

No. 703,185.

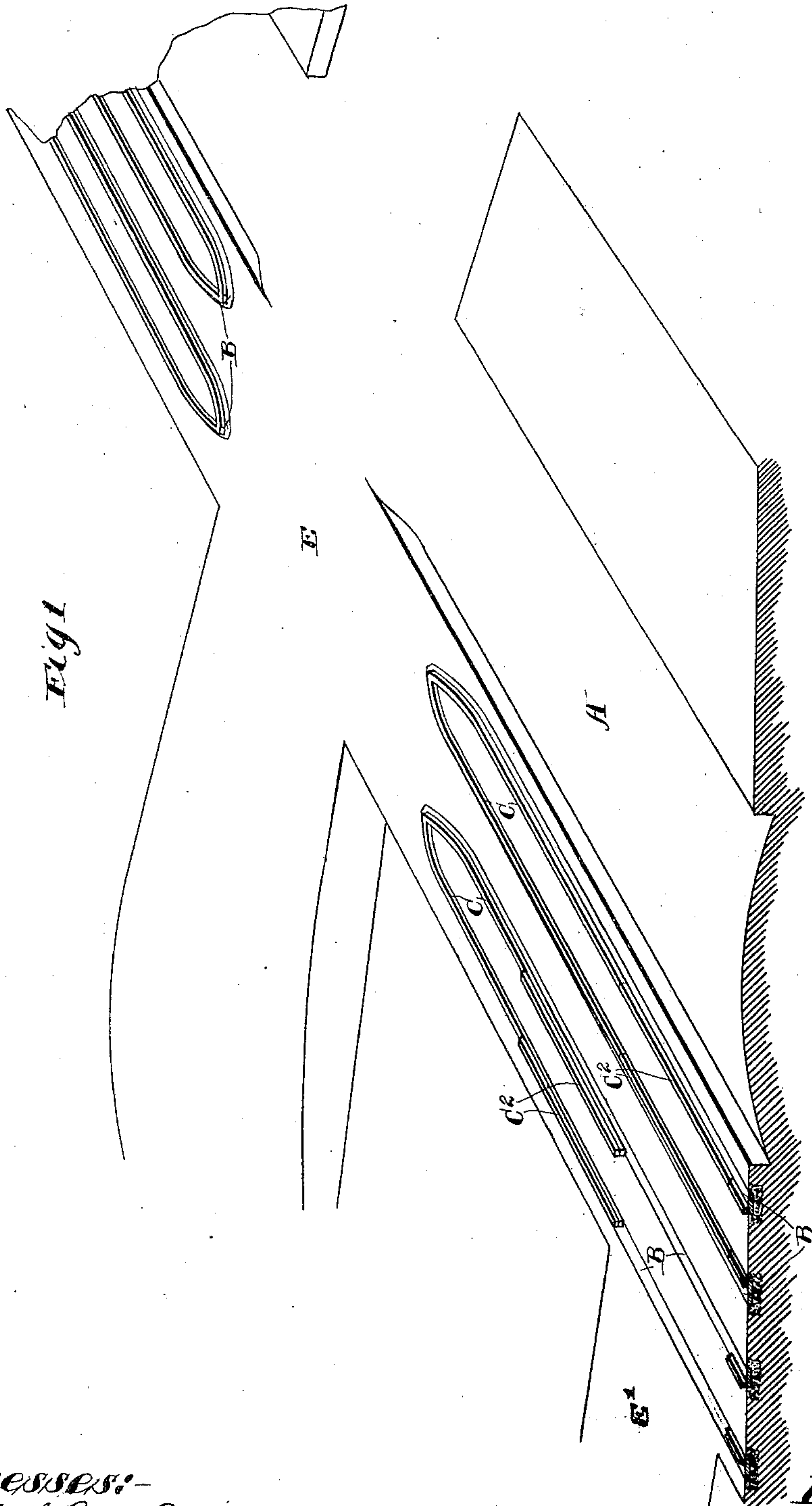
Patented June 24, 1902.

A. CLARK.
ROADWAY FOR MOTOR VEHICLES.

(Application filed Jan. 20, 1902.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

Fig 2

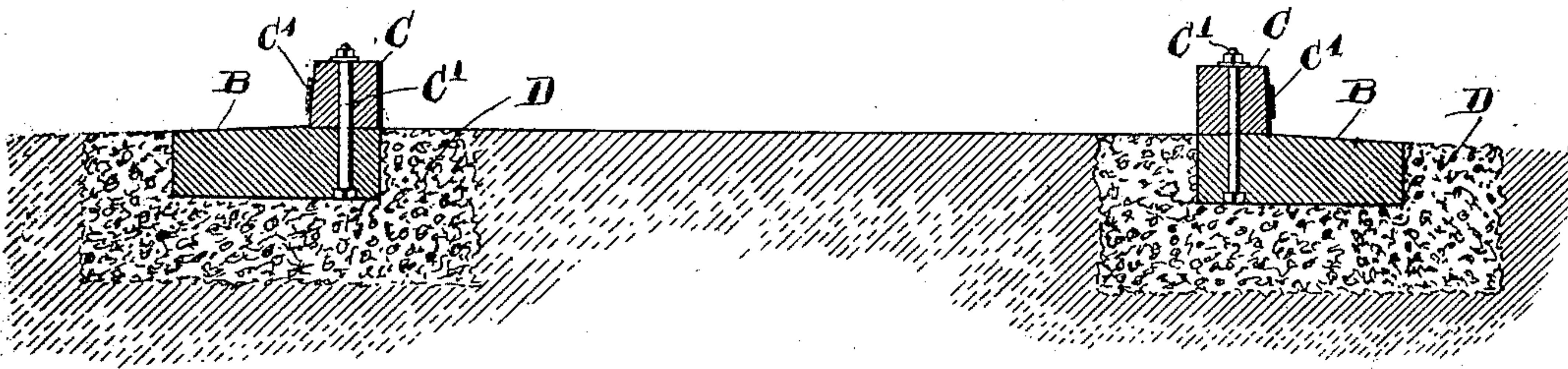


Fig 3

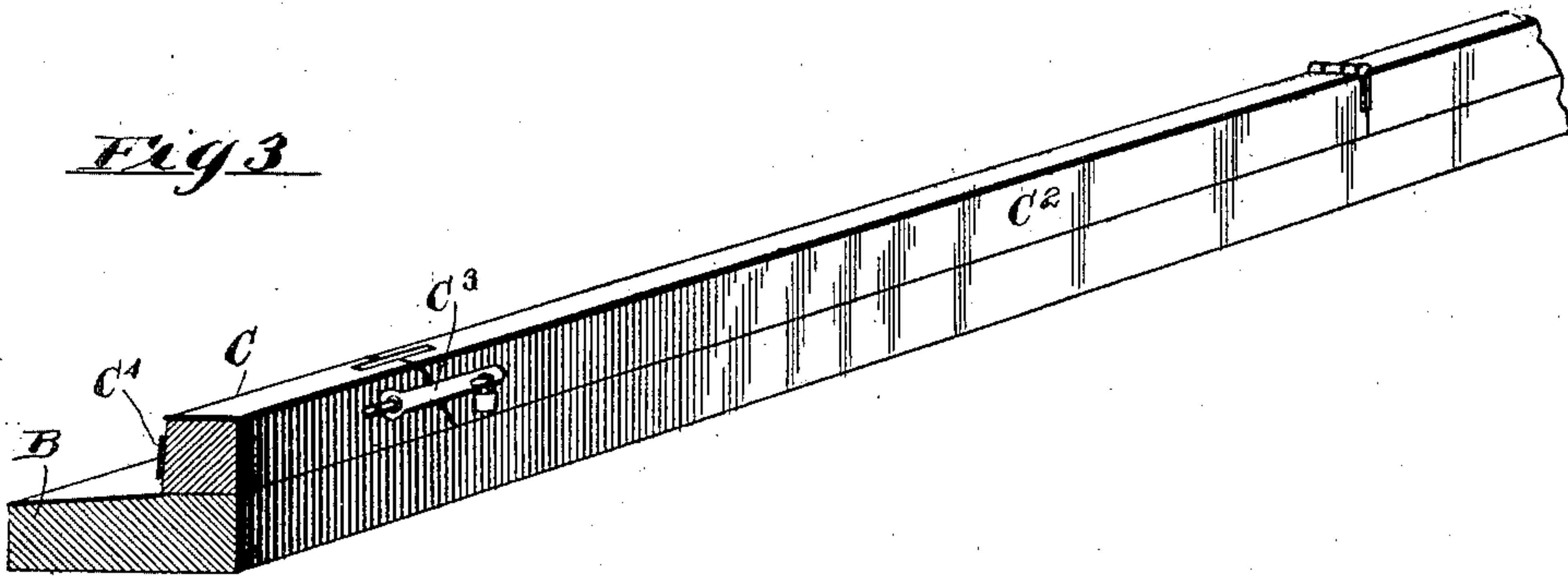


Fig 4

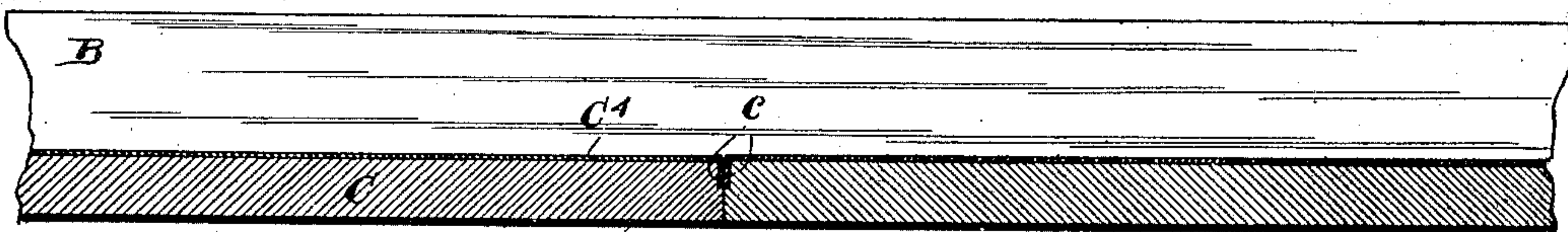
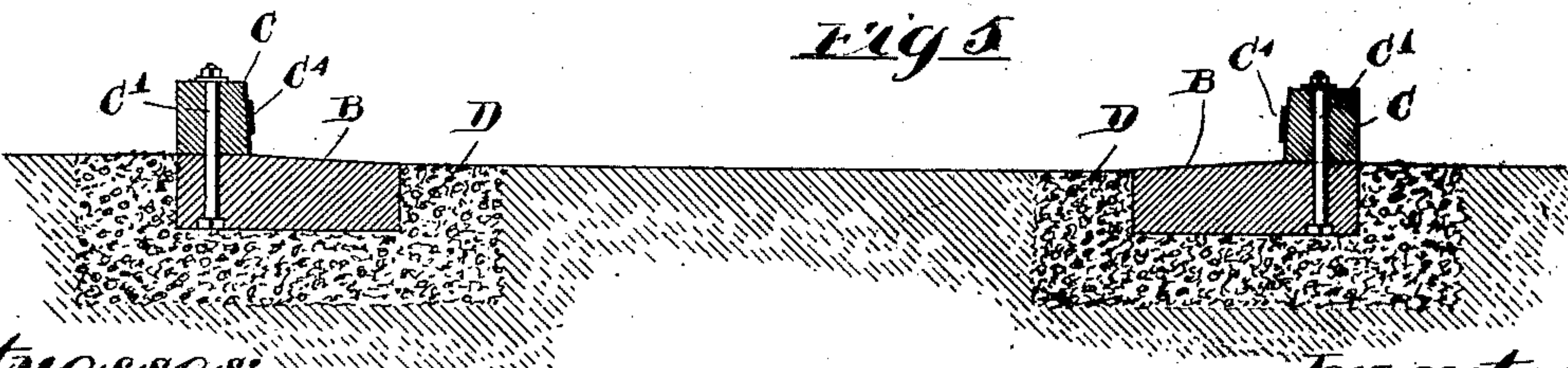


Fig 5



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UNITED STATES PATENT OFFICE.

ALEXANDER CLARK, OF EVANSTON, ILLINOIS.

ROADWAY FOR MOTOR-VEHICLES.

SPECIFICATION forming part of Letters Patent No. 703,185, dated June 24, 1902.

Application filed January 20, 1902. Serial No. 90,425. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER CLARK, of Evanston, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Roadways for Motor-Vehicles; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in roadways for vehicles, and refers more specifically to a roadway designed for use in connection with motor-propelled vehicles.

Among the objects of the invention is to provide a roadway of the character mentioned which may be economically constructed and which is adapted to be built along the sides of suburban and country highways, thereby affording, independent of the main highway, which is used for general traffic, facilities which will permit of a more rapid movement along highways of motor-propelled vehicles than is practicable or safe on the highway proper and which is also constructed in such manner as to permit the use of said roadway both by a regular service of motor-propelled vehicles and by private or individually-owned vehicles. While the roadway herein shown and claimed is intended primarily for use in connection with country and suburban highways, as before stated, it will be obvious that the same may be built and operated independently of such highways at any place or places where use for such roadway exists.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a double roadway made in accordance with my invention and indicating the position thereof with respect to the parallel highway and intersecting highway. Fig. 2 is a cross-section of the roadway. Fig. 3 is a perspective view of a section of one of the tracks and its guard, showing a movable section of the guard. Fig. 4 is a plan section of one of the tracks. Fig. 5 is a cross-section of a modified form of roadway.

As shown in said drawings, A designates the main track or roadway of a highway,

which is shown as crowned at its center and sloped in opposite directions in the usual manner toward side ditches or drains which carry away the water drained from said roadway. In connection with each highway there will be preferably at least two roadways constructed in accordance with my invention—one intended for vehicles traveling in one direction and the other intended for vehicles traveling in the opposite direction. Said two roadways may be located one on each side of the main highway or both on one side of the said highway. The latter construction is herein shown and is preferable, for the reason that the same may be built and maintained with a less expense of grading than where the two roadways are located on opposite sides of the highway. Each track or roadway of the two illustrated is a duplicate of the other, and in the following description reference is made to one roadway, but it will be understood that it will apply equally well to the other.

Each roadway consists of two parallel tracks B B, located a distance apart to correspond with the ordinary gage of the vehicles which travel thereover, each track being adapted to support the wheels at opposite sides of the vehicles. Said tracks B are herein shown as made of cement, which is laid while in a plastic state and which becomes hardened, so as to afford smooth, continuous, non-yielding tracks for the wheels of the vehicles; but said tracks may be made of other material and otherwise constructed.

C C designate guard-rails which are laid upon the tracks B B and are parallel with each other and project above the surface of said tracks. Said guard-rails are stationary with respect to the tracks and are provided to confine the wheels of the vehicles upon the tracks, and thereby render it unnecessary that attention be given to steering the vehicle except so far as may be necessary in passing around curves. Said guard-rails are shown as anchored to the track by means of bolts C', the lower ends of which when the tracks are made of cement are embedded in the bodies of cement constituting the tracks when the latter is laid and the upper end of which project above said track and extend through vertical apertures in the guide-rails. The upper ends of said bolts are screw-thread-

ed and are provided above the guard-rails with nuts, by which the rails are firmly held in place on the tracks. The construction described enables the guard-rails to be removed
5 and replaced without disturbing the anchoring-bolts or the subjacent tracks.

The guard-rails C are shown in Fig. 1 as being located adjacent to the inner side of the tracks B, the parts of the tracks outside of
10 said rails constituting the supports for the vehicle-wheels. The reversal of this construction is shown in Fig. 5, wherein said guard-rails are located closely adjacent to the outer sides of the tracks, and the parts of said
15 tracks inside and between the guard-rails constitute the support for the vehicle-wheels. Said tracks B will where necessary, as in soft or sandy soils, be laid upon foundations D, made of a material not liable to be shifted or
20 bulged upwardly by freezing and thawing—such, for instance, as cinders, gravel, or crushed stone, or a combination of such materials. Said foundations are made somewhat wider than the tracks B and extend beyond said track on both sides and are brought
25 to the level of the upper surfaces of said tracks, whereby the tracks are embedded in said foundations. Said foundations are made only wide enough to afford a firm support for
30 said tracks and need not meet between the tracks, for the reason that the area between the tracks does not receive any of the weight of the vehicle traveling thereover. The tracks are inclined in such manner that water fall-
35 ing thereon is drained therefrom. In the construction shown in Figs. 1 to 4, inclusive, the tracks are inclined outwardly, while in the construction shown in Fig. 5 the tracks are inclined inwardly. The latter construction
40 the area between the tracks will in practice be properly inclined toward lateral drains leading from the roadway to drain water from the roadway.

At the intersection of the roadway with
45 highways the guard-rails C, and preferably the tracks, are discontinued, so as not to interfere with traffic on the intersecting highway. The tracks B are located at the
50 level of the intersecting highway, and said intersecting highway, at the sides of the main roadway thereof, is graded, as shown in Fig. 1, to bring the same to the level of said roadway and the tracks B, so that vehicles may
55 readily pass from said tracks to the intersecting highway, and vice versa. In order to facilitate egress and ingress of vehicles from and to the roadway, in the construction shown in Fig. 1 the two guard-rails of each roadway
60 are curved inwardly or toward each other at their ends adjacent to the intersecting highways and brought together, as shown in said Fig. 1, so as to avoid abrupt projections against which the wheels of the vehicle might
65 strike when entering or leaving the roadway at an intersecting highway. The same construction is also provided at the terminals of

the roadway to permit the ready ingress and egress of vehicles to and from the roadway. In the construction shown in Fig. 5 the ends
70 of the guard-rails next adjacent to an intersecting roadway or at the terminals thereof may be curved outwardly away from each other to facilitate the entrance of the vehicle on the track.

I further provide means for permitting the
75 vehicles to leave and enter the roadway and to cross the same at points along the line of the roadway intermediate to intersecting highways. For this purpose I have shown in
80 Figs. 1 and 3 movable guard-rail sections C², which are made of such length that when removed from the lines of the guard-rails open spaces will be left of sufficient length to permit a vehicle to enter and cross the road-
85 way. Preferably said removable sections are each hinged at one end to an adjacent guard-rail, so that it may be swung upwardly and backwardly over said adjacent
90 guard-rail to provide a space for the incoming and outgoing vehicles, and the free ends of said removable or swinging sections are provided with fastening devices for securely
95 fastening the same to the ends of the guard-rails adjacent to said free ends when said sections are in their closed positions. The fastening devices shown consist of hasps C³,
100 each of which is pivoted to one of the guard-rails and provided with a slot through which is adapted to extend a staple secured to the adjacent of the associated swinging section
105 and a padlock which engages said staple outside of the hasp in the manner shown in Fig. 3. In order to prevent the swinging sections from moving laterally out of line with the
110 rails to which they are locked, said sections are provided with projecting tongues or lugs which enter upwardly-opening notches in the upper side of the adjacent guide-rail when said sections are in their closed posi-
115 tions. Other locking devices may be employed, and, if desired, the locking device may be combined with the means for preventing lateral movement of said sections, and said devices may be constructed to be
120 automatically locked when the sections are swung downwardly. When two parallel roadways are located on one side of the highway and the removable sections C² of both roadways are arranged side by side, so that when
125 all of the sections are lifted vehicles may cross both roadways or vehicles may enter or leave either roadway from one side of both roadways, as clearly shown in Fig. 1. In said Fig. 1 the removable sections C² of one
130 of the roadways are shown as swung backwardly to permit a vehicle to leave or enter said roadway while the corresponding movable sections of the adjacent roadway are in their closed positions. The employment
135 of removable guard-rail sections will usually be desirable at the crossing of farm-roads and where the passage of vehicles is so infrequent as to make it unnecessary to omit

the guard-rails entirely. Graded approaches E are provided in line with said removable guard-rail sections, which afford a gradual ascent to the tracks in case said tracks be materially raised above the surrounding level.

In order to prevent undue wear upon the guard-rails through contact of the vehicle-wheels therewith when said rails are made of wood, I provide metal wearing-strips C¹, which in the construction shown in Fig. 1 are secured to the outer faces of the guard-rails and in the construction shown in Fig. 5 are located on the inner vertical sides of said rails. Said strips are preferably secured to the guard-rails by means of countersunk screws or bolts. In order to prevent the ends of the wearing-strips from becoming bent or curved outwardly, and thereby form projections liable to be caught by passing wheels, I have shown the meeting ends of said strips turned inwardly, as indicated at c, and embedded either in the body of the guard-rails at such meeting-points or between two adjacent rails in case the meeting ends of the strips coincide with the meeting ends of the rails.

The advantages of a roadway constructed as hereinbefore described will be made clear from a consideration of the following: With respect to the general use of the roadway it is a well-known fact that ordinary country highways, and particularly dirt roads, are not well adapted for motor-propelled-vehicle traffic, especially during the seasons of the year when said roadways are in a muddy or broken condition. During such seasons of the year automobile traffic, if not wholly impossible, is attended with many inconveniences. Moreover, it is not practicable or safe to travel on ordinary country highways at the high rate of speed of which motor-propelled vehicles are capable, both from consideration of the user of the vehicle and the public using such highways. With my improved roadway, however, automobile traffic may be successfully carried on during all seasons of the year regardless of the condition of the highway and without the necessity of limiting the speed of the vehicles to that allowable on the highway proper. It will be readily seen that such a roadway may be built primarily for an organized service of motor-vehicles and in this respect take the place of electric and other railways and may also be used by owners of private vehicles. In the latter use of the roadway the construction of the track and the highways at intersecting points and the connection of private or farm roadways with the roadway become of considerable importance, as it serves a double purpose of affording rapid transportation for inhabitants of country districts and a roadway which may be used in conjunction with the ordinary highways. In other words, the country highways become what may be termed "feeders" for the motor-vehicle roadway. A special utility of the roadway described is found in the ap-

plication of the same to the transportation of market produce to large cities from the surrounding or tributary suburban and country districts. At the present time the greater part of such produce is transported in wagons over the ordinary highways, and such transportation is necessarily slow and expensive. By the use of my improved roadway such produce may be carried to city markets in motor-propelled vehicles much more rapidly and at a considerably less cost than heretofore, and such roadways may be used for this purpose by an organized service of vehicles, as well as by private marketmen. Owing to the greater rapidity of transportation the market territory tributary to cities may be greatly increased and extended in radius. An important general advantage of the construction described is the economy with which it may be constructed and maintained.

A main or principal feature of my invention is embraced, therefore, in the construction and arrangement of the roadway at places where the roadway intersects highways or private or farm roads, wherein the roadway is located at the level of such intersecting roads or highways or at the level of approaches connecting the roadway with such roads or highways, and which approaches are continuous with the roadway and the highway or other roads.

As hereinbefore indicated, many changes may be made in the structural details illustrated without departing from the spirit of my invention, and I do not wish to be limited to such details except as hereinafter made the subject of specific claims.

I claim as my invention—

1. An intersecting junction for a highway and a roadway for motor-vehicles, the latter consisting of two parallel tracks, and parallel guard-rails projecting upwardly from said tracks, said guard-rails terminating at each side of the highway, and the tracks and the highway being graded to bring the same to an approximate level and thereby facilitate the passage of motor-vehicles from the roadway to the highway and vice versa.

2. An intersecting junction for a highway and a roadway for motor-vehicles, the latter consisting of two parallel tracks, and parallel guard-rails projecting upwardly from said tracks, said guard-rails terminating at each side of the highway, and the tracks and the highway being graded to bring the same to an approximate level and thereby facilitate the passage of motor-vehicles from the roadway to the highway and vice versa, and the terminals of said guard-rails on each side of the roadway being curved so as to afford no abrupt obstructions to the ingress and egress of the vehicles.

3. A roadway for motor-vehicles consisting of two separate parallel tracks, each comprising a solid mass of concrete, and having a smooth non-metallic surface which constitutes the traction-surface of the track, and

parallel guard-rails anchored to and projecting upwardly from said track, said guard-rails terminating at each side of an intersecting roadway, and the upper surfaces of the track and the approach thereto at the intersecting roadway being located at the level of said intersecting roadway, thereby facilitating the passage of vehicles from the motor-vehicle roadway to the intersecting roadway and vice versa.

4. A roadway for motor-vehicles, consisting of two parallel tracks, parallel guard-rails, removable sections in said guard-rails for permitting ingress and egress of vehicles to and from the roadway and an approach to said roadway opposite to said removable sections which is located at the level of the track.

5. A roadway for motor-propelled vehicles consisting of two parallel tracks and projecting upwardly from said tracks, wooden guard-rails and metal wearing-strips attached to the vertical faces of said guard-rails, the ends of said wearing-strips being turned inwardly and embedded in said guard-rails.

6. A roadway for motor-vehicles comprising two parallel tracks, and parallel guard-rails projecting upwardly from said tracks, said guard-rails being provided with removable sections.

7. A roadway consisting of two parallel tracks, and parallel guard-rails projecting upwardly from said tracks, said guard-rails being provided with removable sections, each

of which is hinged at one end and means for securing the free end of each of said removable sections, when in its closed position.

8. A roadway for motor-vehicles consisting of two parallel tracks, each comprising a solid mass of concrete having a smooth top surface constituting the traction-surface thereof, and parallel guard-rails anchored to and projecting upwardly from said tracks.

9. A roadway for motor-vehicles consisting of two parallel tracks, each comprising a solid mass of concrete having a smooth top surface constituting the traction-surface thereof, parallel guard-rails supported on said tracks and projecting upwardly therefrom, and bolts embedded in said tracks and projecting upwardly therefrom to which the guard-rails are secured.

10. A roadway for motor-propelled vehicles consisting of two parallel tracks, wooden guard-rails projecting upwardly from said tracks, and metal wearing-strips attached to the vertical faces of said guard-rails, the ends of said wearing-strips being turned inwardly and embedded in said guard-rails.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 16th day of January, A. D. 1902.

ALEXANDER CLARK.

Witnesses:

WILLIAM L. HALL,
GERTRUDE BRYCE.