

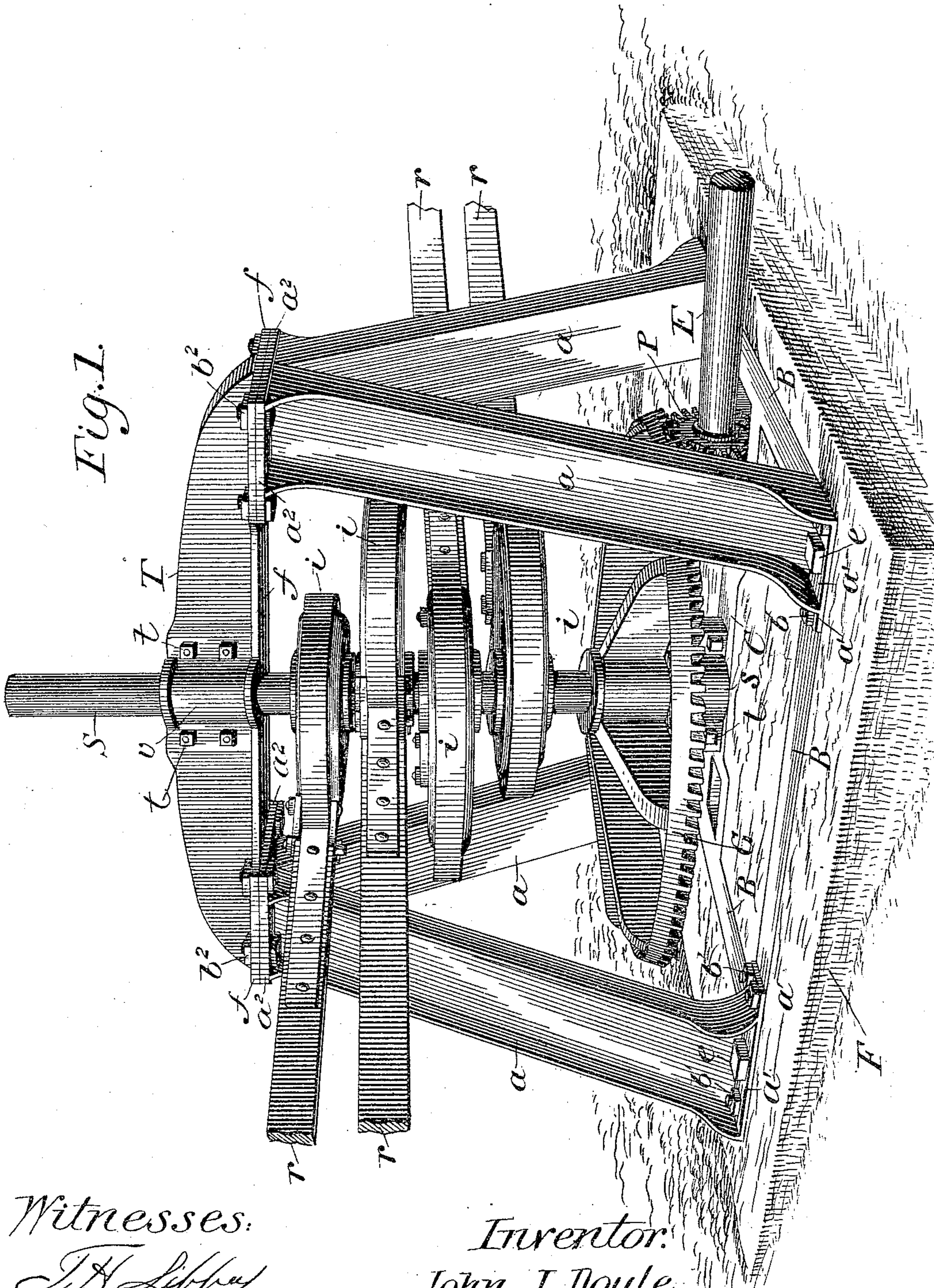
(No Model.)

2 Sheets—Sheet 1.

J. J. DOYLE.  
OIL WELL PUMPING RIG FRAME.

No. 543,545.

Patented July 30, 1895.



Witnesses:  
*J. H. Libbey*  
*A. M. Perkins*

Inventor:  
*John J. Doyle*  
By  
*Reuben Goldsborough*



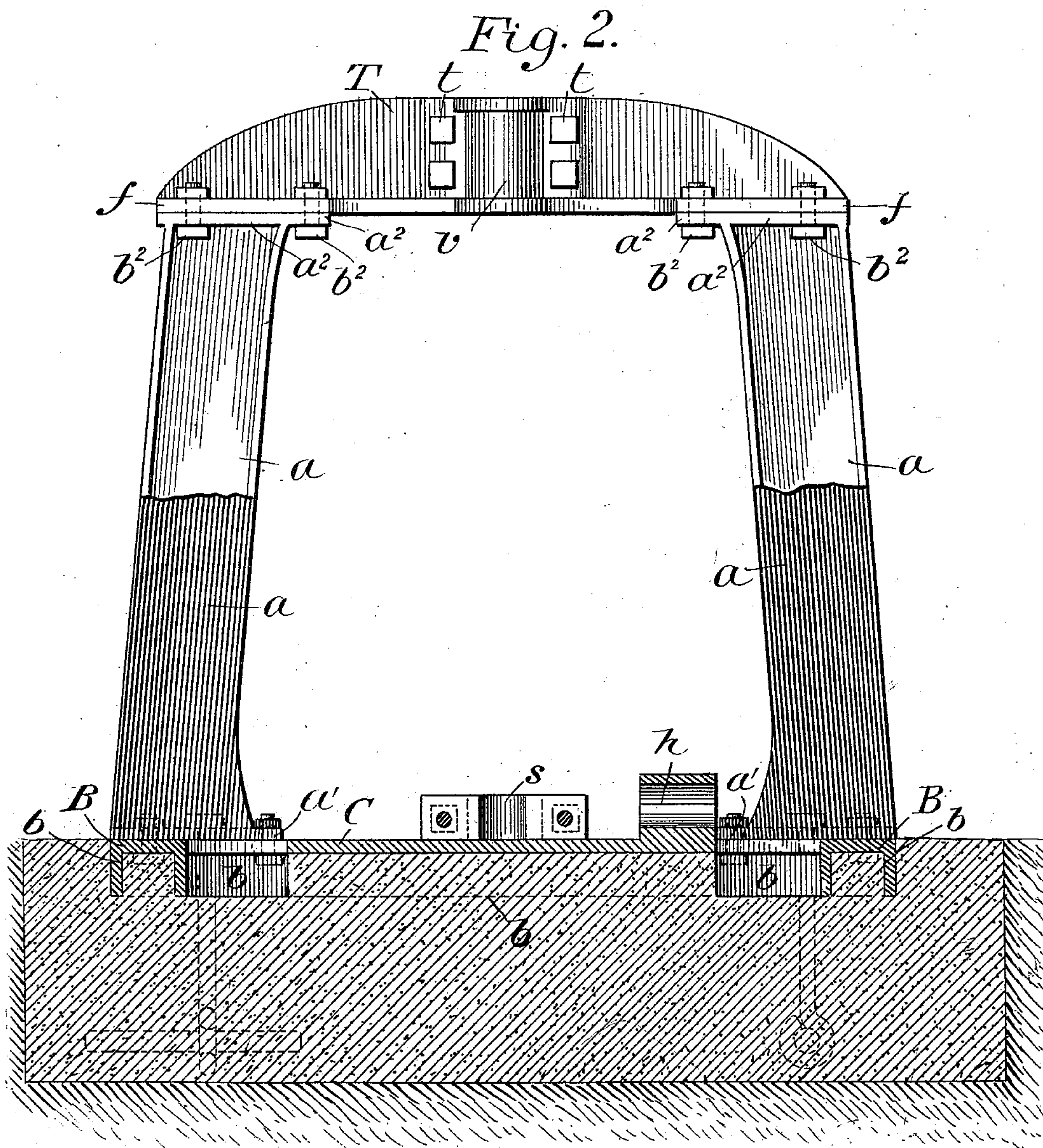
(No Model.)

2 Sheets—Sheet 2.

J. J. DOYLE.  
OIL WELL PUMPING RIG FRAME.

No. 543,545.

Patented July 30, 1895.



*Witnesses*  
*T. H. Libbey.*  
*A. M. Parkins*

*Inventor.*  
*John J. Doyle.* *by*  
*Reine & Goldsborough*  
*attorneys*



# UNITED STATES PATENT OFFICE.

JOHN J. DOYLE, OF FRANKLIN, PENNSYLVANIA.

## OIL-WELL PUMPING-RIG FRAME.

SPECIFICATION forming part of Letters Patent No. 543,545, dated July 30, 1895.

Application filed May 17, 1895. Serial No. 549,672. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN J. DOYLE, 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-Rig Frames; 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.

The invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of the entire rig, and Fig. 2 is an elevation of the rig-frame with the lower part of the A-frames and the base-frame in section.

The same letters refer to corresponding parts in both figures.

Referring to the drawings, B is a flat rectangular casting constituting the base-frame.

C is an integral central sill forming part of said base-frame.

The plates or bars of which the frame B is composed, as well as the base-sill C, are provided with vertical depending flanges *b b* on each edge, the purpose of which flanges will be presently explained.

The letters *a a* indicate vertical pillars, which individually are made by preference in single castings like the base-frame B. These pillars are provided with foot-flanges *a' a'* at their lower ends, by means of which they are securely bolted to the base-frame B at the four corners by bolts *b' b'*. At their upper ends the pillars are provided with horizontal flanges *a<sup>2</sup> a<sup>2</sup>*, by which means a top sill, presently to be described, is firmly bolted thereto.

The base-frame is anchored to or upon a suitable foundation F, I-bolts I I being embedded in said foundation for that purpose, and have their upper ends passing up through the base-frame at the corners, and also through the foot-flanges *a' a'* of the pillars, the nuts or heads on said ends lying above the flanges and serving not only to secure the frame to the foundation, but as an additional means for holding the pillars to the base.

The foundation which I prefer to use is formed of Portland or other cement, and the base-frame is set into said foundation flush

with the surface, so that the depending flanges *b b* extend below the surface and serve to more firmly secure the frame in place and particularly to prevent its lateral displacement.

The pillars *a a* are set in angular relation to each other, so as to constitute vertical A-frames, one at each end of the base frame, and their upper ends meet in the central vertical plane of the base-sill C, where they abut so as to brace and steady each other. Spanning the space between these A-frames at the top and overhanging the base-frame at the height of the rig is the top cross-sill T, this sill being provided at its lower edge with laterally-projecting flanges *f f* on each side, by means of which it is secured by bolts *b<sup>2</sup> b<sup>2</sup>* to the horizontal flanges *a<sup>2</sup> a<sup>2</sup>* at the upper ends of the A-frame pillars. This top sill is an integral part of the rig-frame, and, together with the A-frame pillars, the base-frame, and its central sill, constitutes a complete rigid integral frame structure, which is of the essence of the present invention.

S denotes the main rig-shaft for operating the several pumping rods or pitmen *r r* by means of eccentrics *i i*, secured to the shaft at different radial angles and connected with the rods by means of straps in the usual manner. In connection with the rig-frame above described this shaft is arranged vertically, its lower end being journaled and supported in a step-bearing *s*, formed integrally in the center of the base-sill C of the frame B, and the upper part of the shaft being journaled in a bearing *v*, formed integrally in the top sill T. In forming these shaft-bearings in the sills C and T, I purpose to make half boxes in the sills in the process of casting them, and the bearings will be completed by means of the usual caps secured in place by bolts *t t*.

It will not be necessary to describe the operation of this rig-shaft further than as above set out, as it is not of itself my invention, and is, moreover, well understood by those familiar with the oil-well-pumping business.

The shaft is driven in the manner represented in the accompanying drawings—that is to say, by means of a large gear-wheel secured to it just above the step-bearing. In connection with this wheel I run the drive-shaft E of whatever engine is used as the source of power into the rig-frame at the side



and provide a bearing for the extreme end of the shaft in said frame, so as to absolutely prevent wobbling of the shaft and maintain a constant relation between the driven wheel 5 G and the drive-pinion P on said shaft. This bearing is shown at *h* in Fig. 2. It is formed in the same manner as the other bearings hereinbefore described, a half-box being cast integrally with the base-sill C and being covered by the usual bolted cap after the shaft 10 has been put in place.

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

15 In an oil-well pumping rig, the combination of the base frame B, adapted to be anchored in or to a suitable foundation and having vertical depending flanges *b, b*, for taking into said foundation and securing the frame 20 against lateral displacement, the A-frames

consisting of the pillars *a, a*, having suitable foot-flanges by which they are bolted to the base-frame, and meeting at their upper ends, and the flanged top sill T spanning the space 25 between the A-frames and bolted to horizontal flanges at the upper ends of the pillars, said base-frame having the center sill C provided with a vertical step bearing for the main rig shaft, and a horizontal bearing for the inner end of the engine shaft, and said 30 top sill having a vertical bearing for the upper part of the main rig shaft in alignment with the step bearing on the sill of the base frame; substantially as described.

In testimony whereof I affix my signature 35 in presence of two witnesses.

JOHN J. DOYLE.

Witnesses:

WM. WAGNER, Jr.,  
H. CEEMOW.