

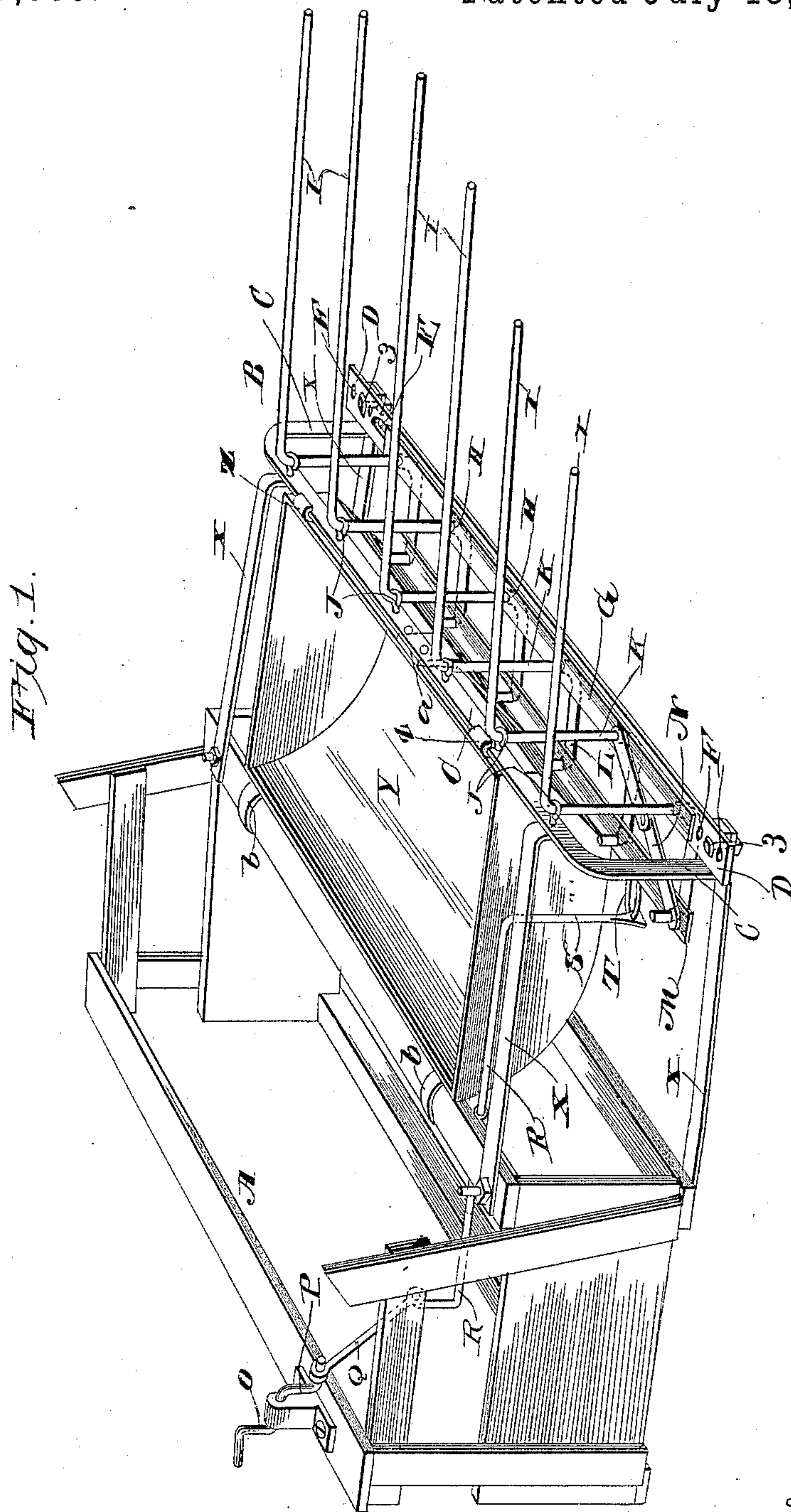
(No Model.)

3 Sheets—Sheet 1.

F. PALM.
BUNDLE CARRIER.

No. 432,068.

Patented July 15, 1890.



Witnesses
M. E. Fowler
R. W. Bishop.

Inventor
Fred Palm

By *his* Attorneys
C. H. Snow

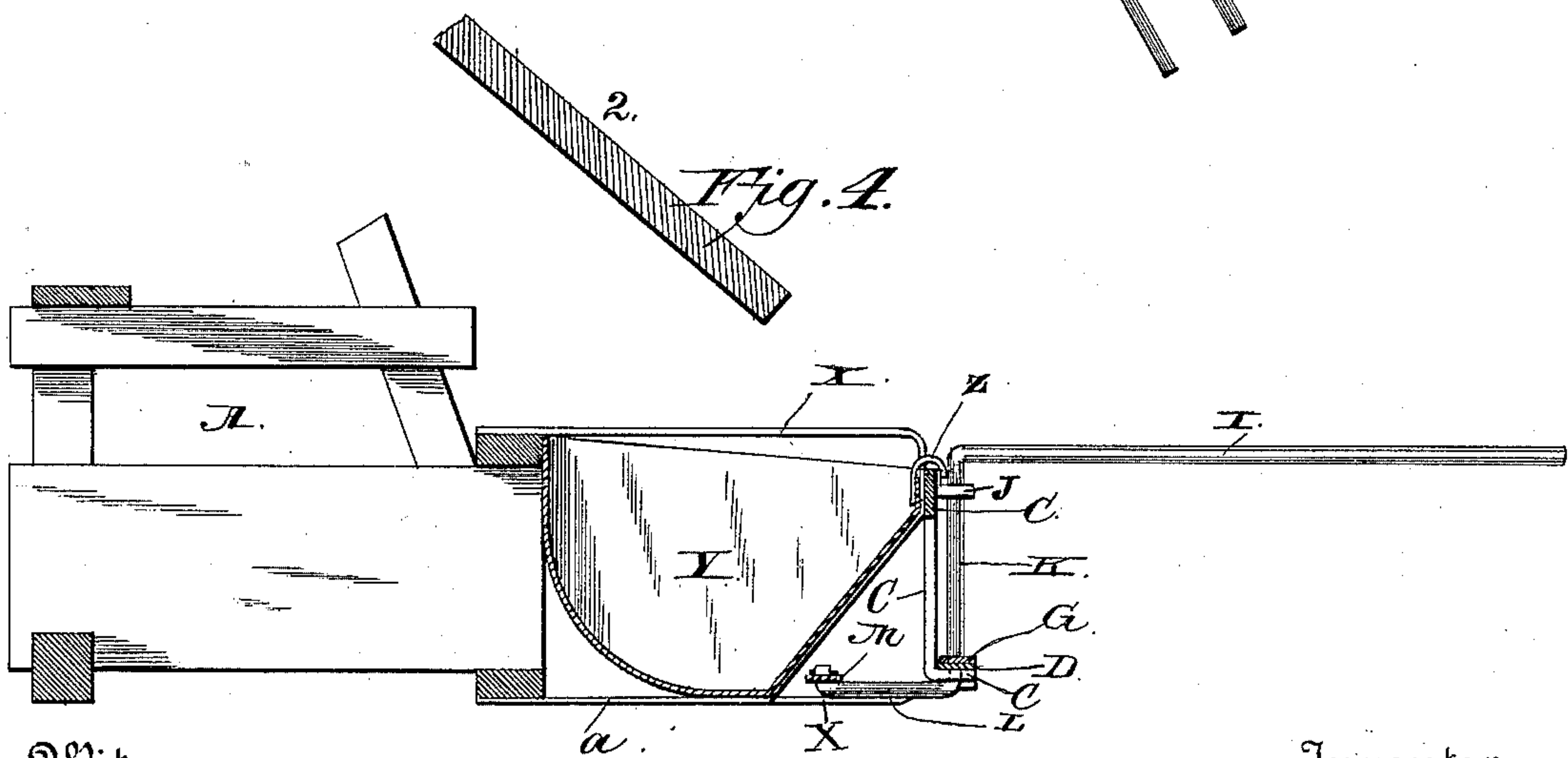
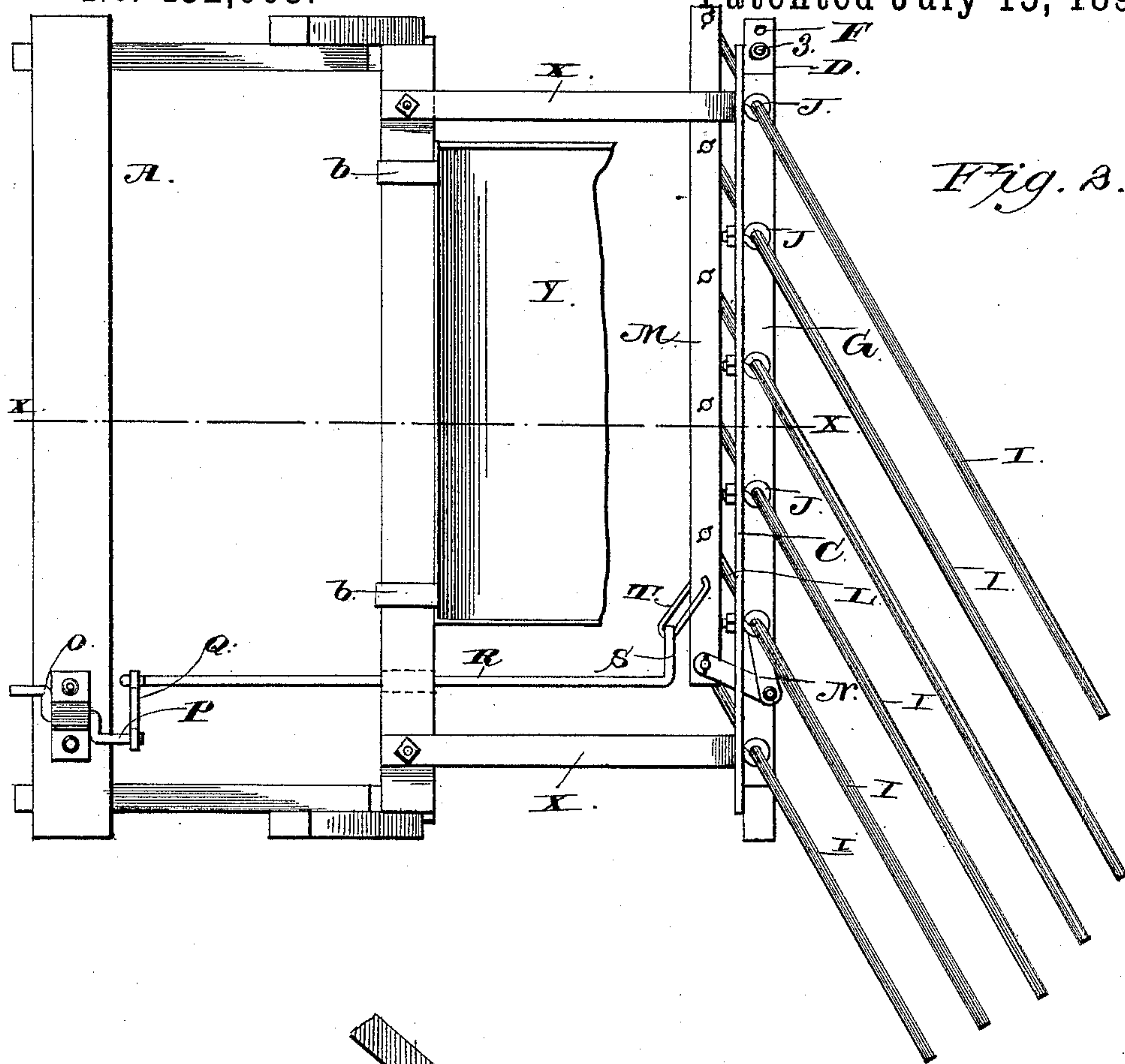
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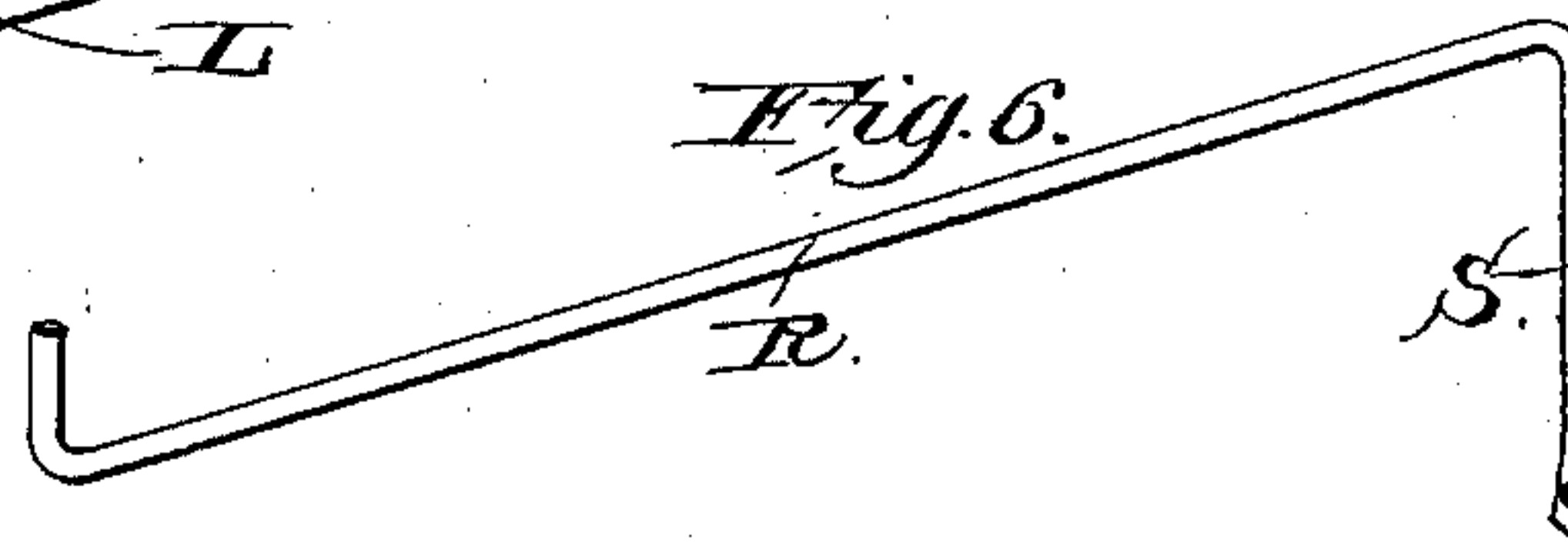
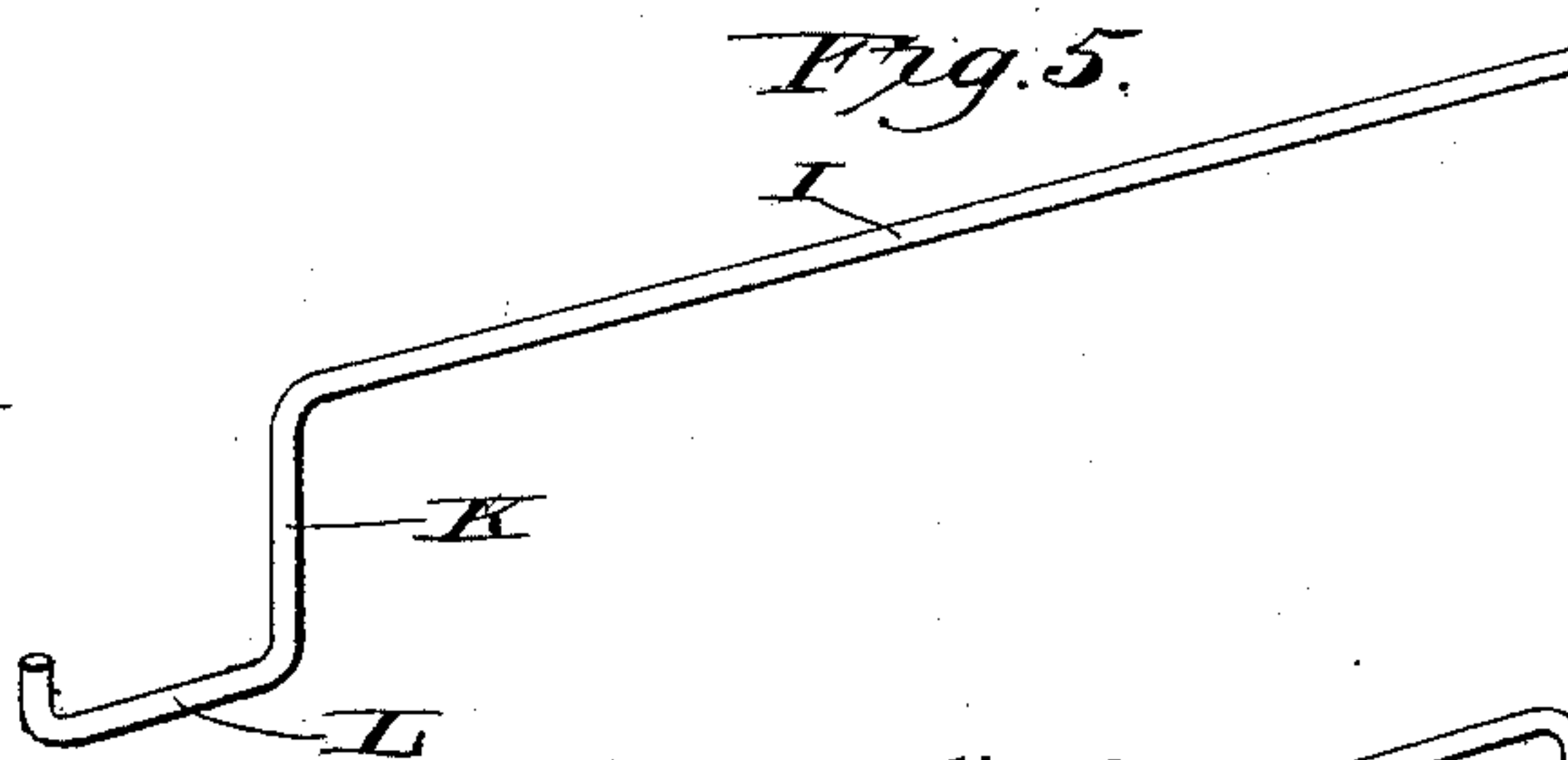
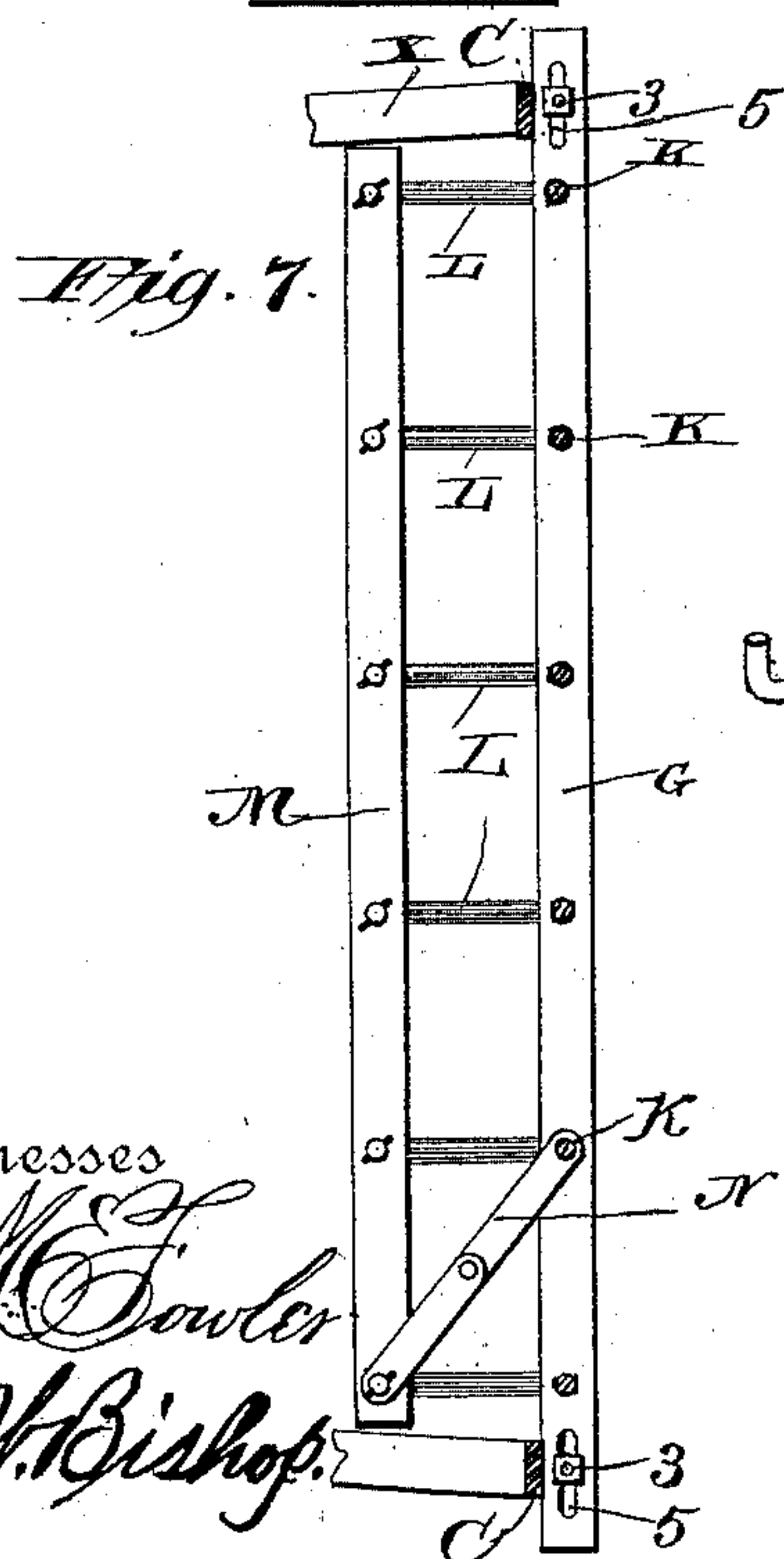
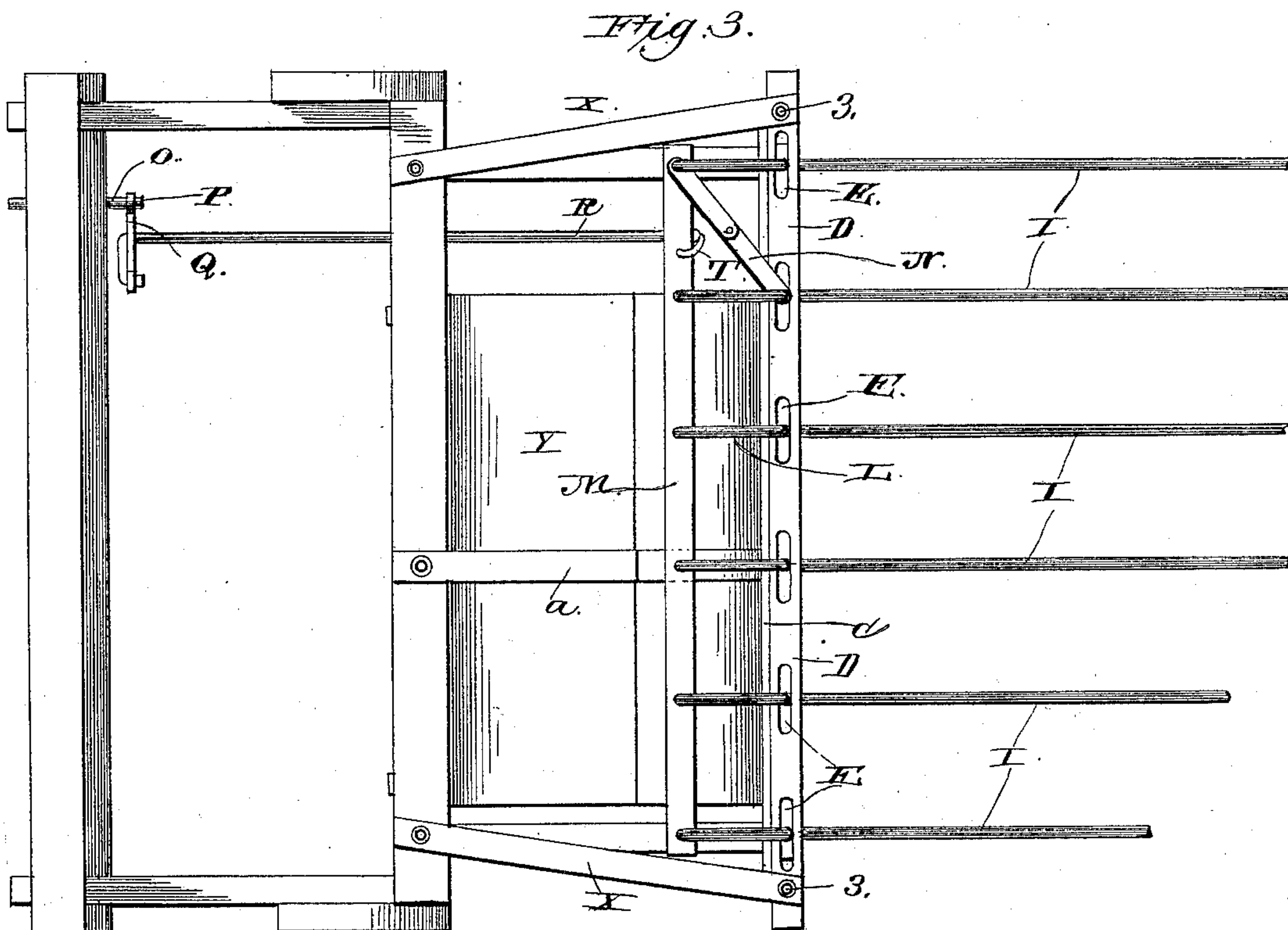
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UNITED STATES PATENT OFFICE.

FRED PALM, OF RED LAKE, (DAKOTA TERRITORY,) SOUTH DAKOTA.

BUNDLE-CARRIER.

SPECIFICATION forming part of Letters Patent No. 432,068, dated July 15, 1890.

Application filed August 4, 1888. Serial No. 281,984. (No model.)

To all whom it may concern:

Be it known that I, FRED PALM, a citizen of the United States, residing at Red Lake, in the county of Brule and Territory of Dakota, have invented new and useful Improvements in Bundle-Carriers, of which the following is a specification.

My invention relates to improvements in bundle-carriers; and it consists in certain novel features, hereinafter described and claimed.

In the annexed drawings, Figure 1 is a perspective view of my improved device. Fig. 2 is a plan view showing the carrying-bars thrown rearward. Fig. 3 is a bottom plan view of the carrier. Fig. 4 is a vertical section on the line *xx* of Fig. 2. Fig. 5 is a detail perspective view of one of the carrying rods or fingers. Fig. 6 is a detail perspective view of the operating crank-shaft. Fig. 7 is a view showing a modified arrangement of the mechanism for operating the carrying rods or fingers.

Referring to the drawings by letter, A designates a portion of the supporting-frame of a harvester, and B is the bundle-carrier projecting from one side thereof, near and below the binding mechanism and the binder-deck 2. This bundle-carrier consists of the main bar C, of proper dimensions, having its ends bent downward, and the extremities of said ends bent outward, as shown. These outwardly-turned extremities are perforated for the passage of securing-bolts 3, by means of which the straight longitudinally-slotted bar D is secured thereto. This bar D is provided with a series of longitudinal slots E, through which the carrying rods or fingers play, and at its ends it is provided with a series of vertical openings F, which permit the forward and backward adjustment of the bar D to regulate the length of swing of the carrying-rods. This adjustment is effected by passing the securing-bolts through one or another of the openings F and through the perforations in the extremities of the bar C, as will be readily understood.

G designates the sliding bar supported by the main bar, either by resting on the slotted bar D, as shown in Fig. 1, or directly, as shown in Fig. 7, and provided with a series of vertical perforations or openings H, through which the

carrying-rods pass, and in which they fit snugly. The carrying rods or fingers I are formed of metallic rods having the greater portions of their length extending outward from the frame composed of the bars C and D, in the horizontal plane of the upper portion of the bar C, as shown. The inner ends of the carrying bars or rods are bent downward, as the portion K, and passed through horizontal eyebolts J inserted through the bar C, by means of which the said rods are held in place. The lower ends of these downwardly-turned portions K of the carrying-rods are passed through the openings in the sliding bar G, and through the slots in the bar D. Below the bar D the ends of the carrying-rods are bent inward, as shown at L, and the extremities of these inwardly-turned portions L are turned up and are connected by the bar M, as shown.

N designates a short toggle-lever, having its opposite ends secured, respectively, to the turned-up extremity of the outer carrying-rod at the rear end of the connecting-bar M, and to the second carrying-rod therefrom at a proper point of the downwardly-turned portion K thereof. When the parts are in the position shown in Fig. 1, this toggle-lever will be extended and will act as a brace, holding the carrying-rods steady and preventing them turning under the shock caused by the bundles falling thereon, and consequently prematurely dumping the bundles. When the bar M is moved, however, the toggle-lever will be folded, as shown in Fig. 2, and the rods allowed to swing.

O designates the treadle or foot-lever, which is arranged at a proper point on the harvester within convenient reach of the driver, and is provided at one end with a crank-arm P, to which is attached a pitman Q. The opposite end of this pitman is connected to a crank-arm on the inner end of a rock-shaft R, which has a crank-arm S at its outer end, which is connected to the connecting-bar M by a link T, as shown.

The bundle-carrier is secured to the frame of the harvester by the end braces or supporting-bars X, which have their opposite ends bolted to the bar C of the carrier and to the harvester, as will be readily understood, and also by the central brace or supporting-bar *a*, which has its outer end secured to the

main bar C and its inner end bolted to the harvester-frame.

Y designates a basket supported below the binder-deck to the inner side of the bundle-carrier and to the outer side of the harvester to receive the loose grain falling from the binder-deck to prevent the wasting of the same. This basket is constructed of sheet metal or some similar material, and is provided at its outer edge with two hooks Z Z, which hook over the main bar C. The basket rests on the central brace *a*, and is also provided at its inner edge with hooks *b*, which hook over a portion of the harvester-frame. The outer side of the basket is inclined, as shown, so as to provide ample room to permit the carrying-rods to play freely under the basket, while the inner side is curved, as shown, so as to give the basket the greatest possible capacity.

From the foregoing description, taken in connection with the accompanying drawings, it is thought the operation of my device will be readily understood. The normal position of the parts is that shown in Fig. 1, the carrying bars or rods being projected outward in position to receive the bundles as they are discharged from the tying mechanism. When a sufficient number of bundles have been collected on the carrying-rods, the treadle is operated to swing the points of the carrying-rods rearwardly around to one side, thereby causing them to fold together, as shown in Fig. 2, and consequently to drop the bundles. The swinging around of the carrying-rods is effected by causing the connecting-bar M to move forward, thereby causing the carrying-rods to swing rearward on their vertical axes. As the bar M and the ends of the carrying-rods are swung forward, the tendency of said rods will be to swing rearward in a horizontal plane and fold together. Inasmuch, however, as the rods are held snugly at the upper ends of their vertical portions the said vertical portions are made to vibrate in the slots E and give the outer ends or points a downward sweep by the weight of the bundles thereon, causing the vertical portions to swing forward in the slots past their centers or vertical axes, so that an oblique motion is given the fingers or carrying-rods and the bundles positively dropped. Were the carrying-rods not otherwise connected they would be liable to swing independently of each other, and thereby destroy the efficiency of the device. In order to overcome this objection, I provide the bar G, which connects the vertical portions of all the rods, and consequently insures their simultaneous operation by moving with the same when the vertical portions of the rods vibrate, as will be readily understood. The slotted bar can be readily adjusted to limit the play of the carrying-rods by securing it at such points that the said rods will sooner or later contact with the ends of the slots. Instead of this construction, however, I may use that shown in Fig. 7. This construction differs from

that shown in the other figures in supporting the sliding bar G directly on the main bar and dispensing with the slotted bar D. The vertical portions of the carrying-rods fit snugly in perforations in this bar, and instead of using a separate slotted bar the bar G is itself provided with slots at its ends, which receive the securing-bolts and permit and limit movement of the bar in the same way as bar D does in Fig. 1. It will be readily understood, of course, that the ends of the bars are not secured firmly, but are permitted to have the necessary play, and that the securing-bolts limit the movement of the bar G by contacting with the ends of the slots. Otherwise this arrangement operates in the same manner as that shown in the other figures.

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

1. The combination of the main bar, the sliding bar supported thereby, the carrying-rods secured to the main bar and passing through the sliding bar and having their ends bent inward below said sliding bar, the connecting-bar connecting the ends of the carrying-rods, the toggle-lever between the connecting-bar and the vertical portion of one of the carrying-rods, and mechanism for swinging the carrying-rods, as set forth.

2. The combination of the main bar, the slotted bar supported thereby, the sliding bar resting on the said slotted bar and having perforations for the carrying-rods, the carrying-rods attached to the main bar, passing through the perforations in the sliding bar and the slots in the slotted bar and bent inward below the slotted bar, and mechanism for swinging the carrying-rods, as set forth.

3. The combination of the main bar, the sliding bar supported thereby, the carrying-rods attached to the main bar and passing through the sliding bar, the treadle, the rock-shaft, the pitman between the rock-shaft and the treadle, the connecting-bar M on the inner ends of the carrying-rods, and the link connecting the rock-shaft with the bar M, as set forth.

4. The combination, with the harvester-frame, of the carrying-rods and their main supporting-bar connected to the said frame, the central brace between the supporting-bar and the frame, and the basket resting on the said brace and having a flat inclined outer portion and a curved inner portion, and provided with supporting-hooks on its inner edge engaging the harvester-frame, and similar hooks on its outer edge engaging the supporting-bar, as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

FRED PALM.

Witnesses:

CHARLES FEIST,
MARY A. GEPPERT.