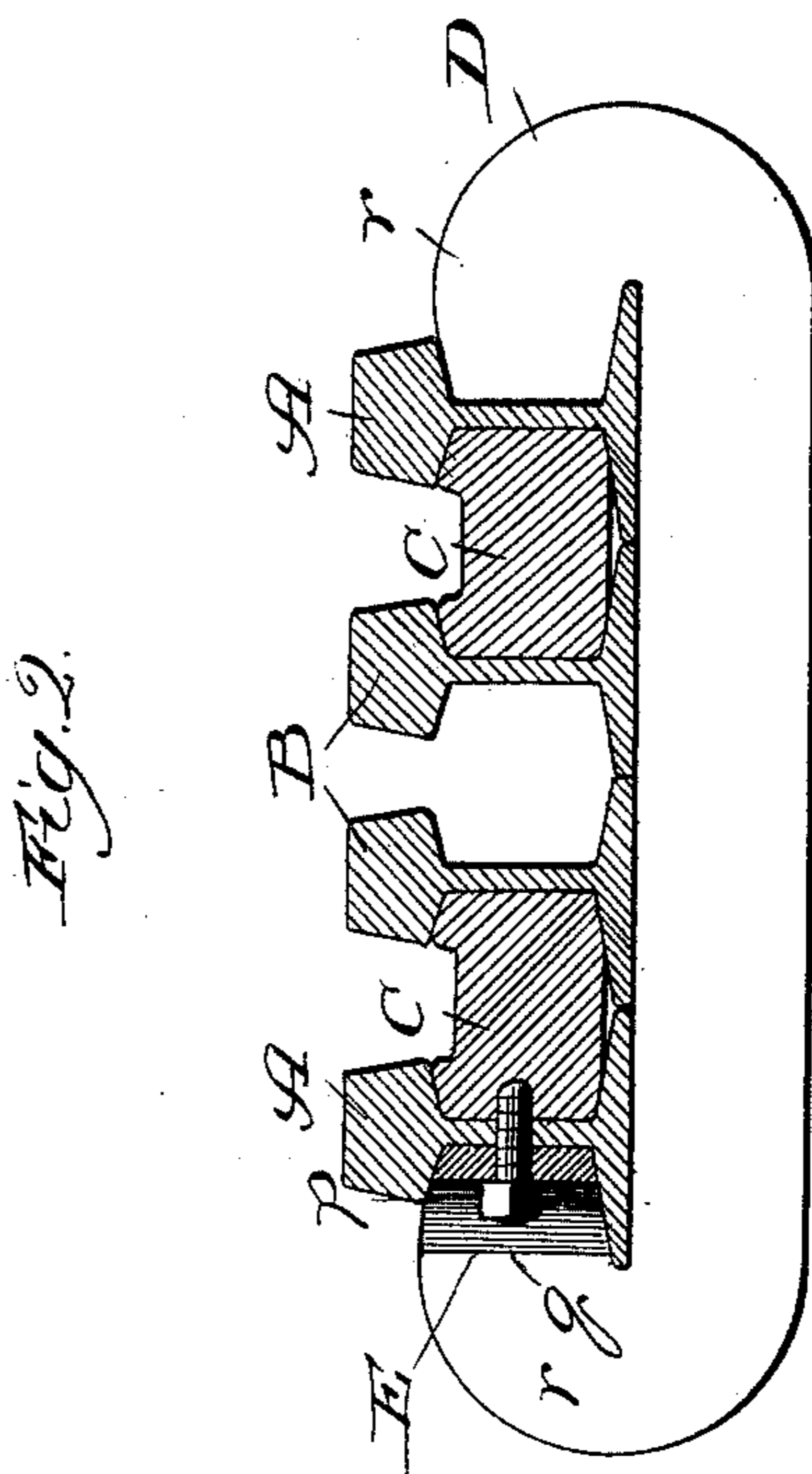
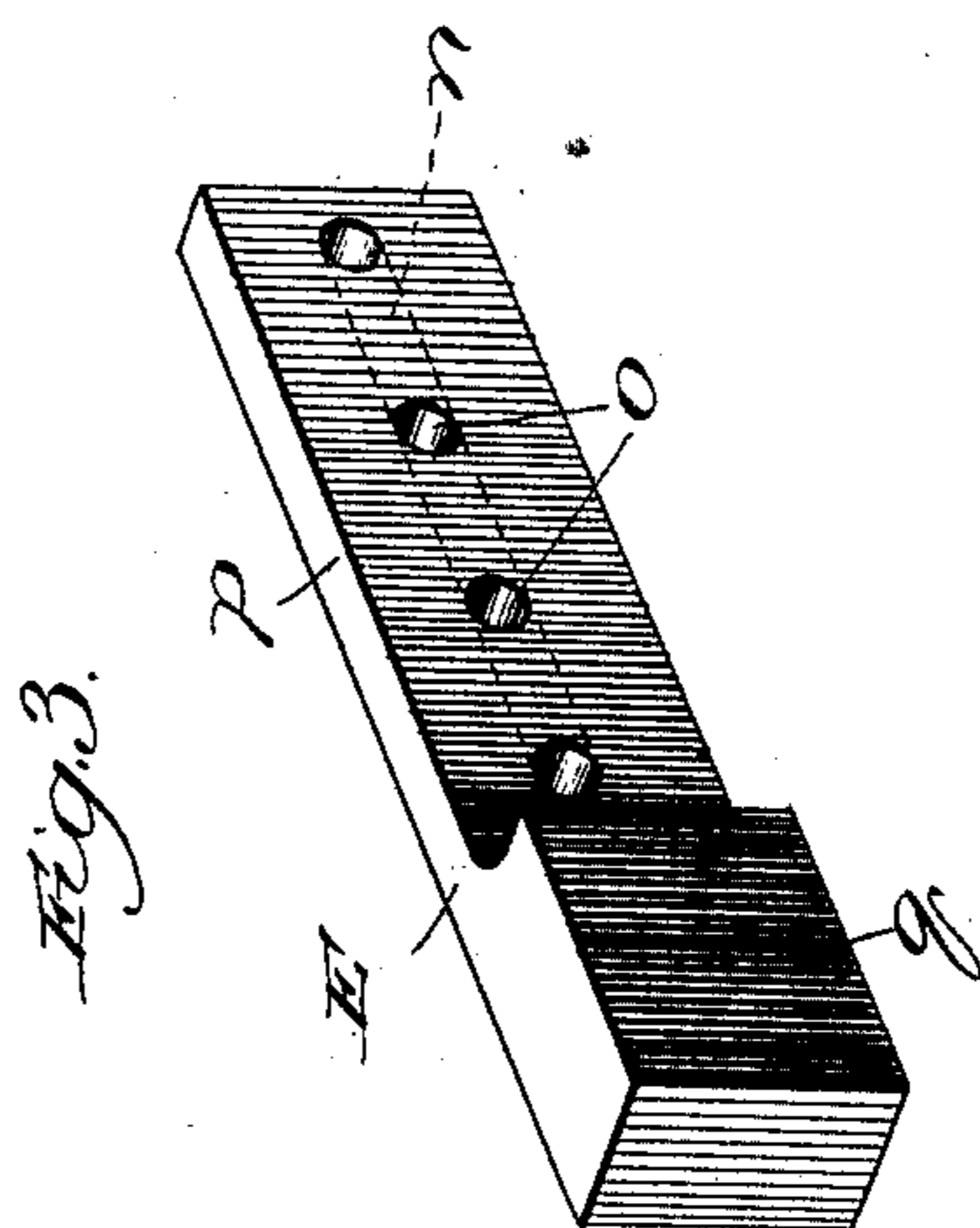
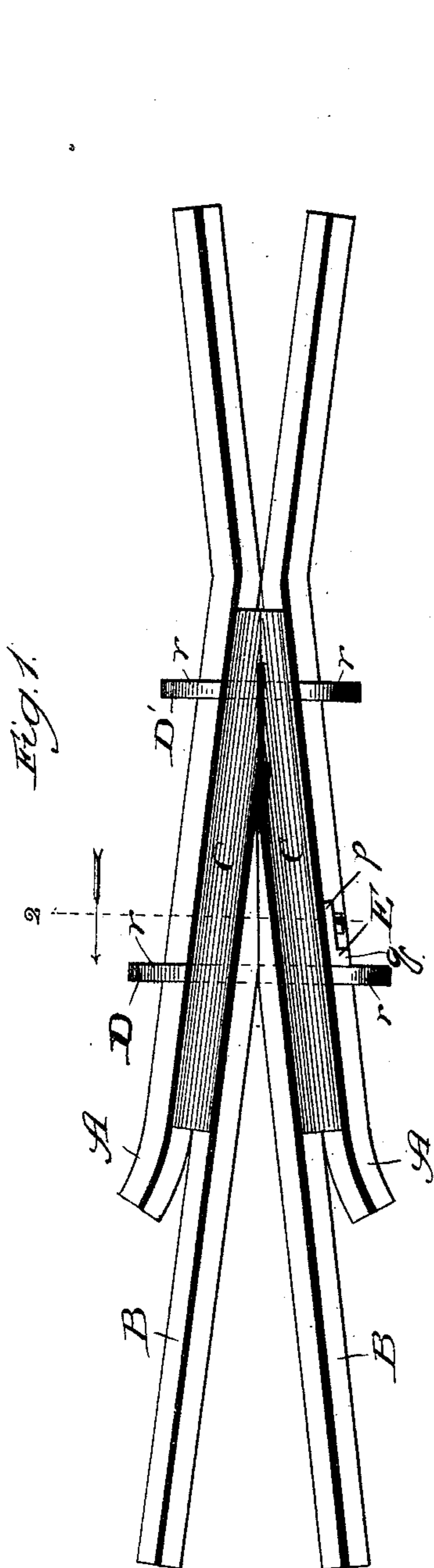


(No Model.)

A. A. STROM.
RAILWAY FROG.

No. 414,127.

Patented Oct. 29, 1889.



Witnesses:

*Chas. E. Gaylord,
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UNITED STATES PATENT OFFICE.

AXEL A. STROM, OF AUSTIN, ASSIGNOR TO THE STROM MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS.

RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 414,127, dated October 29, 1889.

Application filed August 27, 1889. Serial No. 322,112. (No model.)

To all whom it may concern:

Be it known that I, AXEL A. STROM, a citizen of the United States, residing at Austin, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Railway-Frogs, of which the following is a specification.

The object of my invention is to provide simple and thoroughly practical and effective means for securing the parts of a railway-frog together, and which shall admit of ready readjustment to effect tightening of such parts whenever they become loose in the use of the frog. To these ends I employ, as it is common to do, to embrace the frog near its respective flaring and tapering ends, clamps which extend across the base and over the outer flanges of the wing-rails, and to effect securing and tightening of the parts together in their initial adjustment, and whenever they become loose with the wear of the frog in operative position, I utilize the wedge afforded by the lateral edges of the frog itself by driving the clamps toward the flaring extremity, thus accomplishing the purpose without the use of the common keys and blocks, and even without the use of keys alone, thereby simplifying and materially improving and cheapening the construction.

To prevent any possibility on the part of the clamps, when once set by driving them to their respective positions, of slipping back, I provide suitable stops, and if stops are employed at all I prefer a particular form of stop, hereinafter described, as affording especial advantages. It should be stated, however, that I do not limit my improvement to the use of stops with the clamps.

In the accompanying drawings, Figure 1 is a sectional plan view of a railway-frog provided with my improvement, the section being taken below the heads of the rails; Fig. 2, a section taken on the line 2 of Fig. 1, viewed in the direction of the arrow, and enlarged; and Fig. 3 is a perspective view of the preferred form of stop.

A A are the wing-rails; B B, the point-rails; and C denotes the intermediate filling, which, however, may be supplanted by other means provided between the rails to brace them intermediately.

D and D' are the clamps, the best because the strongest form of which is that shown, since it involves a metal bar bent edgewise upon itself near its extremities, to afford the hook-shaped ends *r*, which conform to the upper surfaces of the outer flanges and sides of the webs of the wing-rails.

To secure the parts of the frog together, the clamps D and D' are adjusted, respectively, near the wider and narrower extremities thereof, to extend across its base and over the outer flanges of the wing-rails, when they are wedged into their positions of firmly securing the parts together by driving them toward the wider end of the frog, whereby the latter serves as the sole means of tightening the clamps upon it, and, as a consequence, securing its parts together thus without the employment of wedge or keys and blocks, or both, between the hooked ends of the clamps and the adjacent surfaces of the wing-rails.

Should the parts of the frog, in the use of the latter, become loose, they may be readily and effectually tightened by driving the clamps still farther toward the widening end of the frog.

While any form of stop (such as a rivet passed through the flange or web of a wing-rail behind a clamp) may be used to prevent slipping of the clamps from the positions to which they are adjusted by driving, I prefer a stop that may be adjusted to follow the direction of adjustment of the clamps in tightening the loosened parts of the frog, and such an adjustable stop is shown in Fig. 2, and as in operative position in Figs. 1 and 2, and is denoted by the reference-letter E. It involves a head *q* and a tail-piece *p*, provided longitudinally along its center with a number of perforations *o*, or with a single elongated opening forming a slot *n*, which is indicated by dotted lines in Fig. 3.

When the clamps have been driven into their securing positions upon the frog, a stop may be provided to bear against each one at the rear side of each of its hooked ends *r*, and thus on both sides of the frog, or one at such side of only one hooked end of each thus on one side of the frog, which latter provision is considered to be sufficient as subserving the purpose of stops.

The stops E are secured in position against the clamps by bolting each, through an opening *o* on its slot *n*, to the web of a wing-rail, as shown, (or, if preferred, to the flange of the rail,) and when the clamps are driven farther along the frog the stops E, on removing their retaining-bolts where they are extended through perforations *o* and coincident perforations in a rail A, may be reset and bolted through succeeding perforations *o*, brought by the resetting into coincidence with the respective bolt-holes in the wing-rail. If, instead of the perforations *o*, slots *n* be provided in the tail ends of the stops E, the latter may readily be moved to follow the clamps in their readjusted positions on merely loosening the bolts, and tightening them again when the stops have been suitably adjusted.

What I claim as new, and desire to secure by Letters Patent, is—

1. A railway-frog having its parts secured together by clamps D and D', embracing the frog across its base, with their hook ends bearing directly and solely against the outer sides of the wing-rails, whereby the wedge shape of the frog alone serves for wedging the clamps in their operative positions; substantially as described.

2. A railway-frog having its parts secured together by clamps D and D', embracing the frog across its base, with their hook ends bearing directly and solely against the outer sides

of the wing-rails, whereby the wedge shape of the frog alone serves for wedging the clamps in their operative positions, and stops provided on the frog against the rear sides of the clamps, substantially as and for the purpose set forth.

3. A railway-frog having its parts secured together by clamps D and D', embracing the frog across its base, with their hook ends bearing directly and solely against the outer sides of the wing-rails, whereby the wedge shape of the frog alone serves for wedging the clamps in their operative positions, and stops adjustably secured to the wing-rails against the clamps, substantially as and for the purpose set forth.

4. A railway-frog having its parts secured together by clamps D and D', embracing the frog across its base, with their hook ends bearing directly and solely against the outer sides of the wing-rails, whereby the wedge shape of the frog alone serves for wedging the clamps in their operative positions, and adjustable stops E, each having a head *q* and perforated tail-piece *p*, through which it is bolted to the wing-rail against a clamp, substantially as and for the purpose set forth.

AXEL A. STROM.

In presence of—

J. W. DYRENFORTH,
M. J. FROST.