(No Model.) 2 Sheets—Sheet 1.

C. L. NEWCOMB.

AIR PUMP.

No. 583,201. Patented May 25, 1897.

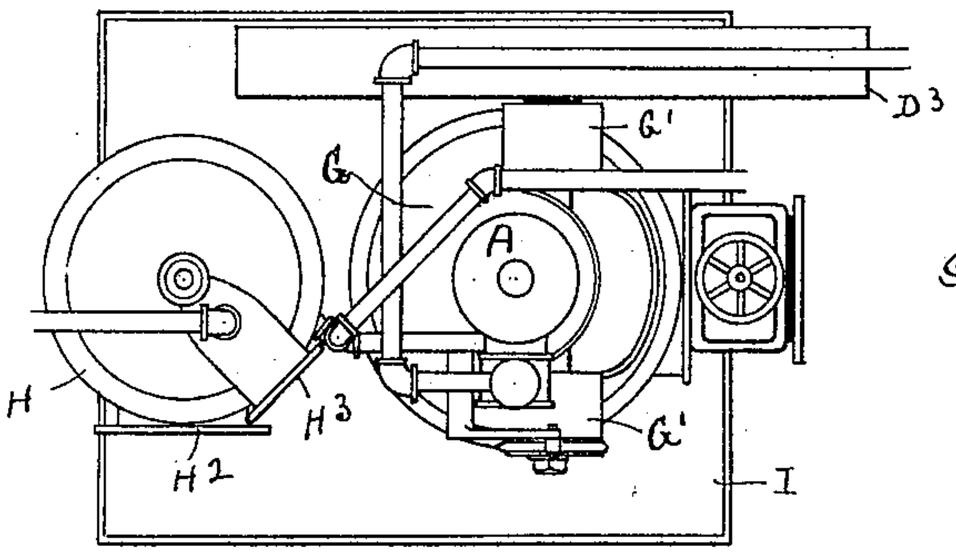

Fig. 3.

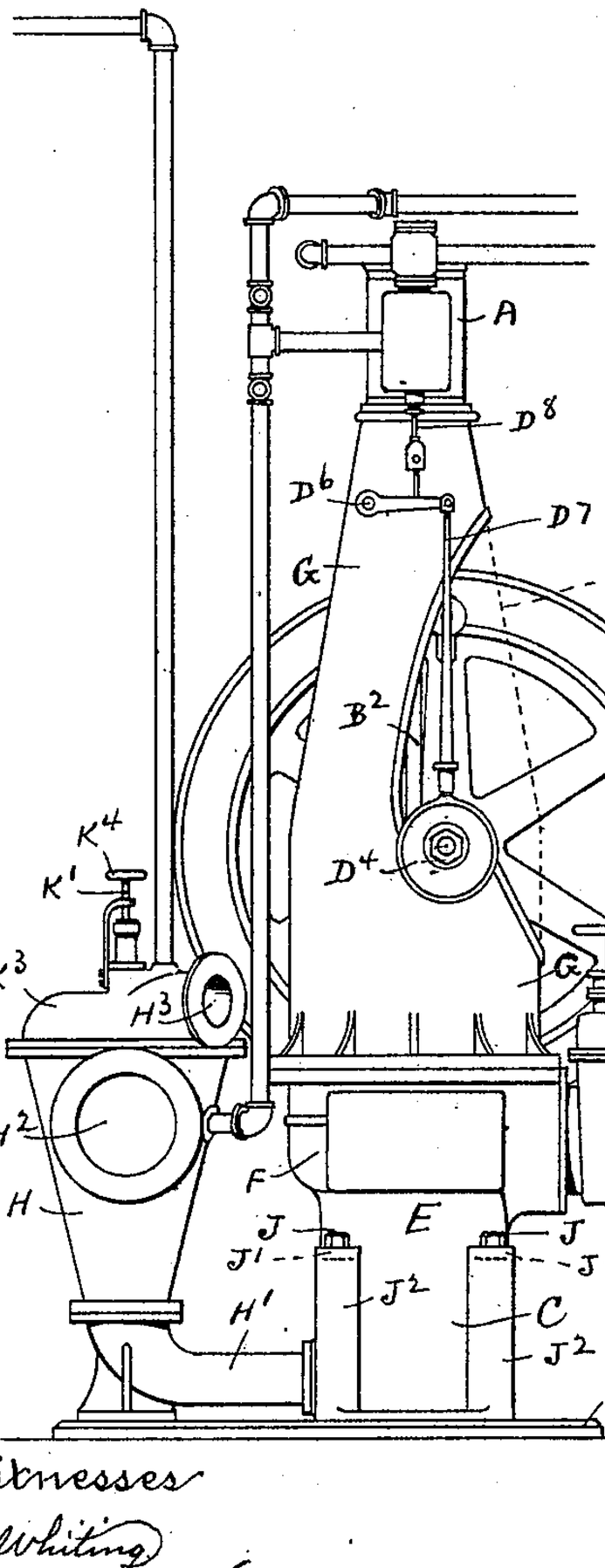

Fig. 1.

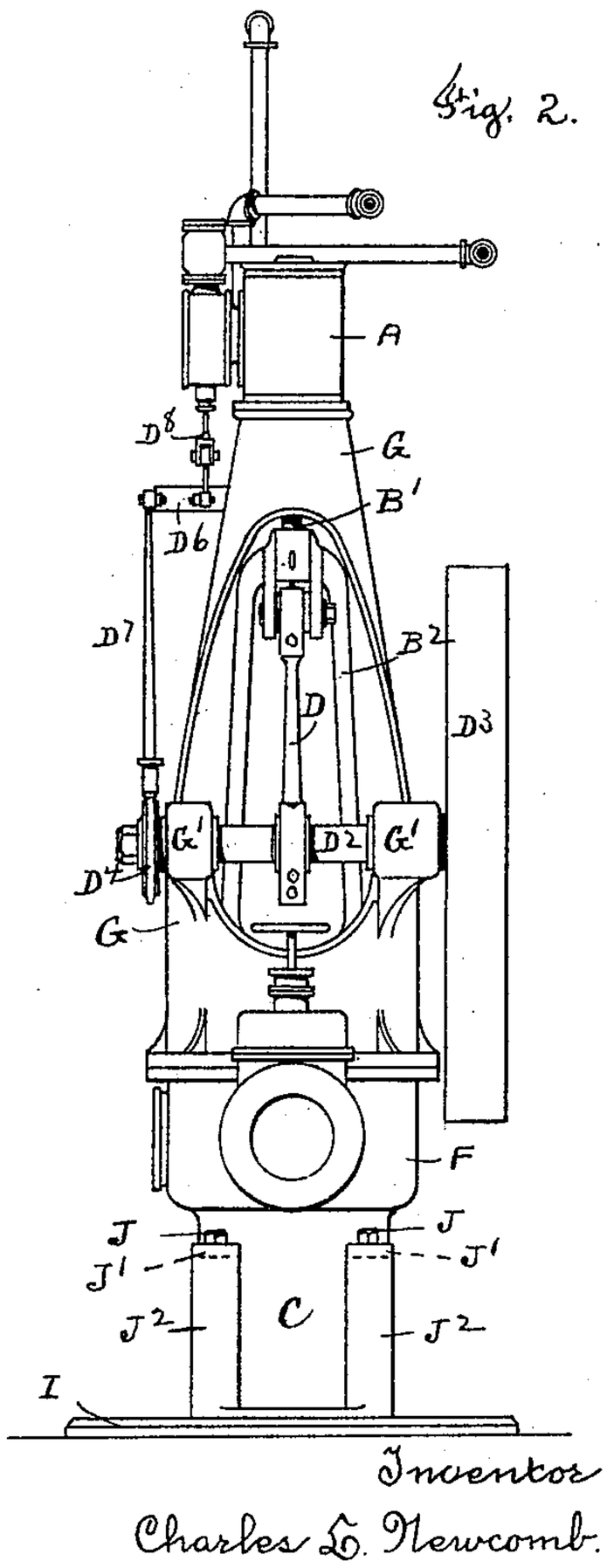

Fig. 2.

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(No Model.) 2 Sheets—Sheet 2.

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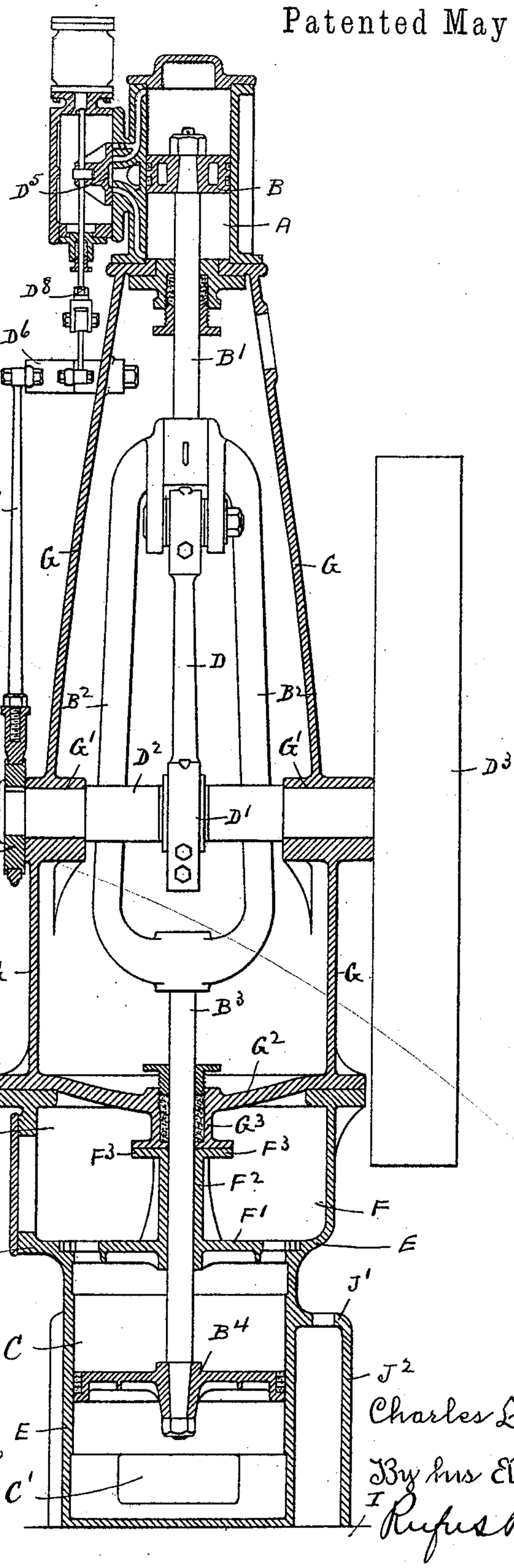
Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES L. NEWCOMB, OF HOLYOKE, MASSACHUSETTS, ASSIGNOR TO THE DEANE STEAM PUMP COMPANY, OF SAME PLACE.

AIR-PUMP.

SPECIFICATION forming part of Letters Patent No. 583,201, dated May 25, 1897.

Application filed August 3, 1895. Serial No. 558,118. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. NEWCOMB, a citizen of the United States, residing at Holyoke, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Air-Pumps, of which the following is a specification, accompanied by drawings, forming a part of the same, in which—

Figure 1 represents an air pump and condenser shown in side elevation and embodying my invention. Fig. 2 is a front elevation of the same. Fig. 3 is a top view. Fig. 4 is a vertical sectional view of the engine and pump.

Similar letters refer to similar parts in the different figures.

My invention relates to the construction of the framework by which the steam and pump cylinders are supported, as hereinafter described, and specifically pointed out in the annexed claims. Such portions of the apparatus as are not hereinafter described in detail as embodying my present invention are of the usual and well-known form of construction in vertical air pumps and condensers.

Referring to the accompanying drawings, A denotes the steam-cylinder, containing a piston B, carried upon a reciprocating piston-rod B′, connected with a yoke B^2, which unites the piston-rod B′ and pump-rod B^3, carrying the air-pump bucket B^4, inclosed in the pump-cylinder C.

The yoke B^2 is connected by a connecting-rod D with an eccentric D′, attached to a shaft D^2, journaled in the framework and carrying a balance-wheel D^3 and eccentric D^4, which actuates the reciprocating steam-valve D^5 through the rock-shaft D^6 and connecting-rods D^7 and D^8. The framework by which these operating parts are supported consists of a cylindrical base E, cast in a single piece, the lower portion forming the pump-cylinder C and the upper portion inclosing the discharge-chamber F, separated from the cylinder C by a transverse partition F′, from which a tubular boss F^2 extends upward, inclosing and forming ways for the pump-rod B^3 and provided with flanges F^3 F^3. Upon the base E is supported the columnar trunk G, having its lower portion cylindrical and its upper portion tapering.

The trunk G is cut away upon one side to give access to the bearings G′ G′, in which is journaled the shaft D^2. The trunk G supports the steam-cylinder A upon its upper end, and its lower end is closed by a web G^2, cast integrally with the body of the trunk G and provided with a tubular boss G^3, forming the stuffing-box for the pump-rod B^3 and resting upon the flanged end of the tubular boss F^2.

The pump-cylinder C is provided with an opening C′, through which the pump-cylinder communicates with the condenser H by means of the pipe H′.

The columnar trunk G is cylindrical from its lower end up to the horizontal plane containing the axis of the shaft D^2, and the portion above the axis of the shaft D^2 is tapering, and the portion removed to give access to the shaft D^2 is that inclosed between the outlines of the frame and the broken line G^4, Fig. 1. The base E is supported upon a bed-plate I, to which it is attached by bolts J, passing through lugs J′, projecting from the sides of the base E at some distance from the bed-plate I and supported at their edges by a vertical wall J^2, one of said lugs and its supporting-wall being shown in sectional view in Fig. 4.

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

1. In an air-pump, the integral base-section E, comprising a pump-cylinder C in its lower portion and inclosing a discharge-chamber in its upper portion and having a transverse partition separating said discharge-chamber and said pump-cylinder, said partition being provided with a tubular boss extending upwardly into said discharge-chamber, and forming ways for a pump-rod, substantially as described.

2. In an air-pump, the combination of a base-section E, containing a pump-cylinder and a discharge-chamber divided by a transverse partition, a tubular boss extending upwardly into said discharge-chamber, a columnar trunk G with its lower end closed by a transverse web G^2 provided with a stuffing-box G^3 for a pump-rod, said stuffing-box being sup-

ported on said tubular boss, and said web G^2 and said trunk G being integral, substantially as described.

3. In an air-pump, the combination of an integral cylindrical base E, having a transverse partition F and a tubular boss F^2, a columnar trunk G supported by said base and having a transverse web G^2 closing its lower end and cast integrally therewith and provided with a tubular boss G in alinement with and supported by the tubular boss F^2 and journal-bearings formed in said trunk, said trunk being cut away at one side to give access to said bearings, substantially as described.

Dated this 30th day of July, 1895.

CHARLES L. NEWCOMB.

Witnesses:

D. O. JUDD,

FRANK J. PHELPS.