(No Model.) 2 Sheets—Sheet 1.

V. W. BLANCHARD.

ENGINE BED.

No. 413,912. Patented Oct. 29, 1889.

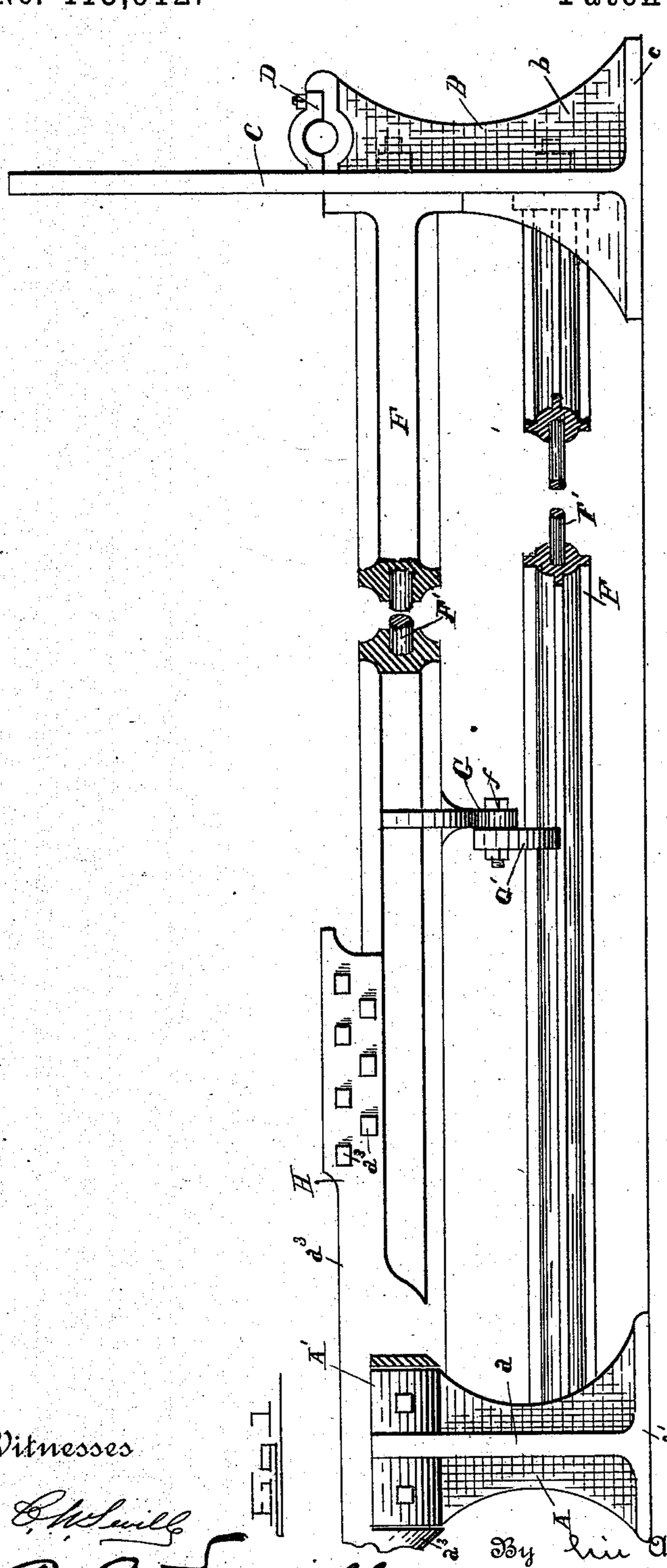

FIG. 1.

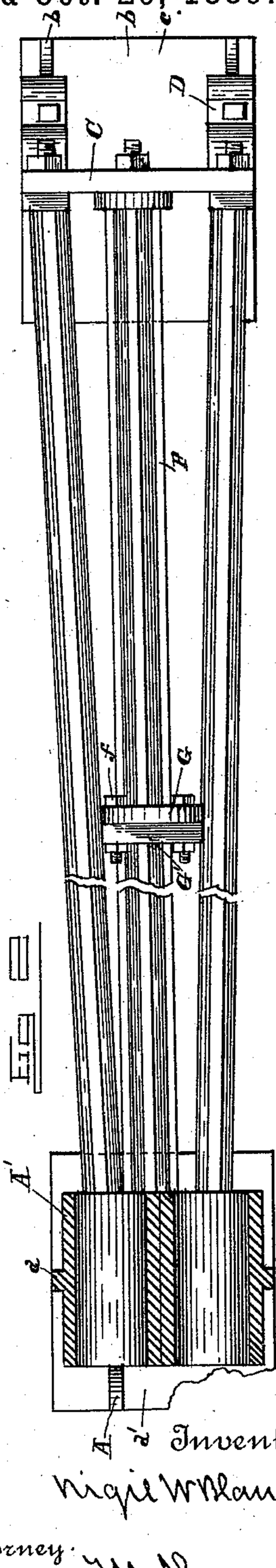

FIG. 2.

Witnesses

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3

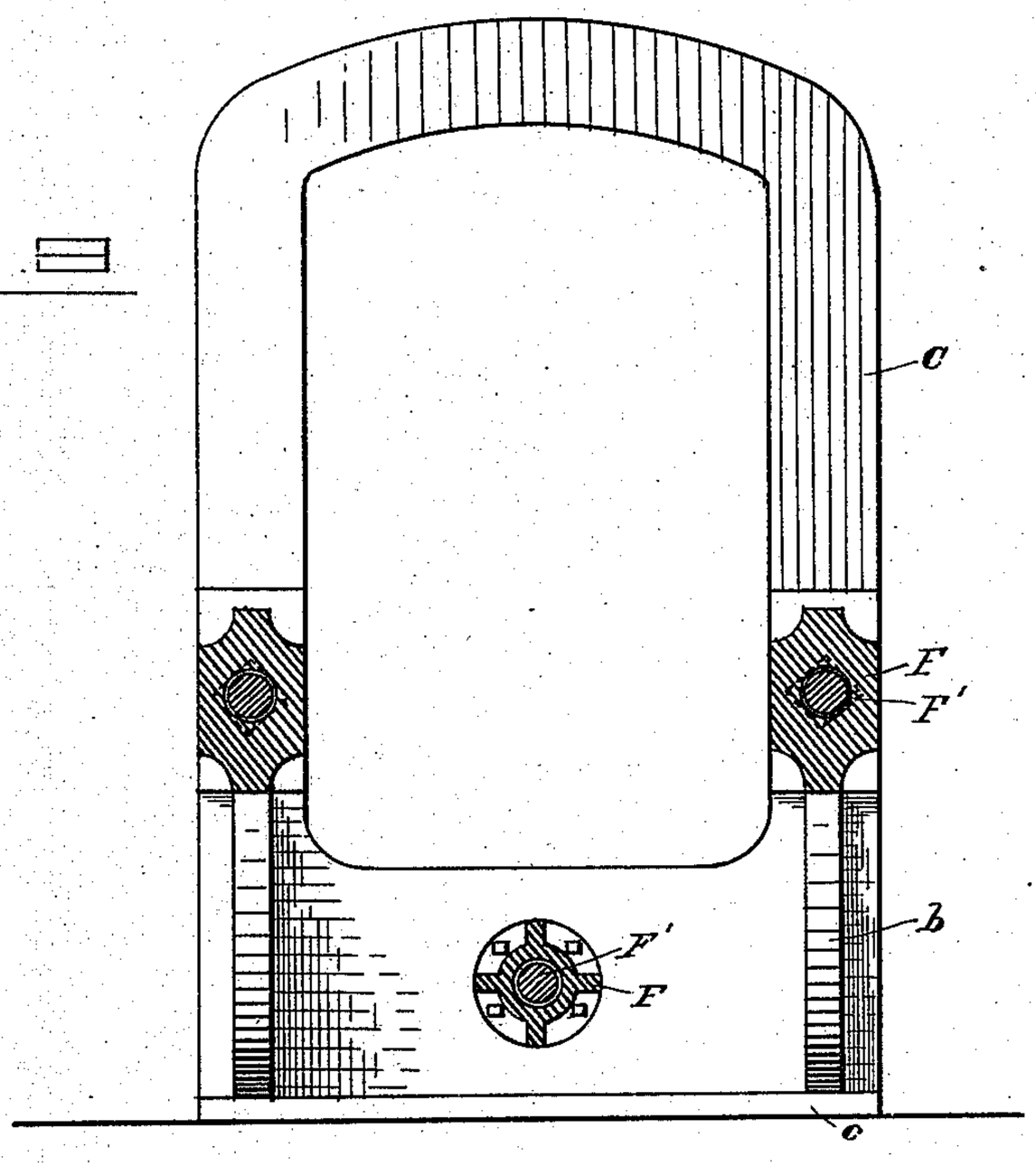
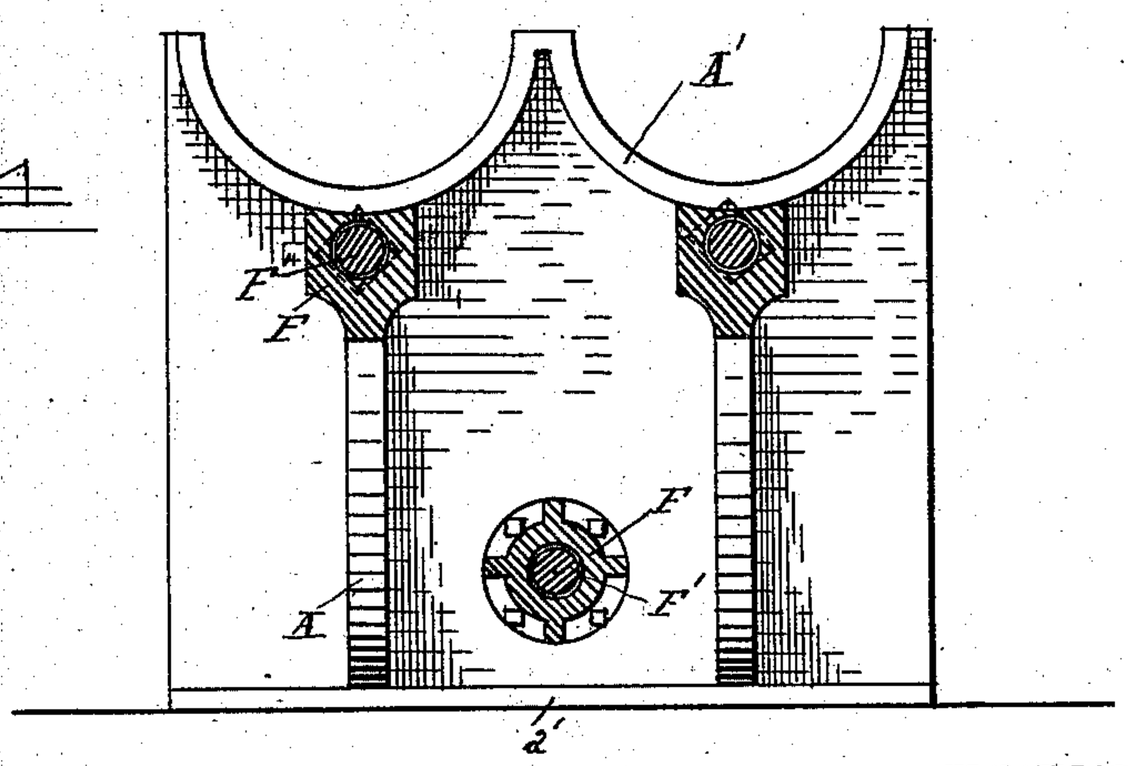


Fig. 4



WITNESSES

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UNITED STATES PATENT OFFICE.

VIRGIL W. BLANCHARD, OF NEW YORK, N. Y., ASSIGNOR TO JOSEPH A. DAVIS, OF SAME PLACE.

ENGINE-BED.

SPECIFICATION forming part of Letters Patent No. 413,912, dated October 29, 1889.

Application filed April 11, 1889. Serial No. 306,801. (No model.)

To all whom it may concern:

Be it known that I, VIRGIL W. BLANCHARD, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Engine-Beds; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a side elevation of my improved engine-bed, part of which is broken away. Fig. 2 is a top view of the bed, parts of which are broken away. Fig. 3 is a vertical cross-section through the engine-bed, taken in the plane indicated by dotted line *x x* on Fig. 1, looking in the direction of the arrows. Fig. 4 is a vertical cross-section taken in the plane indicated by the dotted line *y y* on Fig. 1, looking in the direction of the arrow thereon.

The object of my invention is to construct a substantial bed or support for an engine and its necessary appurtenances which shall be compact and comparatively light. In other words, I shall by my improved construction afford great strength and stability with the least possible amount of metal.

My invention consists, essentially, in the combination of vertical standards with braces and ties, or braces and tie-bolts, using shells or elongated supports for the steam cylinder or cylinders and an arched frame for the main or crank shaft, all of which will be fully understood from the following description, when taken in connection with the annexed drawings.

For stationary rectilinear reciprocating engines, which are designed to run at great speed, a solid foundation which will not tremble should be provided. This I accomplish in the following manner:

A designates a cast-metal standard, which is constructed with a broad base *a'*, lateral strengthening ribs or flanges *a*, and a concave receptacle A', the ends of which latter are perpendicular to a horizontal plane.

I show in the annexed drawings an engine-bed which is adapted for a two-cylinder engine, one of the cylinders of which may be part of an air-forcing engine.

Each concave receptacle A has secured to it an elongated concavo-convex shell H, which is cast with strong ribs or flanges a^3 a^3, equidistant from the middle of its length, that snugly abut against the ribs or flanges *a a*, and with the aid of transverse bolts rigidly secure the shell H to the standard A.

Each one of the horizontal shells H is adapted to have secured to it an engine-cylinder and also the slideways for a reciprocating cross-head, which ways may be adjustable or not.

B designates a standard, which is constructed with a broad base *c* and broad flanges *b b'*, and also with a journal-bearing D for a horizontal transverse crank-shaft, on which is applied a fly or balance wheel. This standard B is also constructed with an arch C, the object of which is to brace and strengthen this standard.

The standard A and the standard B are rigidly and strongly secured together by means of hollow bars F, the ends of which are flanged and abut against their respective standards. I have represented only those pipes or bars F; but any desired number may be used.

Through each bar F and through the standards A B passes a rod F', which I prefer to make of steel, and which is provided with nuts on its ends screwed up tightly.

The pipes or bars F serve as braces, and their internal rods serve as substantial ties for firmly binding the parts together.

For some purposes I may dispense with the internal tie-rods F' and secure the pipes or hollow bars F to the standards by means of bolts passed through their end flanges.

Between the extremities of the bars F, I cast on them strong lugs G G', which are lapped and rigidly bolted together at *f*, as shown in Figs. 1 and 2. Again, by making the tie-rods of sufficient strength the hollow bars F could be dispensed with. In any of these constructions a rigid and firm engine-bed would be provided which would be free from vibration or trembling when the engine was in motion.

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

1. An engine-bed consisting of two standards strengthened and secured together substantially as described, in combination with a concave receptacle on one of the standards and the shell supported on said receptacle, substantially as and for the purpose described.

2. An engine-bed consisting of two standards secured and strengthened substantially as described, in combination with a concave receptacle on one of the standards and a shell secured to such standard, substantially as specified.

3. The combination of a standard having a shell secured to it, an arched standard provided with journal-boxes for the main shaft of an engine, and the bracing and tie rods, substantially as and for the purpose described.

4. The combination of the standards, a shell secured to one of said standards, braces and tie-rods for the same, and intermediate connections for said braces, constructed and arranged as and for the purpose specified.

5. The combination of the standards A′ B′, constructed substantially as described, a shell H, secured to one of said standards, braces and tie-rods for the same, and the intermediate connections for said braces, all as and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

VIRGIL W. BLANCHARD.

Witnesses:
P. L. BROOKS,
M. P. CALLAN.