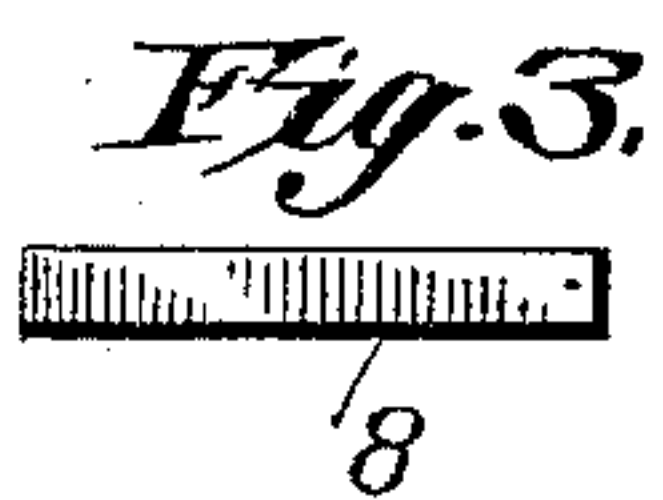
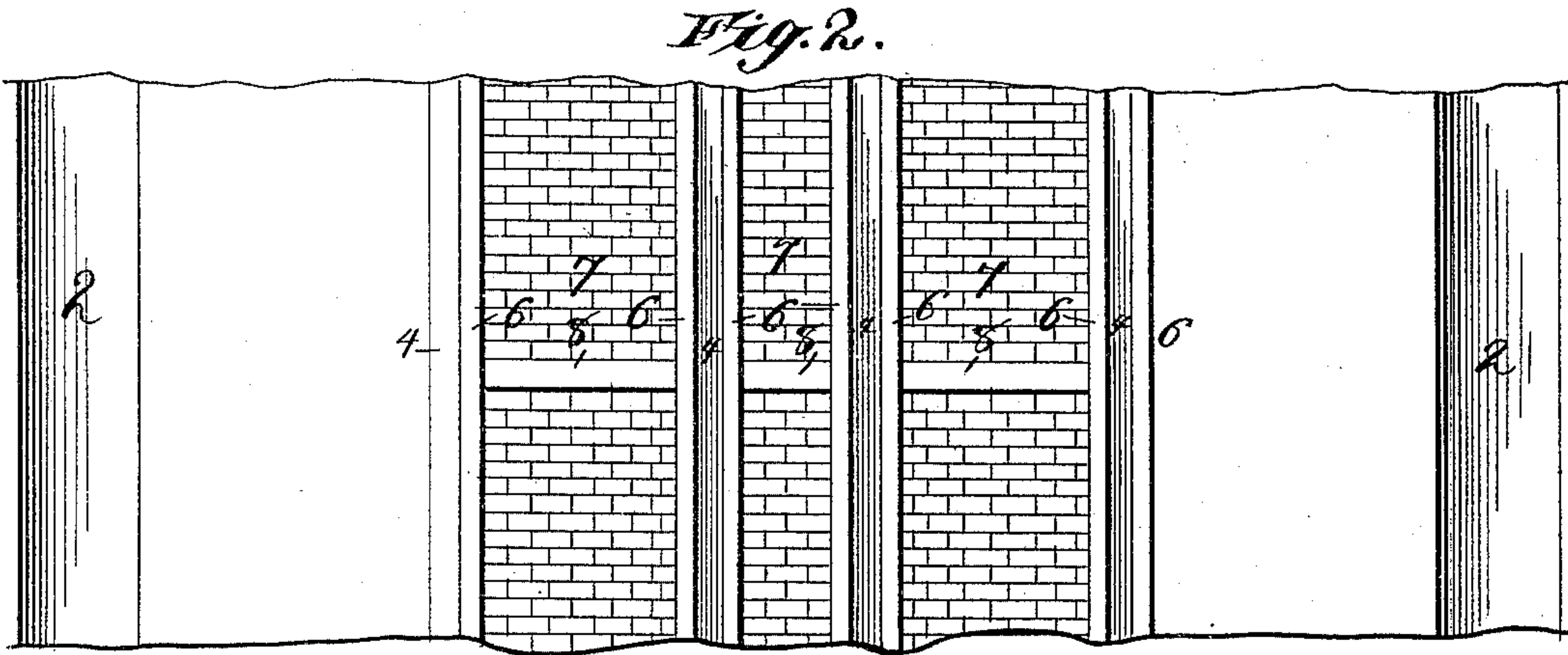
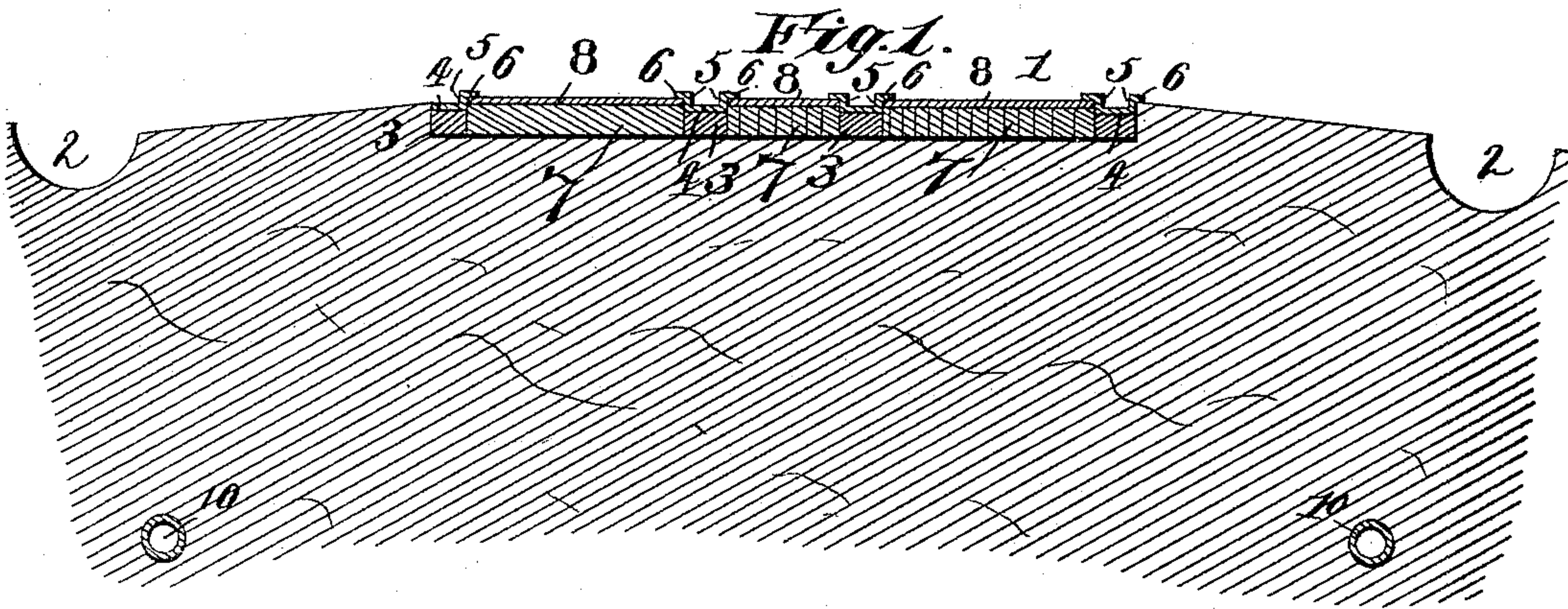


(No Model.)

E. A. STARE.  
CONSTRUCTION OF ROADS.

No. 443,059.

Patented Dec. 16, 1890.



Witnesses  
*H. & Dieterich,*

Inventor  
*E. A. Stare.*

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# UNITED STATES PATENT OFFICE.

ELIAS A. STARE, OF SIBLEY, ILLINOIS.

## CONSTRUCTION OF ROADS.

SPECIFICATION forming part of Letters Patent No. 443,059, dated December 16, 1890.

Application filed August 16, 1890. Serial No. 362,226. (No model.)

*To all whom it may concern:*

Be it known that I, ELIAS A. STARE, a citizen of the United States, residing at Sibley, in the county of Ford and State of Illinois, have invented a new and useful Improvement in the Construction of Wagon-Roads, of which the following is a specification.

This invention relates to roads; and it has for its object to construct a road for ordinary wagon or country traffic, which shall be of such a nature as to be capable of being utilized at all seasons of the year, it being constructed with especial reference to the avoidance of soft and soggy places. The road is furthermore provided with iron tracks to accommodate the wheels of passing wagons.

The invention consists in the construction and arrangement of details which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a transverse sectional view of a road constructed according to my invention. Fig. 2 is a plan view of a portion of the road. Fig. 3 is a detail view of one of the braces for connecting the rails.

Like numerals indicate like parts in all the figures of the drawings.

In the construction of my improved road I first prepare by preliminary grading and packing the road-bed 1, the surface of which may be of any desired pitch or inclination down to both sides. At each side is formed a shallow ditch or gutter 2. The body of the road-bed may be surfaced in any suitable manner. Centrally upon the road are laid longitudinal stringers 3, of oak or other suitable lumber. These stringers may be about three by eight inches. Superimposed upon these stringers are the rails 4, which may be of rolled iron or steel, and which are provided at one or both edges with vertical ribs 5, having outwardly-extending flanges 6.

Between the tracks the road-bed is paved, as shown at 7, preferably with brick or stone, although macadam or other suitable pavement may be substituted, if preferred. The size of the road-bed or the portions between the outer tracks and the ditches may be surfaced in any manner desired.

The rails, in order to prevent them from spreading, are connected at suitable intervals

by transverse braces of iron, said braces, which are designated by 8, being bolted to the flanges 6 of the rails, or they may be extended under the latter and secured by spikes driven into the wooden stringers.

About four or five feet below the ditches tile drains 10 are laid, this being of course done prior to the preparation of the surface of the road.

The advantages of my invention will be readily understood.

The invention is intended to be applied to ordinary country roads, which frequently at all times of the year are unfit for the passage of vehicles. The disadvantage of the roads being thus disabled is severely felt in many communities, the farmers being frequently unable to move their crops at times when it would be to their greatest advantage.

A road constructed according to my improvement will be in good condition at all times and seasons of the year, the ditches serving to carry off surface-water, while the substructure of the road is always kept dry by means of the tile drains.

The construction is simple and comparatively inexpensive, and a road may be improved according to my invention in comparatively short time.

In the drawings hereto annexed I have shown a double track laid upon the road; but it is obvious that on roads where travel is not great a single track may be found sufficient. In such case branches or double tracks should be laid at crossings or at suitable intervals to enable vehicles to pass each other.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination of the road-bed, the longitudinal parallel stringers, the rails secured upon said stringers and having vertical side ribs provided with laterally-extending flanges, the paving between said rails of brick or other suitable material, and the transverse brace-rods connecting the flanges of the rails above the pavement, substantially as set forth.

2. The combination of the tile drains laid at a suitable distance below the edges of the road-bed, the shallow ditches at the inclined sides of the latter, the longitudinal stringers,

the rails provided at one or both sides with vertical side ribs and laterally-extending flanges, and the transverse bracing-rods connecting the flanges of the rails above the pavement, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in presence of two witnesses.

ELIAS A. STARE.

Witnesses:

F. S. McDONALD,  
JAMES L. BICKET.