

(No Model.)

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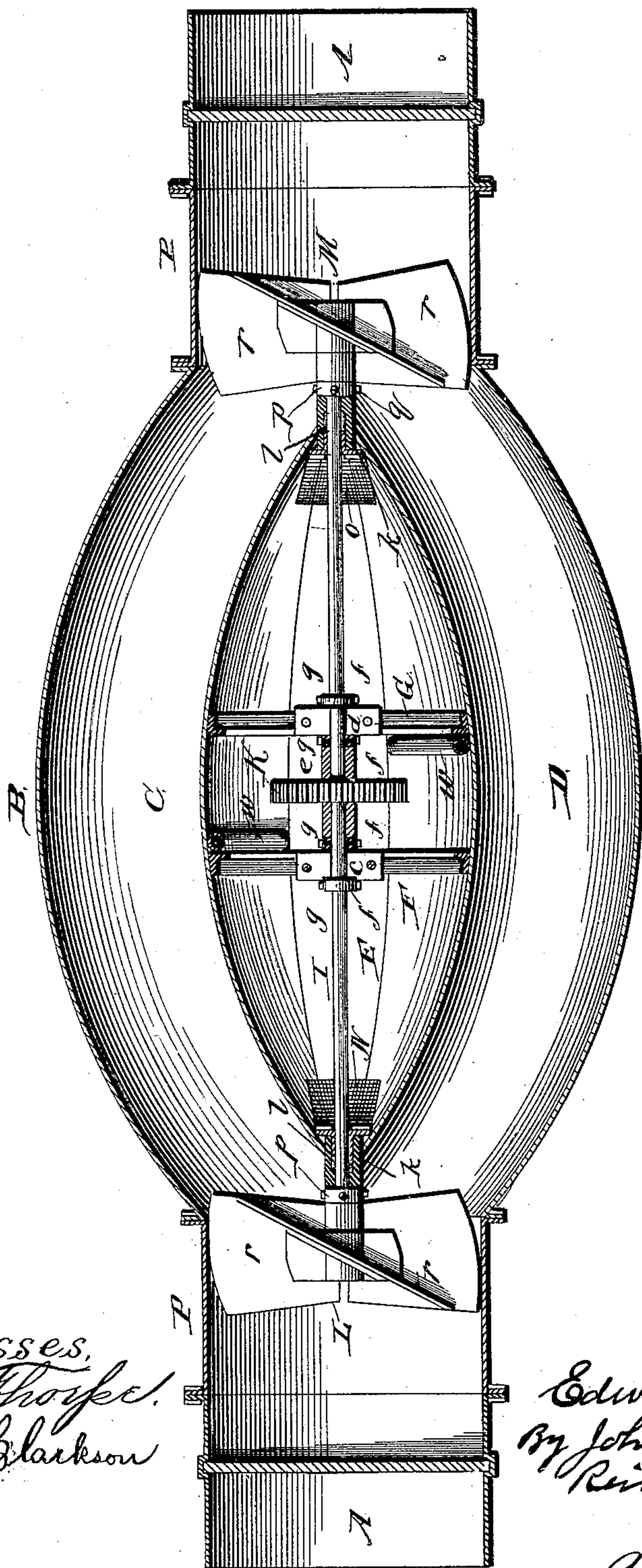
E. BANTZ.

MEANS FOR CREATING ARTIFICIAL CURRENTS.

No. 429,833.

Patented June 10, 1890.

Fig. 1.



*Witnesses,
Geo. V. Thorpe.
Edwin S. Clarkson*

*Inventor
Edward Bantz
By Johnston,
Reinhold &
Dyer
Attorneys.*

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3 Sheets—Sheet 2.

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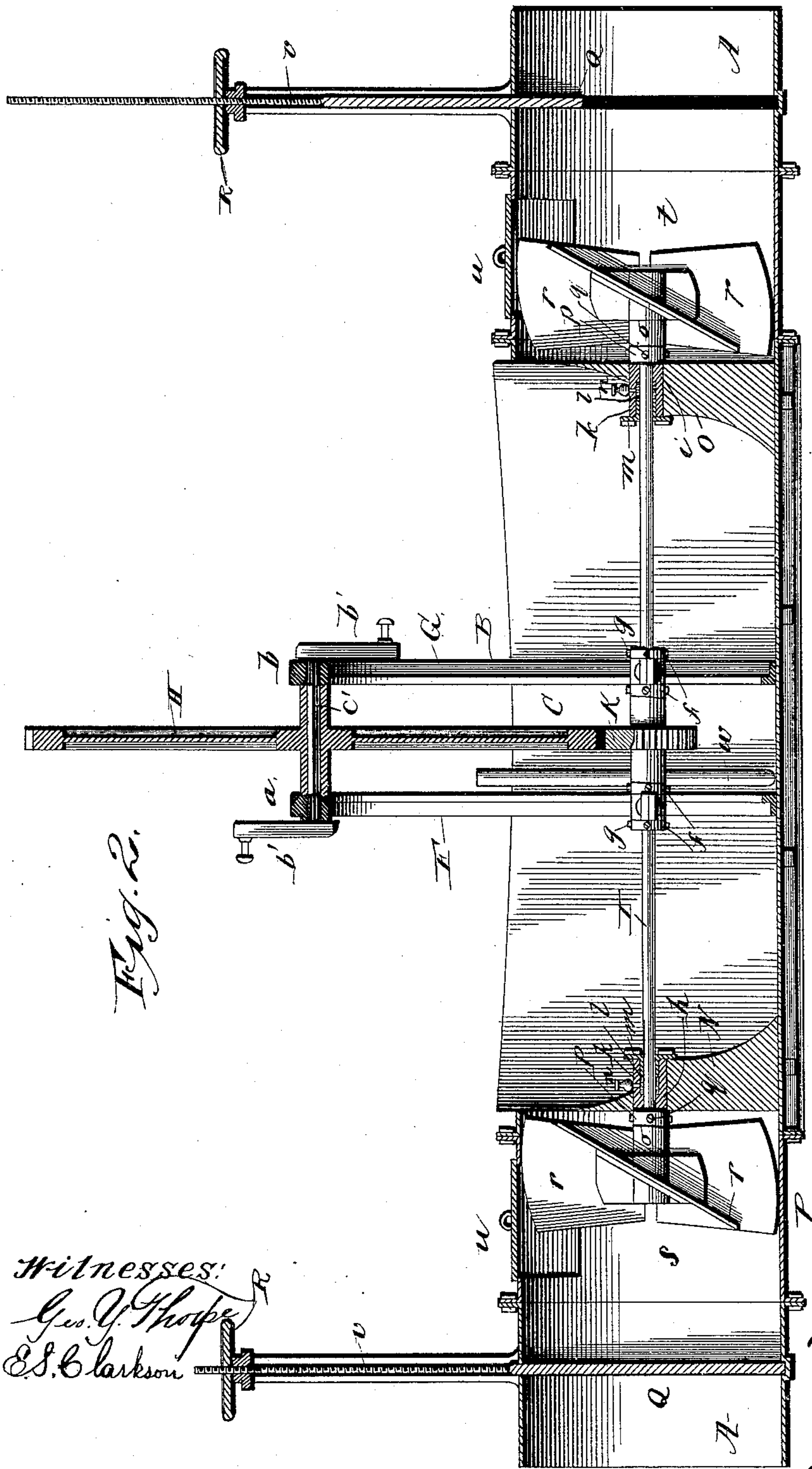


Fig. 2.

Witnesses:
Geo. V. Thayer
E. S. Clarkson

Inventor:
Edward Bantz
By Johnston,
Reinhold &
Dyer
attorneys.

(No Model.)

3 Sheets—Sheet 3.

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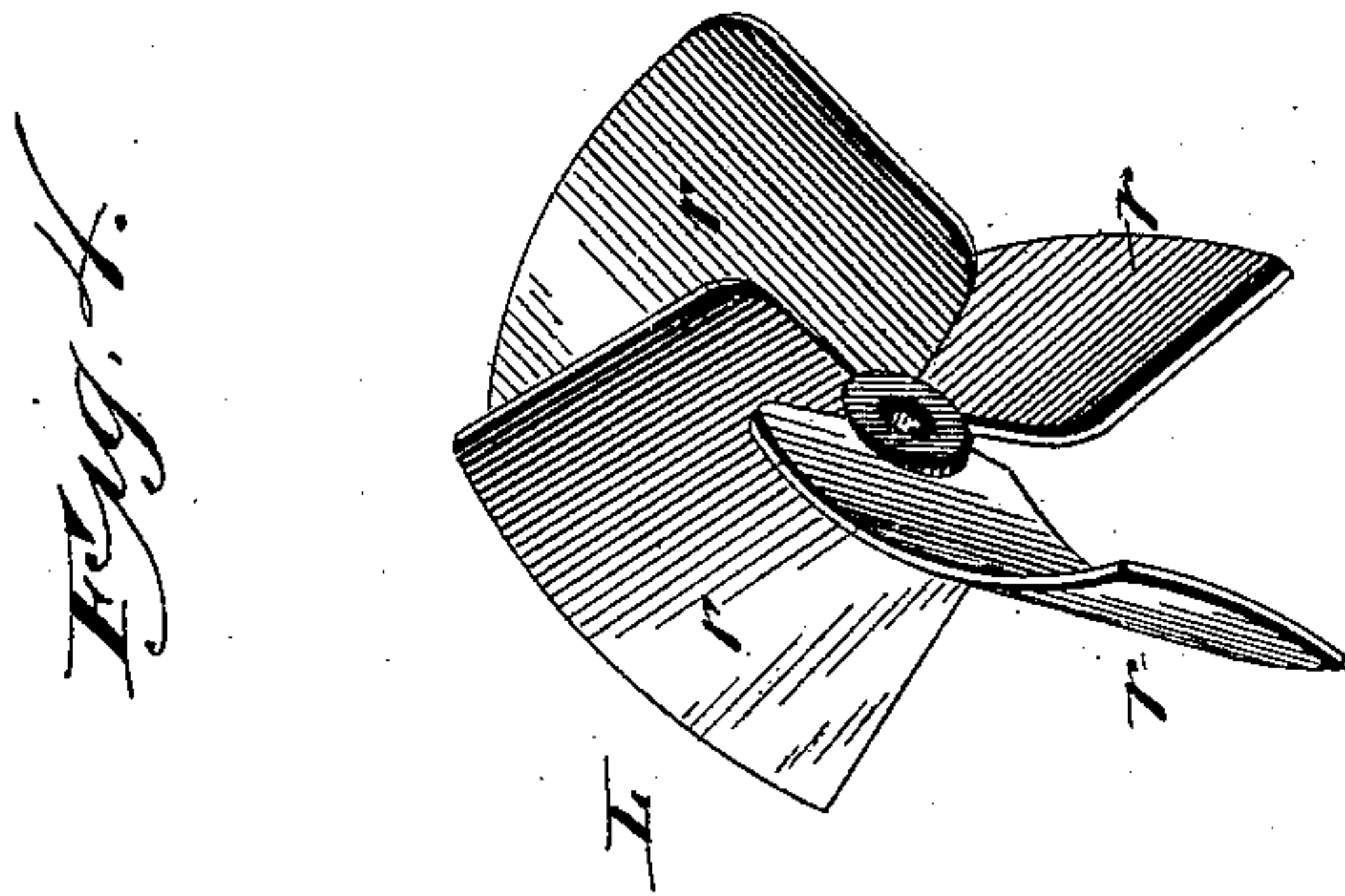
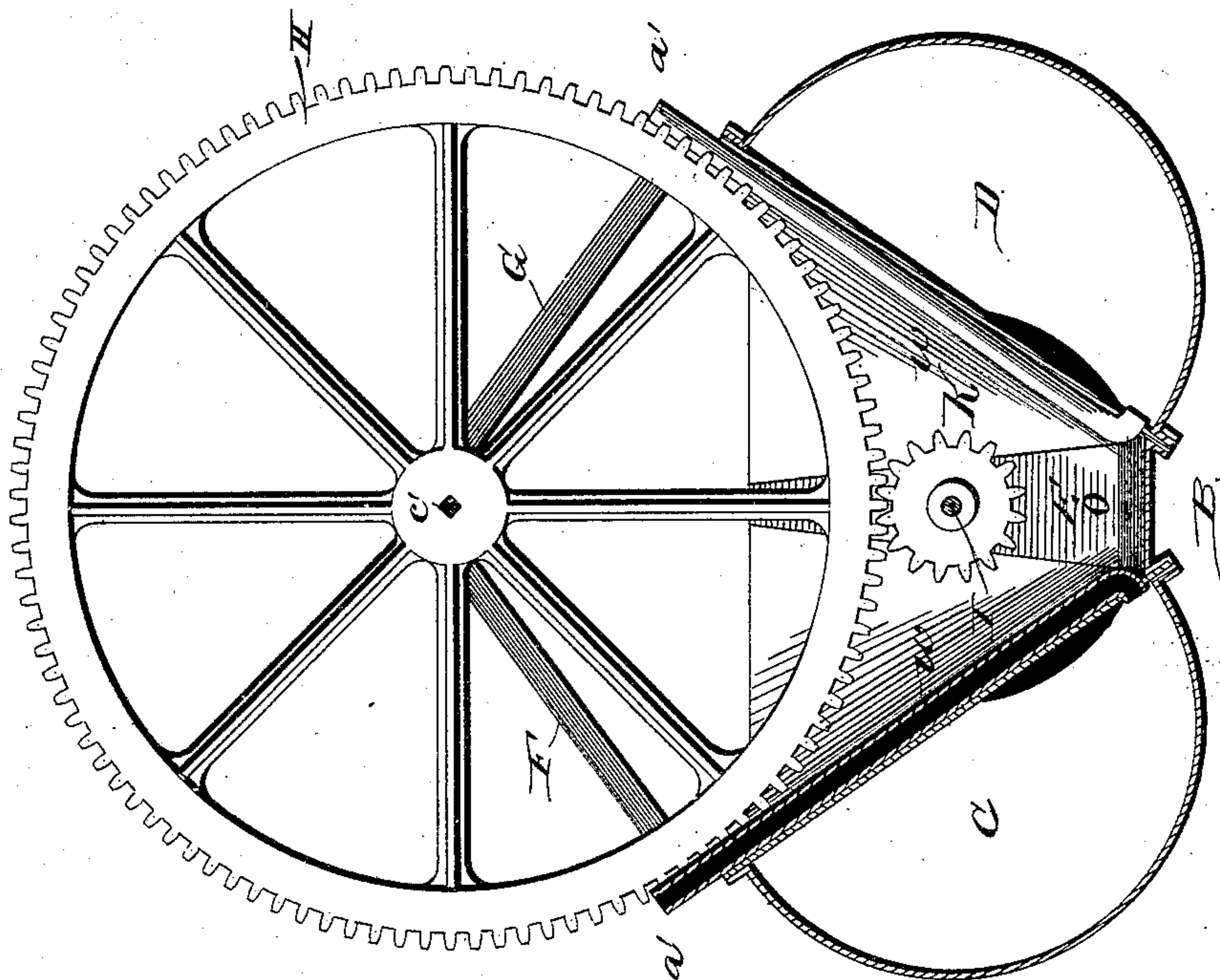


Fig. 3.



Witnesses:
Geo. Y. Thorpe.
Edwin S. Clarkson

Inventor,
Edward Bantz
By *Johnston, Reinold*
& Dyer
Attorneys.

UNITED STATES PATENT OFFICE.

EDWARD BANTZ, OF BALTIMORE, MARYLAND.

MEANS FOR CREATING ARTIFICIAL CURRENTS.

SPECIFICATION forming part of Letters Patent No. 429,833, dated June 10, 1890.

Application filed January 21, 1890. Serial No. 337,651. (No model.)

To all whom it may concern:

Be it known that I, EDWARD BANTZ, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Means for Creating Artificial Currents; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to sewers and ventilating-shafts for cities, public buildings, &c., and has special reference to improvements in means for preventing stagnation of the contents of sewers by creating artificial currents therein and causing the contents of the sewer to flow toward the mouth or discharge-outlet.

The invention will be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form part of this specification, Figure 1 represents a horizontal section of my improvements; Fig. 2, a vertical longitudinal section with some of the parts shown in side elevation; Fig. 3, a vertical transverse section, and Fig. 4 a perspective, of one of the propellers.

Reference being had to the drawings and the letters thereon, A indicates a sewer or ventilating-shaft, which is provided with a section B, having two passages C D, of the form shown in cross-section in Fig. 3, and between said passages is a space E, in which are frames F G, upon which is supported the gear-wheel H in suitable bearings a b, the shaft I and the pinion K in bearings c d. The shaft I passes through the hub e of the pinion K, and on each side of the bearings or journal-boxes c d are collars f, adjustably secured to the shaft by means of screws g, to prevent longitudinal movement of the shaft under the pressure of the mass flowing through the sewer and pressing against the propeller-wheels L M. The shaft is further supported near each of its ends in thrust pillow-blocks N O, in which are journaled bearings h i, each having a stuffing-box k, provided with suitable packing l, a gland m, and an oil-cup n to prevent leakage into the space E.

On each end of the shaft I is secured one of the propeller-wheels L M, and between the

hub o of each wheel and the adjacent end of the journal-bearings h i is a collar p, also secured to the shaft I by screws q, to assist in resisting longitudinal movement of the shaft. The blades r of the propellers are set at such an angle and provided with sufficient space between them as to afford a passage for any matter or bodies usually consigned to sewers.

Between the sections A and B are short sections P, which form inspection-chambers s t, from which the wheels L M are examined and relieved of any matter which may become lodged between their blades, and to afford access to said chambers openings are formed in said sections P and provided with detachable covers u, which may be removed and replaced whenever found necessary.

In each section A is placed a gate Q, having a screw-threaded rod v projecting from its upper edge, which engages with a hand-wheel R, having a corresponding screw-threaded hub for raising and lowering the gate. When it is desired to enter one of the inspection-chambers, the gates Q are closed and the liquid between them is pumped out through pipes w w, which communicate at their lower ends with the passages C D and at their upper ends a' a' with a suitable pump. (Not shown.)

The cranks b' b' of the shaft c', which passes through the hub of the gear-wheel H, are connected to a suitable motor (not shown) to revolve the wheels L M and create a current in the sewer or section A and the passages C D, by which the matter in the sewer is set in motion and discharged at the outlet of the sewer. A further advantage of the construction shown is that the sewer may be scoured by reversing the motion of the propeller-wheels and causing the matter in the sewer to flow back and forth until any matter adhering to the sewer-walls has been dislodged and mingled with the liquid, when it will flow off.

Having thus fully described my invention, what I claim is—

1. In a sewer, the combination of a shaft supporting a propeller at each end, a gate or gates in the sewer, and an inspection-chamber, substantially as described.
2. In a sewer, the combination of a shaft supporting a propeller at each end, passages

in the sewer between the propellers, a gate or gates, and a pipe or pipes for removing liquid entrapped between the gates, substantially as described.

5 3. In a sewer, the combination of a shaft supporting a propeller-wheel at each end, thrust pillow-blocks and bearings adjacent to the wheels, stuffing-boxes in said bearings, and a driving mechanism connected with the
10 shaft, substantially as described.

4. In a sewer, the combination of a shaft,

a propeller at each end of the shaft, thrust pillow-blocks and bearings at each end, intermediate bearings, and collars on the shaft to resist longitudinal movement of the shaft, 15 substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD BANTZ.

Witnesses:

U. B. McCANDLISH,

J. W. ALDERTON.