R. P. SCOTT.

ROADWAY.

APPLICATION FILED JAN. 6, 1915.

1,178,756. Patented Apr. 11, 1916.

Fig. 1.

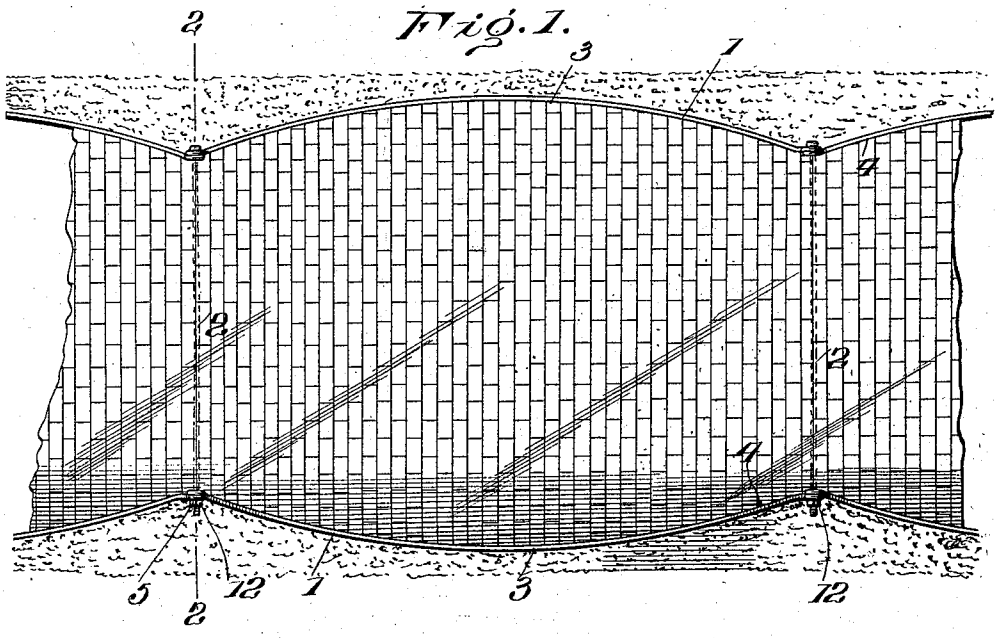


Fig. 2.

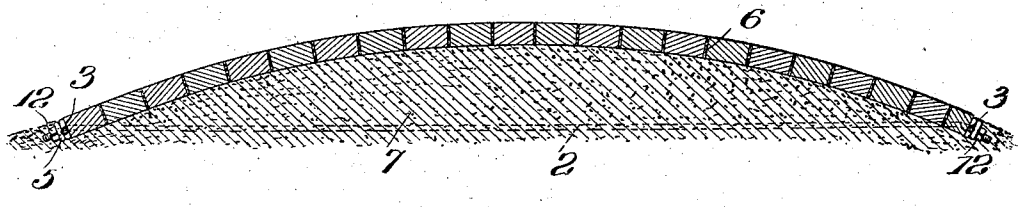


Fig. 3.

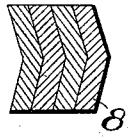
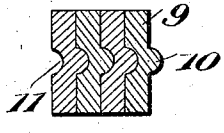


Fig. 4.



Witnesses
W. A. Williams.
V. B. Hillyard.

Inventor
Robert P. Scott.
By [signature] Attorney

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ROBERT P. SCOTT, OF COLUMBUS, OHIO.

ROADWAY.

1,178,756. Specification of Letters Patent. Patented Apr. 11, 1916.

Application filed January 6, 1915. Serial No. 816.

To all whom it may concern:

Be it known that I, ROBERT P. SCOTT, citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Roadways, of which the following is a specification.

The invention relates to pavements or roads and more particularly to highways which are paved or formed with a hard surface and transversely arched.

The essential feature of the invention is to lessen the cost of road construction and make it possible to provide a road which will resist ordinary usage for a longer period, thereby diminishing the cost of maintenance, as well as materially reducing the first cost of construction, besides providing a road possessing superior advantages.

The primary object of the invention is to maintain the arch or transverse camber of the road without materially increasing the cost of construction or providing a road which will be expensive in its upkeep.

A further purpose of the invention is a road which may be cheaply constructed, as it is not essential that the usual curb or concrete, stone, or other type of foundation be provided to preserve the arch which is of vital importance in the formation of a road having facilities for quick drainage and possessing a surface to admit of easy travel thereon.

The invention consists of a pavement, highway or roadway generally arched between its sides, restriction members at the sides of the roadway or pavement having opposed portions alternately deflected outwardly and inwardly, and cross ties extending transversely across the roadway and connecting the inwardly deflected portions of the restriction members.

The invention further consists of a roadway having the restriction members outwardly curved between their points of connection by means of cross ties to conform to the lateral strain of supporting the arch without allowing for any outward give of the restriction members which would tend to allow the arch to settle.

The invention also consists in forming the restriction members in sections of like length which are similarly deflected between their ends and connected by means of cross ties.

The invention also further consists of restriction members of equal length having eyes at their ends and arranged with the eyes overlapping and cross ties having their ends passing through such eyes to connect the sections and join the restriction member upon one side of the roadway with the restriction member upon the opposite side of the roadway.

I am aware that roads have been suggested where cross roads joining curbs or side supports are used, but what I have particularly devised is the curved or arched side supports, which enable me to use a much lighter and more efficient construction.

It will be understood that a straight side support would bend or spread at the middle with very little pressure, and thus let the arch down at that point. The plan that I use is simply the ordinary bridge engineering applied to the side strain incident to weight on the arch tending to flatten the same. In a brick road of ordinary construction, the cost may be said to consist of three parts. The foundation, the curb and the surfacing. Sometimes these three elements are almost equal to each other in expense. By reason of my invention, the main part of the cost of the foundation and the curb is dispensed with. That is to say, the iron rods outwardly curved at the sides of the road, together with the cross tie rods, take the place of the usual stone or cement curb, and to such an improved extent that no assistance is required in the foundation in order to hold up the arch. The arch is supposed to stay in place without anything under it at all. I have, however, to provide some form upon which to lay the surface. This form may be made more or less firm, but mainly to guard against moisture with its consequent danger of frost.

The foregoing notes in a general way some of the leading features of the invention but others will be apparent and suggest themselves as the nature of the invention is understood and to this end the invention may be stated as consisting of the novel features, details of construction and combination of

parts which hereafter will be more particularly set forth, claimed and illustrated in the drawings hereto attached in which:

Figure 1 is a top plan view of a roadway embodying the invention. Fig. 2 is an enlarged transverse section on the line 2—2 of Fig. 1. Figs. 3 and 4 are detail views of bricks, tiles, or like members, forming the surface of the road.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

The invention is adapted for all types of roadways for any purpose whatsoever, the essential feature being the means whereby the sides of the roadway are confined so as to maintain the arch.

In accordance with the invention, restriction members 1 are located along opposite sides of the roadway and are connected at predetermined intervals by means of cross ties 2. The restriction members have opposed portions alternately deflected outwardly, as indicated at 3, and inwardly as designated at 4, the cross ties 2 being arranged so as to connect the inwardly deflected portions. In the preferable construction the outwardly deflected portions 3 are curved, such arrangement being found to give the best results in supporting the arch and preventing any outward give in the restriction members which would tend to permit the arch to settle.

The restriction members 3 preferably consist of metal bars or rods, the same comprising sections of uniform length and provided at their ends with eyes 5 which are arranged to overlap and receive the ends of the cross ties. This arrangement results in a simple construction since the cross ties serve the two-fold purpose of connecting the sections as well as joining the restriction member upon one side of the road with the restriction member upon the opposite side.

When the restriction members and cross ties are in position, they occupy a position with the cross-ties embedded in the road and with the restriction members sustaining the arch, as indicated most clearly in Fig. 2.

For convenience of illustration, the roadway comprises a surface 6 and a bed 7. The surface 6 may be formed of bricks, tiles, concrete, or other material resulting in the formation of a surface embodying a thickness possessing sufficient hardness and rigidity to maintain the outline or arched form of the road. The bed 7 may consist of earth, sand, concrete or other material. It is not necessary that the bed 7 be formed of concrete, stone, or like foundation usually employed in the construction of roadways because the provision of the restriction members and connecting cross ties therefor provides means for holding the arch in the required form. As indicated in Fig. 2 the arched outline or transverse camber of the upper surface of the road is pronounced and such arch or transverse convexity is maintained by the means consisting of the elements 1 and 2.

When the surface of the road is formed of bricks, tiles or like paving or surfacing elements, the same may have their faces straight, as indicated in Fig. 2, or the elements 8 may have their faces oppositely inclined so as to interlock when placed together, as indicated in Fig. 3. Fig. 4 shows paving or surfacing elements 9 each having a rib 10 upon one face and a groove 11 upon the opposite face so that when the elements are placed together the tongues and grooves match.

When constructing a roadway in accordance with the invention, the restriction members 1 are arranged upon the roadway the required distance apart so that the outwardly deflected portions 3 and the inwardly deflected portions 4 are arranged opposite one another. The cross-ties 2 are straight and pass through the eyes formed at the overlapping ends of the sections comprising the restriction members. The inner faces of the restriction members 1 are straight so as to engage the hard surface portions of the road and maintain the arch. The material comprising the bed 7 is arranged so as to embed the cross-ties 2 and conform at its surface to the outline of the arch or the camber of the road in transverse alinement. The paving blocks or other material forming the surface is placed upon the bed 7 with its side portions abutting against the inner straight faces of the members 1. It is to be understood that the outer surface portion of the road may consist of any material which is generally employed to provide a road to resist wear. The cross-ties 2 and restriction members 1 preferably consist of metal. As shown, each of the cross ties consists of a rod having its end portions threaded, the projecting ends extending beyond the overlapping eyes of the sections comprising the restriction members receiving nuts 12. This construction provides for a limited adjustment of the restriction members should it become necessary at any time to move the same inward or to admit of such members spreading.

The drawings illustrate an embodiment of the invention but within the scope of the invention as claimed, various changes may be resorted to without departing from the spirit thereof in adapting the same to meet special requirements or conditions.

Having thus described the invention, what is claimed as new is:—

1. A roadway provided along opposite sides with restriction members which have

opposed portions alternately deflected outwardly and inwardly, and cross ties connecting the restriction members at points corresponding with their inwardly deflected portions.

2. In a roadway, restriction members arranged at opposite sides thereof and comprising opposed outwardly curved portions, and cross ties connecting the restriction members at their extremities.

3. In a roadway, restriction members arranged along opposite sides of the roadway and of like length and outwardly deflected between their ends, and crossties connecting corresponding extremities of opposed members.

4. In a roadway, restriction members arranged along opposite sides thereof and comprising sections of like length, which are outwardly deflected between their ends, the sections upon the same side having their end portions overlapped, and cross ties connecting the overlapping ends of the sections upon one side of the roadway with the overlapping ends of the corresponding sections upon the opposite side of the roadway.

5. Means for sustaining a roadway against lateral stress, the same comprising restriction members disposed along opposite sides of the roadway and formed of sections of uniform length, outwardly curved between their ends and formed with terminal eyes, the sections being arranged with the eyes overlapping, and cross ties connecting the members upon opposite sides of the roadway and passing through the eyes of the sections and serving as connecting means therefor.

6. A roadway comprising a hard surface portion which is transversely arched, restriction members arranged along the sides of the roadway and forming abutments for the hard surface arched portion thereof, and cross ties connecting the restriction members at intervals, said restriction members being outwardly deflected intermediate adjacent cross ties.

7. A roadway comprising a hard surface portion which is transversely arched, restriction members arranged along opposite sides of the roadway and forming abutments for the hard surface arched portion thereof, said restriction members comprising sections of uniform length having their end portions formed with eyes and arranged with the eyes overlapping, and said sections being outwardly curved between their extremities, and cross ties passing through the overlapping eyes and serving to connect the sections and to join the restriction member upon one side of the roadway with the restriction member at the opposite side of the roadway.

8. A roadway comprising a bed having its surface transversely arched, a hard surface portion placed upon the bed and transversely arched, restriction members at the sides of the roadway and forming abutments for the hard surface portion thereof, and cross ties embedded in the bed of the roadway and connecting the restriction members at opposite sides thereof, said restriction members being outwardly curved intermediate adjacent crossties.

9. In a roadway, restriction members arranged along opposite sides of the roadway and forming abutments for the surface portion thereof, said restriction members having opposed portions outwardly deflected, cross ties connecting the restriction members intermediate of their outwardly deflected portions, such restriction members having end portions threaded, and nuts mounted upon the threaded ends of the cross ties and serving as means for relatively adjusting the distance between the restriction members.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT P. SCOTT.

Witnesses:
THOS. T. SAVAGE,
POWELL MAHONE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."