

No. 726,022.

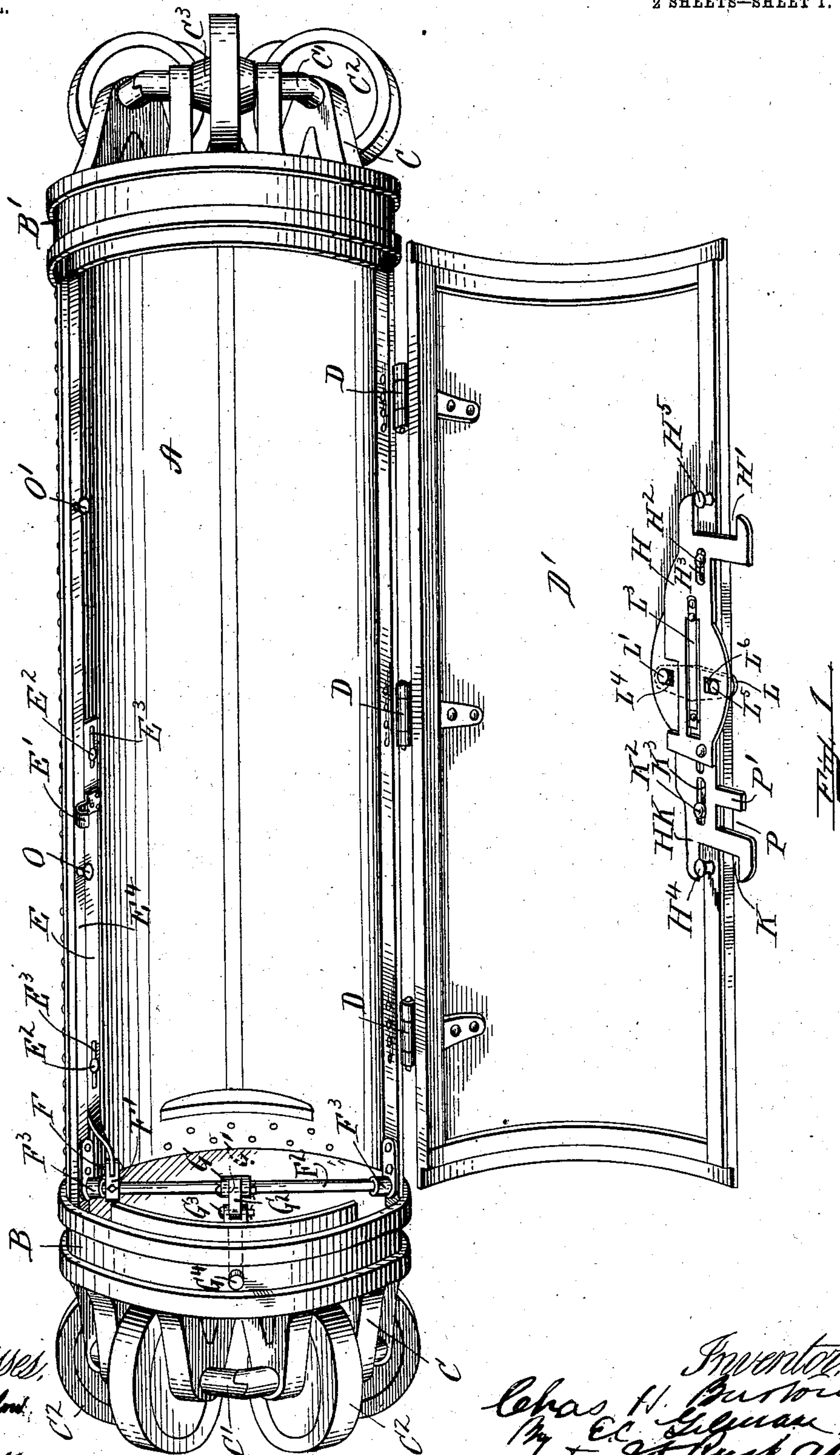
PATENTED APR. 21, 1903.

C. H. BURTON.  
PNEUMATIC CARRIER.

APPLICATION FILED DEC. 3, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



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Inventor:  
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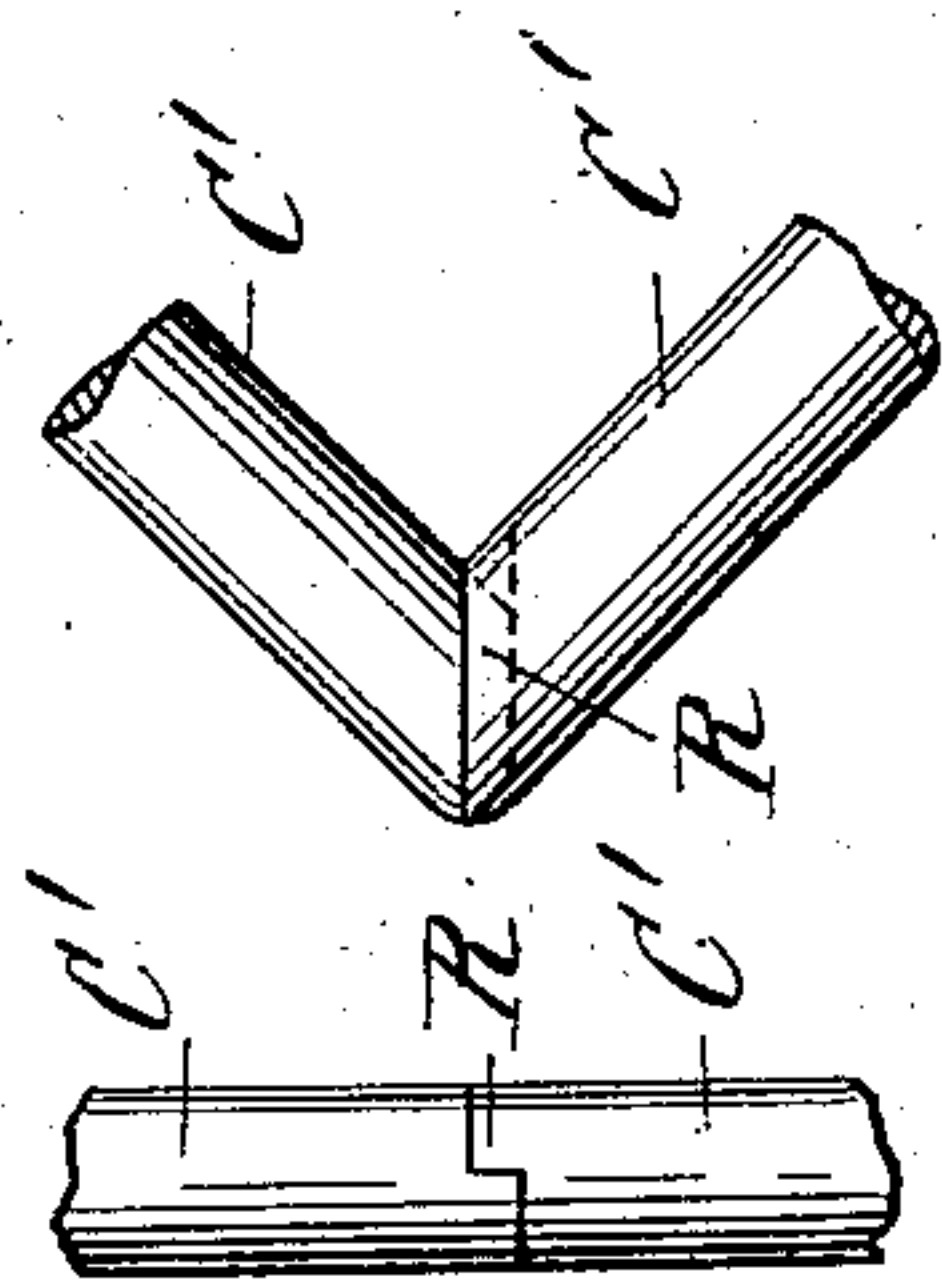
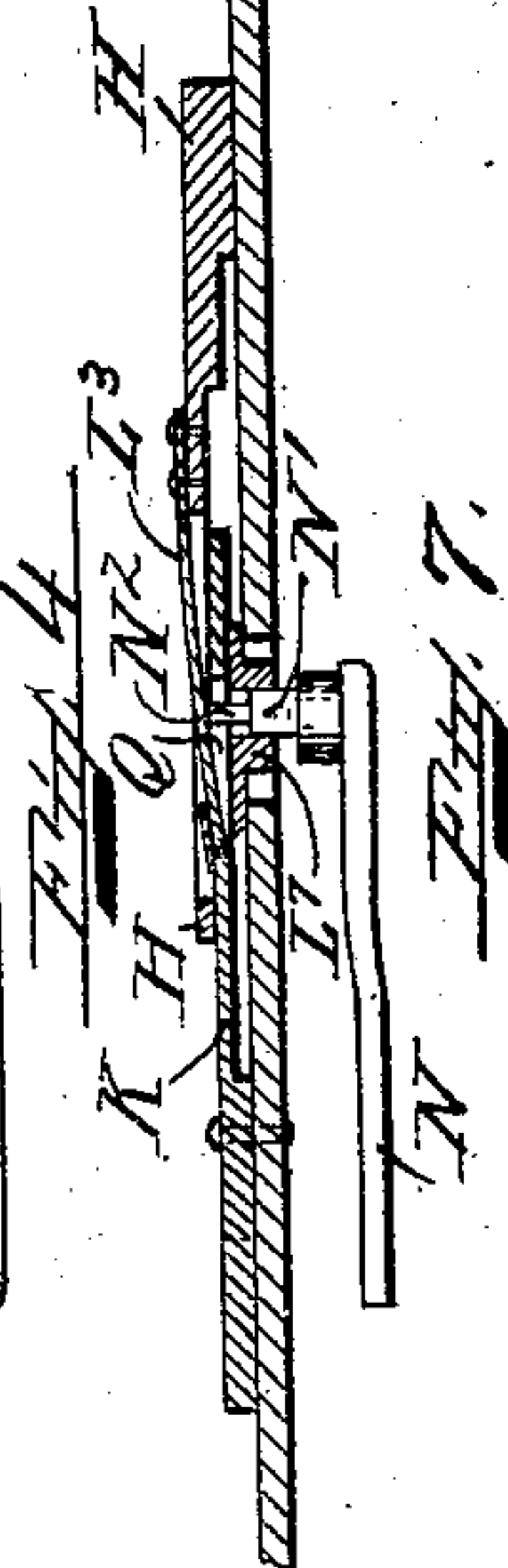
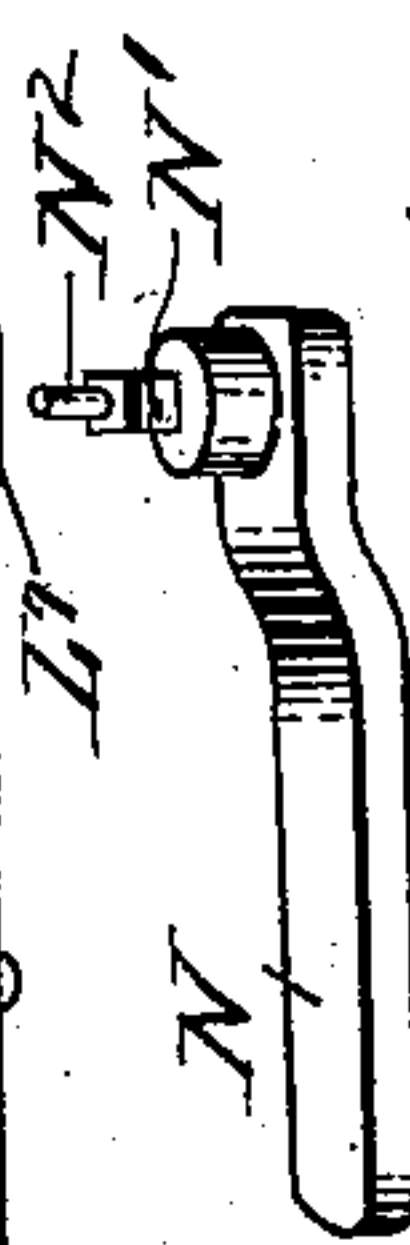
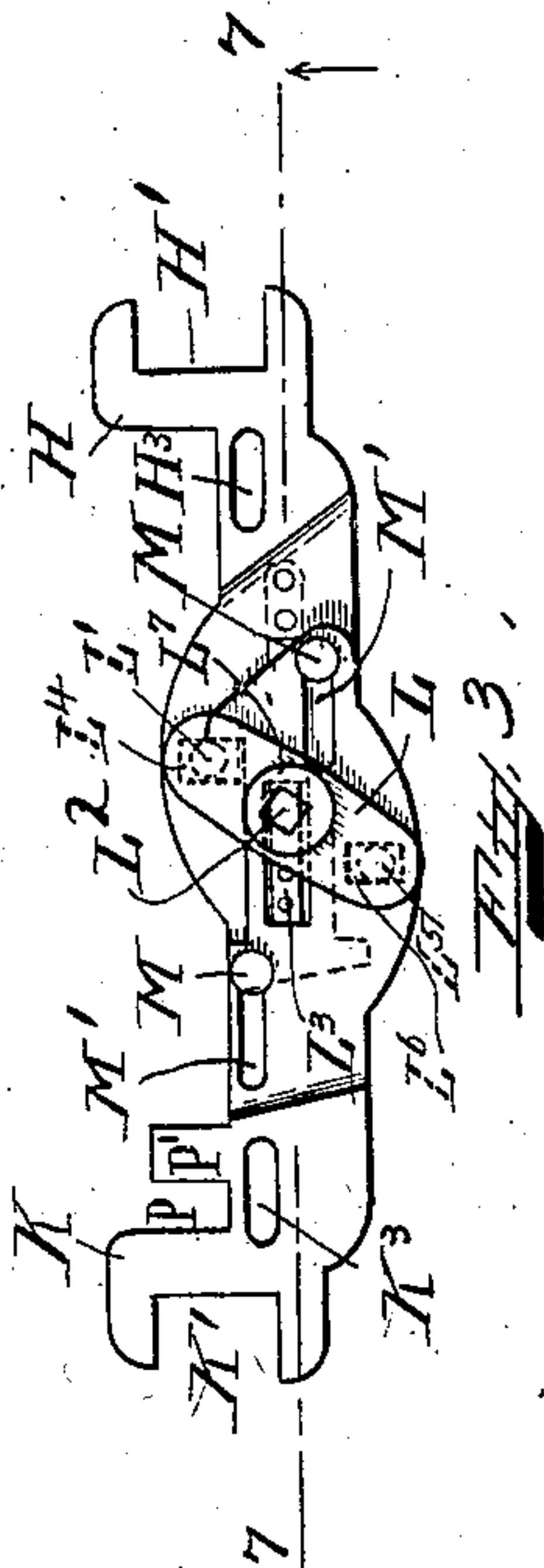
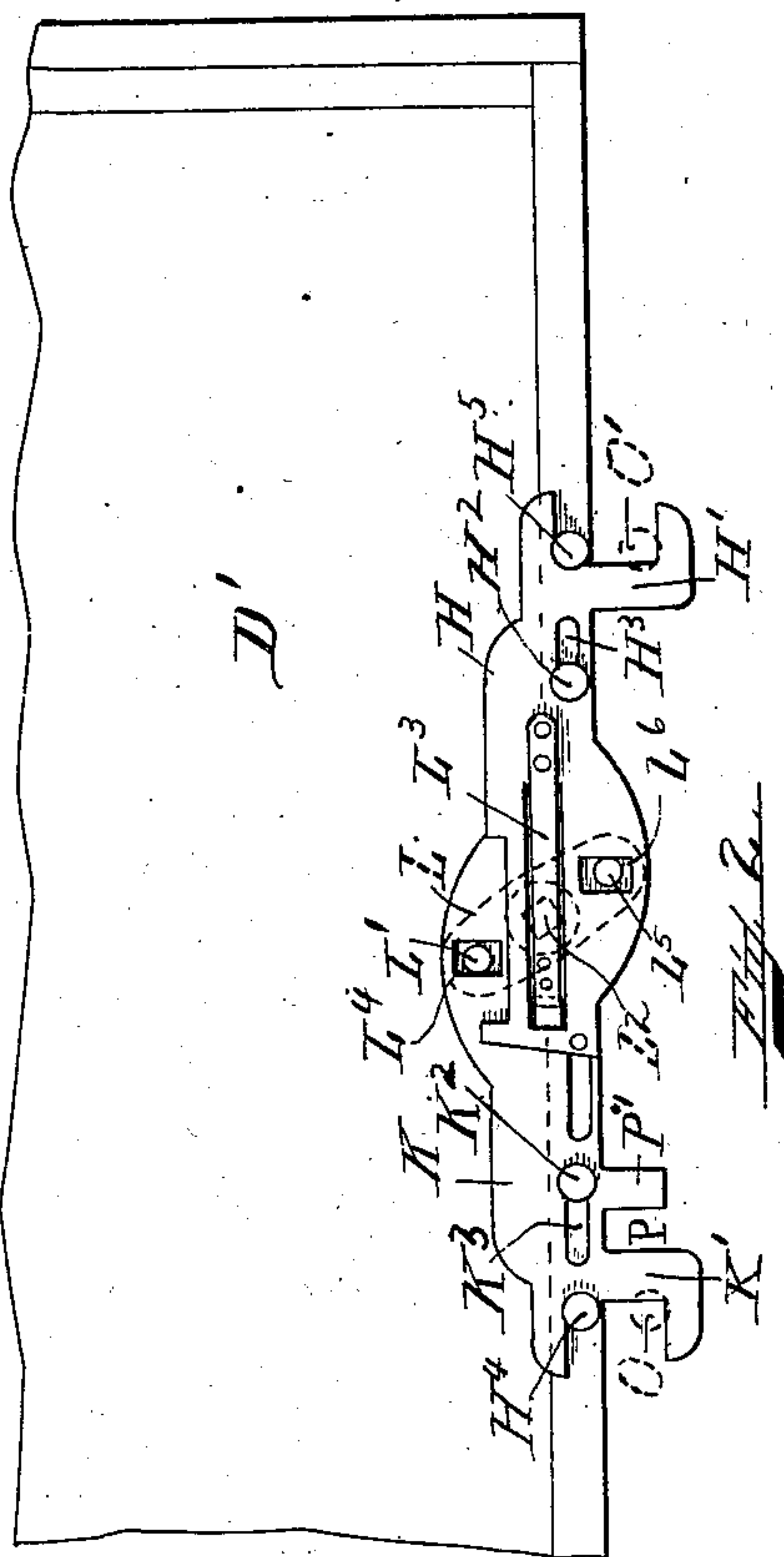
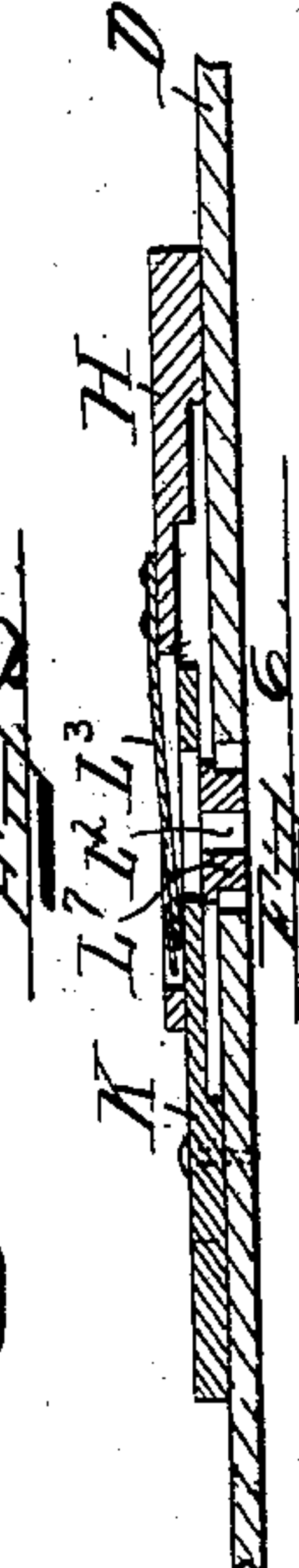
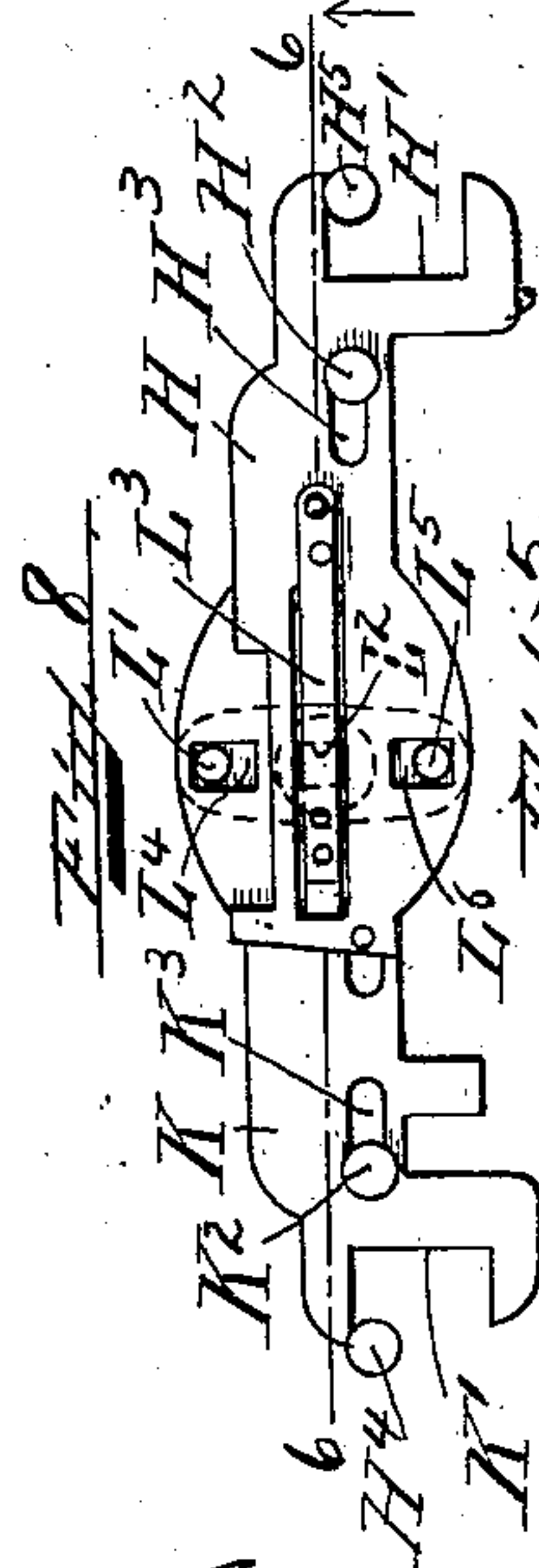
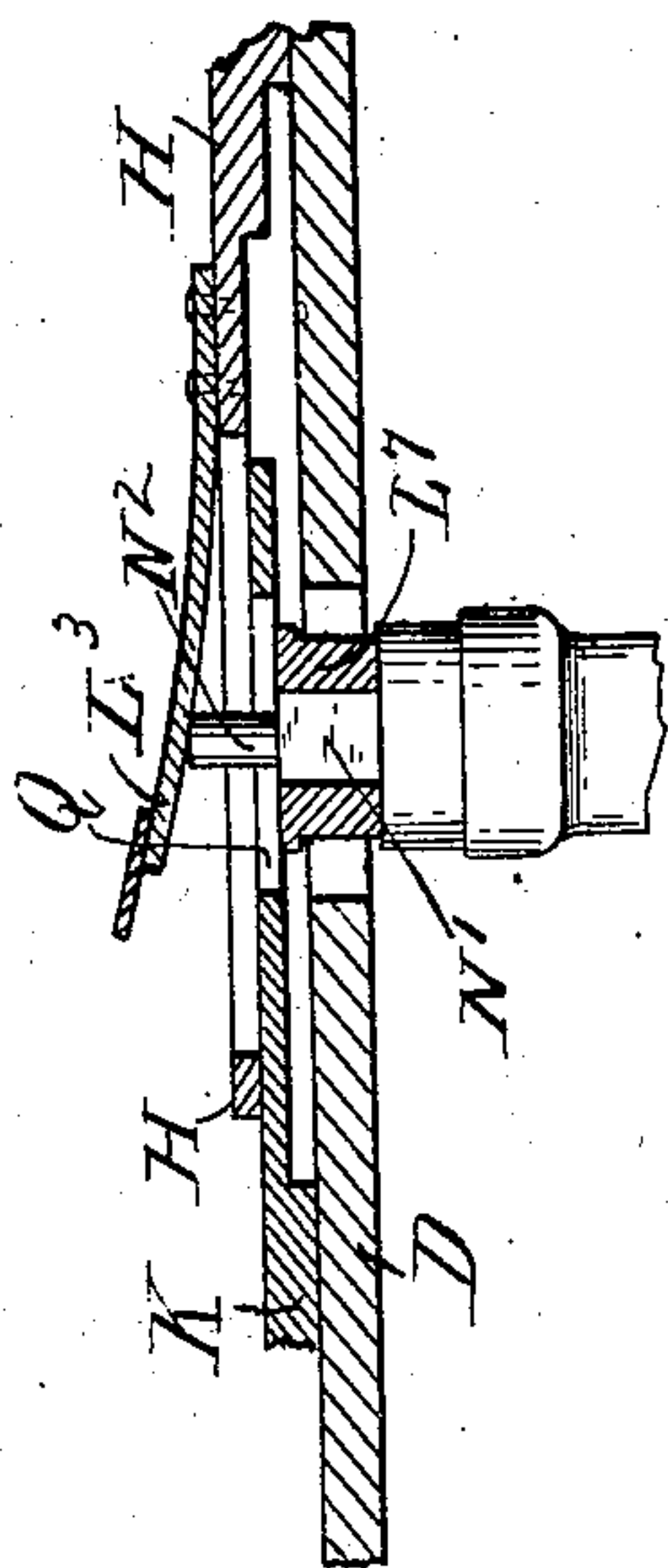


Fig. 9



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# UNITED STATES PATENT OFFICE.

CHARLES H. BURTON, OF BOSTON, MASSACHUSETTS.

## PNEUMATIC CARRIER.

SPECIFICATION forming part of Letters Patent No. 726,022, dated April 21, 1903.

Application filed December 3, 1902. Serial No. 133,663. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. BURTON, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Pneumatic Carriers, of which the following is a specification.

My invention relates to new and useful improvements in carriers for pneumatic - despatch-tube apparatus.

The main object of my invention is to prevent the insertion of a carrier into the pneumatic tube for transmission until the cover is locked to the shell of the carrier.

Another object is to prevent the locking mechanism from coming into position to lock the cover to the shell of the carrier in the event of said preventing means being withdrawn from its preventing position excepting by the movement of the locking mechanism to lock the cover to the shell of the carrier.

My invention consists of certain novel features hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which illustrate a construction embodying my invention, Figure 1 is a perspective view of a carrier embodying my invention with the cover open to expose the interior parts and with the locking mechanism in its unlocked position. Fig. 2 is a side elevation of part of the cover, showing the position of the locking mechanism when moved to cause the engagement of the cover with the shell of the carrier. Fig. 3 is a side view of the locking mechanism, taken from the rear side. Fig. 4 is a plan view looking at the edge of the cover and the locking mechanism with the wrench to be inserted for operating the locking mechanism. Fig. 5 is a side view of the locking mechanism, showing the parts in their unlocked position. Fig. 6 is a longitudinal sectional view on the line 6 6, Fig. 5, and showing in section the position of the parts when unlocked. Fig. 7 is a sectional view on the line 7 7, Fig. 3, and showing in section the parts in their locked position. Fig. 8 is a detail view hereinafter described. Figs. 9 and 10 are respectively end and side elevations of the improved axle-joint.

Like letters of reference refer to like parts throughout the several views.

A represents the shell of a carrier for pneumatic tubes provided with two heads B and B', from which extend lugs C, in which are journaled the wheels C<sup>2</sup> by means of the hubs C<sup>3</sup>, mounted on the axles C'. To the shell of the carrier there is hinged at D the cover D', which is adapted to be closed and locked to the shell of the carrier, when the same is ready for transmission through the tube. Within the shell of the carrier and under the ledge E<sup>4</sup> is arranged a flat rod E, adapted to be reciprocated and guided in its reciprocations by the pins E<sup>2</sup>, secured to the side of the carrier in the slots E<sup>3</sup>, in which said pins are located. This rod is hinged at F to the rocker-arm F', fixed fast on the shaft F<sup>2</sup>, journaled in the bearings F<sup>3</sup>, secured inside of the shell of the carrier. Fixed fast on the said shaft is another rocker-arm, G, at right angles to the rocker-arm F, and pivoted to the said rocker-arm G at G' is the link G<sup>2</sup>, which is pivoted at its opposite end at G<sup>3</sup> to the bolt G<sup>4</sup>. With the parts in the position shown in Fig. 1 the bolt G<sup>4</sup> extends beyond the periphery of the head B, and before the carrier can be inserted into the tube the cover D' must not only be moved down into locking position on the shell of the carrier, but the locking mechanism must be operated to move the rod E toward the head B, and thereby withdraw the bolt G<sup>4</sup> to within the periphery of the head, and thus allow the insertion of the carrier into the tube.

The locking mechanism consists of two flat plates H and K, provided with jaws H' and K', by means of which the cover and shell are locked together. These plates are held in place on the cover by means of the pins H<sup>2</sup> and K<sup>2</sup>, secured to the cover and extending through the slots H<sup>3</sup> and K<sup>3</sup>, and by means of said pins and slots the locking and unlocking movements are regulated. Between the plates and the cover is located the link L, having a square hole L<sup>2</sup> in the lug L' and provided with two projecting pins L' and L<sup>5</sup>, extending, respectively, through the openings L<sup>4</sup> and L<sup>6</sup> in the plates K and H, whereby movement given to said link from the outside of the cover by the wrench N, (having a



square head  $N'$  and pin  $N^2$ ,) inserted through the square opening  $L^2$ , and then turning the wrench will impart movement to said plates  $H$  and  $K$  and lock or unlock the cover and the shell, as the case may be.

To lock the cover to the shell of the carrier, the lid  $D'$  is turned over and the recess  $P$  passes over the upwardly-extending lug  $E'$  on the flat rod  $E$ , causing said lug to enter the recess  $P$  between the finger  $P'$  and the rear side of the jaw  $K'$  and with the jaw  $K'$  between said lug  $E'$  and the pins  $O$  fast on the shell of the carrier, at which time the jaw  $H'$  is in line to engage with pin  $O'$ , fast on the shell of the carrier. With the parts in this position the wrench  $N$  is inserted into the square opening  $L^2$ , with the square head  $N'$  resting in said opening; and by giving the wrench a turn to the right said plates move outwardly, and the jaws  $H'$   $K'$ , respectively, engage the pins  $O'$   $O$  and the pins  $H^5$   $H^4$  on the shell of the carrier, thereby locking the cover to the shell of the carrier. While this locking movement is taking place, the finger  $P'$  on the plate  $K$  engages the lug  $E'$  and moves the rod  $E$  toward the head, whereby the rocker-arm  $F'$  moves downwardly with the shaft  $F^2$  and brings the rocker-arm  $G$  downwardly, and with it the link  $G^2$  and the bolt  $G^4$ , which is thereby withdrawn within the periphery of the head and does not interfere with the insertion of the carrier into the tube. When the plates  $H$  and  $K$  are moved outwardly and lock the cover to the shell of the carrier, the flat spring  $L^3$ , secured to the plate  $H$ , drops down into the opening  $Q$  in the plate  $K$ , as shown in Fig. 7, and locks the plate against movement, so that during transmission the cover cannot become unlocked from the shell of the carrier. When the locking mechanism is in its unlocked position, the spring  $L^3$  simply rests upon the plate  $K$ , as shown in Fig. 6; but when in its locked position said spring drops into said opening, and thereby prevents unlocking of the mechanism. When the carrier reaches the opposite end of the line and the attendant desires to open the same to remove the contents, he inserts the wrench  $N$  in the manner shown in Fig. 7 and by pressing on said wrench lifts said spring from said opening  $Q$  in the manner shown in enlarged Fig. 8 and by giving the wrench a turn to the left withdraws the bolts  $H$  and  $K$  from their locked to their unlocked position, as shown in Fig. 1. At the same time the rear end of the jaw  $K'$  acts against the lug  $E'$  and moves the rod  $E$  toward the head  $B'$ , thereby turning up the rocker-arm  $F'$ , rotating the shaft  $F^2$ , which turns up the rocker-arm  $G$  and link  $G^2$  and moves outwardly the bolt  $G^4$  beyond the periphery of the head  $B$ , which will prevent the insertion of the carrier into the tube until the locking mechanism is again operated to lock the cover to the shell of the carrier. The attendant then opens the lid and removes the contents and inserts therein any goods

which are to be returned, closes the lid, and the same operation takes place for locking the cover to the shell of the carrier, withdrawing the bolt  $G^4$ , as previously described.

As shown in Figs. 9 and 10, an improved joint is provided for the axles for preventing the axles of the wheels on which the carriers turn becoming loose and turning, which will allow the axles to work out of the bearings, and thereby drop the wheels. To overcome this difficulty, there is provided the axles, as shown, with an interlocking beveled joint  $R$ , which even should the joint become loose will prevent the axles from turning and working out.

If the bolt  $G^4$  should be accidentally pushed inwardly before the cover  $D'$  is moved over into position for the locking mechanism to be operated, the lug  $E'$  would be moved toward the head  $B$  through the operation of the connecting mechanism, in which case the head of the jaw  $K'$  would strike on top of the lug  $E'$  and prevent the closing of the cover, which would likewise prevent the insertion of the carrier into the tube. The attendant would then raise the cover and pull the lug  $E'$  toward the head  $B'$ , so that upon again turning the cover into its closed position the lug  $E'$  would pass into the recess  $P$  and the operation of locking the cover would take place, as hereinbefore described.

Having thus described the nature of my invention and set forth a construction embodying the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a pneumatic-despatch-tube carrier, a cover, locking mechanism adapted to be operated to lock and unlock said cover to and from the shell of the carrier, and means on the shell of the carrier arranged to project beyond the shell of the carrier and thereby prevent the insertion of the carrier into the despatch-tube until the cover is locked to the shell of the carrier and adapted to be withdrawn upon the movement of the locking mechanism to lock the cover to the shell of the carrier and thereby allow the insertion of the carrier into the despatch-tube.

2. In a pneumatic-despatch-tube carrier, a cover, locking mechanism adapted to be operated to lock and unlock said cover to and from the shell of the carrier, means on the shell of the carrier arranged to project beyond the shell of the carrier and thereby prevent the insertion of the carrier into the despatch-tube until the cover is locked to the shell of the carrier and adapted to be withdrawn upon the movement of the locking mechanism to lock the cover to the shell of the carrier and thereby allow the insertion of the carrier into the despatch-tube, and means for holding said locking mechanism in its locking position.

3. In a pneumatic-despatch-tube carrier, a cover, locking mechanism adapted to be operated to lock and unlock said cover to and



from the shell of the carrier, means on the shell of the carrier arranged to project beyond the shell of the carrier and thereby prevent the insertion of the carrier into the despatch-tube until the cover is locked to the shell of the carrier and adapted to be withdrawn upon the movement of the locking mechanism to lock the cover to the shell of the carrier and thereby allow the insertion of the carrier into the despatch-tube, and yielding means for holding said locking mechanism in its locking position.

4. In a pneumatic-despatch-tube carrier, a cover, locking mechanism adapted to be operated to lock and unlock said cover to and from the shell of the carrier, means on the shell of the carrier arranged to project beyond the shell of the carrier and thereby prevent the insertion of the carrier into the de-

spatch-tube until the cover is locked to the shell of the carrier and adapted to be withdrawn upon the movement of the locking mechanism to lock the cover to the shell of the carrier and thereby allow the insertion of the carrier into the despatch-tube, yielding means for holding said locking mechanism in its locking position, and a wrench for engaging said yielding means to unlock said locking mechanism and permit the unlocking of the cover from the shell of the carrier.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 21st day of November, A. D. 1902.

CHARLES H. BURTON.

Witnesses:

A. L. MESSER,  
E. L. HARLOW.