

T. C. CLARKE, A. BONZANO & J. GRIFFEN.

Pivot-Bridges.

No. 135,776.

Patented Feb. 11, 1873.

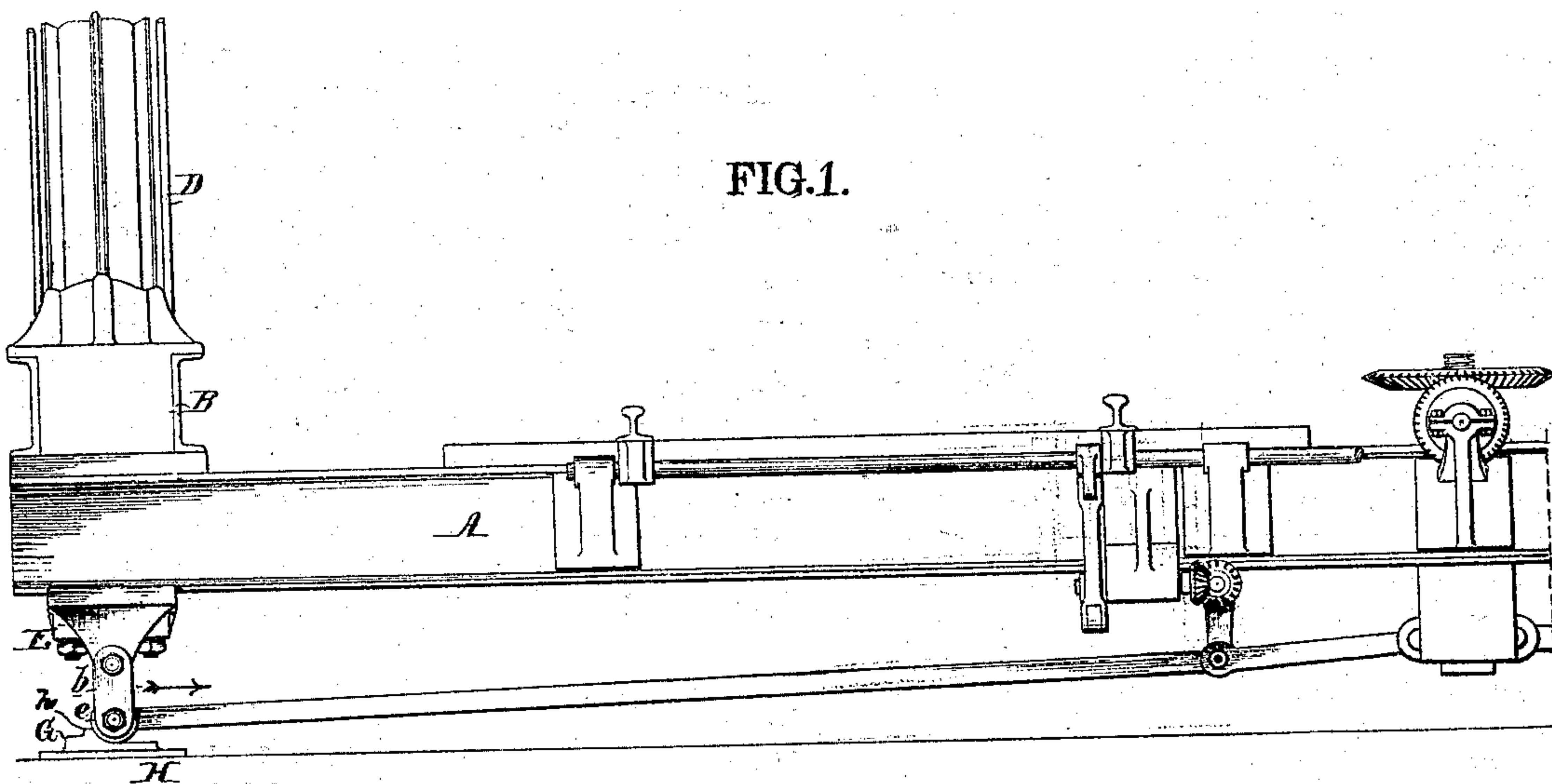


FIG. 1.

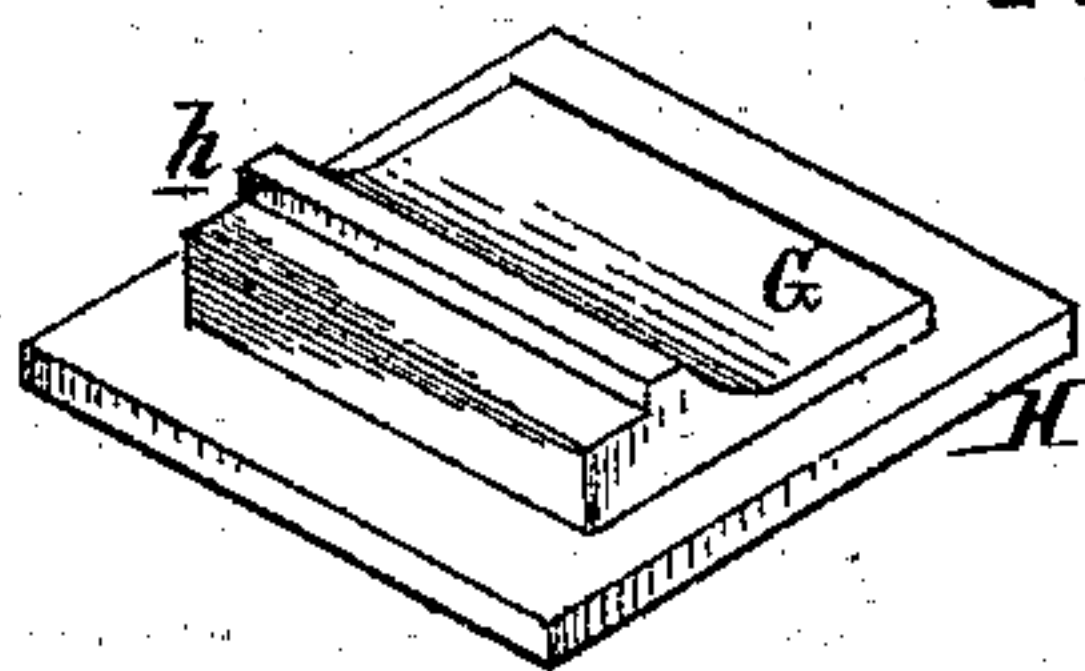


FIG. 3.

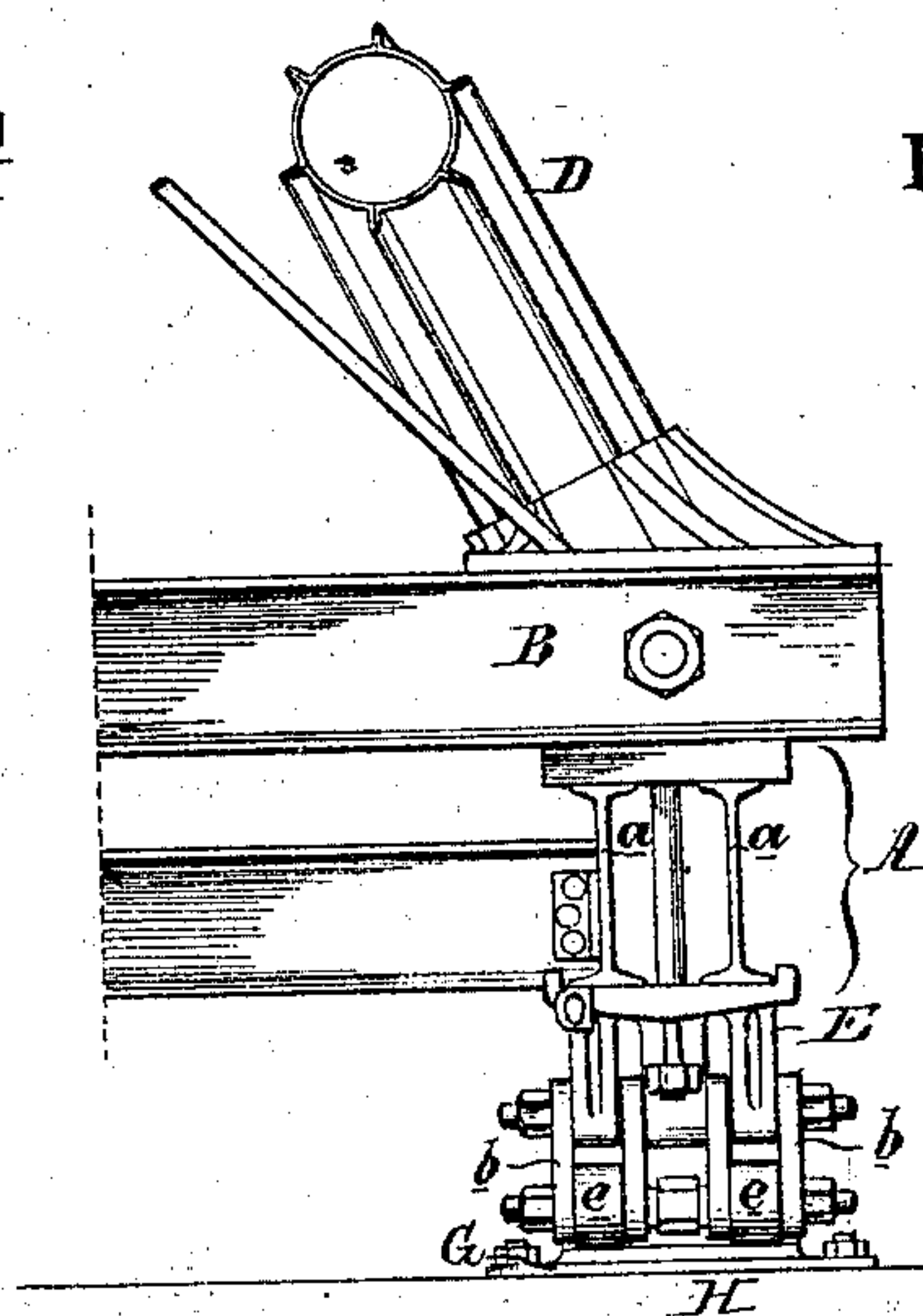


FIG. 2.

WITNESSES.

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by their Attns.
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UNITED STATES PATENT OFFICE.

THOMAS C. CLARKE, OF PHILADELPHIA, ADOLPHUS BONZANO, AND JOHN GRIFFEN, OF PHOENIXVILLE, ASSIGNORS TO CLARKE, REEVES & CO., OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PIVOT-BRIDGES.

Specification forming part of Letters Patent No. **135,776**, dated February 11, 1873.

To all whom it may concern:

Be it known that we, THOS. C. CLARKE, of the city and county of Philadelphia, State of Pennsylvania, and ADOLPHUS BONZANO and JOHN GRIFFEN, of Phoenixville, Chester county, State of Pennsylvania, have invented an Improvement in Pivot-Bridges, of which the following is a specification:

Our invention relates to a modification of that for which Letters Patent were granted to us on the 18th day of June, 1872, the modification having been devised with the view, in part, of adapting our said invention to bridges not originally constructed in accordance therewith; the object of our invention being to readily relieve swing or pivot bridges from their corner-bearings, readily restore the same, and at the same time render the bridge self-centering.

We attain these objects in a manner which will be best described by referring to the accompanying drawing, in which—

Figure 1 represents a partial end view of the bridge, and Fig. 2 a side view of the end of the bridge.

A represents the end transverse girder of the bridge, this girder being in the present instance composed of the two beams *a a*, shown in Fig. 2; and B represents part of the lower chord of the bridge, and D part of one of the end posts. To the under side of the girder A, at each corner of the bridge, is secured a hanger, E, to which is hung a series of links, *b b*, carrying at their lower ends rollers *e e* adapted to a foundation-plate, G, on the pier H.

The links at each corner of the bridge are so connected to central operating mechanism that by manipulating the latter the whole of the links will be elevated simultaneously, so that the rollers will be free from contact with the foundation-plate, and permit the bridge to rest on its central pivot only, or simultaneously lowered, so that they will form

the sole support of the bridge when the latter is adjusted for the passage of trains.

It has not been deemed necessary to describe the mechanism by which the links are operated, as it is fully shown and described in the Letters Patent No. 128,115 granted to us on the 18th day of June, A. D. 1872.

It will be noted, however, that in the present instance the said operating mechanism is applied to single links instead of to jointed links, forming toggles; and that the centering-plates are flat, with a rib at one side, instead of inclined toward the center, as in the plates described in said patent.

As shown in Fig. 1, the links *b* are in a vertical position and serve as supports to the bridge, the latter being elevated above its pivot-bearing, and in a condition for the passage of trains. Should the turning of the bridge on its pivot be required, however, the four sets of links are moved simultaneously in the direction shown by the arrow in Fig. 1, when they will cease to support the bridge, and the latter rests on its central pivot only, and is free to be turned.

On turning the bridge back prior to its adjustment for the passage of trains the links are retained in an elevated position until they are above the foundation-plate G, when they are lowered by the operating mechanism, the rollers coming in contact with the said plates, so that, as the links gradually approach a vertical position, the four corners of the bridge must be gradually elevated until the links finally become the sole support of the bridge. In swinging the bridge round to its position, however, it is rarely that it can be arrested at the exact point necessary to insure the coincidence of its rails with those of the main track; hence the foundation-plate is provided with a stop, *h*, adapted to the rollers carried by the links, shown in the perspective view, Fig. 3, so that on lowering the links the rollers will seek this stop, and finally

bear against the same when the links have assumed a vertical position and become the support of the bridge; and it is this adaptation of the rollers of the links to the stops which insures the proper centering of the bridge, so that its rails shall coincide with those of the main track.

We claim as our invention—

The combination of the links *b*, connected to a pivot-bridge and to any suitable operating mechanism, with the foundation-plate *G* and their stops *h*.

In testimony whereof we have signed our

names to this specification in the presence of two subscribing witnesses.

THOS. C. CLARKE.

ADOLPHUS BONZANO.

JOHN GRIFFEN.

Witnesses to the signature of THOS. C. CLARKE:

WM. A. STEEL,

LOUIS BOSWELL.

Witnesses to the signatures of ADOLPHUS BONZANO and JOHN GRIFFEN:

P. G. CAREY,

JOHN BUKWALTER.