(No Model.)

J. G. STUCKSTEDE.

BEARING FOR ROCK SHAFTS.

No. 555,346. Patented Feb. 25, 1896.

Fig. 1

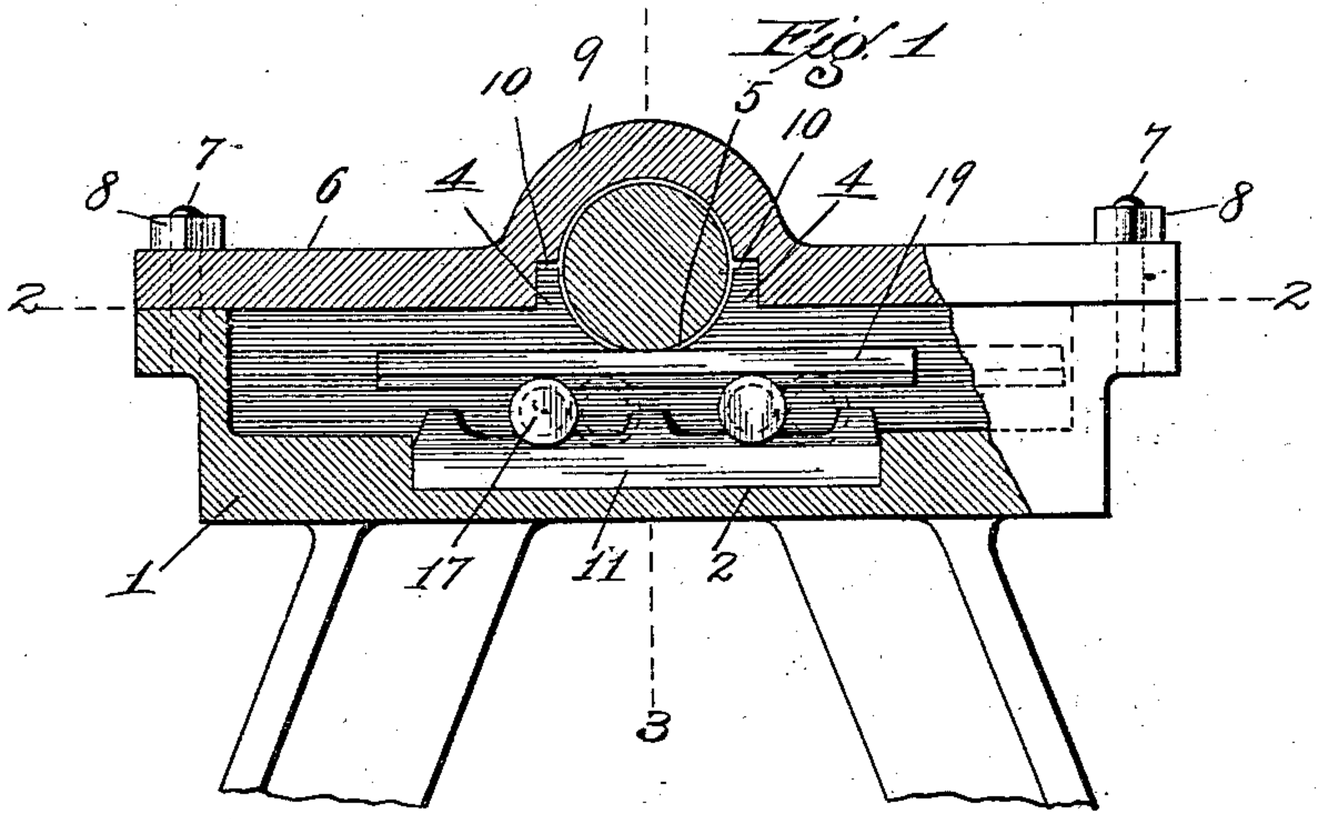


Fig. 2.

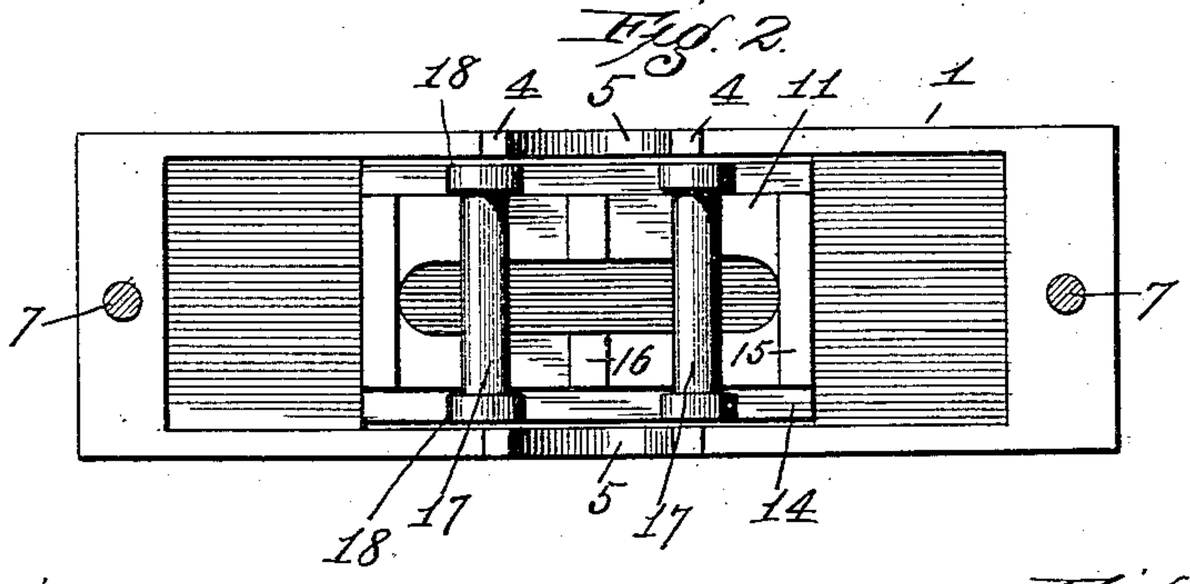


Fig. 3.

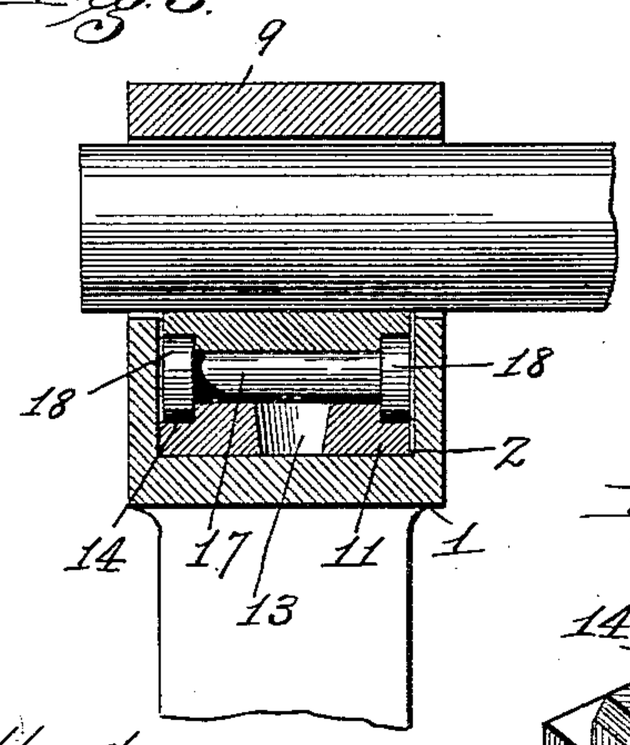


Fig. 4

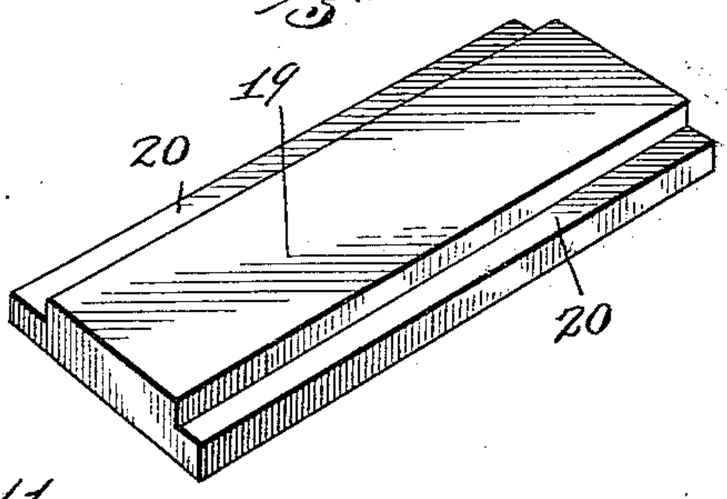
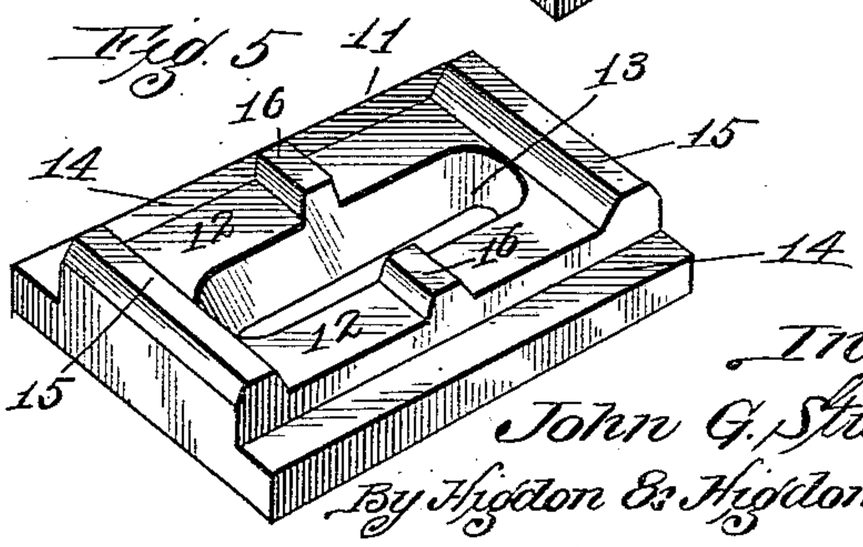


Fig. 5



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN G. STUCKSTEDE, OF ST. LOUIS, MISSOURI.

BEARING FOR ROCK-SHAFTS.

SPECIFICATION forming part of Letters Patent No. 555,346, dated February 25, 1896.

Application filed May 21, 1895. Serial No. 550,151. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. STUCKSTEDE, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Antifriction-Bearings for Rock-Shafts, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an improved antifriction-bearing for rock-shafts; and it consists in the novel construction, combination, and arrangement of parts, hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of my improved antifriction-bearing, a portion thereof being broken away to more clearly illustrate the same. Fig. 2 is a horizontal sectional view taken approximately on the indicated line 2 2 of Fig. 1. Fig. 3 is a vertical cross-sectional view taken approximately on the indicated line 3 3 of Fig. 1. Fig. 4 is a view in perspective of a bearing-plate of which I make use in carrying out my invention, said plate being shown in inverted position. Fig. 5 is a view in perspective of a second bearing-plate made use of in my improved antifriction journal-bearing.

Referring by numerals to the accompanying drawings, 1 indicates a rectangular cast-box, the same having a rectangular recess or depression 2 formed in the top face of the bottom. Formed integral with the top edges of the sides of the box 1, extending upwardly therefrom and in horizontal alignment with each other, are pairs of projections or lugs 4, between each pair of which are formed semicircular depressions 5.

6 indicates a top plate for the casing or box 1 that is held thereon by means of bolts 7 passing through the ends of said plate and box, nuts 8 being located on said bolts. Formed at the center of this top plate 6 and extending upwardly therefrom is a semicircular portion 9, and in the lower face of the plate 6, adjacent where the edges of this semicircular portion join with the flat face, are formed angular channels or recesses 10 for the reception of the upwardly-extending projections 4.

11 indicates a rectangular plate of such size as that it may be readily seated in the rectangular depression 2. Extending longitudinally of the top face of this plate is a raised portion 12, and formed in said raised portion and the plate 11 and extending longitudinally therein is an aperture 13. By forming this raised portion 12 on the plate 11 tracks or bearing-faces 14 are formed along the edges of said plate. Formed integral with each end of the raised portion 12 is an upwardly-projecting rib 15, and formed integral with the center of said raised portion on each side of the aperture 13 is a raised portion 16.

17 indicates rollers that are transversely located upon the faces of the raised portions 12 between the end projections, 15, and the center projections, 16. Formed integral with each end of these rollers 17 are annular flanges 18 that ride directly upon the tracks or bearing-faces 14 at the sides of the plate 11.

19 indicates a plate slightly longer than is the plate 11, and formed in the lower outside corners of said plate and extending longitudinally thereof are rectangular grooves or cut-away portions 20.

After the rollers 17 have been positioned upon the plate 11 this plate 19 is placed directly upon said rollers, and when so positioned the annular flanges 18 at the ends of said rollers ride in the rectangular grooves 20 formed in the outer and lower corners of the plate 19.

In Figs. 1 and 2 a portion of a shaft or journal is shown in proper position in the antifriction journal-bearing, said shaft passing through the semicircular depression 5 and beneath the semicircular portion 9 of the top plate, and said shaft or journal rests directly upon the bearing-plate 19. This form of antifriction journal-bearing is only intended for rock-shafts or journals, or those that only rotate a portion of a complete turn alternately in different directions. When a shaft or journal is properly positioned within the antifriction roller-bearing and said shaft is rocked in the usual manner, it will bear directly upon the face of the plate 19 and cause said plate to reciprocate or move alternately from one end of the box 1 to the other. During the movement of the plate 19 the rollers 17 on which said plate engages ride from one end of their bearing-spaces to the other upon the bearing-plate 11. By thus locating a single wide bearing-plate upon horizontally-movable rollers the friction in the journal-

bearing for rock-shafts and journals is reduced to a minimum, and said shaft will consequently operate much easier and with a less amount of power than does a shaft mounted in an ordinary journal-bearing.

By my improved construction the shaft or journal does not bear upon the semicircular recesses 5 in the sides of the box 1, but said shaft or journal always bears direct upon the top face of the plate 19.

My improved journal-bearing is especially applicable for the journals or shafts on bell-yokes, though said bearings may be advantageously used wherever a bearing for a rocking shaft is desired. A bearing so constructed possesses superior advantages in point of simplicity, durability and general efficiency.

I claim—

1. In an antifriction-bearing for rock-shafts, a rectangular box, the ends of which are positioned to limit the motion of a reciprocating supporting-plate, the sides of which box are positioned to limit the endwise motion of the reciprocating rotary rollers, in combination with a plate positioned in a depression in the bottom of said box, which plate is provided with parallel bearing-surfaces two of which are on a level and two of which are cut away and the first-mentioned surfaces having lugs at each end and in the center thereof to limit the lateral motion of the rollers, rollers having annular flanges on each end and positioned for reciprocating rotary movement between said lugs on said bearing-surfaces and in a position parallel to the rock-shaft, a single straight wide plate on top of said rollers to support the rock-shaft, which plate has its lower side corners cut away for the flanges on said rollers and is arranged for reciprocation on said rollers, a rock-shaft resting on said reciprocating plate, and a top plate fitted to the upper part of said rock-shaft and completing the inclosure of said rectangular box and bolted thereto, said top plate limiting the lateral movement of said rock-shaft and with said rectangular box serving as a covering to protect the moving parts, all arranged and combined in the manner set forth and for the purposes stated.

2. In an antifriction-bearing for rock-shafts, the rectangular box 1, having the depression 2, the lugs 4 and the semicircular depressions 5, in combination with the top plate 6 having the bolts 7, the nuts 8, the semicircular portion 9, and the channels 10, the rectangular plate 11 having the raised portions 12, the aperture 13, depressed faces 14, the raised portions 15 and 16, the rollers 17 having the annular flanges 18, the reciprocating plate 19 having the cut-away portions 20, and a rock-shaft resting on said reciprocating plate 19, all arranged and combined to operate in the manner set forth and for the purposes stated.

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

JOHN G. STUCKSTEDE.

Witnesses:

EDWARD EVERETT LONGAN,

JOHN C. HIGDON.