

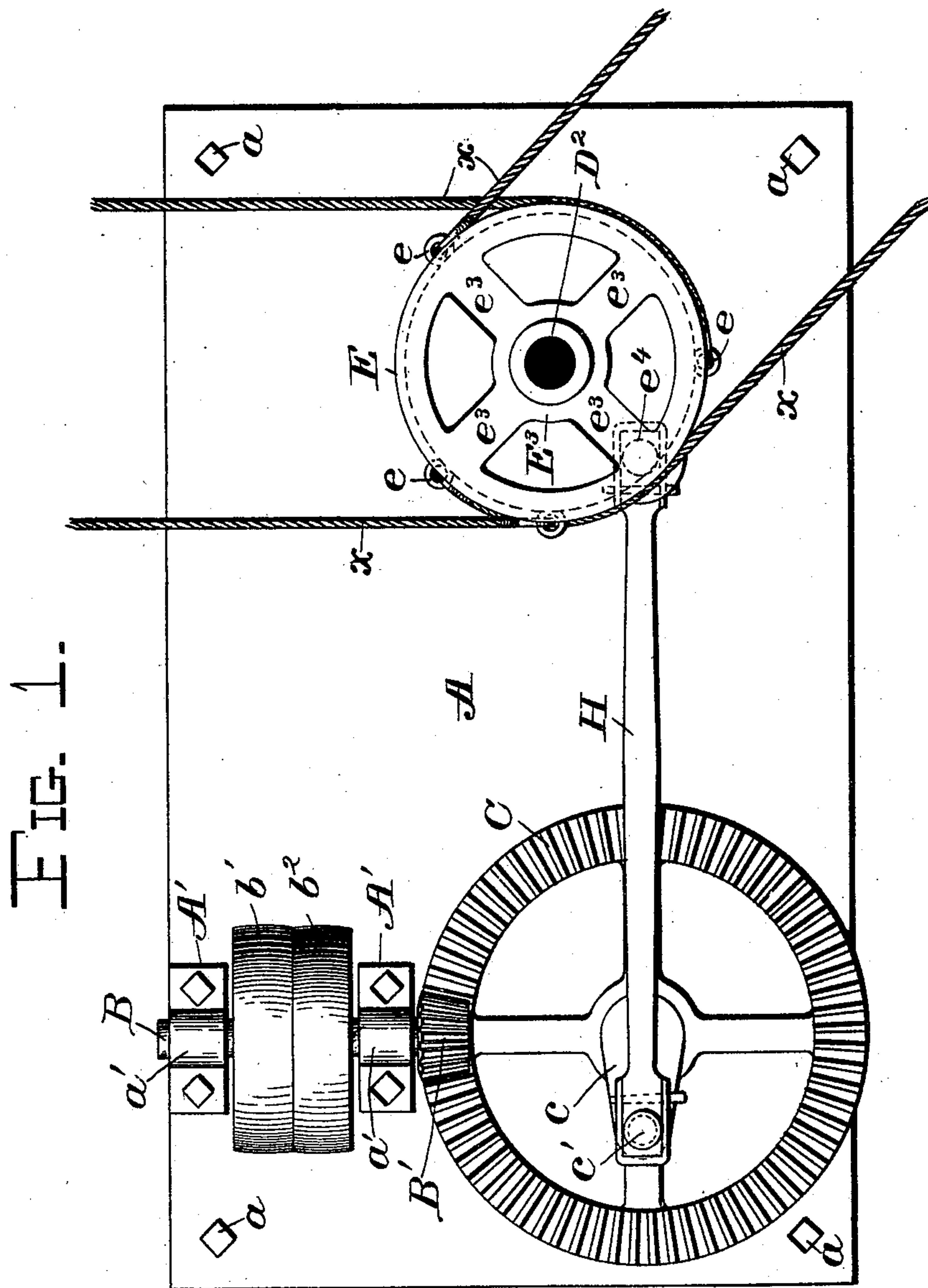
(No Model.)

2 Sheets—Sheet 1.

J. N. MAHER.
OIL WELL PUMPING RIGGING.

No. 587,220.

Patented July 27, 1897.



WITNESSES

Wm C. Bowen.
John L. Wilson

INVENTOR

J. N. Maher,
by Whitman & Wilkinson,
Attys

J. N. MAHER.
OIL WELL PUMPING RIGGING.

No. 587,220.

Patented July 27, 1897.

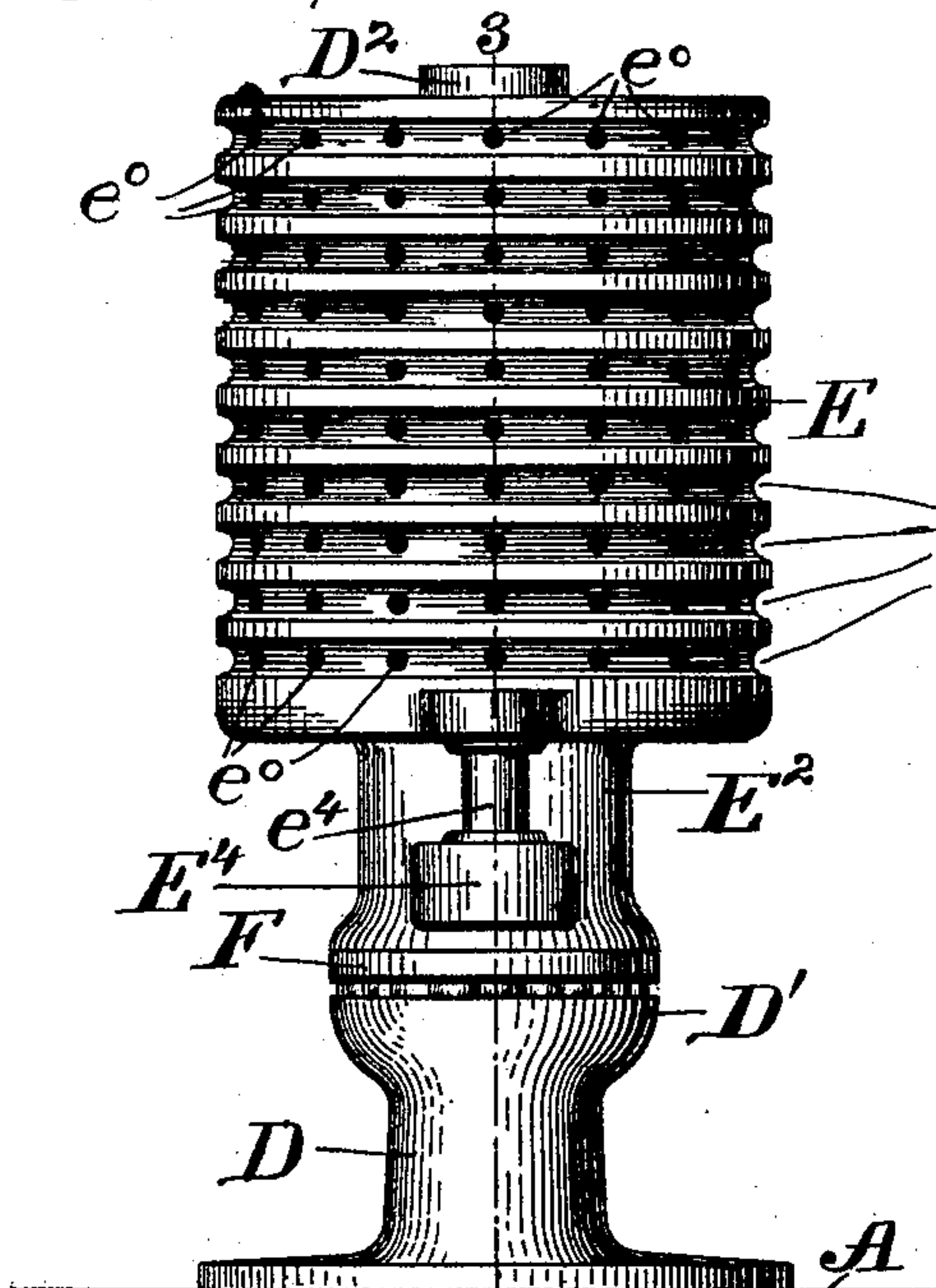


FIG. 2.

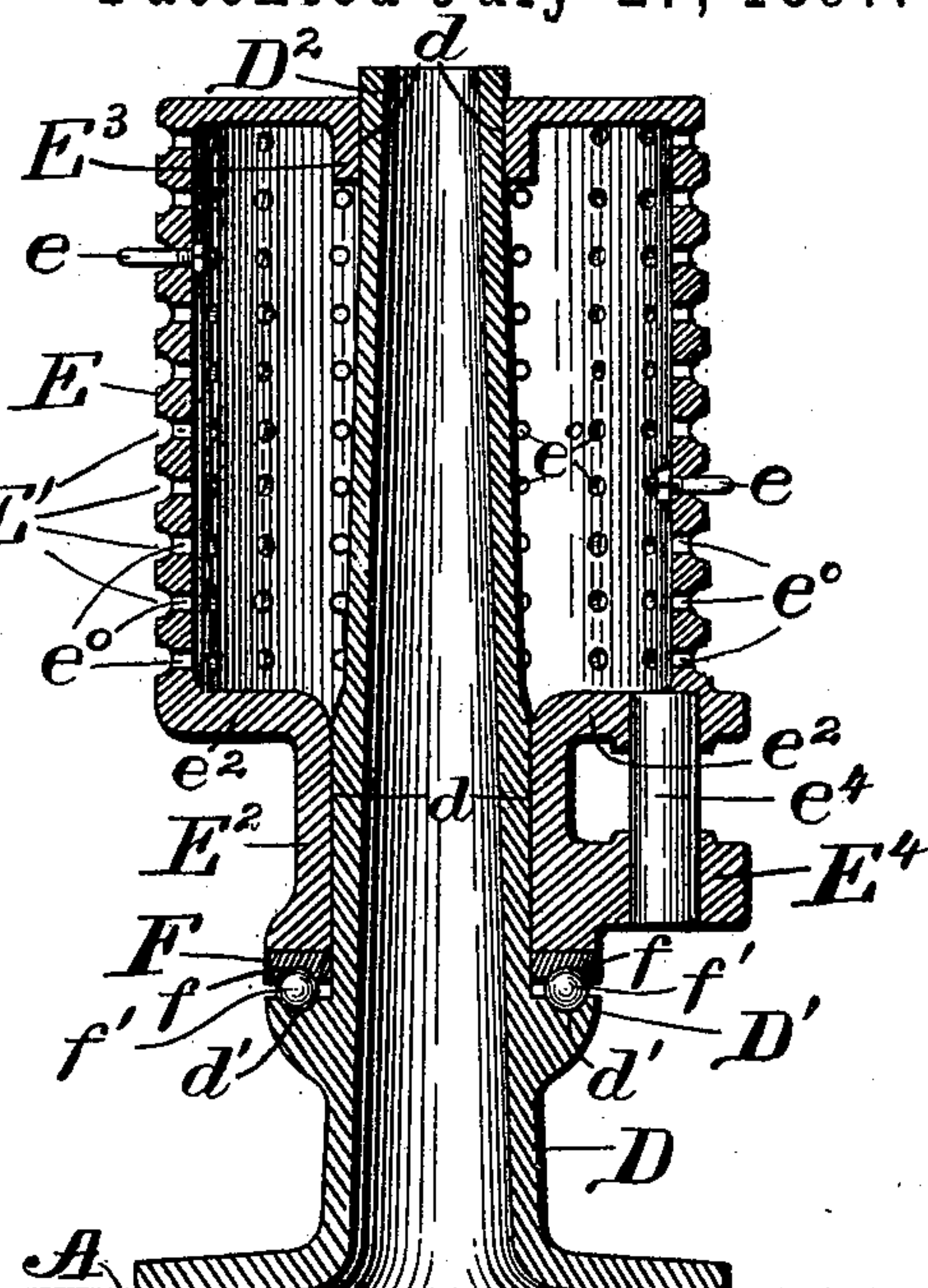


FIG. 3.

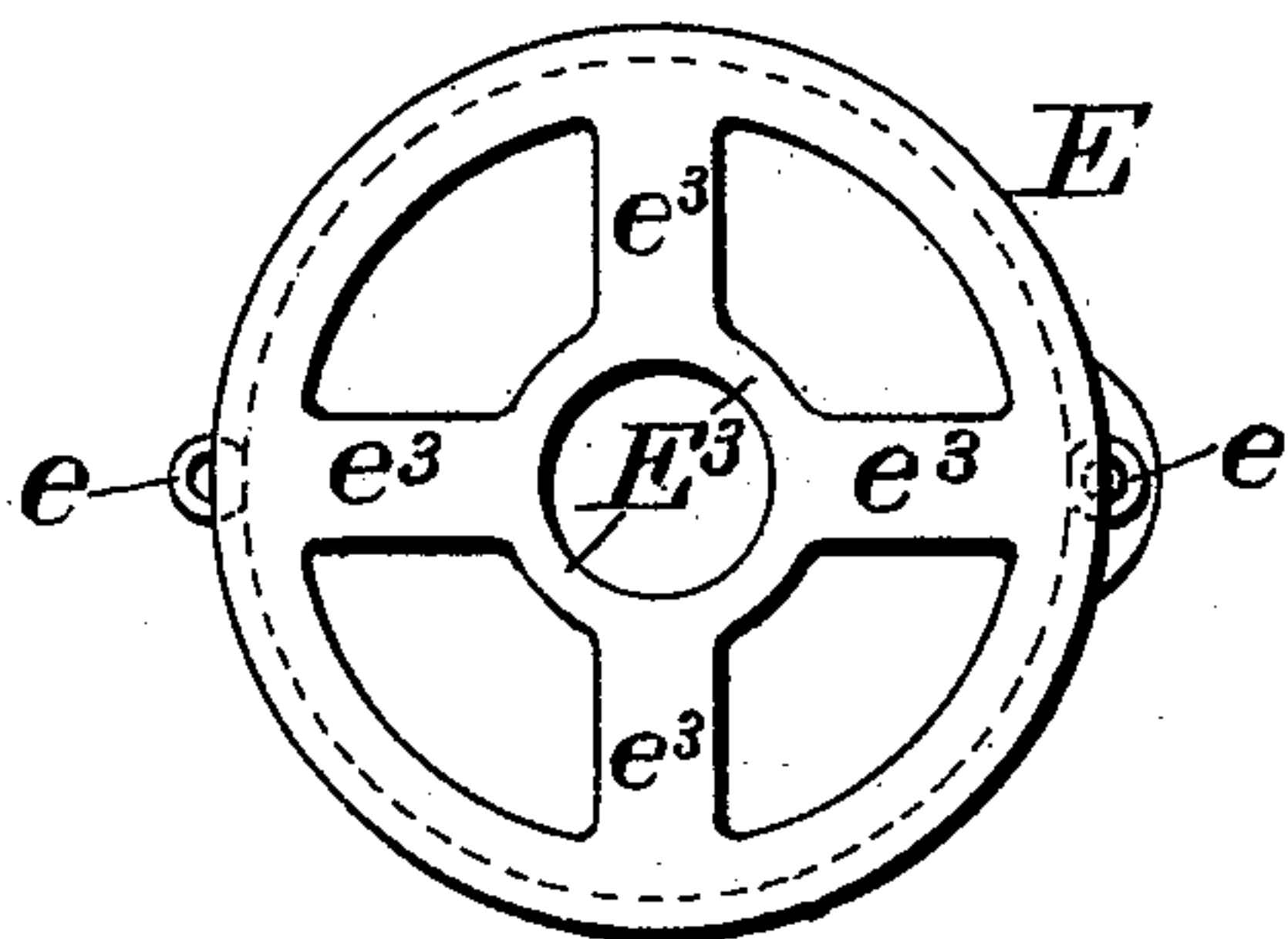


FIG. 4.

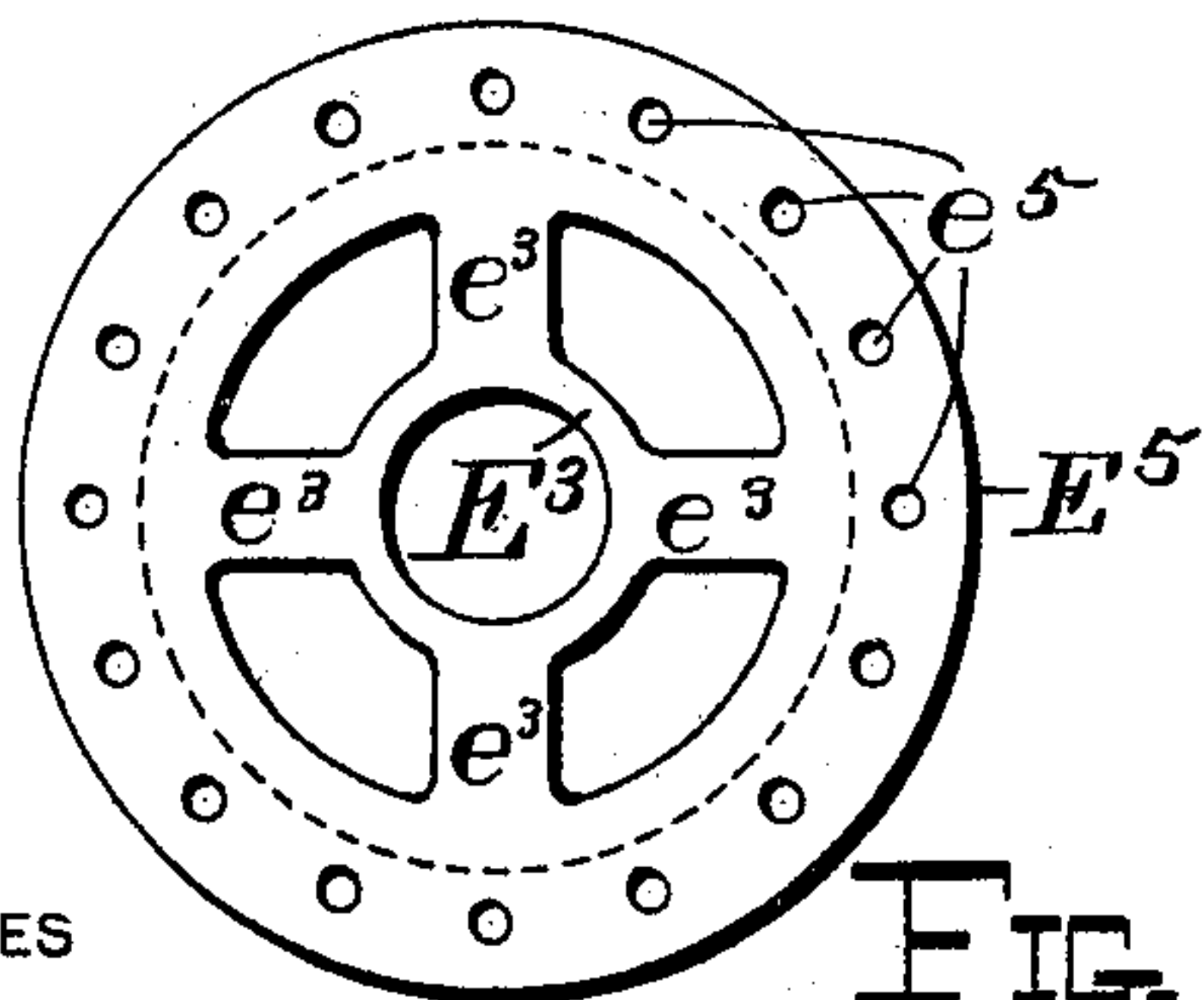


FIG. 6.

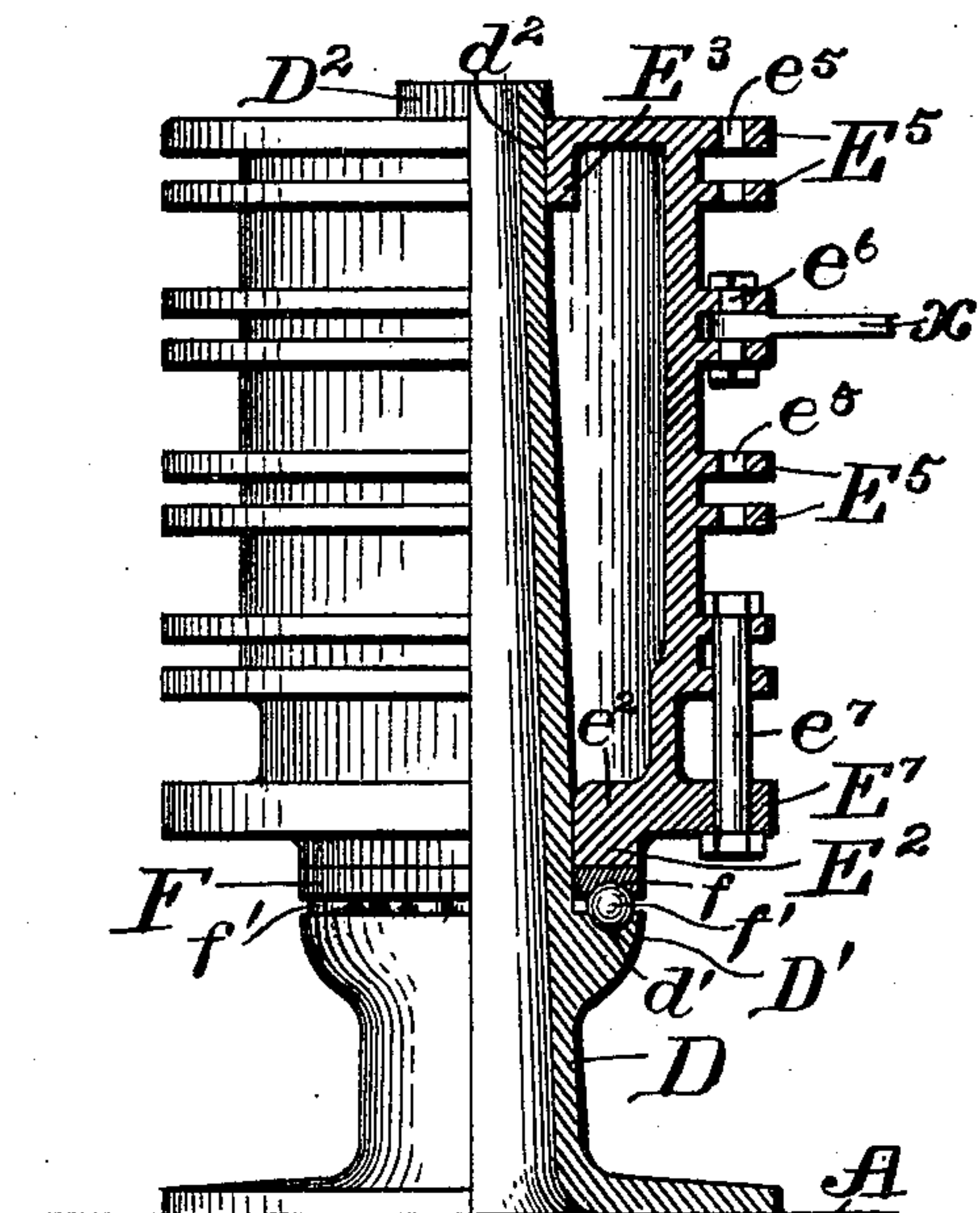


FIG. 5.

WITNESSES

Percy C. Bowen.
John C. Wilson

INVENTOR

J. N. Maher
by Whitman & Wilkinson,
Attys.

UNITED STATES PATENT OFFICE.

JOHN N. MAHER, OF FRANKLIN, PENNSYLVANIA.

OIL-WELL PUMPING-RIGGING.

SPECIFICATION forming part of Letters Patent No. 587,220, dated July 27, 1897.

Application filed November 27, 1896. Serial No. 613,678. (No model.)

To all whom it may concern:

Be it known that I, JOHN N. MAHER, a citizen of the United States, residing at Franklin, in the county of Venango and State of Pennsylvania, have invented certain new and useful Improvements in Oil-Well Pumping-Rigging; 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 improvements in rigging for oil-well pumps, and is especially designed as an improvement upon the apparatus shown in my pending application, serially numbered 604,639, filed September 2, 1896.

My present invention relates more particularly to the drum and the means for mounting the same.

Reference is had to the accompanying drawings, in which like letters of reference indicate the same parts throughout the several views.

Figure 1 is a plan view of my improved rigging for oil-well pumps. Fig. 2 represents a side elevation of the drum. Fig. 3 represents a vertical section taken on the line 3 3 of Fig. 2. Fig. 4 represents a plan or end view of the drum. Fig. 5 is a view in side elevation and partly in section of a modified form of drum, and Fig. 6 is a plan or end view of the drum shown in Fig. 5.

A designates the base of the machine, which may be bolted to any suitable ballast by the bolts *a*. A pair of pillow-blocks *A'* project upwardly from the base *A* and have bearings *a'* for a shaft *B*. This shaft *B* is provided with fast and loose pulleys *b'* and *b''*, by which it may be driven from any suitable source of power, and is also provided with a bevel-pinion *B'*, arranged to mesh with a bevel gear-wheel *C*.

The bevel gear-wheel *C* is supported on a vertical shaft mounted in a suitable bearing upon the base *A*, and the said wheel is provided with a crank *c* and wrist-pin *c'* for a purpose to be hereinafter described.

Upon the base *A* a short distance from the bevel gear-wheel *C* is secured a standard *D*, having a shoulder *D'* formed around the lower portion thereof and a bearing-surface *d*

turned thereon just above the shoulder *D'*. The upper portion of the said standard *D* is turned to form a spindle *D''*, reduced in size toward the top, where is formed a smaller bearing-surface *d''* to support the upper end of the drum, as will be hereinafter explained.

The drum *E*, as shown in Figs. 2, 3, and 4, is a cylinder formed with annular grooves *E'* around its periphery and a series of holes *e'* arranged at suitable distances around the said grooves, in which holes are secured the eyes *e*, to which the connecting-cables *x* from the pumps are attached. At the lower end of the drum is a hub or collar *E''*, bored out to fit the bearing *d* on the standard *D* and to turn freely thereon, and at the upper end of the drum is a collar *E'''* to turn on the top bearing *d''* of the said standard, and these two collars or hubs are secured to the cylindrical drum *E* by means of the arms *e''* and *e'''*, respectively, thus leaving openings between the said arms to insert a wrench to tighten the nuts on the ends of the eyes *e*.

The lower end of the collar *E''* is provided with a washer or ring *F*, in the lower side of which is formed a ball-race *f*, which is adapted to rest upon the balls *f'* in a corresponding ball-race *d'* in the shoulder *D'* of the standard *D*, so that the weight of the drum will be carried by the said balls *f'*, thus forming an anti-friction-bearing.

On one side of the collar *E''*, near the lower end, is formed an arm *E''''*, which is situated a short distance below one of the arms *e''*, and a wrist-pin *e''''*, passing through and secured in these two arms *E''''* and *e''*, forms a connection for the pitman *H* from the crank *c* on the bevel gear-wheel *C*. Thus if the bevel gear-wheel *C* be rotated the pitman *H* will oscillate the drum *E* upon the spindle *D*, as will be readily understood. By this construction of drum a large number of pump-rods may be connected to one drum, each rod having its connecting-cable *x* connected to an eye *e* in one of the holes *e'* on the drum, and it does not matter in which direction the pumps lie from the drum, as the cables and eyes may be so arranged that when part of the pump-rods are being raised the others are going down, thus balancing the drum and causing it to be operated with facility.

In Figs. 5 and 6 is shown a modified form

of drum, in which instead of forming the cylinder with grooves around its periphery a number of rings E^5 are formed in pairs around the said cylinder and perforated vertically, as at e^5 , through which perforations bolts e^6 are placed, and the pump rods or cables x are connected to the said bolts. The lower ring E^7 is made thicker than the others, and through it and the next pair above is passed the wrist-pin or bolt e^7 , to which is connected the pitman H from the crank c on the gear-wheel C . By this construction I am enabled to dispense with the standard at the side of the drum bent over the top thereof, thus leaving more room for the connecting rods and cables and simplifying the construction of the apparatus considerably. The other advantages of this arrangement will be clearly apparent to those skilled in the art to which it appertains.

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

1. In a rigging for oil-well pumps, the combination with a base, a bevel gear-wheel mounted thereon, a bevel-pinion also mounted thereon, a crank on the said bevel gear-wheel, and means for rotating the said pinion; of a standard mounted on the said base, a spindle formed on the said standard, a shoulder at the junction of the spindle and standard, a drum mounted on the said spindle, and connected with the crank on the bevel gear-wheel, and means for connecting the

said drum with the pump-rods, substantially as described.

2. In a rigging for oil-well pumps, the combination with a standard, a spindle formed on the said standard, a shoulder and bearing-surfaces on the said spindle and standard, of a drum, a collar at each end of the said drum to fit the said spindle, antifriction-bearings between one of the collars on the drum and the shoulder on the spindle, grooves around the periphery of the said drum and eyes secured in the said grooves, and means for connecting the pump-rods to the said eyes, and means for oscillating the said drum, substantially as described.

3. In a rigging for oil-well pumps, the combination with a standard, a spindle formed on the said standard, a shoulder and bearing-surfaces on the said spindle and standard, of a drum mounted with antifriction-bearings on the said spindle, means for connecting the pump-rods with the said drum, a wrist-pin secured in holes in the said drum, a rod connected with the said wrist-pin, and means for moving the said rod to oscillate the said drum, substantially as described.

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

JOHN N. MAHER.

Witnesses:

WM. B. GRIFFEN,
JOHN L. MCBRIDE.