J. Ruggles,

Railroad Rail,

No. 202. Patented May 23, 1837.

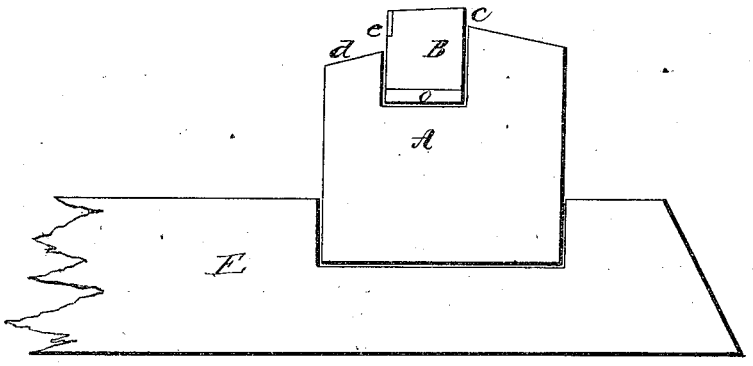
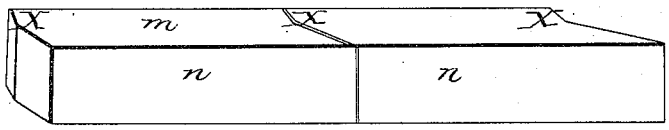
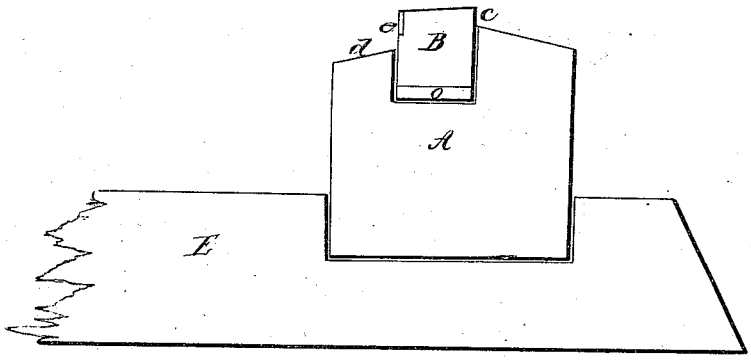


Fig. 2.





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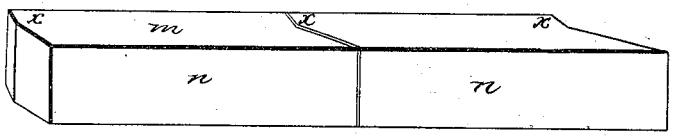

UNITED STATES PATENT OFFICE.

JOHN RUGGLES, OF THOMASTON, MAINE.

RAIL FOR RAILWAYS.

Specification of Letters Patent No. 202, dated May 23, 1837.

To all whom it may concern:

Be it known that I, JOHN RUGGLES, of Thomaston, county of Lincoln, State of Maine, have invented a new and improved rail for railways, calculated greatly to diminish the expense of railways, increase the adhesion of the driving-wheels of the locomotive-engine, while it combines firmness and durability.

The following is a just description thereof—that is to say, string pieces are laid on cross ties or sleepers in the manner usual for supporting a flat iron rail. The string pieces may be 8 inches in width by 9 or 10 inches in depth. Along the upper side of the string pieces, a transverse section of which is seen at A in the annexed drawing, is a groove 3 inches wide being $3\frac{1}{2}$ inches from the outside and $1\frac{1}{2}$ inches from the inside, for the insertion of a block rail B, Figure 1. The string piece is beveled as at *c* and *d*, that water may not stand upon it; and the rail which is 3 inches wide by 4 inches in depth, extends an inch above the string piece on the outside, while the inside of the string piece is reduced two inches below the top of the rail to make room for the flanges of the wheels. The block rail is made of hard wood plank by sawing the plank transversely to the grain of the wood into blocks 4 inches in length measuring with the grain, which being inserted into the groove side by side, form a continuous rail with the grain of the wood perpendicular. The ends of the blocks where they unite in the rail, should present, one of them, a convex obtuse angle, and the other a concave to correspond with it from top to bottom, to unite them more firmly as shown at *x*, *x*, *x*, Fig. 2. The blocks should be doweled with $\frac{3}{4}$ inch dowels and pressed firmly together by wedging or otherwise. If the string piece be of soft wood there should be laid at the bottom of the groove a base of hard wood board an inch in thickness to prevent the rail from settling into the string piece more in one place than another. It is seen at *o*. On the inner side of the rail there should be a plate of iron let into the rail a quarter of an inch below the top edge and made fast with screws. It being intended as a defense to the rail against the flange of the wheels, it may not be required except on the outside rail at curvatures. Or they may be thicker at curvatures and thinner in other places. The plate should be about one inch wide and one-sixth of an inch thick, varying according to situations. It is seen at *e*.

The groove should be sprayed with a heated mixture of tar and pitch and the seams at the insertion of the rail filled to exclude water and prevent decay. The string pieces and the rail should be painted after being well seasoned, with some coarse paint to protect them from the weather. The top of the rail should receive a coating of paint made thick with iron filings, iron sand or some such substance, which will become firmly embedded in the grain of the wood by the heavy tread of the wheels and make a hard and durable surface, favorable to the adhesion of the wheels so desirable on an undulating road, and will last a great number of years. The sawing of the rails and the grooving of the string pieces may be performed by machinery expeditiously; and the adoption of blockrails fixed as above described will lessen the expense of railways so as to admit of their construction in many locations which will not justify the expense of iron rails. They will be found in most cases more economical than iron rails, as well in their first construction as in their use and maintenance for any given series of years.

What I claim as my invention is—

1. The block-rail so formed as that the tread of the wheel shall be upon the end of the grain of the wood of which it is made, instead of on the side of the grain; and the doweling and confining the rail and the top coating given to it as above described.

2. I claim also the defending the rail by a plate of iron and the inserting a hard-wood base for the rail to rest upon when the string pieces are soft wood.

I do not confine myself in the construction to the precise dimensions given but claim any variation therein which the kind of timber employed or the nature of the transportation contemplated may justify or admit of.

March 20, 1837.

JOHN RUGGLES.

Witnesses:

JOHN T. GLEASON,

LUCIN H. CHANDLER.