

J. V. Smith,

Railway Track.

No. 87,517.

Patented Mar. 2, 1869.

Fig. 1.

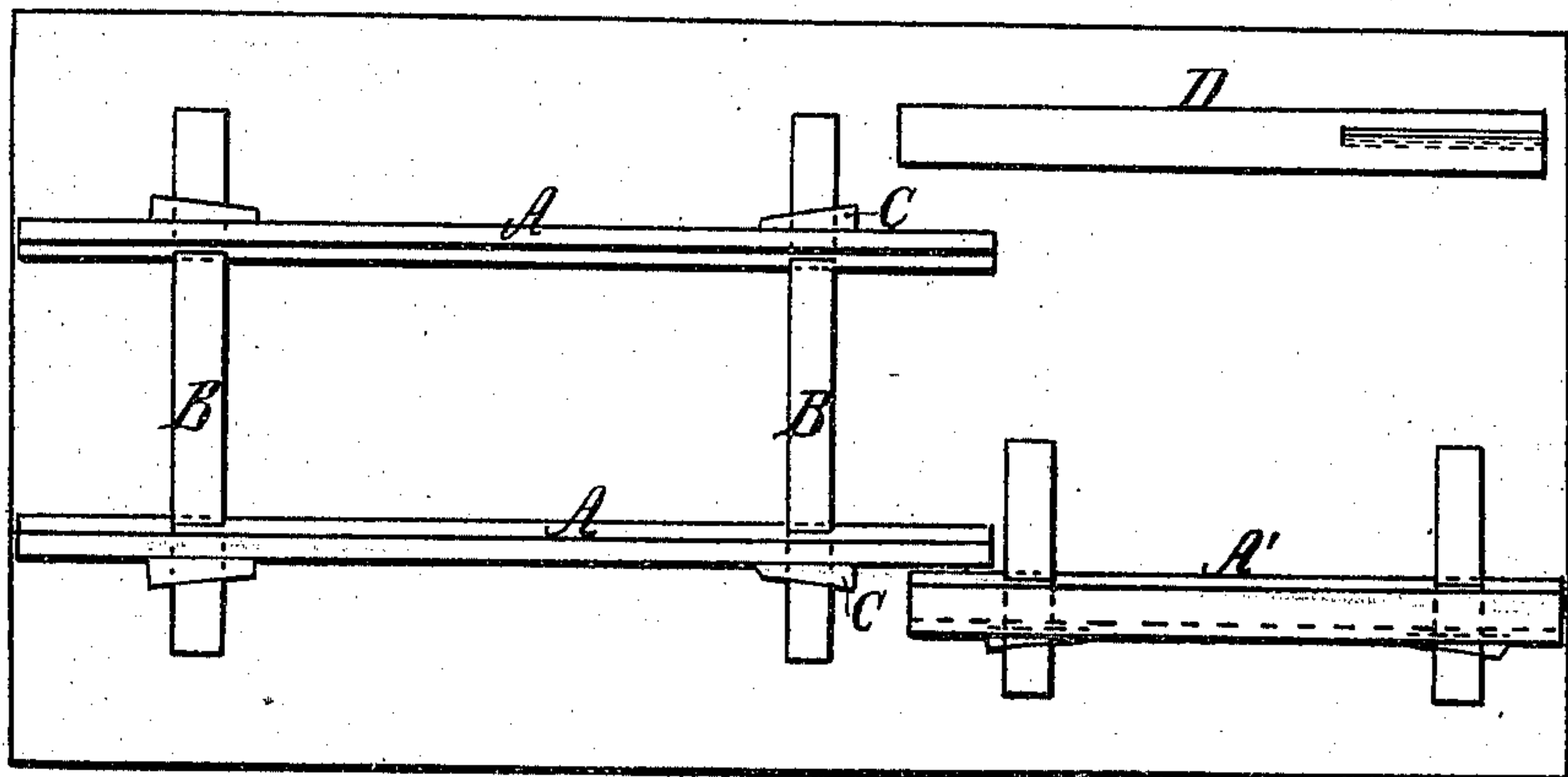


Fig. 2.

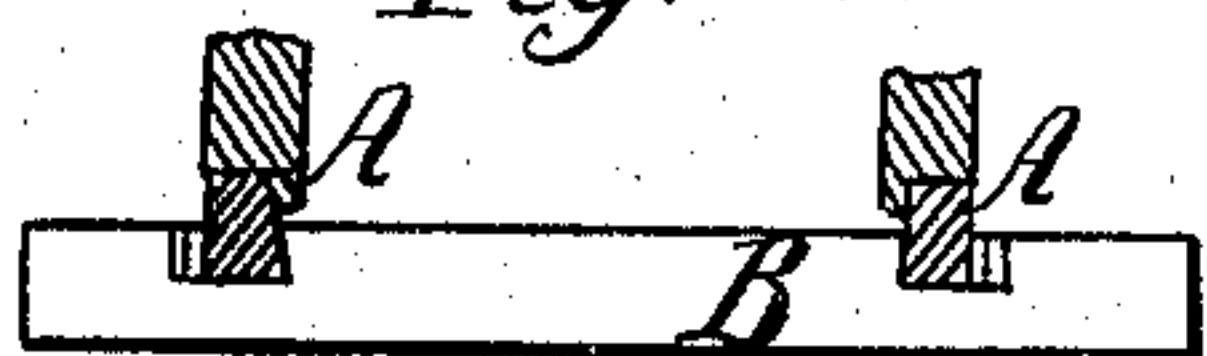


Fig. 3.



Fig. 4.



Fig. 5.

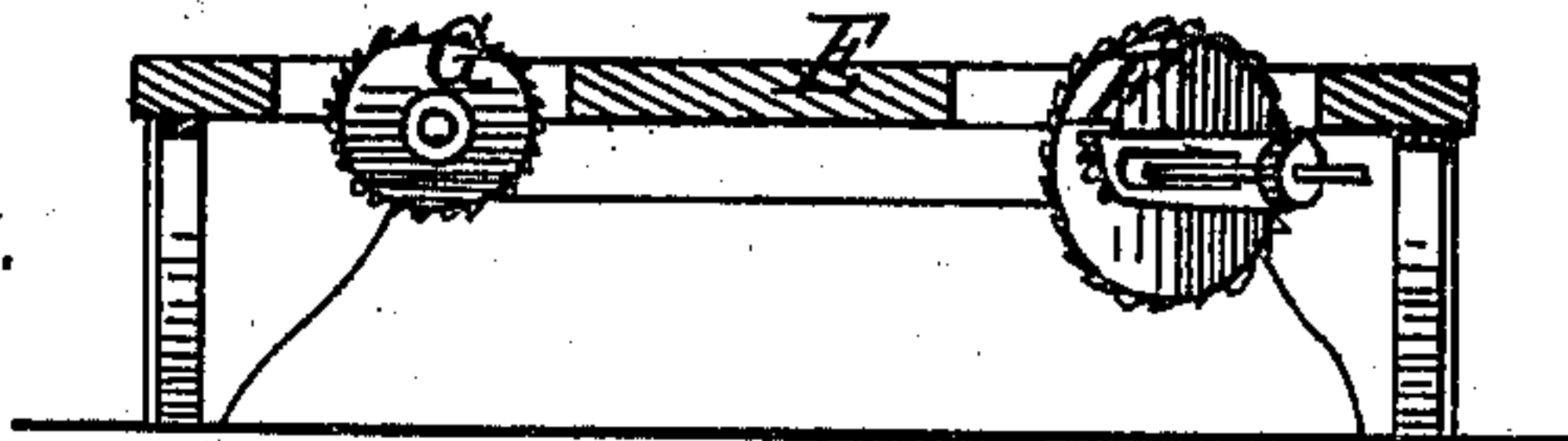


Fig. 6.

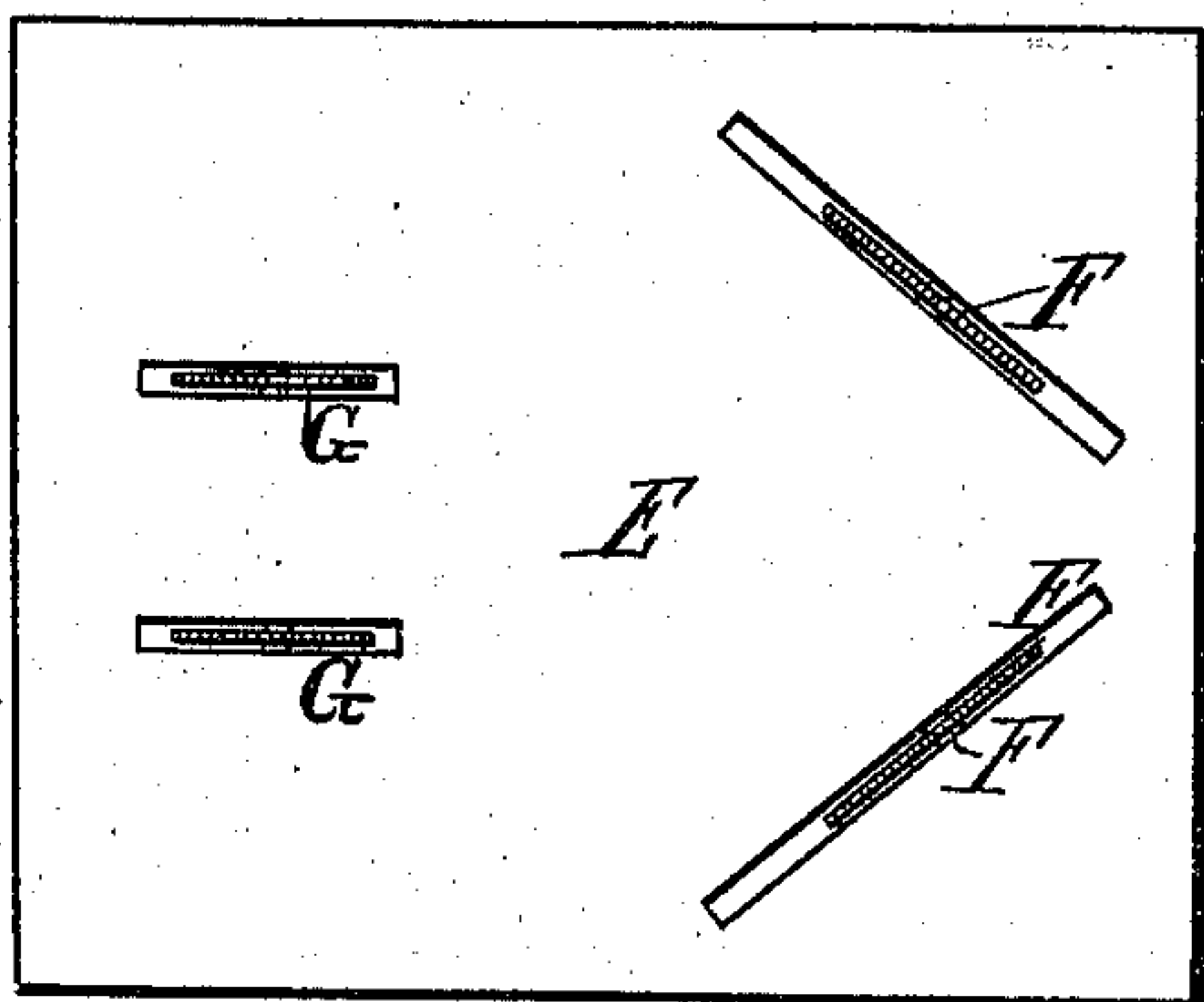
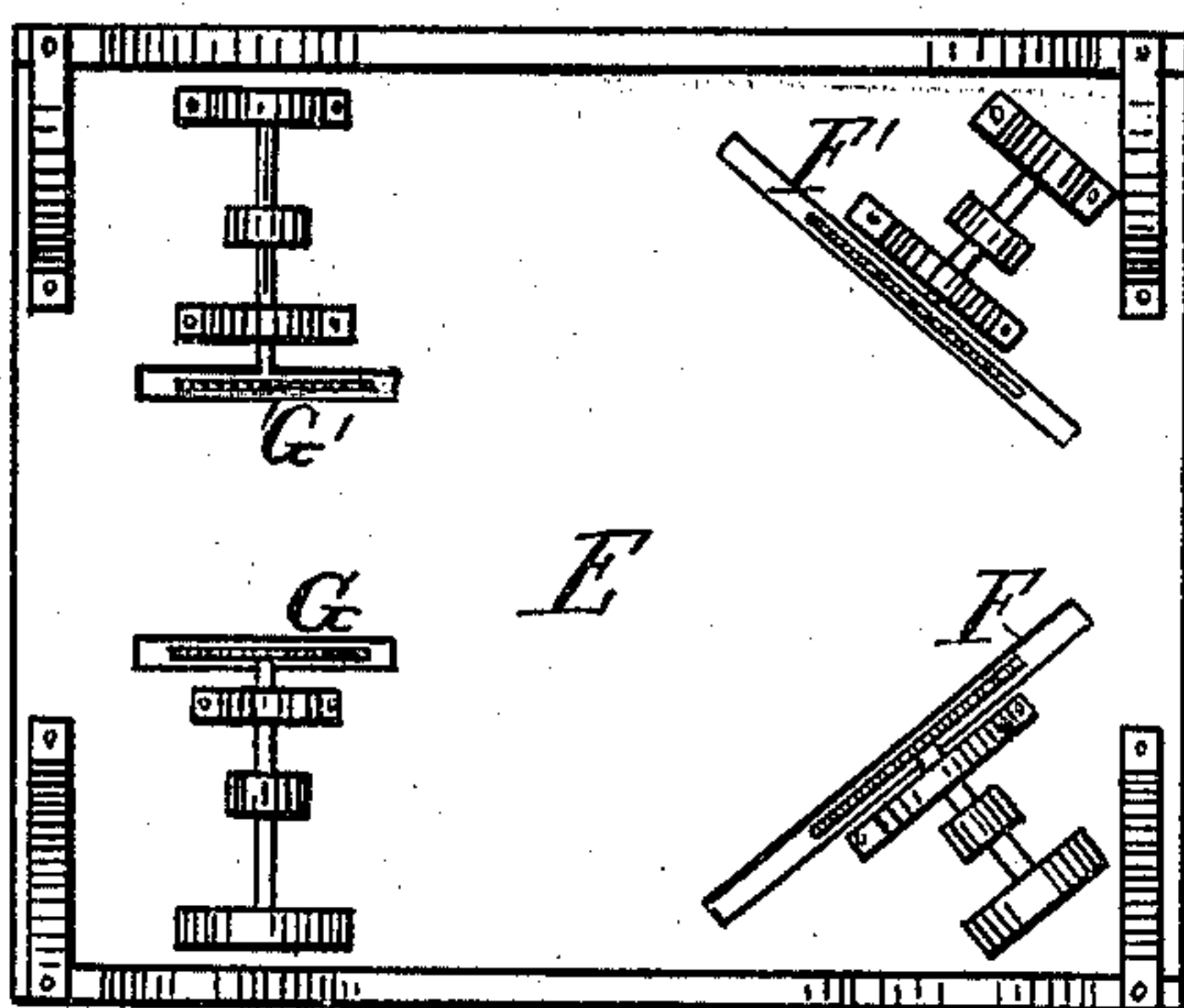


Fig. 7.



Witnesses;

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JOHN Y. SMITH, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 87,517, dated March 2, 1869.

IMPROVED WOODEN RAILWAY.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN Y. SMITH, of Pittsburg, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Railroads; 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 part of this specification, in which—

Figure 1 is a plan or top view of my improved railway-track, showing also a plan view of a modified form of rail, and of the plank or timber from which the rails may be cut;

Figure 2 is an end view, showing the rails in position in the notches, or recesses, formed in the cross-ties;

Figure 3 is an end view of a modified form of the rail;

Figure 4 is an end view of the plank from which the rails may be cut;

Figure 5 is a sectional elevation of the machine for sawing the sides of the notches in the ties, for the reception of the rails;

Figure 6 is a plan or top view of the sawing-machine, showing the arrangement of the saws for cutting the bevel in the ties, for receiving the bevelled edge of the rail, and also the bevelled or wedge-shaped kerf, for the bevelled edge of the wedge to bear against; and

Figure 7 is a bottom view of the same machine, showing the arrangement of the saws, and the journal-boxes through which they slide.

The same letters in all the figures indicate identical parts.

This invention relates to an improvement in the superstructure of railroads; and

It consists—

First, in the construction of the rail of which the track is composed;

Secondly, in the construction of the tie, which receives and confines such rail; and,

Thirdly, in the combination of such rail and tie, as will be more fully described hereafter.

A, in the drawings, represents the rails of my improved track, which are made entirely of wood, and of the configuration shown in fig. 2, where it will be seen that they are broader at their base than they are upon their upper surface, the objects of which are, first, to prevent the warping of the rails, and the consequent raising of them out of the recess in the ties, and, secondly, for the purpose of bringing the weight of the engine and cars upon or over the central portion of the surface which rests upon the ties.

It will be observed, that as a consequence of the peculiar form of the rail, it having one bevelled edge, when placed in the recess which is formed in the tie for its reception, one end of which is of corresponding form, it will be impossible for any warping or springing of the rail to withdraw it from its resting-place in the tie.

It will also be observed, that as the wheels of the

engine and cars run upon the upper surface, the weight of the same will be directly over the central portion of the base of the rail, thus distributing such weight equally over such surface.

Another important advantage resulting from this form of rail is, that, as the wedge-form of the flange of the wheel nearly corresponds with the rail, or that portion of it with which the flange comes in contact, it will constantly operate to throw such wheel away from the rail, and thus the danger of the wheels mounting the rails is avoided; and especially is this the case in running around the curves which occur in all lines of road.

A' represents a modified form of the rail, an end view of which is shown in fig. 3 of the drawings.

It is apparent that this form of rail possesses nearly all the advantages ascribed to the one above described, and that both forms obviate the necessity of chamfering the inner edge of the rail—a saving of time and material not effected by any other form of wooden rail within my knowledge.

B represents the cross-ties, which have notches, or recesses, formed in their upper surfaces, for the reception of the rail, as above stated.

The inner ends or surfaces of each of these recesses are to be sawed, so as to correspond with the bevelled edges of the rails, so that, as the rail is placed therein, the effect of retaining it, above described, is produced.

The opposite surface, or end, of this recess has a bevelled surface, for receiving the wedge which holds the rail.

C represents a wedge, which is to be driven between the edge of the rail and the outer bevelled end of the recess in the tie, as shown in fig. 1 of the drawings.

D represents a plank, or stick of timber, which may have been previously reduced, by sawing, to the proper dimension for being cut or sawed into two rails, an end view of which is shown at fig. 4.

It will be seen, that by first cutting a log into planks as above indicated, and then sawing such planks through the centre, much time and material will be saved, for the reason that the required bevel will be given to both rails at one operation.

E represents a saw-frame, of ordinary construction upon which are to be mounted four circular saws, F, F', and G, G', which are for the purpose of cutting the bevelled surfaces of the ends of the recesses in the ties.

It will be seen that the saws F and F' are so arranged with reference to the saw-frame, that, as the tie is placed thereon, at a right angle to its greatest length, they may be moved in their bearings, and thus cut the bevel for the wedge which holds the rail in position; while the saws G and G' are set at such an inclination, with reference to the upper surface of the table, or saw-bench, that, as the tie is laid upon said table, and pushed forward past such saws, the bevel or under cut, which corresponds with the bevel of the edge of the rail, will be formed.

Both pairs of these saws are to be so arranged

that their peripheries will extend above the surface of the table to which they are attached, a distance equal to the depth of the recess to be cut in the tie, so that all of the recesses shall correspond in this respect.

I have shown and described an arrangement of saws for sawing the ties, in preparing them for the reception of the rails, only as a matter of information, as I do not now make any claim to such device.

Having thus described my invention,

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

1. The construction of the cross-tie with the bevelled surface to receive the corresponding surface of

the wedge, and with the opposite surface of its recess bevelled to correspond with the bevelled surface of the rail, substantially as shown and described.

2. The combination of the above-described rail A, tie B, and wedge C, substantially as shown and described.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

J. Y. SMITH.

Witnesses:

D. P. HOLLOWAY,
J. M. BLANCHARD.