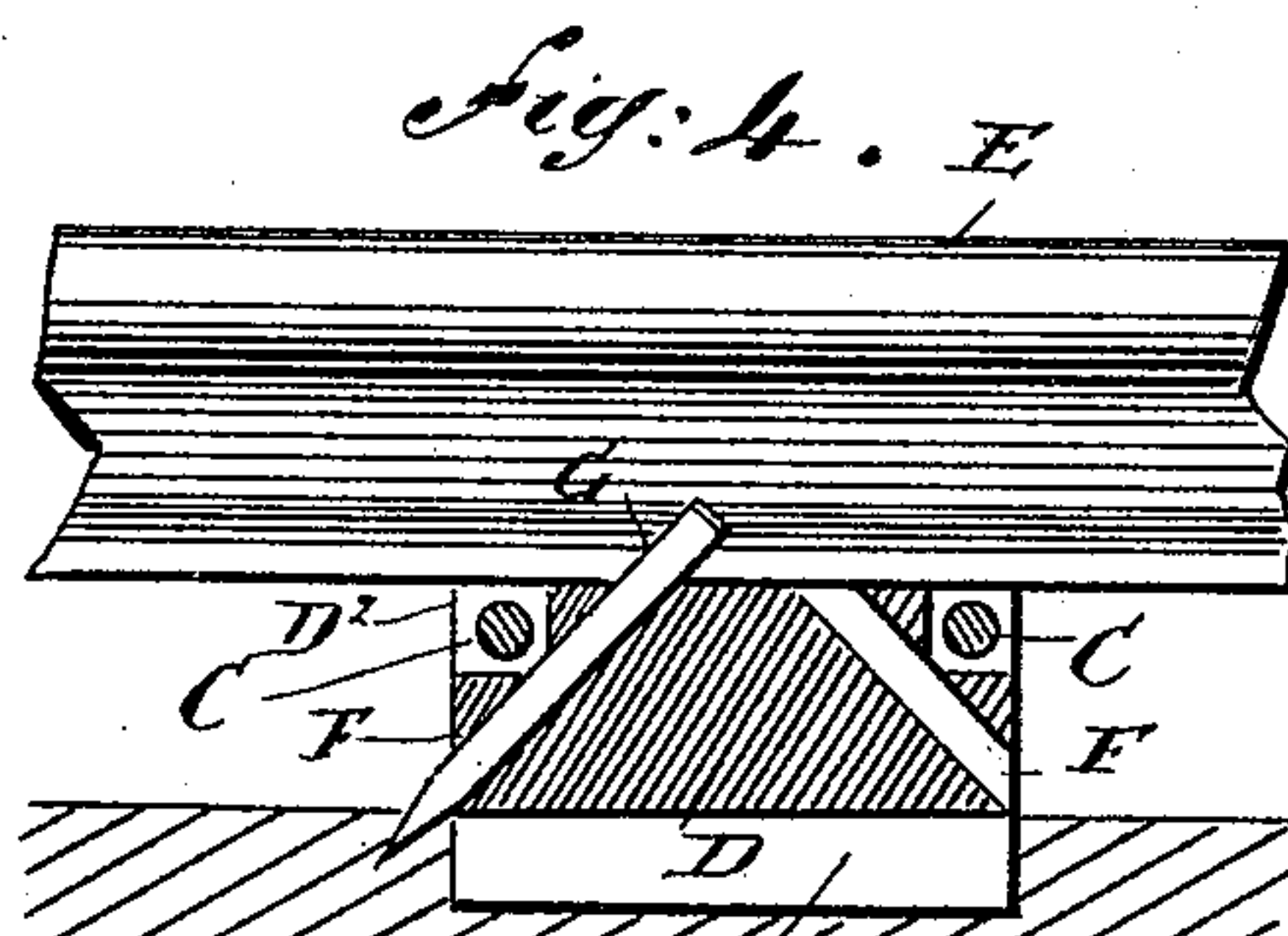
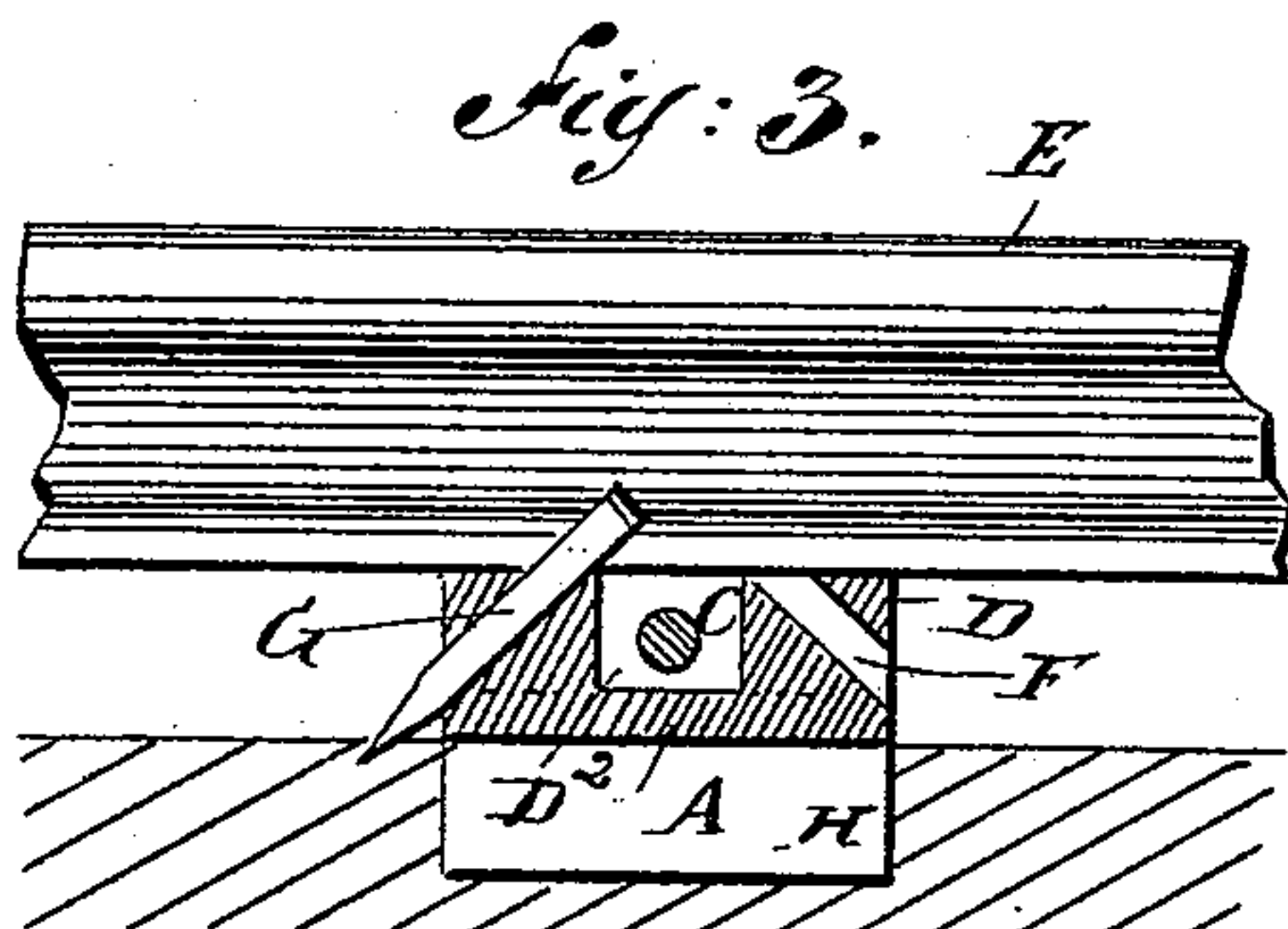
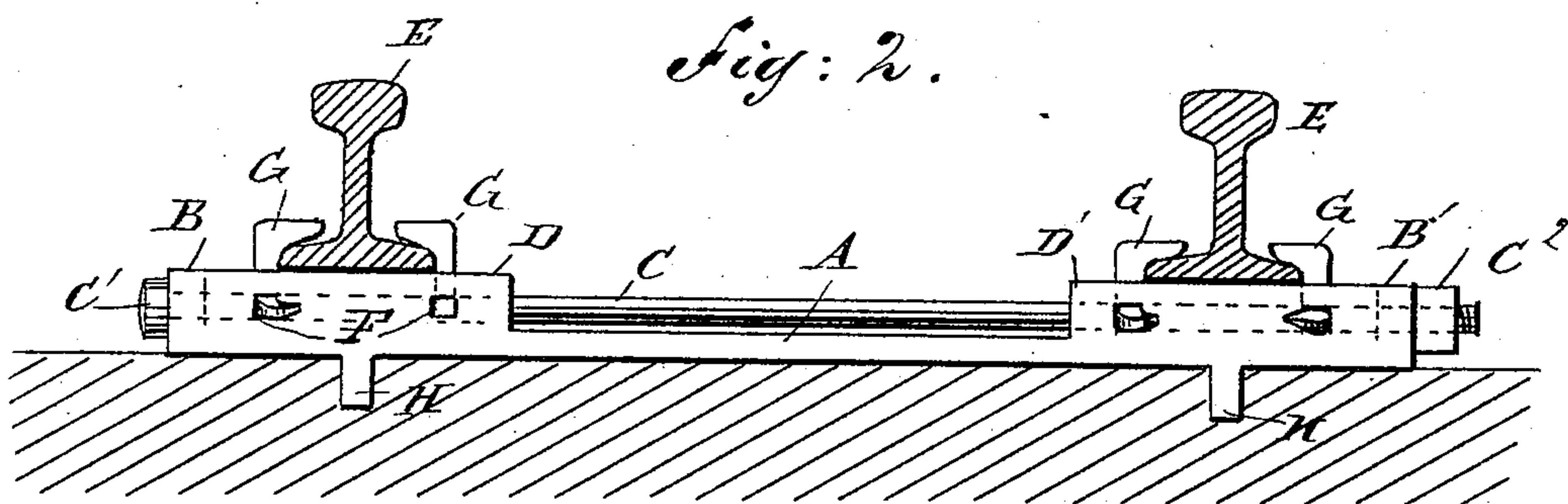
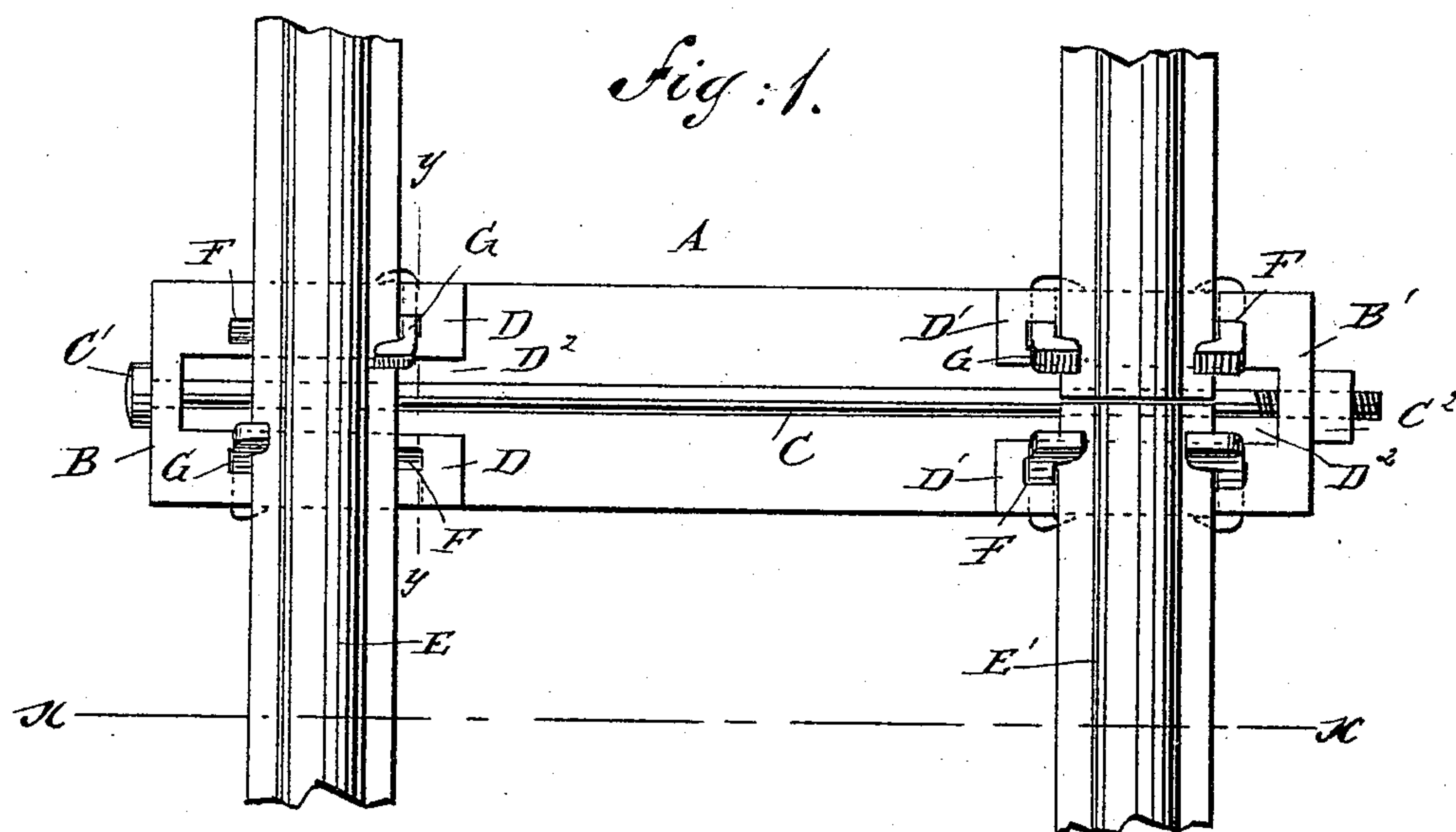


(No Model.)

E. SAUNDERS.
METALLIC RAILROAD TIE.

No. 450,498.

Patented Apr. 14, 1891.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ELLISON SAUNDERS, OF AUSTIN, TEXAS.

METALLIC RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 450,498, dated April 14, 1891.

Application filed August 27, 1890. Serial No. 363,219. (No model.)

To all whom it may concern:

Be it known that I, ELLISON SAUNDERS, of Austin, in the county of Travis and State of Texas, have invented a new and Improved
5 Metallic Railroad-Tie, of which the following is a full, clear, and exact description.

My invention is an improvement in that class of metallic railroad ties which have longitudinal tension-rods. Heretofore such rods
10 have been employed to secure detachable clamp-plates against the outer sides of the rails in order to hold the latter from lateral movement. In my invention no clamp-plates are employed for this purpose; but the heads
15 of the rod or rods bear against the solid outer ends of the rail-seats, which are constructed integral with the body of the tie.

Another feature of my invention is the construction and arrangement of parts for holding
20 the rails on their seats.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

25 Figure 1 is a plan view of the improvement as applied. Fig. 2 is a transverse section of the same on the line xx of Fig. 1. Fig. 3 is a longitudinal section of the same on the line yy of Fig. 1, and Fig. 4 is a similar view of a
30 modified form of the same.

The improved metallic railroad-tie is provided with a base-plate A, having ends B and B' extending upward and connected with
35 each other by one or more rods C, each passing through suitable apertures in the ends B and B', and being provided at one end with a head C' and at the other end with a nut C², resting on the outside of the ends B and B'. The rods C serve as braces so as to strengthen
40 the base-plate A to prevent breaking of the same.

On top of the base-plate A, near the upwardly-extending ends B and B', are formed or secured blocks D and D', respectively, perfectly flat on the top to form a rest for the
45 base of the rails E and E', respectively. Each of the blocks D and D' is formed with longitudinal recess or recesses D² for the passage of the brace-rods C, as plainly illustrated in
50 Figs. 3 and 4. Each of the blocks D and D'

is provided with a number of apertures F, preferably four, inclined from the top to the sides of the blocks and preferably made square for the passage of ordinary spikes G, which, after being driven through the said
55 apertures F so as to engage with their heads the base of the rails, are clinched on the outside of the blocks, thus preventing loosening of the spikes and a consequent loosening of the rails. Two spikes are used on each block, 60 as is shown in the left in Fig. 1, for a single rail; but when two rails are joined together over the block, as is illustrated to the right in Fig. 1, then four spikes are driven through the corresponding apertures to hold the ends 65 of the rails securely in place. On the under side of the base-plate A are formed transversely-extending lugs H, preferably located in line with the rails and serving to prevent lateral movement of the base-plate when the 70 latter rests on top of the bed and the said lugs project into the bed. (See Fig. 2.)

In Figs. 1, 2, and 3 but one brace-rod C is shown, which passes over the middle of the base-plate; but in Fig. 4 two brace-rods C are 75 used, applied over the base-plate at the sides. In the latter case the inclined apertures F for the spikes G pass under the recesses D², as is plainly indicated in Fig. 4. It will be seen that this metallic railroad-tie is very simple 80 and durable in construction and permits of using ordinary spikes for securely fastening the rails in place on the tie.

Having thus fully described my invention, I claim as new and desire to secure by Letters 85 Patent—

1. In a metallic railroad-tie, the combination, with the base-plate A, having the blocks D D' cast solid with the depressed middle portion and forming raised seats for the rails, of 90 one or more tension-rods which extend through said blocks and bear against the solid outer ends of the same, as shown and described.

2. A metallic railroad-tie comprising a base- 95 plate provided with upturned ends, one or more stay-rods or braces connecting the said ends with each other, blocks formed at or near the said upturned ends and forming rests for the rails, and spikes adapted to pass through 100

inclined apertures in the said blocks and lock the rails to the said blocks, substantially as shown and described. through the said apertures to engage the base of the rails with their heads and to have their pointed ends clinched at the sides of the blocks, substantially as shown and described. 10

3. In a metallic railroad-tie, the combination, with the base-plate, of sets of blocks secured or formed on the said base-plate and each provided with a series of inclined apertures, and spikes adapted to be driven 5

ELLISON SAUNDERS.

Witnesses:

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