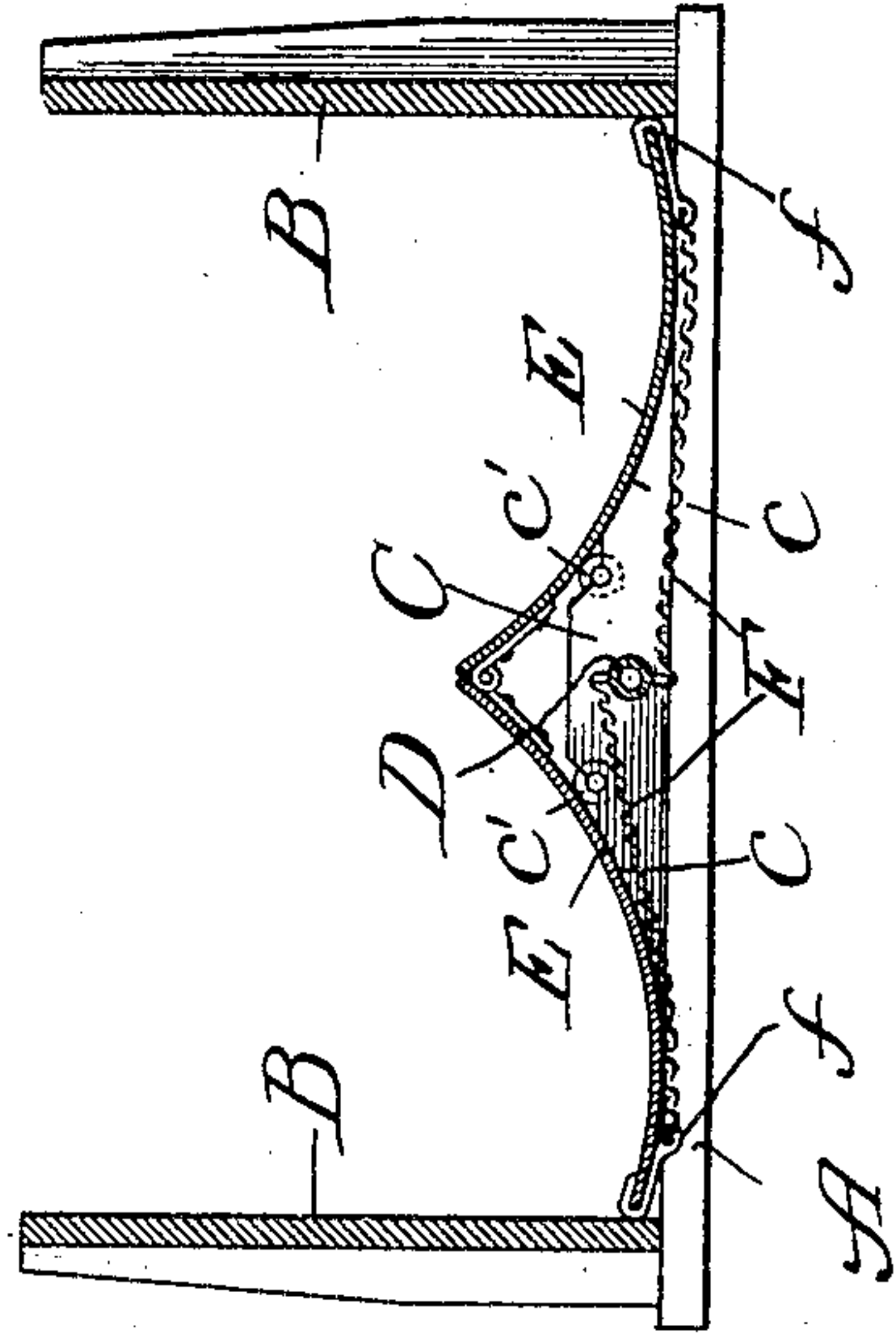
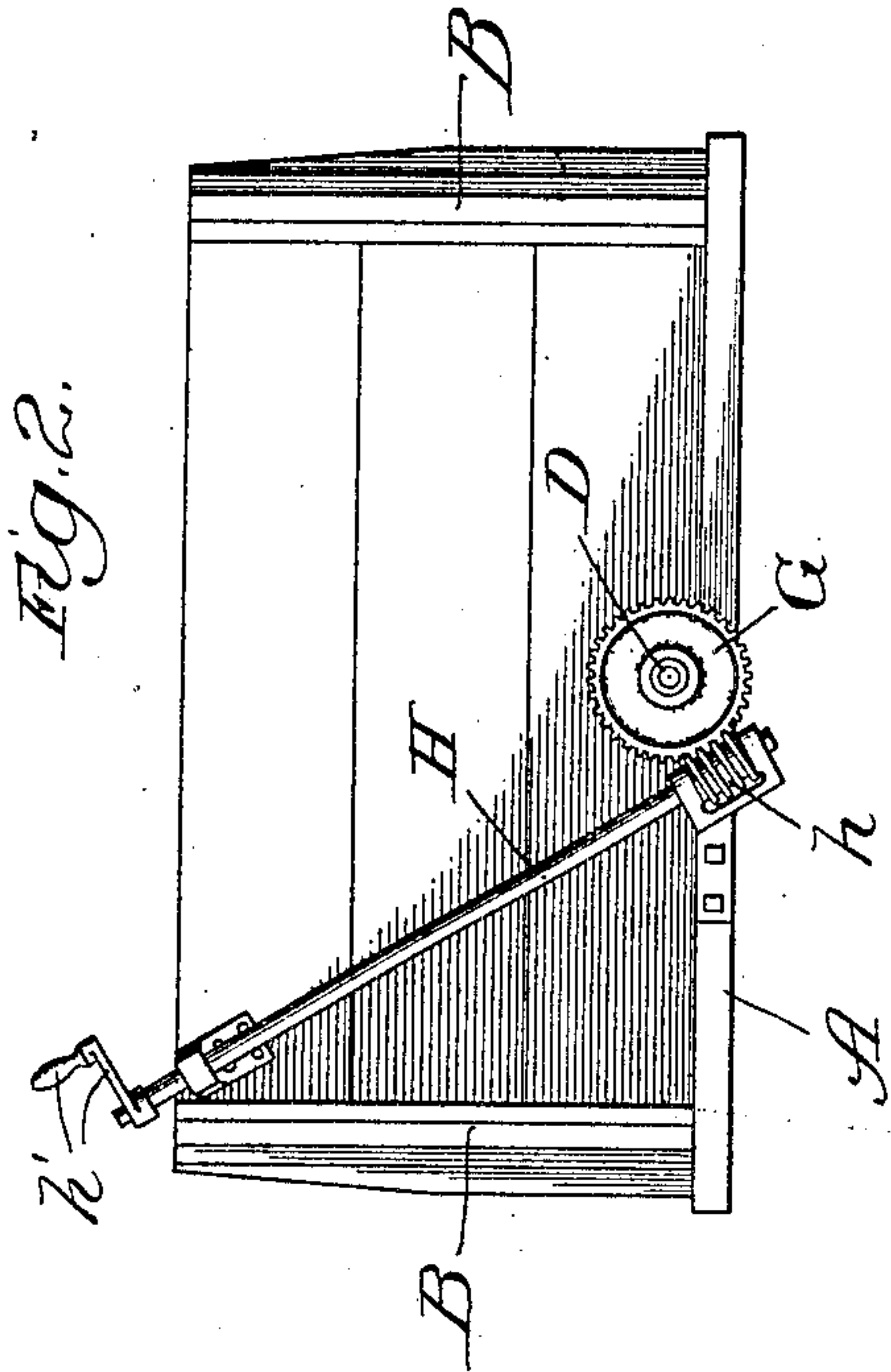


No. 843,284.

PATENTED FEB. 5, 1907.

H. F. LANGREDER.  
DUMPING WAGON.  
APPLICATION FILED NOV. 1, 1906.



Witnesses:  
E. J. Gaylord.  
Chas. H. Buell.

Fig. 1.

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# UNITED STATES PATENT OFFICE.

HENRY F. LANGREDER, OF CHICAGO, ILLINOIS.

## DUMPING-WAGON.

No. 843,284.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed November 1, 1906. Serial No. 341,567.

*To all whom it may concern:*

Be it known that I, HENRY F. LANGREDER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Dumping-Wagons, of which the following is a specification.

My invention relates to improvements in dumping-wagons, and is fully described and explained in this specification, and shown in the accompanying drawings, in which—

Figure 1 is a top plan of my improved dumping-wagon, the rear portion of the bottom being broken away to show the arrangement of parts beneath it. Fig. 2 is a front elevation of the wagon-body, and Fig. 3 is a transverse section on line 3 3 of Fig. 1.

Referring to the drawings, A A are the four transverse bars which form the framework of an ordinary wagon-bed, and secured to and supported by these transverse bars are sides B B of ordinary construction. To each of the transverse bars I secure a casting C, each casting having a curved side-portion *c*, antifriction-rollers *c'*, and a central perforation, a rotatable shaft D being passed through and journaled in the four perforations in the four castings. Above the castings C and supported thereby are two curved sheet-metal plates E, hinged as illustrated. These curved plates rest upon the curved surfaces of the castings C and conform thereto, and also bear upon the antifriction-rollers *c'* carried by said castings. The outer edges of the hinged plates E are engaged by hooks *f* connected to chains F, the said chains being arranged in pairs and secured to the shaft D, preferably at diametrically opposite points.

The shaft D is provided at its forward end with a gear G in mesh with a worm *h* on a shaft H, said shaft being provided with a handle *h'*.

In the operation of my improved wagon the body is filled with material in the ordinary way, the material resting upon and being supported by the curved hinged plates E. When it is desired to dump the wagon, the handle *h'* is rotated, thus winding up the chains F on the shaft D and drawing together the outer edges of the hinged plates. This action necessarily raises the hinge connecting the two plates, increasing the pitch of said plates and causing the material in the wagon to flow out over the sides of the plates. This movement of the material lightens the

load and makes it continuously easier to raise the plates until at the close of the operation the wagon is entirely empty.

I am aware that it has heretofore been proposed to construct a wagon having plates hinged together along the center of the wagon-box and to raise the pivotal points of the plates to dump the wagon; but such wagons have been constructed with flat plates instead of with curved plates having their concave faces inward. Dumping-wagons with flat plates have heretofore been made in two forms—*i. e.*, with the plates horizontal in their normal or closed position and with the plates slanting upward toward the center of the wagon when in their normal or closed position. When the plates lie horizontal, the amount of upward movement of the pivotal line necessary to afford a dumping-space between the outer edges of the plates and the walls of the wagon-body is so great as to make it a matter of the greatest difficulty to dump such a device at all, for during the raising of the pivotal point between the plates practically the entire contents of the wagon must be bodily raised for a considerable distance. This difficulty has given rise to the second form of construction, above mentioned, where the plates normally slant upward. Obviously a much slighter raise of the plates will be necessary in such a construction to afford a suitable dumping-space; but when flat plates are given sufficient upward inclination toward the center of the wagon to make it possible to form a large dumping-space without undue movement of the pivotal point between the two plates the cubic contents of the wagon is very materially decreased.

In my wagon I form the plates, as illustrated in the drawings, with a curved cross-section, the concave faces of the plates being inward, and by this means I am enabled, without materially decreasing the cubic contents of the wagon, to raise the pivotal point between the two plates to a sufficient distance to make the initial movement of the plates produce a large dumping-space at the sides. Furthermore, by using this curved construction it is possible to raise the hinge between the plates to a considerable extent with a very small proportionate bodily raising of the load in the wagon. In fact, a given absolute rise in the hinged connection between the plates in my wagon produces less bodily raising of the load than is produced in the same movement



in either of the other constructions referred to and at the same time produces as great a dumping-space at the sides.

In the accompanying drawings I have shown the form of construction of my wagon which I now prefer; but it will be obvious that the form can be varied to a very large extent, while still preserving the principle of operation characterizing my construction.

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

1. The combination with the sides of a wagon-box, of two longitudinally-extending bottom plates curved in cross-section with their concave faces inward, and means for moving said plates to draw their outer edges from the sides of the box and to raise the edges thereof adjacent to the center of the structure.

2. The combination with the sides of a wagon-box, of two longitudinally-extending bottom plates hinged together along the medial line of the box, said plates being curved in cross-section and having their concave faces inward, and means for raising the adjacent edges of the plates and drawing the outer edges thereof away from the sides of the box.

3. The combination with the sides of a wagon-box, of two longitudinally-extending bottom plates curved in cross-section with their concave faces inward, the outer edges of said plates being substantially at the level of the bottom of the box and the inner edges of the plates being at a higher level than the bottom of the box, and means for moving said plates to draw the outer edges thereof away from the sides of the box and to raise their inner edges.

4. The combination with the walls of a wagon-box, of two longitudinally-extending bottom plates curved in cross-section with their concave faces inward, said plates being

hinged together along the median line of the structure and having their outer portions adjacent to the lower level of the box and their adjacent edges at a higher level, and means for moving said plates to raise their adjacent edges and draw their outer edges inward.

5. The combination with the sides of a wagon-box, of two longitudinally-extending bottom plates curved in cross-section with their concave faces inward, castings beneath the plates and conforming to the curves thereof to support the same, and means for raising the adjacent edges of the plates and drawing the outer sides thereof away from the sides of the box.

6. The combination with the sides of a wagon-box, of two longitudinally-extending bottom plates curved in cross-section with their concave faces inward, castings beneath the plates and conforming to the curves thereof to support the same, means for raising the adjacent edges of the plates and drawing the outer sides thereof away from the sides of the box, and suitable antifriction-rollers on the castings adapted to engage the plates.

7. The combination with the sides of a wagon-box, of two longitudinally-extending bottom plates curved in cross-section with their concave faces inward, a shaft extending longitudinally of the box, means of connection between the shaft and the plates whereby rotation of the shaft will draw the edges of the plates together, an operating-handle, and means of connection including a worm and gear interposed between the handle and the shaft for rotating the shaft as the handle is moved.

HENRY F. LANGREDER.

In presence of—

J. H. LANDER.

C. W. WASHBURNE.