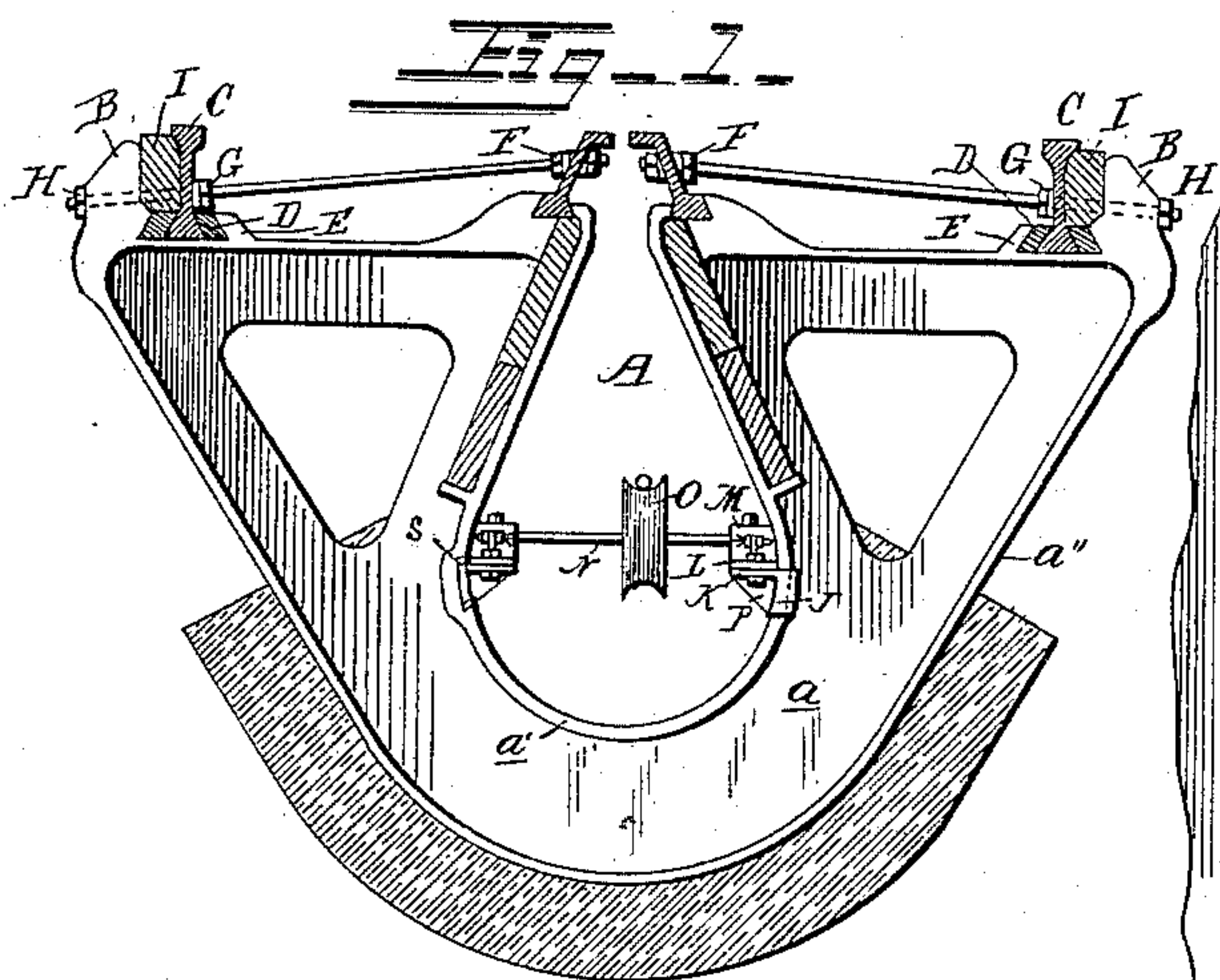


(No Model.)

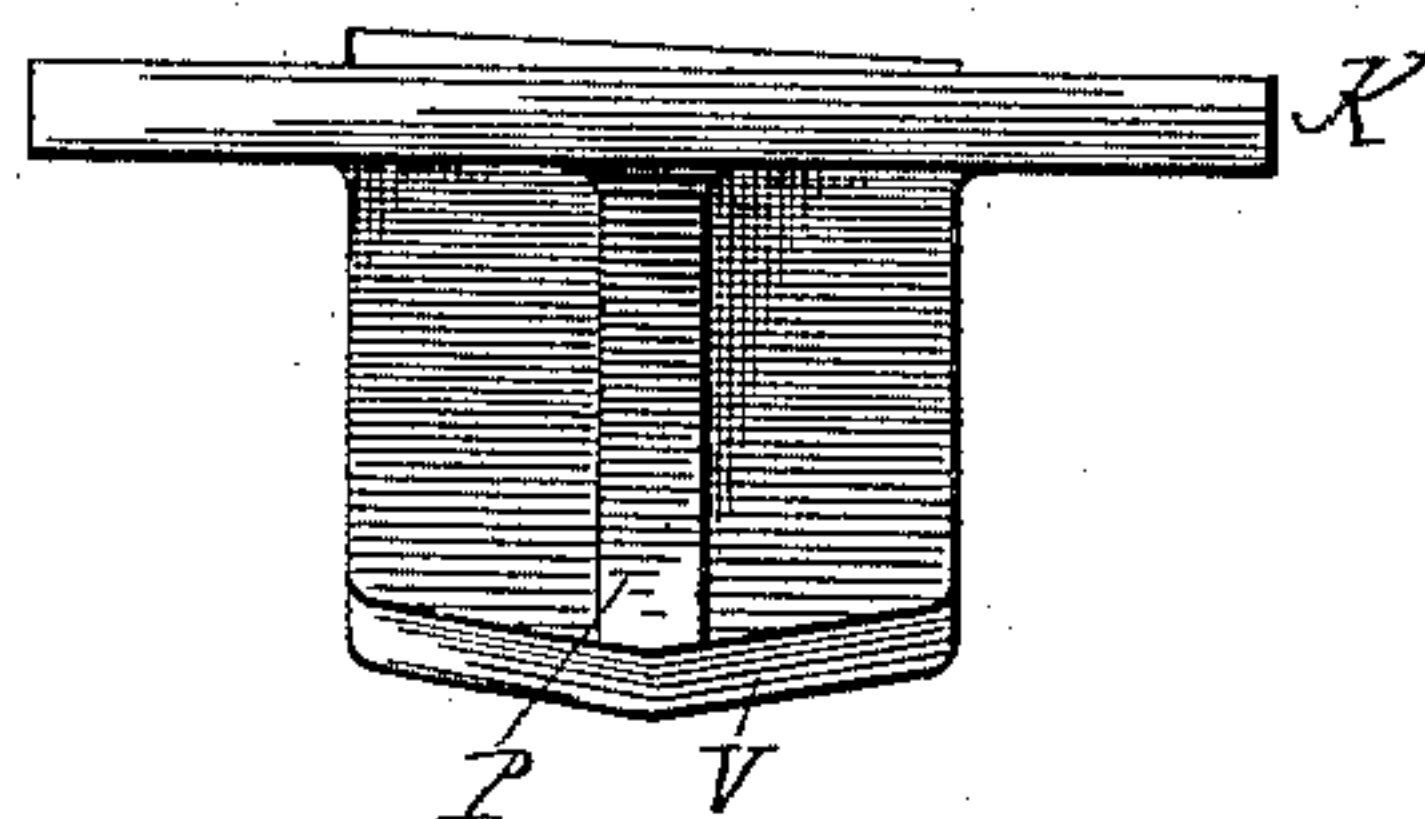
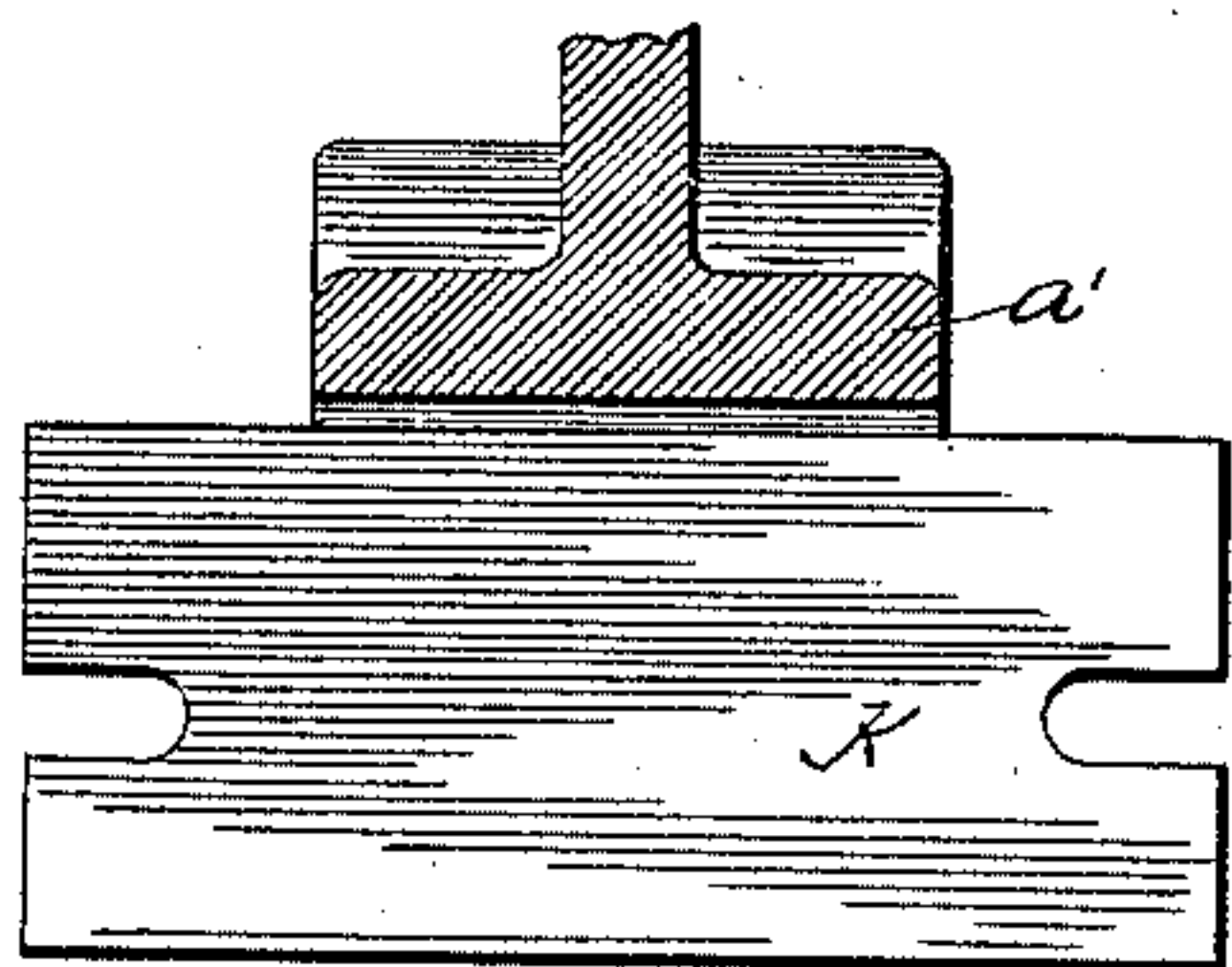
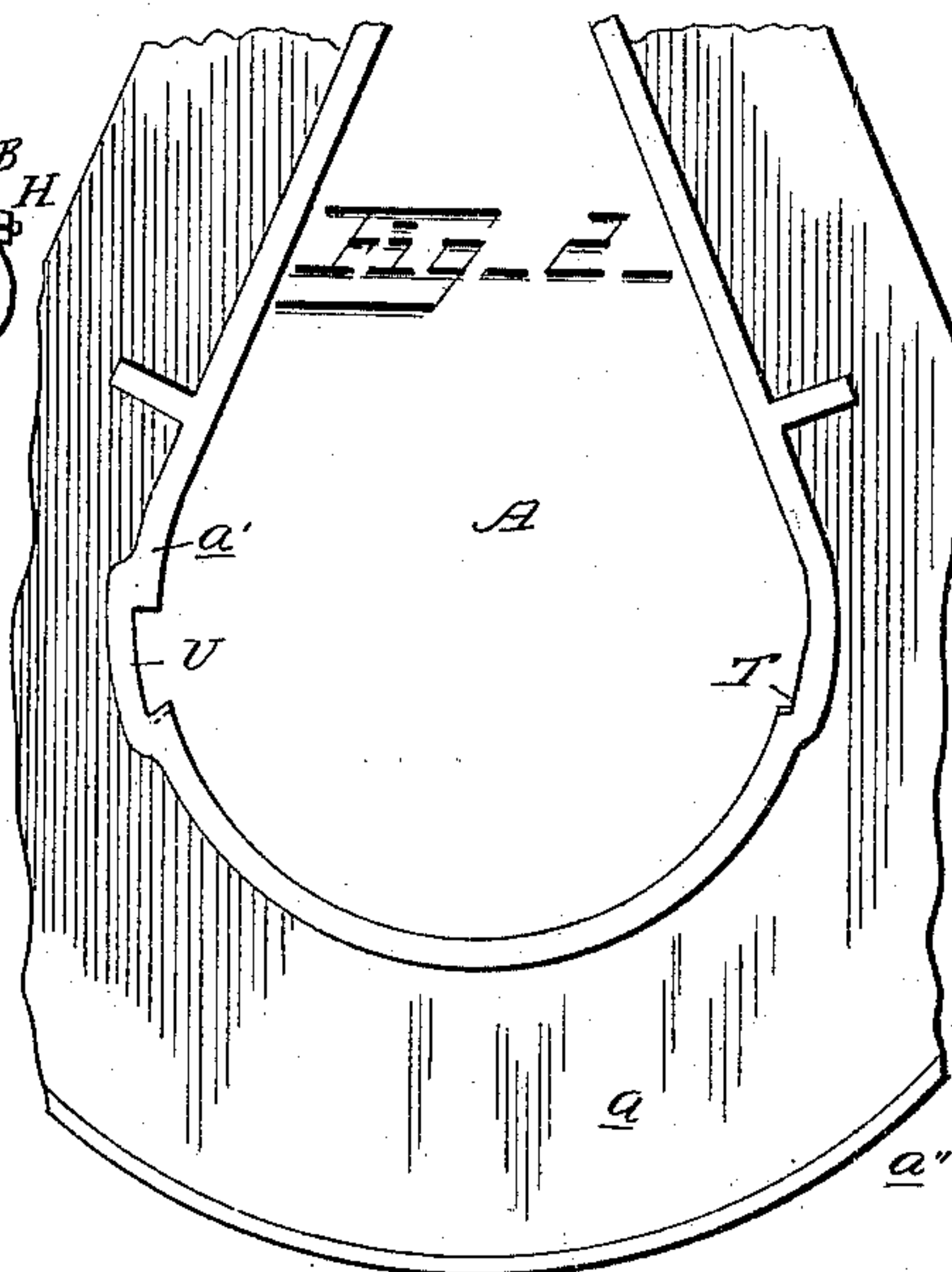
P. F. BARR.  
CABLE RAILWAY.

No. 398,369.

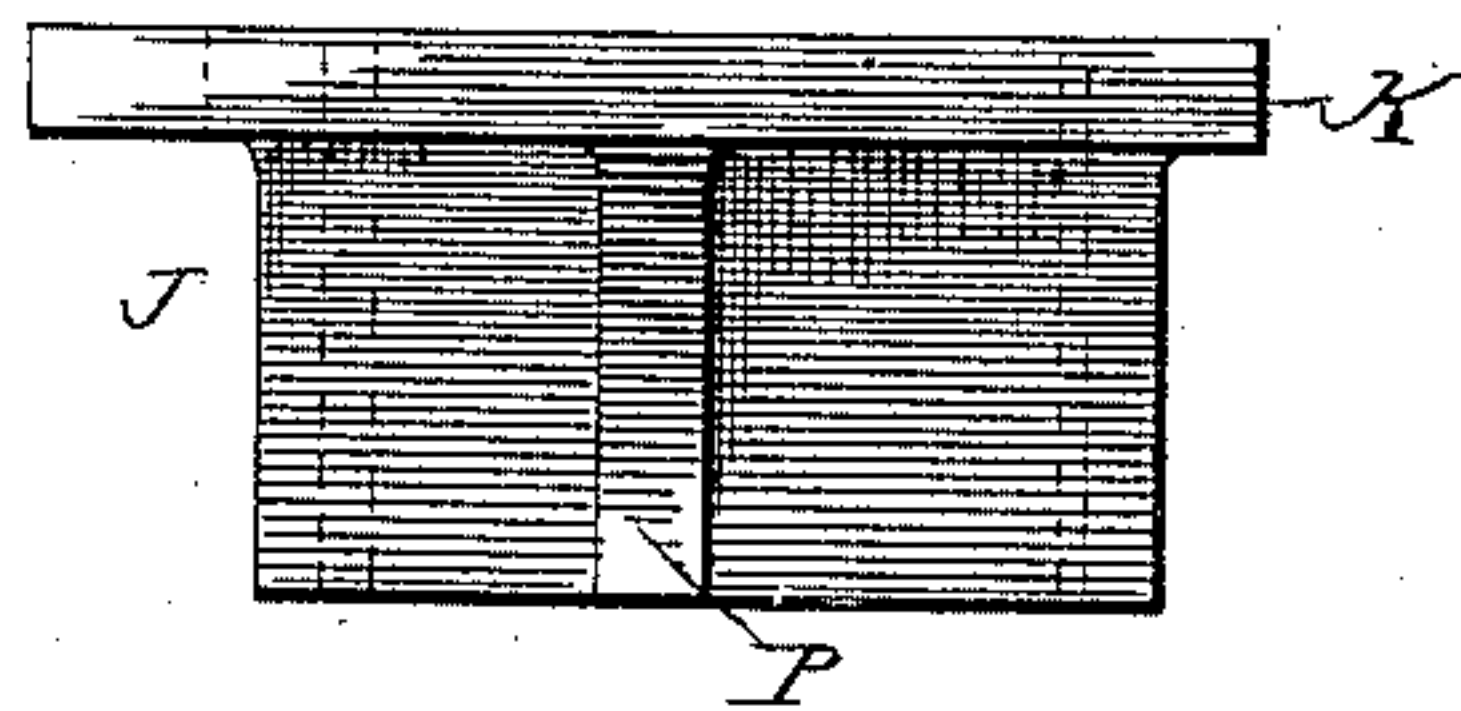
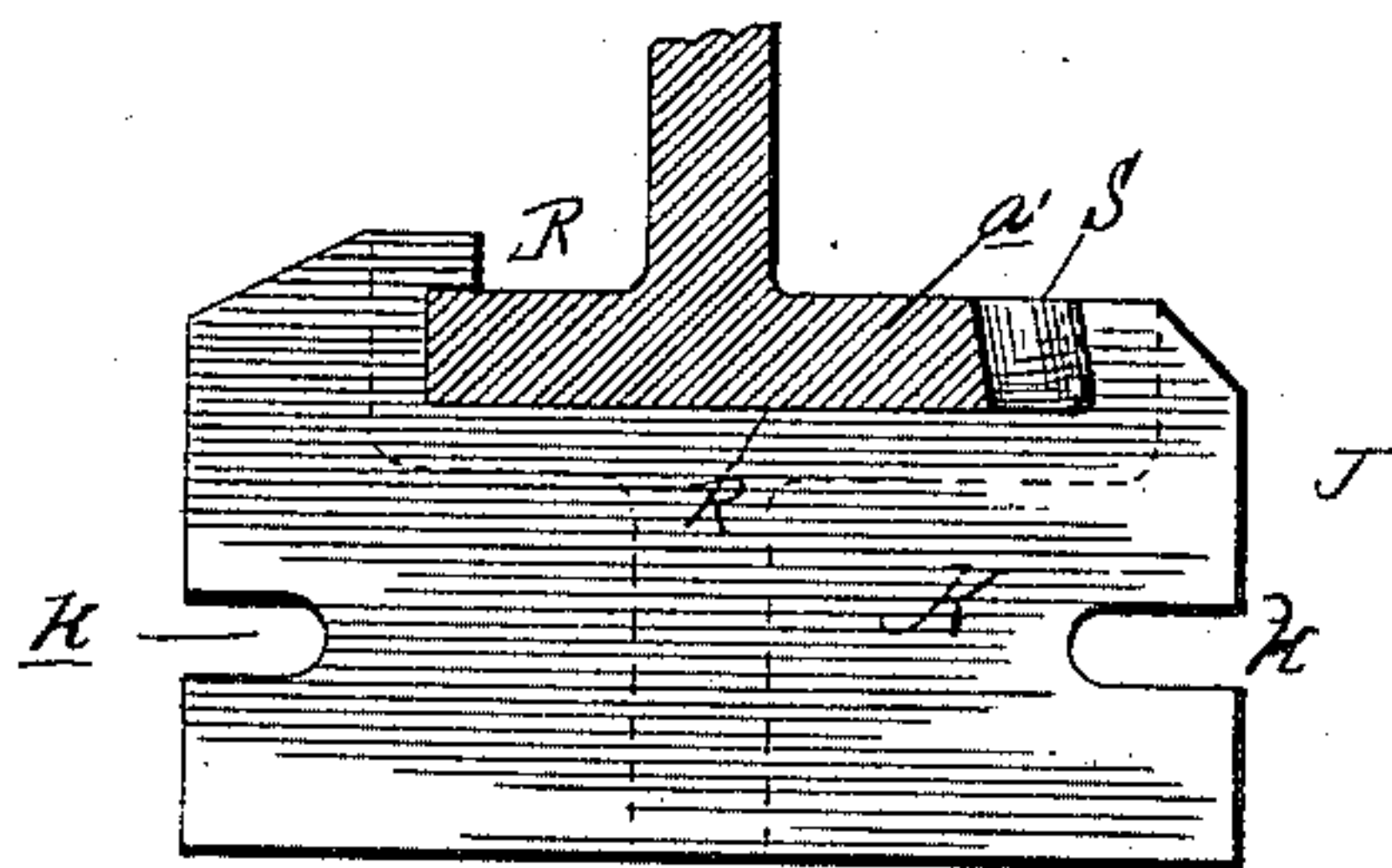
Patented Feb. 26, 1889.



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**EE-5**



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# UNITED STATES PATENT OFFICE.

PINCKNEY F. BARR, OF ST. PAUL, MINNESOTA.

## CABLE RAILWAY.

SPECIFICATION forming part of Letters Patent No. 398,369, dated February 26, 1889.

Application filed December 18, 1888. Serial No. 293,993. (No model.)

*To all whom it may concern:*

Be it known that I, PINCKNEY F. BARR, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Cable Railways, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an improvement in the yoke shown in my patent, No. 386,178; and the invention consists in the peculiar construction, arrangement, and combination of parts hereinafter more particularly described, and then definitely pointed out in the claims.

In the accompanying drawings, Figure 1 shows a vertical cross-section taken on one side of the yoke. Fig. 2 shows a side elevation of a portion of the yoke. Fig. 3 is a plan of the left-hand pulley-bracket, and showing a part of the yoke in horizontal section. Fig. 4 is a side elevation of the same bracket. Fig. 5 is a similar view to Fig. 3 of the form of bracket shown on the right-hand side of the drawings. Fig. 6 is a side elevation of the bracket shown in Fig. 5. The last five figures mentioned are all on a larger scale than the first.

Referring now to the details of the drawings, A represents the yoke, having a web, *a*, and flanges *a'* *a''*, as usual. On the outside of this yoke is cast a lug, B, which rises up nearly to the top of the running-rail C, which rail is fastened in place by wedges D in a dovetail groove, E, formed in the top of the yoke. Through this lug, and also through both the running and slot rails, runs a tie-rod, one end of which is provided with the usual nuts, F, for securing the slot-rail. The opposite end is also provided with two nuts, G H, the former, G, bearing against the inside of the running-rail, while the other, H, bears against the outside of the lug B. Between the lug and the rail C is set a wooden wedge, I, which helps to support the rail C. This arrangement has several advantages, the most important of which is that the slot-rail is kept absolutely in place and no dependence is put in the running-rail for anything excepting to carry the cars, and the slot cannot vary until the yoke itself closes. It also serves to keep

the running-rail C in a vertical position, and is also readily accessible in case of necessity for any cause. This lug can be put either inside or outside of the rail. I, however, prefer the outside, as shown. When the tie-rods are used in cable construction, they are either fastened to the rail or else bent and put through the lower part of the yoke. The bending is not advisable, for the reason that the tendency under strain is to straighten and consequently lengthen, and if put through the lower part of the yoke it is difficult to get at in case of necessity.

I have shown two different forms of pulley-brackets in Fig. 1, which I will now describe, referring first to the one on the right hand of that figure. In this figure, J represents the bracket, which has a table, K, provided with slots *k* to receive the bolts L (see Fig. 1) for the box M, in which the shaft N of the pulley O runs. Beneath the table is a brace, P, to support said table, which brace runs downward to the bottom of the bracket. At the rear of the bracket is formed a recess, R, which receives the inner flange, *a*, of the yoke, and is secured there by a key or wedge, S, which is driven down between the edge of the yoke and the inclined side of the recess. To prevent the bracket sinking below the proper line, there is an offset, T, formed in the flange *a'* of the web, (see right-hand side of Fig. 2,) which forms a seat for the bottom of the bracket.

The bracket on the left-hand side of Fig. 1 (and shown more in detail in Figs. 3 and 4) has also a table and brace similar to that shown on the right-hand side, Fig. 1, and in detail in Figs. 5 and 6, but is of different form in other respects, and is fastened by a key, *s*, driven in above it instead of on one side, as in the case first described. In this case the yoke is provided with a recess, U, of dovetail form to receive the back of the bracket, which is set in the recess and fastened with a key. The bottom of the back of the bracket is inclined in opposite directions, as shown at V in Fig. 6, to fit the bottom of the recess, which is of reverse shape, as indicated by the dotted line beneath the bottom of the recess in Fig. 2. The top of the recess is inclined in one direction to correspond with one side of the wedge or key. Either or both of these



modes of securing the pulley-brackets may be adopted at will, for they are substantially the same in principle, although differing in details of construction. In one case the recess is in the yoke, while in the other it is in the bracket; but both are secured by a wedge. The common way of making these brackets is to either cast them on the yoke or provide holes in the yoke and bolt the brackets on with four bolts.

The objection to casting the brackets on the yoke is that they are necessarily frail and are liable to become broken, and when so broken are very costly to repair or replace.

The objection to fastening with bolts is that it is difficult and costly to get holes just right, and the innumerable number of bolts with the threads constantly corroding makes it very difficult and costly to make repairs.

By my construction both of these troubles are avoided and a cheap and durable fastening for the parts is provided which will last as long as the yoke itself.

What I claim as new is—

1. A yoke for cable railways, provided with a lug near the running-rail to receive the tie-rod for the slot-rail, in combination with the slot-rail and a tie-rod attached to said running-rail and said lug, substantially as described.

2. A yoke for cable railways, provided with

recesses for the slot and running rails, and a lug substantially on the same horizontal plane with the running-rails, and having an aperture to receive the tie-rod holding the slot-rail, in combination with a tie-rod secured to the slot-rail and passing horizontally through the aperture in the lug, substantially as described.

3. The combination, with a yoke having seats for the slot and running rails and a lug projecting above the rail-seats therein, of said slot and running rails and two tie-rods, each running through one slot-rail, a running-rail, and said lug, substantially as described.

4. The combination of a yoke and a pulley-block, one of which is provided with a recess to receive the other and a key driven into the recess in the one and binding the two together, substantially as described.

5. The combination, with a yoke having a flange, *a'*, of a pulley-bracket having a recess embracing said flange and a key set between the wall of the recess and the flange, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 13th day of December, 1888.

PINCKNEY F. BARR.

Witnesses:

C. W. CHASE,

HERBERT WARREN.