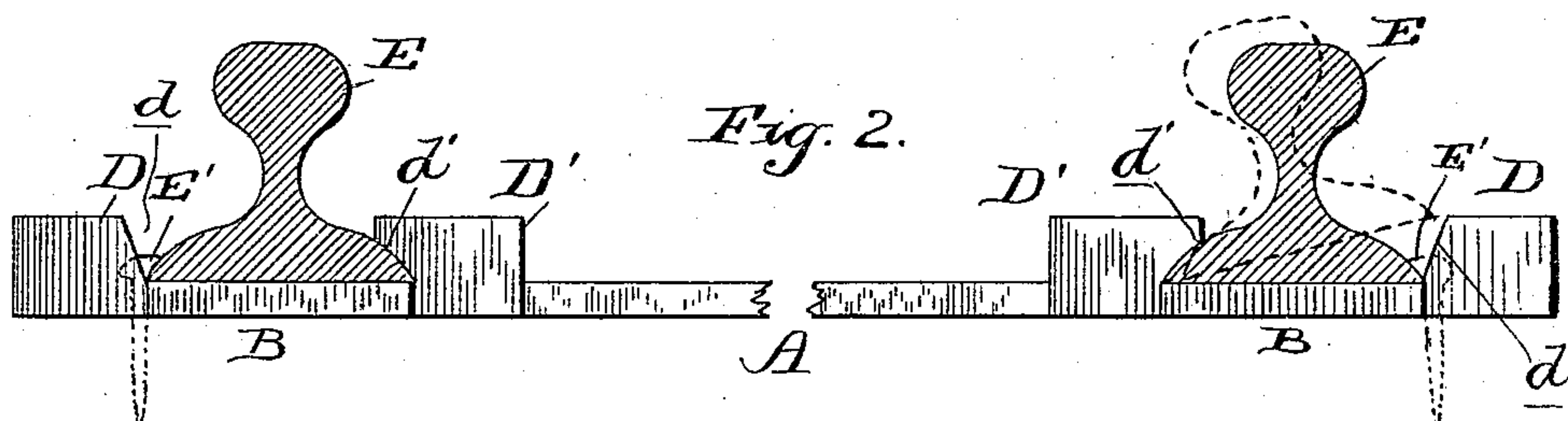
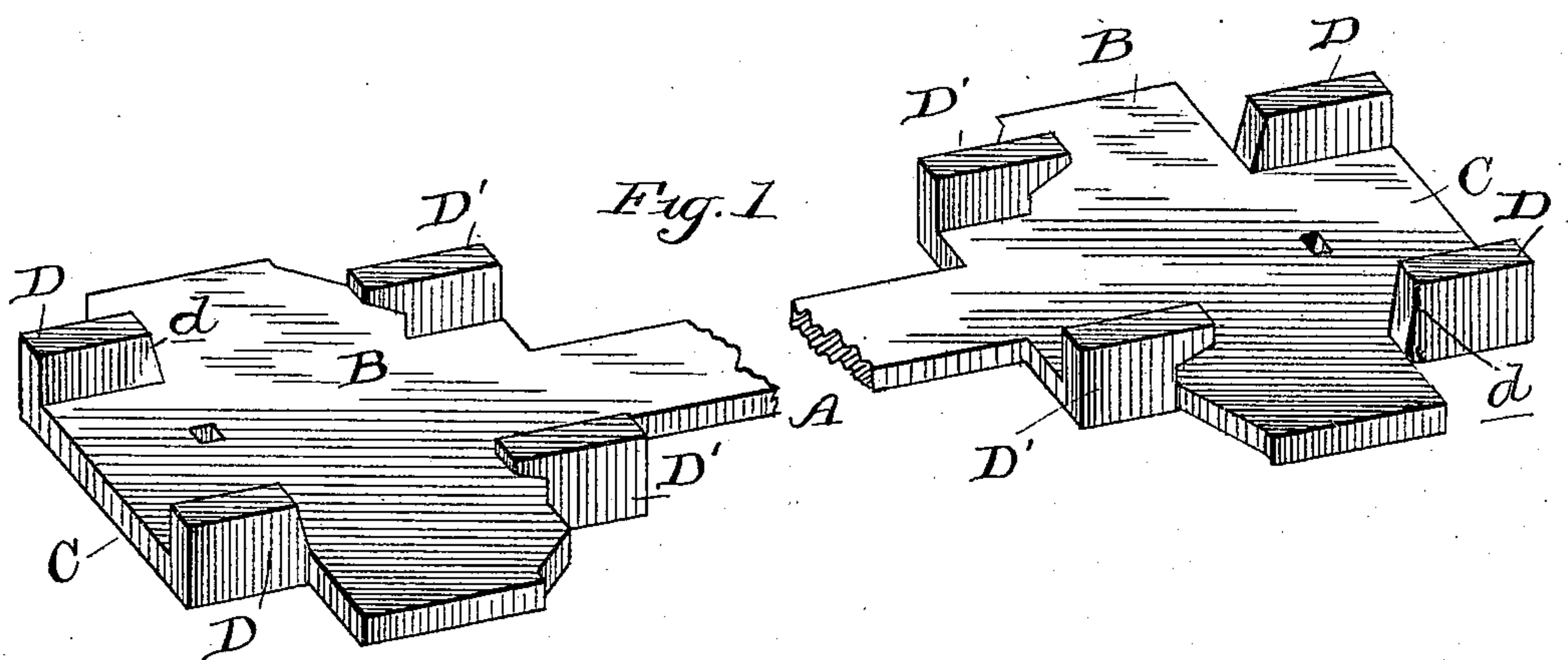


(No Model.)

T. B. SMITH.
SAFETY PLATE FOR RAILROADS.

No. 486,741.

Patented Nov. 22, 1892.



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS B. SMITH, OF BRIDGEPORT, OHIO.

SAFETY-PLATE FOR RAILROADS.

SPECIFICATION forming part of Letters Patent No. 486,741, dated November 22, 1892.

Application filed March 9, 1892. Serial No. 424,312. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. SMITH, a citizen of the United States, residing at Bridgeport, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Safety-Plates for Railroads, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This improvement is designed to prevent railway-rails from spreading away from each other; and the invention consists in the peculiar construction, arrangement, and combinations of parts hereinafter more particularly described, and then definitely pointed out in the claim.

20 In the accompanying drawings, which represent the preferable way of carrying out my ideas, Figure 1 represents a perspective view of my improvement. Fig. 2 is a side view of the same with the rails in position.

Referring now to the details of the drawings, A represents a bar of iron or soft steel, on each end of which is formed a portion of considerably greater width to form a broad base for the rail. Each of these ends is provided with lugs D D', the former having its inner edges *d* inclined outwardly, or away from the rail, while the latter has its inner edges *d'* inclined inwardly, or toward the rail, so as to fit over the foot, as shown by Fig. 2.

30 In operation I secure my improved device by any suitable means lengthwise of the tie and lay the rails on the bases C C, with one side of the foot fitting under the projection *d'* of the lugs D' D', as shown in dotted lines in Fig. 2, and then lower the rail until the other side of the foot bears against the lugs D D, and then secure the rail to the base C, as shown in Fig. 2, by a spike E', which passes through a hole in the outside of the plate and serves the double purpose of securing the rail to the plate and securing the plate to the tie. As the edge *d* is inclined, the foot of the rail may be made to fit tightly in the recess formed between the edges *d* and *d'*, and yet be readily set in sidewise, as shown in Fig. 2, whereas if the edge *d* were made perpendicular the rail could not be set in sidewise if the foot were broad enough to make a tight fit when

seated. With this means of fastening, no matter how much strain is exerted against them, the rails cannot spread, as the bar A, connecting the parts B on which the rail rests, is of sufficient strength to resist any tendency to spread the parts B from each other. 55

By the use of this device almost perfect immunity from spreading or overturned rails, due to decayed ties or other impairments, is insured, and at the same time the track is kept in perfect gage without necessity for outside bracing, while the durability and cheapness of construction and maintenance as well as the facility of placing and removal of rails is obvious. 60

It will be evident that the ordinary soft cedar ties can with this device be used on curves in place of the more expensive oak ones, as the great trouble with the cedar ties—*i. e.*, the allowing of the rails to spread by reason of the spikes not holding—is overcome when my improvement is used, because there is no strain on the spikes, and if either of the rails move the other is certain to move a corresponding amount, and thus no spread ing occurs. 65

I am aware that it has been proposed to make plates extending from rail to rail and to provide the same with tongues or fingers that are bent down over the foot of the rail after the rail has been set in place, and that it has also been proposed to provide similar plates with fingers or lugs projecting over the outside of the foot of the rail; but I regard my device as vastly superior to either of these, for in the first-mentioned plan the metal has to be bent cold, and hence must be comparatively thin, and is, moreover, liable to break on account of being bent cold, while my plates may be made of any desired thickness, and can be bent at the time of manufacture when heated, so as to readily bend without injury to their texture. In the other form referred to, where the lug fits over the outside of the foot of the rail, the lug will not prevent the rail tipping outward, which is the especial object of my invention. 80

What I claim as new is—

A safety-plate for preventing rails from spreading and tipping, consisting of a plate 100

A, having broad end pieces B B, each having
lugs D', pressing on the top of the inside of
the foot of the rail, and other lugs D', having
their inside edges inclined away from the
5 rail, whereby the rail may be readily inserted
endwise and yet fit tightly between the lugs
when seated, substantially as described.

In testimony whereof I affix my signature, in
presence of two witnesses, this 5th day of
March, 1892.

THOMAS B. SMITH.

Witnesses:

C. W. HOLLISTER,

GEO. C. GIFFIN.