

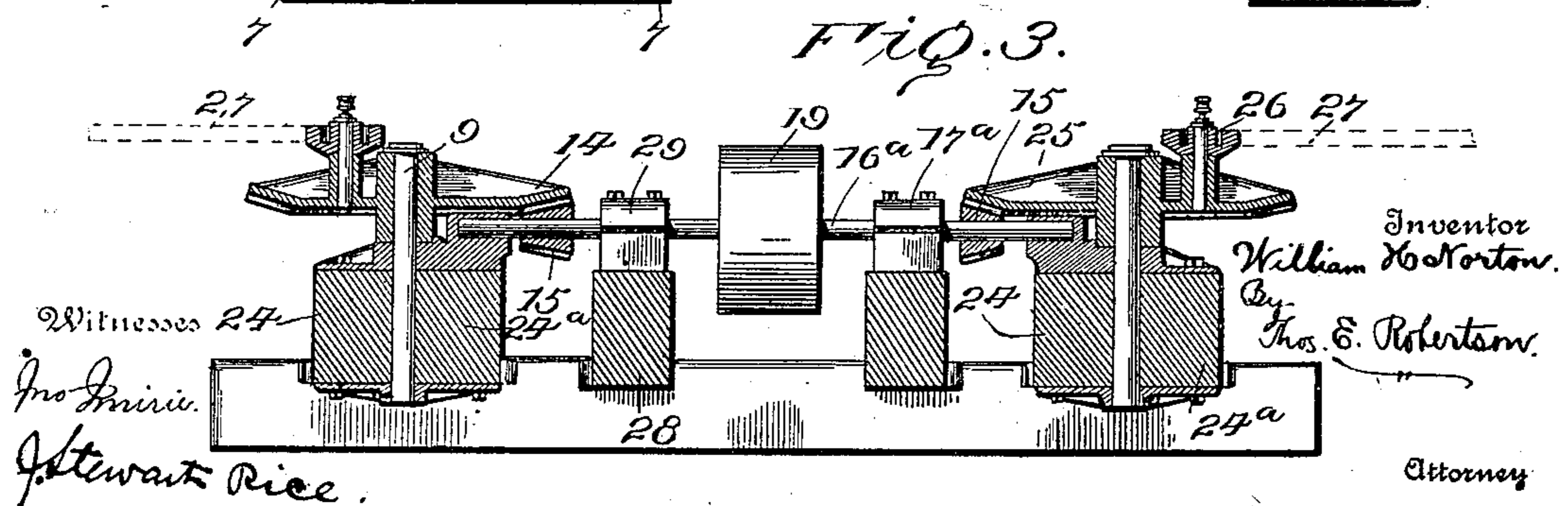
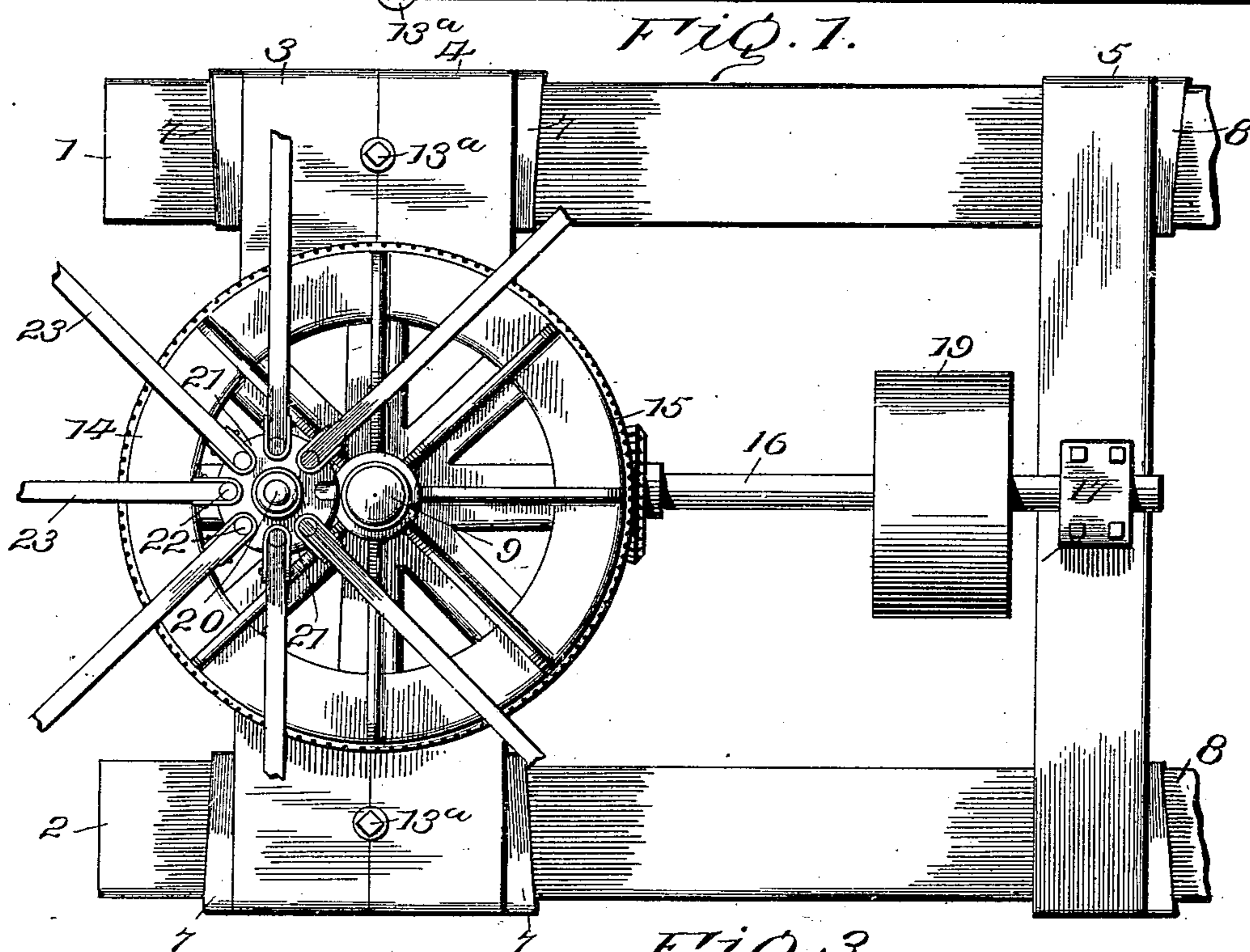
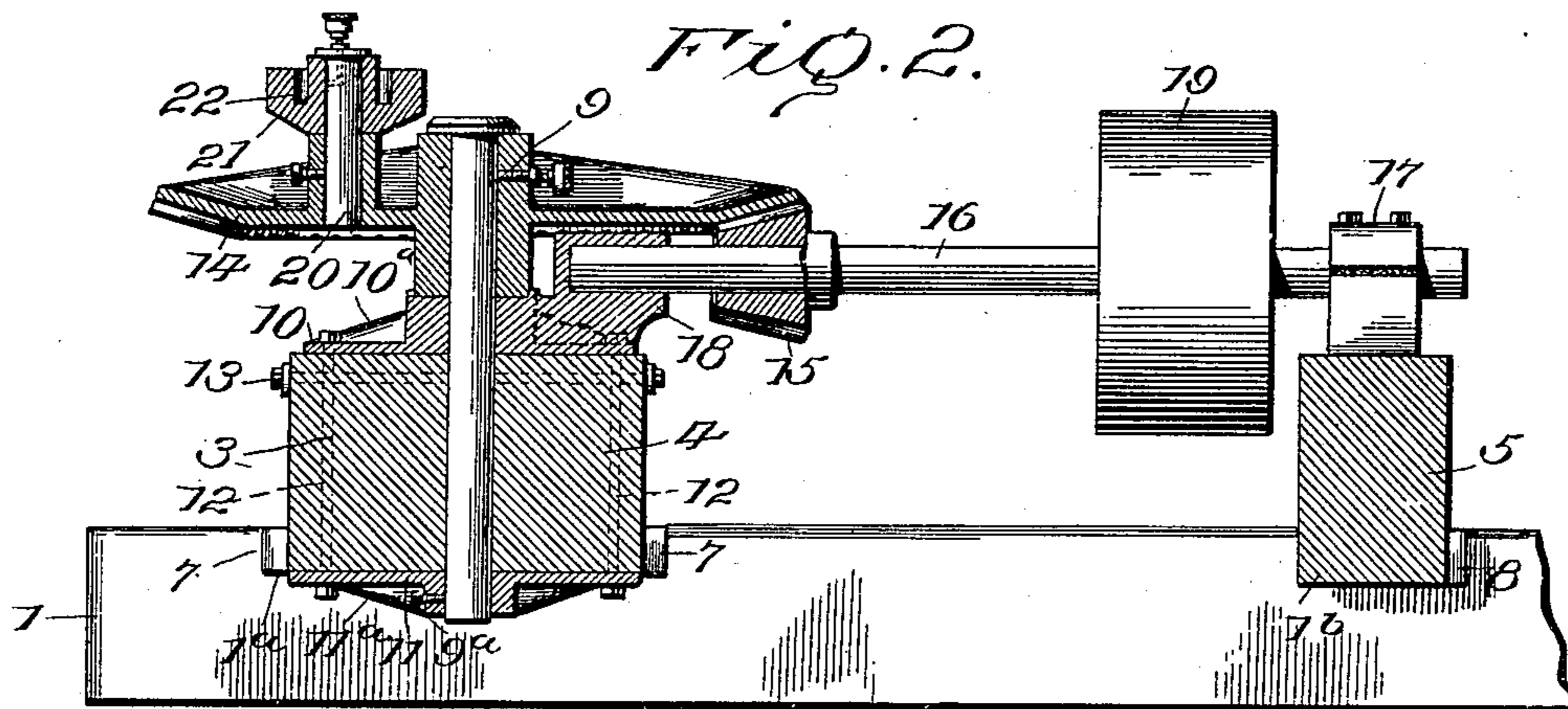
No. 667,368.

Patented Feb. 5, 1901.

W. H. NORTON.
OIL WELL PUMPING POWER.

(Application filed Oct. 10, 1900.)

(No Model.)



UNITED STATES PATENT OFFICE.

WILLIAM H. NORTON, OF SCIO, NEW YORK.

OIL-WELL PUMPING POWER.

SPECIFICATION forming part of Letters Patent No. 667,368, dated February 5, 1901.

Application filed October 10, 1900. Serial No. 32,649. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. NORTON, a citizen of the United States, residing at Scio, in the county of Allegany, State of New York, have invented a certain new and useful Improvement in Oil-Well Pumping Powers, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to an improvement in oil-well pumping powers of that class in which the pumps of a number of wells are driven from a main shaft; and the object of the invention is to construct a power apparatus of this class which while being capable of being easily erected, owing to its simplicity of construction, will be found to be durable in operation, and therefore require a minimum amount of repairs.

20 With this object in view my invention consists of the peculiar construction, arrangement, and combinations of parts hereinafter more particularly described and then definitely claimed at the end hereof.

25 In the accompanying drawings, which represent the preferable embodiment of my invention, Figure 1 is a top plan view of my device with the "surface rods" broken off and the pumps and wells omitted, illustration of the latter being unnecessary in view of the well-known method of connecting these surface rods and the piston-rods of the pumps. Fig. 2 is a vertical central section of the same. Fig. 3 is a similar section of a modification, showing a "double" power.

35 Referring now to the details of the drawings by numerals, 1 and 2 represent longitudinal sills, which are mortised at 1^a and 1^b for the reception of the main sills 3 and 4 and 5, the main sills 3 and 4 fitting in the mortises 1^a and the sill 5 in mortise 1^b, as clearly shown in Figs. 1 and 2. These sills are all firmly held in position by means of wedges 7 and 8, which are driven in the mortises between the main sills and the longitudinal sills, as shown. The main sills 3 and 4 rigidly and firmly support a vertical shaft 9, from which power is transmitted to the pistons of the various pumps, and this shaft 9 is fixed in bearing-blocks 10 and 11, secured, respectively, on the top and bottom of the main sills 3 and 4, the lower block having a set-screw 9^a to lock the

shaft 9 in position. These bearing-blocks are flanged at 10^a and 11^a, and bolts 12 pass from one block 10 to the other, 11, through the main sills, as shown in Fig. 1, thereby not only firmly securing the bearing-blocks in position, but also serving to connect and brace the main sills 3 and 4. To further brace these main sills 3 and 4, I provide tie rods or bolts 13, which pass transversely through said sills, and these tie or bolt them on each side of the shaft 9, and while the weight of the parts and the wedges 7 are usually sufficient to retain the sills 3 and 4 in their proper places I prefer in some cases to use bolts 13^a, which pass through said sills 3 and 4 and the longitudinal sills. Journaled on the upper end of this shaft 10, so as to revolve thereon, is a "power" or bevel gear-wheel 14, and this gear meshes with the bevel-pinion 15, revolving with a horizontal shaft 16, the rear end of which is supported in boxes 17. The front end of this shaft 16 is journaled in a socket-bearing 18, cast integral with the upper bearing-block 10, fixedly secured to the sill 4. A belt wheel or pulley 19 is also fixed to this shaft 16, and power is applied thereto from any convenient source. (Not shown.) The power or bevel wheel 14 is provided with a wrist-pin 20, on which is journaled a "pull-wheel" 21, provided with a plurality of studs or pins 22, to which the surface rods 23 are connected, the other ends of the surface rods being connected with the piston-rods of the pumps. (Not shown.)

In the modification shown in Fig. 3 I have shown a double power, in which the shaft 16^a is continued through the bearing-block 17^a and is provided on its end with a second bevel-pinion 24, which meshes with a second power or bevel wheel 25, similar to the power-wheel 14 above described, and which power-wheel 24 is similarly journaled in additional main sills 24 and 24^a and provided with a pull-wheel 26 and surface rods 27. When the double power is used, a sill 28 and bearing 29 are provided in addition to the sill and bearing 17^a, so as to have a firm bearing on each side of the pulley. In this form it is obvious that double the number of pumps can be operated from one shaft and through the medium of one belt and pulley.

It is believed that this class of pumping

power is sufficiently known to make unnecessary any detailed description of the operation, and hence it will suffice to say that power is delivered to the belt wheel or pulley 19 from any convenient source and is transmitted, through the shaft 16 and its bevel-pinion, to the power-wheel, and as the power-wheel revolves a rotary movement is given to the pull-wheel on the wrist-pin, and as this pull-wheel rotates around the shaft 9 as an axis a reciprocating movement is given to the surface rods, which in turn operate the pistons of as many pumps as there are surface rods.

It is manifest from my drawings that I have produced a very simple driving power that will be found exceedingly durable and easy of repair and manipulation.

While I much prefer the shaft 9 to be rigidly secured to the bearing-blocks 10 and 11 and main sills 3 and 4 and the power-wheel 14 to revolve on said shaft and the upper bearing-block 10, it is obvious that the power-wheel 14 may be fixedly attached to the said shaft 9 and the latter rotate in said bearing-blocks with the power-wheel.

What I claim as new is—

1. In a device of the class described, a pair of sills; bearing-blocks located at the top and bottom of said sills, a shaft supported by said blocks; and a power-wheel supported by said shaft; the said bearing-blocks performing the double function of supporting the power-wheel and its shaft and of securing the sills; substantially as described.

2. In a device of the class described; a pair of sills; blocks located at the top and bottom thereof; a shaft and power-wheel supported by said blocks; a second shaft supported substantially at right angles to the power-wheel shaft, and a bearing formed on the upper block in which bearing the inner end of the said shaft is journaled, substantially as described.

3. In a device of the class described; a pair of sills; bearing-blocks secured to the top and bottom of said sills; a shaft and power-wheel supported by said blocks; the said bearing-blocks performing the double function of supporting the power-wheel and its shaft and of securing said sills; a second shaft at substantially right angles to said power-wheel shaft and having a pinion meshing with said power-wheel; and a bearing formed integral with the upper block, in which bearing the inner end of said second shaft is journaled; substantially as described.

4. In a device of the class described; longitudinal supports, main sills supported at each end of said longitudinal supports, bearing-blocks secured above and below each pair of sills; a shaft and power-wheel supported by each set of said blocks; a shaft set at substantially right angles to the power-wheel shafts; and a pinion near each end of said shaft; the said pinions meshing with the said power-wheels, substantially as described.

5. In a device of the class described, longitudinal sills, a pair of main sills mortised therein, wedges coacting with said mortised sills; bearing-blocks secured to the top and bottom of said main sills; a shaft and power-wheel supported by said blocks; the said blocks performing the double function of supporting the power-wheel and its shaft and of securing said sills; a second shaft set at substantially right angles to the power-wheel shaft; and a pinion carried by said second shaft and meshing with said power-wheel; substantially as described.

In testimony whereof I affix my signature, in the presence of two witnesses, this 1st day of October, 1900.

WILLIAM H. NORTON.

Witnesses:

J. G. WILSON,
E. A. CHILDS.