

No. 763,135.

PATENTED JUNE 21, 1904.

G. R. WILTON.
PAVEMENT MAKING MACHINE.

APPLICATION FILED MAR. 21, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

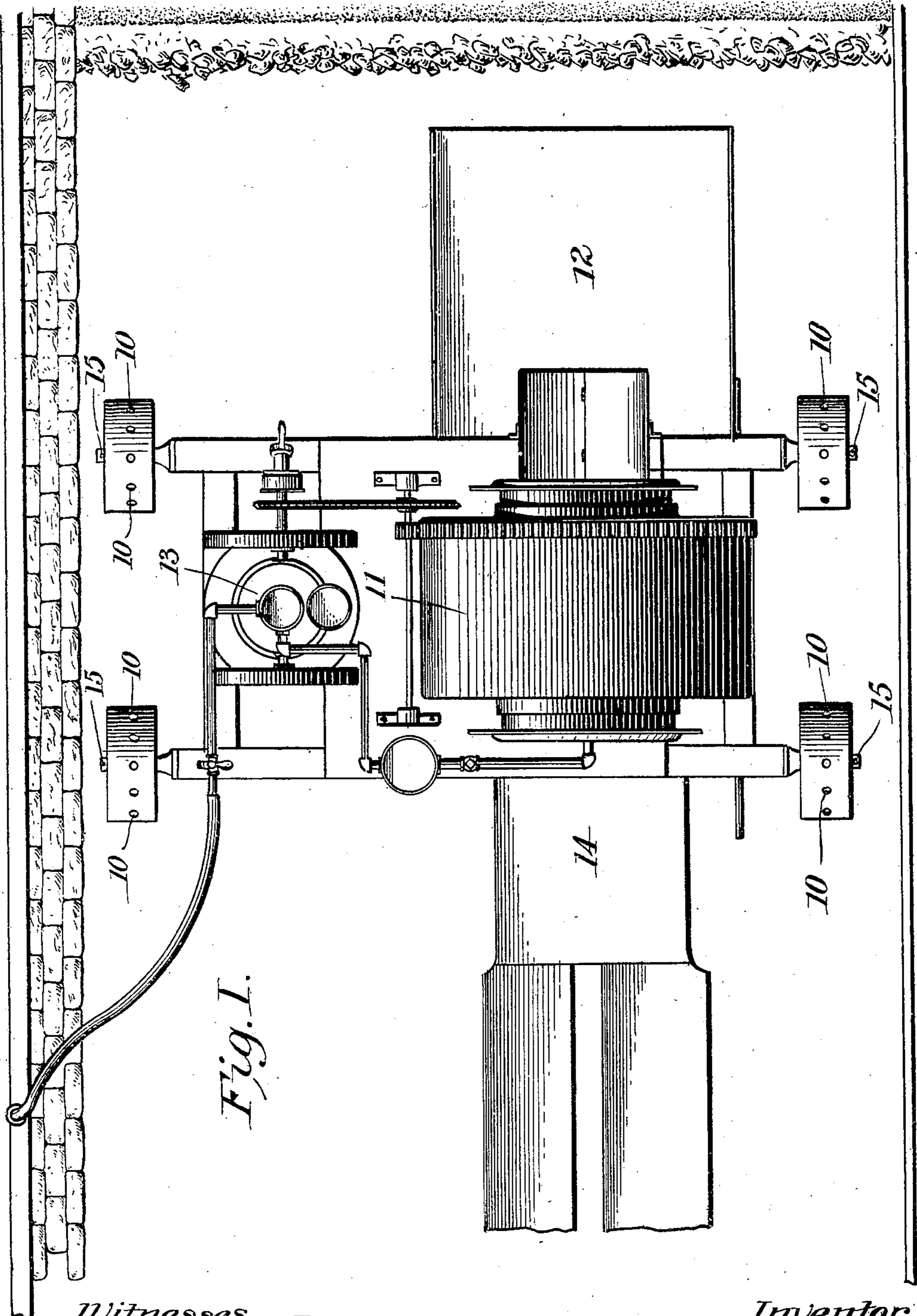


Fig. 1.

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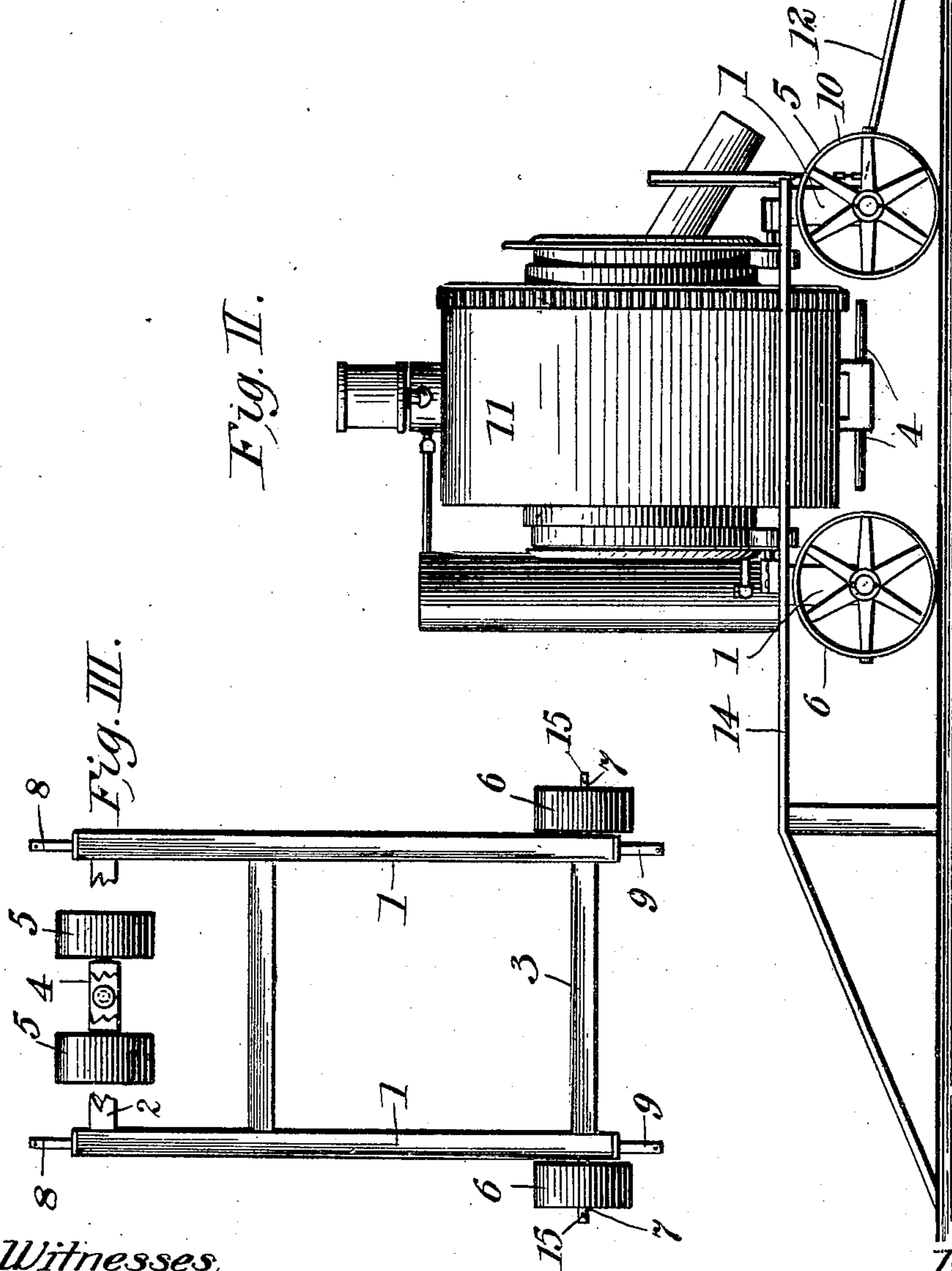
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UNITED STATES PATENT OFFICE.

GEORGE ROBERT WILTON, OF LOS ANGELES, CALIFORNIA.

PAVEMENT-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 763,135, dated June 21, 1904.

Application filed March 21, 1903. Serial No. 148,833. (No model.)

To all whom it may concern:

Be it known that I, GEORGE ROBERT WILTON, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Pavement-Making Machines, of which the following is a specification.

This invention relates particularly to pavement-making machines adapted for laying street-foundations or other extended bodies of concrete; and the invention resides in a special construction of portable apparatus for applying concrete to the surface to be paved.

An object of the invention is to greatly facilitate the operation of applying the concrete to broad surfaces to be paved and to enable the same to be prepared from the raw materials and put in place in the most convenient and expeditious manner and to allow the work of preparing and laying the concrete to proceed practically without interruption, also avoiding any necessity of turning the machine a quarter-way around in order to move the apparatus forward or to apply the concrete to a surface of greater width than the apron from which delivery of the concrete is made to the surface to be paved. This object is accomplished by providing a carriage frame and axles, a power-driven rotary concrete-mixer mounted on the frame and having its axis transverse to axles of the carriage with supply-runway at front and discharge device at rear, an apron behind the discharge device, and wheels for said axles whereby the apparatus is made transportable along the street and may at all times discharge concrete as required without turning from the course along which the concrete is to be laid. Furthermore, a set of additional axles arranged transverse to the first-named axles is provided to receive the wheels pertaining to said first-named axles whenever it is desired to move the apparatus transversely to the course along which the concrete is to be laid. These axles are also designed for mounting said wheels when the apparatus is to be transported for a considerable distance while not in use. The application of said wheels to the last-named axles for extended transportation is of especial

advantage, for the reason that the diameter of the usual form of concrete-mixer is considerably greater than its width, and axles for the carriage may be much shorter when they extend parallel with than when they extend transversely to the axis of the concrete-mixer. Furthermore, it is desirable to mount the engine for driving the mixer alongside the mixer, thus requiring a carriage which has axles of considerable length transverse the axis of the mixer in order to allow the mixer to be drawn along the course where the concrete is to be applied. The axles which extend transversely of the axis of the mixer are preferably rigidly fixed to the carriage frame or body, so that the carriage will tend to not deviate from motion in a right line when the wheels are on said axles and the apparatus is being moved along the course to be covered by concrete, and one of the other axles is pivoted to the carriage-body, so as to allow the carriage to be readily turned and drawn in whatever direction desired for the purposes of extended transportation.

Heretofore concrete-mixers used in street-work have been constructed with the carriage-wheels arranged transversely of the length of the carriage, as is customary in arranging the wheels of all carriages, and when the concrete-mixer is used in streetwork after a certain amount of concrete has been mixed and applied to the street the machine must be moved farther along the street in order to give room for placing more concrete, and in moving the machine along it has been necessary each time it is shifted to turn it a quarter of the way round in order to draw it to the next place. If this method is not followed, then the machine has been set up with its carriage extending longitudinally of the street and with its discharge-apron facing toward either the curb or the center of the street. In the latter case the supply of material for the machine has to be carried around a considerable distance from the pile in order to get it to the runway and hopper. Moreover, the concrete as it issues over the apron is not supplied close to the place where it is to be laid, but has to be carried by the workmen a considerable distance from the end of the

apron in order to apply it to the street at the proper place.

By the use of my invention it is possible to draw the concrete-mixer into position at the scene of operations and place it so that the apron discharges directly upon the spot which is to be covered with the concrete. Therefore the only labor necessary at the discharge end of the machine is to keep the apron clean from the discharging mixture and to spread the same along the surface to which it is to be applied. The apron supplies the material almost directly on the desired spot, and as the work proceeds the machine may be shifted along from time to time without disturbing its relative position to the street and without unduly hindering the progress of the work.

Referring to the drawings, Figure I is a plan view showing a portion of a street which is being covered with concrete. At the right of the figure the concrete is shown as having been laid to a point near the concrete-mixer. The concrete-mixer is shown in plan view. Fig. II is an end elevation of the machine with the wheels attached thereto in position for moving the same sidewise and the rear frame-bar being partly broken away. Fig. III is a plan view of the frame of the carriage, the wheels being attached in position for moving the machine longitudinally.

The frame of the carriage comprises reaches 1, which are carried at front and rear by bars 2 and 3.

4 designates the front axle, which is journaled or pivoted to the carriage under the bar 2 and which carries the front wheels 5.

6 designates the rear wheels, which are carried on axles 7.

8 designates axles which are respectively carried on the front ends of the reaches 1.

9 designates axles which are carried, respectively, upon the rear ends of the reaches 1.

A single set of wheels 5 6 is provided for the two sets of axles 4 7 and 8 9, and the wheels are detachable and interchangeable, so as to enable them to be shifted from one set of axles to the other.

The wheels 5 and 6 are provided with perforations 10 in their peripheries, which afford means for the insertion of a bar for turning the same.

11 designates a revoluble hopper.

12 is the apron on one side of the device, over which the mixed concrete is fed.

13 designates the engine.

14 is a runway.

The wheels may be retained on the axles by means of cotter-pins 15.

A detailed description of the mechanism above the carriage is unnecessary, as it forms no part of the present invention.

In order that a single set of wheels may be used for both the sets of axles, the latter are arranged in the same horizontal plane, with their center lines crossing in proximity to the

wheels. The said axles are also arranged at or adjacent to the corners of the carriage, so that each wheel may be transferred from one axle to the adjacent axle by lifting only one corner of the vehicle, so as to bring the wheel clear of the ground, the wheel being then slipped off and moved directly onto the other adjacent axle. The location of the axles on the ends of the reaches conduces to this end and also gives a strong and cheap construction especially adapted to the purpose.

In transporting the concrete-mixer from place to place the wheels are placed upon axles 4 and 7. When the machine is drawn into position at the scene of operation, it is placed in the position shown in Fig. I. The wheels are then removed from axles 4 and 7 and placed upon axles 8 and 9, as shown. After a suitable amount of concrete has been laid, so as to bring the work close to the machine, the latter is rolled along the street parallel with the curb and again started into operation. It may readily be rolled along by inserting a bar into the perforations 10, which affords a good leverage.

It will be seen that the workmen can feed the machine directly from the pile of material over the runway 14 without going an unnecessary distance and that the machine discharges the mixed concrete over the apron 12 at a point close to where it is laid when in final position, so that the workmen do not have to carry the material any considerable distance, their work consisting merely of evenly distributing the same from the point where it falls and keeping the apron clean.

As the work proceeds, from time to time the machine is moved along in a direction to the left in Fig. I.

When the machine is to be transported a considerable distance to another scene of work, the wheels may be placed upon the axles 4 and 7, and the machine may be then drawn along the same as a wagon.

I am aware that carriages have been invented provided with running-gear enabling the carriage to be moved laterally as well as longitudinally; but in these devices as hitherto constructed it has been necessary to raise the whole carriage bodily, or in other cases to provide a device for raising and lowering one pair of axles by means of complicated and expensive lifting-gear, and even with such devices the adjustment of the carriage for travel in a transverse direction would be a slow and difficult matter. By my invention these evils are remedied and means of adjustment are provided for movement in a different direction without lifting more than one corner of the carriage-body at a time.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. A pavement-machine comprising a carriage-frame, a rotary concrete-mixer mounted thereon, with its axis transverse said frame,

axles extending longitudinally of the carriage,
axles extending transversely of the carriage
and wheels for the longitudinal axles, adapted
to be detached therefrom and applied to the
5 transverse axles.

2. In apparatus of the character described,
a carriage, a plurality of sets of axles extend-
ing transversely of the carriage, one of said
sets of axles being pivoted to the carriage, a
10 plurality of sets of axles connected to the car-
riage and extending longitudinally thereof,
said sets of axles being arranged in the same
horizontal plane with the first-mentioned set
of axles, and a single set of interchangeable,
15 detachable wheels for the axles.

3. A carriage - frame, a rotary concrete-
mixer mounted with its axis transverse to said
frame, a plurality of sets of axles connected
to the frame and extending transversely of the
20 carriage, reaches on the carriage, a plurality
of sets of axles mounted on the ends of the
reaches in the same horizontal plane and ex-

tending longitudinally of the carriage and in-
terchangeable wheels for the axles.

4. In apparatus of the character described, 25
a carriage, a plurality of sets of axles extend-
ing transversely of the carriage, one of said
sets of axles being pivoted to the carriage,
reaches on the carriage, and a plurality of sets
of axles mounted on the ends of the reaches 30
in the same horizontal plane as the first-men-
tioned sets of axles and extending longitudi-
nally of the carriage and interchangeable, de-
tachable wheels for the axles.

In testimony whereof I have signed my name 35
to this specification, in the presence of two sub-
scribing witnesses, at Los Angeles, in the
county of Los Angeles and State of California,
this 10th day of March, 1903.

GEORGE ROBERT WILTON.

Witnesses:

GEORGE T. HACKLEY,
JULIA TOWNSEND.