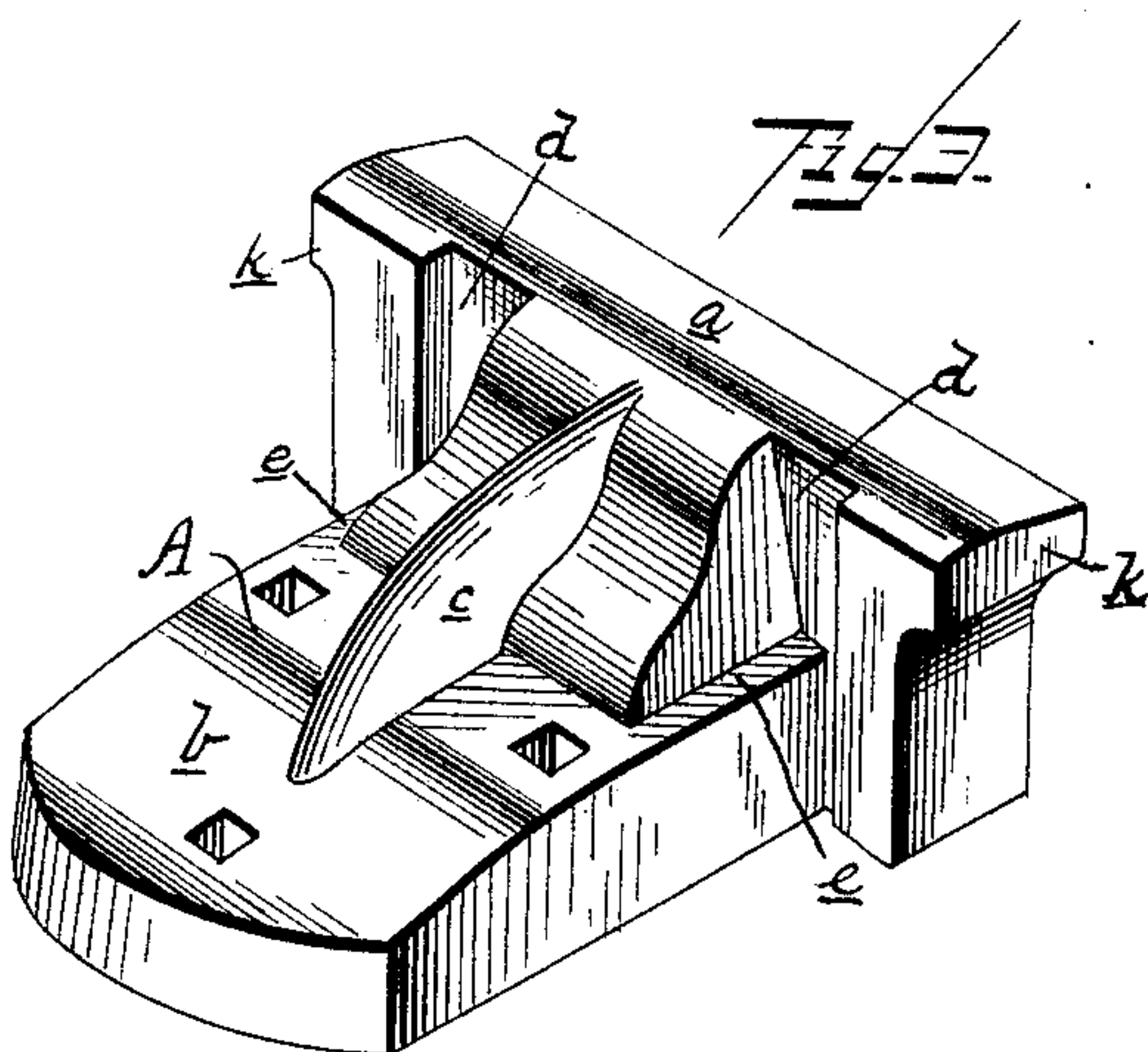
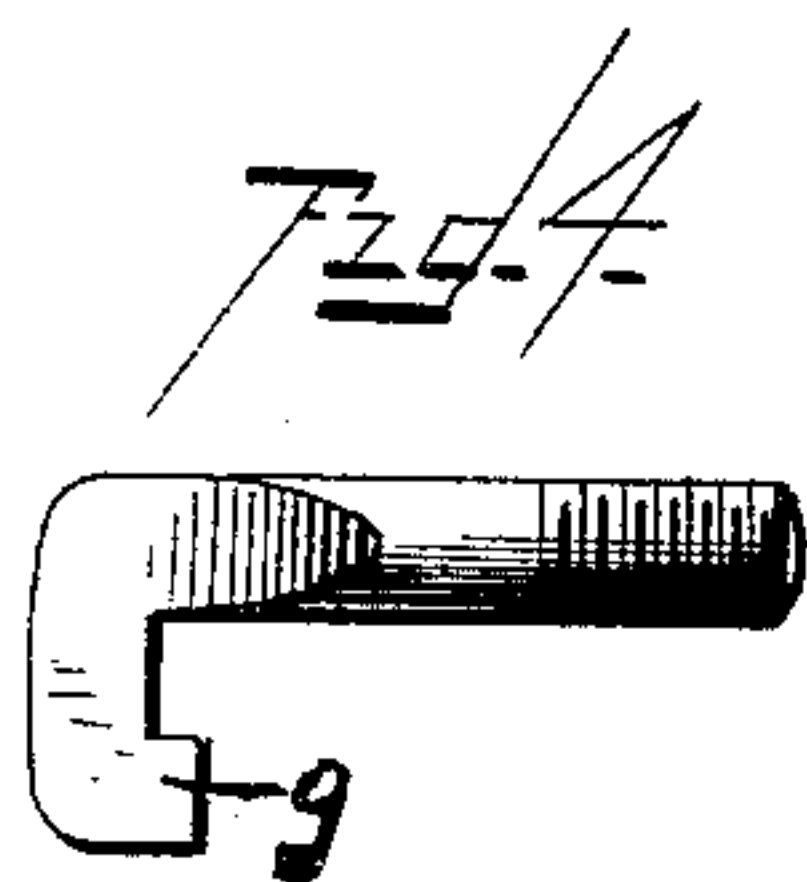
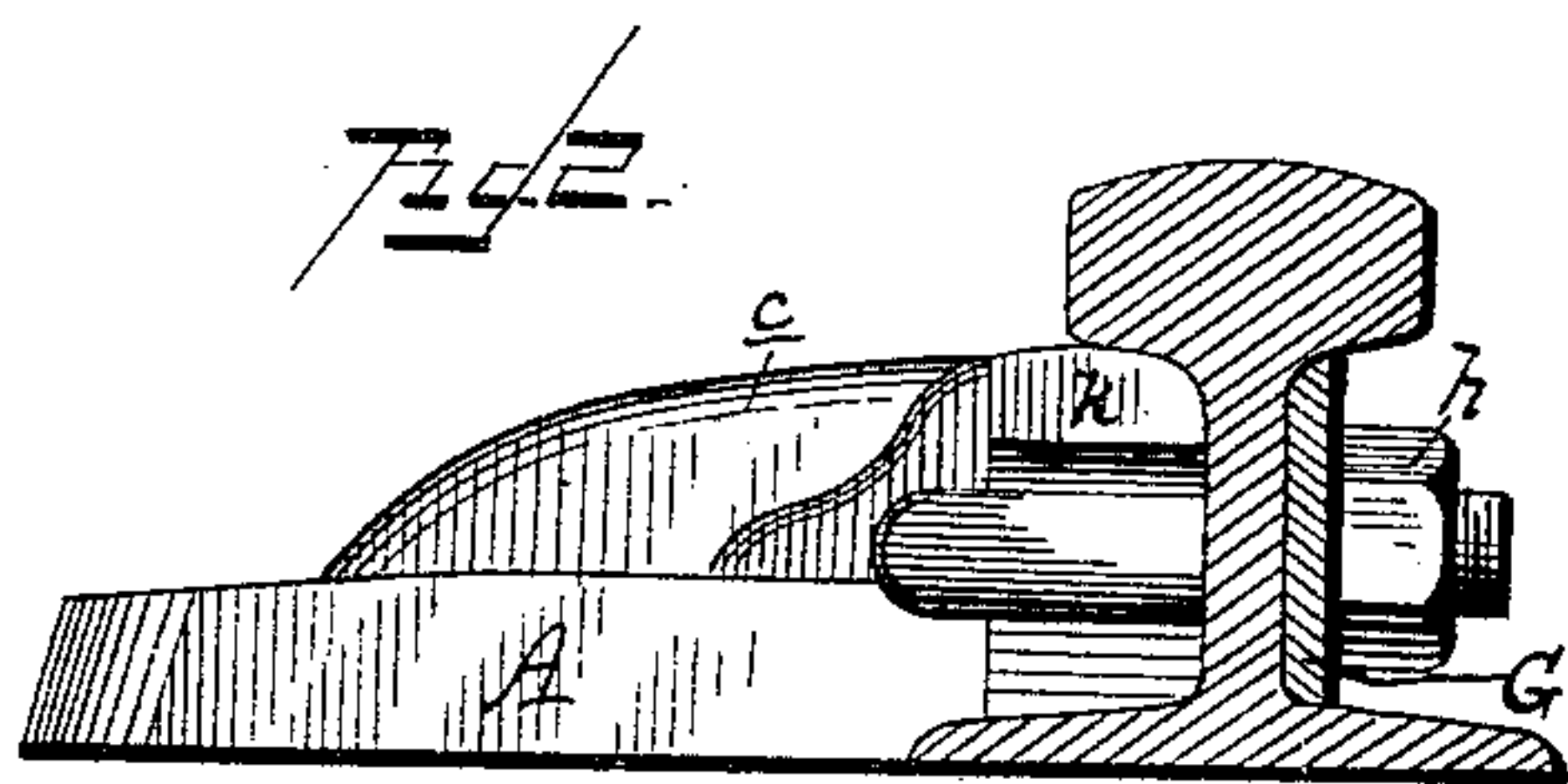
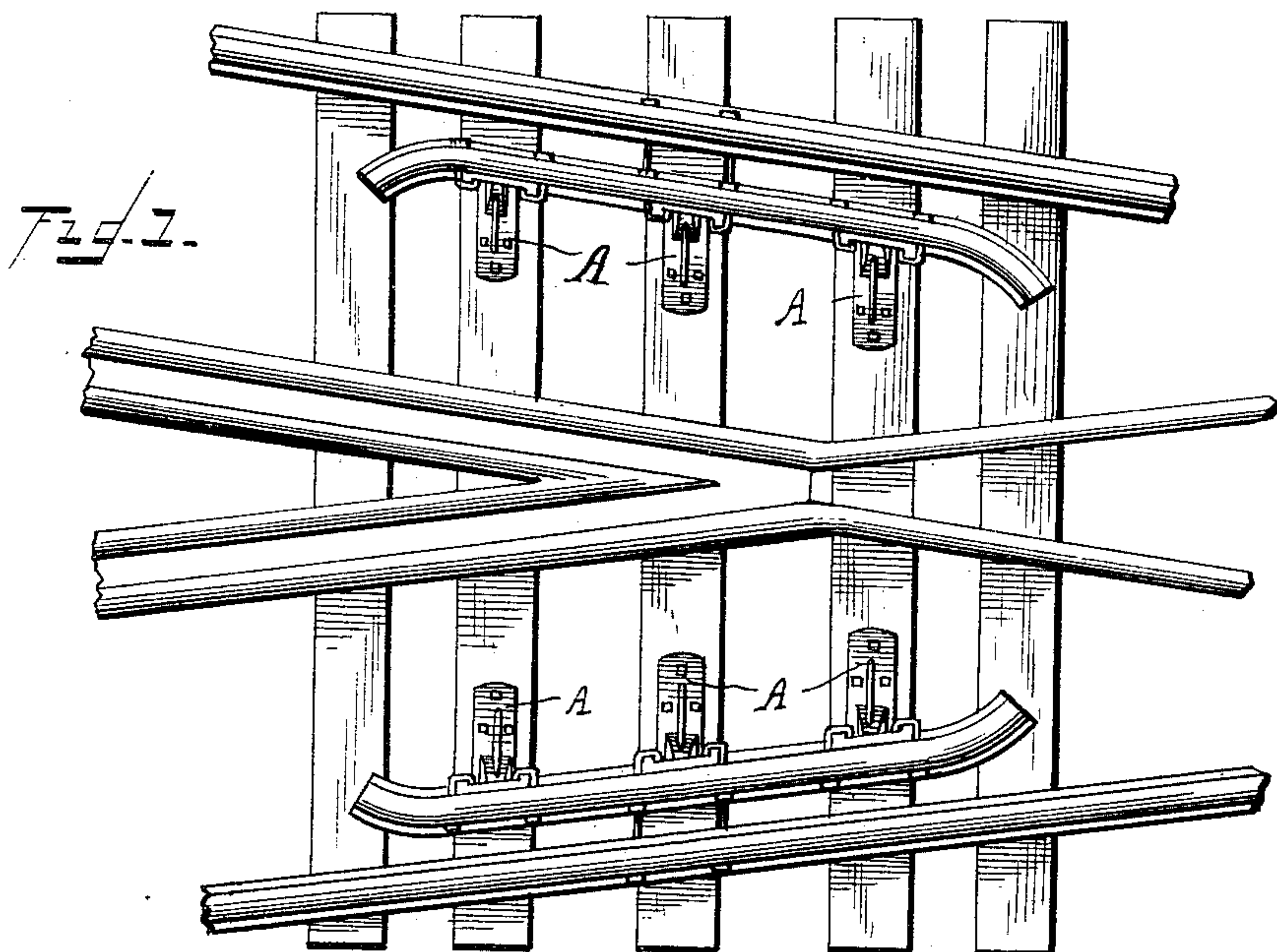


(No Model.)

G. WATERMAN.
COMBINATION RAILROAD BRACKET.

No. 406,863.

Patented July 9, 1889.



WITNESSES
F. L. Ourand.
E. H. Bond.

INVENTOR
George Waterman.
per Cha. S. Fowler,
Attorney

UNITED STATES PATENT OFFICE.

GEORGE WATERMAN, OF VILLISCA, IOWA, ASSIGNOR TO WILLIAM W. ELLIS, CHARLES J. WEST, JOHN WATERMAN, AND W. S. ELLIS, ALL OF SAME PLACE.

COMBINATION RAILROAD-BRACKET.

SPECIFICATION forming part of Letters Patent No. 406,863, dated July 9, 1889.

Application filed March 27, 1889. Serial No. 304,950. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WATERMAN, a citizen of the United States, residing at Villisca, in the county of Montgomery and State of Iowa, have invented certain new and useful Improvements in Combination Railroad-Brackets; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

This invention relates to certain new and useful improvements in railway-brackets, designed more especially for use in connection with guard-rails, and is designed more particularly as an improvement upon the bracket for which a patent was issued to myself and Nelson A. Gray, September 20, 1887, and numbered 370,292.

It has been found in practice that with the construction described in the aforesaid patent the bracket is weakened by the passage of the bolt therethrough, and the cost is also increased by having to prepare the hole in the bracket for the passage of the bolt, and, furthermore, by the old construction it was necessary to entirely remove the bolt in order to take out the rail. It is the object of the present invention to obviate these objections and to otherwise improve the bracket. Therefore to the accomplishment of the above ends the invention consists in the peculiar combinations and the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a plan view of a section of track provided with my improvements. Fig. 2 is a cross-sectional view of the rail with my bracket in place. Fig. 3 is a detail perspective view of the bracket. Fig. 4 is a similar view of the bolt.

Referring now to the details of the draw-

ings by letter, A designates the bracket, which is formed with a head-piece *a*, adapted to fit in the hollow of the rail between the tread and the flange, and with a base portion *b*, provided with suitable openings to receive the spikes by which it is secured in place on the ties. The bracket is also preferably formed with a bracing-rib *c*, as shown.

The head-piece *a* is formed near its ends with the vertical channels *d*, leaving a shoulder *e* on the top of the base portion, the said channels being extended below said shoulders, but not of sufficient width to receive the heads of the bolts, hereinafter described, said extended channels being for the purpose of affording ready exit for snow, dirt, or other foreign substances that otherwise might accumulate on the shoulders and in the channels and prevent the perfect working of the device.

In practice the bracket is placed in position, as shown, and to secure the same in place it is only necessary to pass bolts, like that shown detached in Fig. 4, through suitable holes in the web of the rail, with the hook *g* engaging in the channel *d* of the bracket, when, by applying and screwing up a nut *h* on the end that passes through the rail, the bracket will be firmly drawn up to and held in place against the rail. The shoulders *e* on the base portion form a stop for the end of the hook.

To remove the bracket it is not necessary to take out the bolt. Simply loosening the nut until the hooked ends of the bolts can be turned at right angles to their normal position will allow the bracket to be removed, thus keeping the bolts united to the rail, so they will not be lost.

G is a fish-plate arranged between the nuts and the web of the rail, as is common in this class of devices.

The ends of the bracket, or of the head-piece thereof, are provided with the extensions *k*, beneath which the bolts are confined.

What I claim as new is—

1. The combination, with the bracket formed with vertical channels, of the bolts having hooked ends and designed to be passed

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through the rail with said hooked ends engaging in said channels, substantially as shown and described.

2. The combination, with the bracket formed with base portion, vertical channels, and shoulders *e*, of the rail and the bolts passed through the rail and provided with hooked ends reaching around the ends of said bracket and engaging in said channels, substantially as and
10 for the purpose specified.

3. The combination, with the rail and the bracket formed with a head-piece provided with vertical channels extending below the

shoulders *e* on the base portion of the bracket, of the bolts provided with hooked ends reaching around the ends of the bracket and engaging in said channels, and provided upon their opposite ends with adjusting-nuts, substantially as shown and described. 15

In testimony that I claim the above I have
hereunto subscribed my name in the presence
of two witnesses. 20

GEORGE WATERMAN.

Witnesses:

WILLIAM W. ELLIS,
E. C. GIBBS.