

No. 675,036.

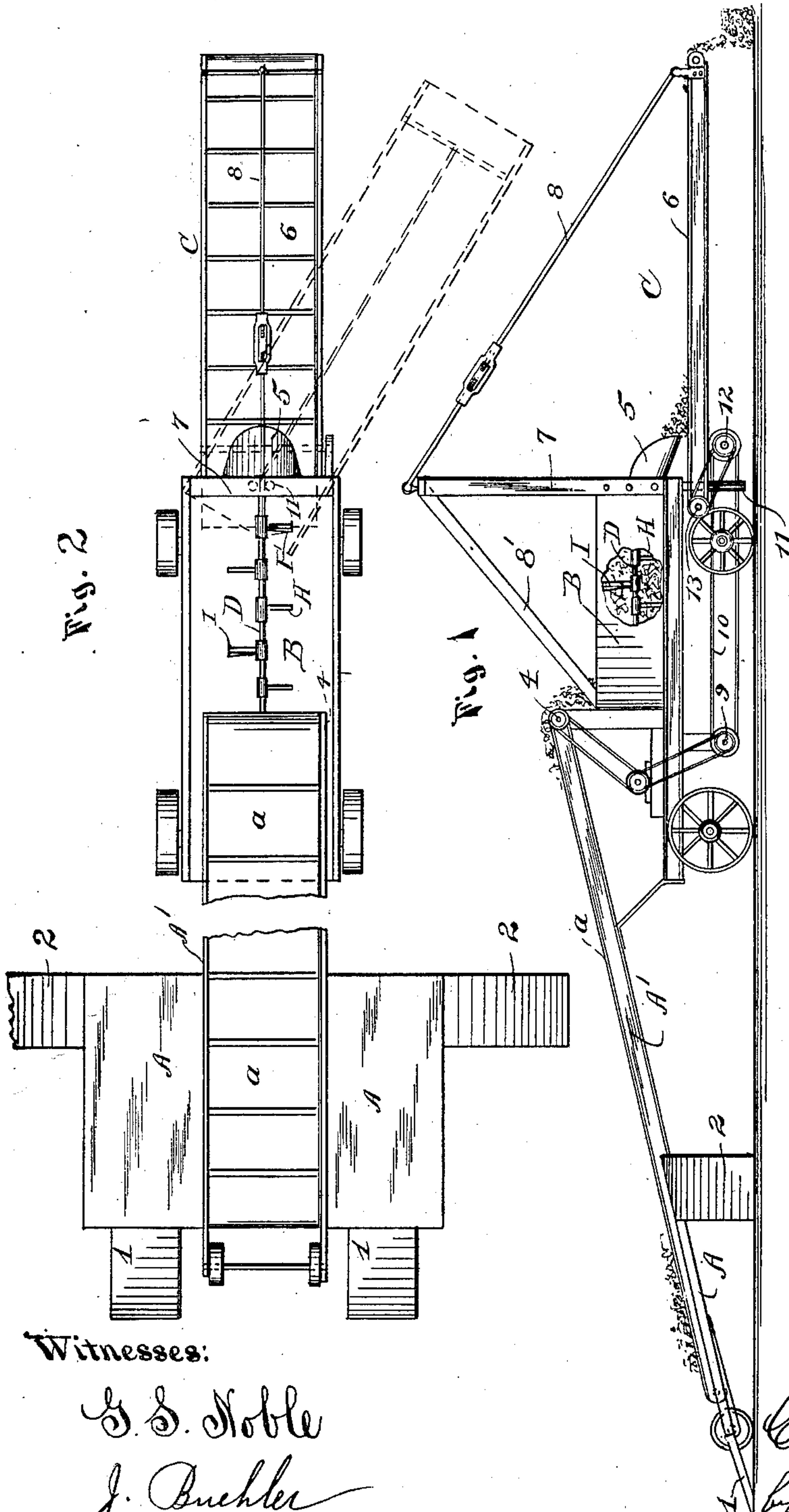
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C. T. DRAKE.

APPARATUS FOR HANDLING, MIXING, AND PLACING MATERIAL FOR CONCRETE
PAVEMENT.

(Application filed Dec. 22, 1899.)

(No Model.)



Witnesses:

G. S. Noble

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Inventor,

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his att'y.

UNITED STATES PATENT OFFICE.

CHESTER T. DRAKE, OF CHICAGO, ILLINOIS.

APPARATUS FOR HANDLING, MIXING, AND PLACING MATERIAL FOR CONCRETE PAVEMENT.

SPECIFICATION forming part of Letters Patent No. 675,036, dated May 28, 1901.

Application filed December 22, 1899. Serial No. 741,248. (No model.)

To all whom it may concern:

Be it known that I, CHESTER T. DRAKE, a citizen of the United States, residing in Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Apparatus for Handling, Mixing, and Placing Material for Concrete Pavement, of which the following is a specification, reference being had to the accompanying drawings.

My invention is an apparatus for handling, mixing, and placing material for concrete pavement by the use of apparatus operated by mechanical power.

The nature of my invention consists, in part, in the arrangement of a mounted power-driven concrete-mixer adapted to travel over the ground, a mounted traveling platform, a push-frame strongly connected to the platform and to the mixer, a carrier to deliver material into the mixer, and a carrier to receive the mixed concrete as it is discharged from the mixer and deposit it into any part of the roadway.

It consists also, in part, in the arrangement and connection of the several parts so that they may all be moved simultaneously to any place desired without interrupting the operation of any part of the apparatus.

In the drawings, Figure 1 is a side elevation of my improved apparatus, and Fig. 2 is a plan view of the apparatus.

It is a concrete-mixer mounted upon wheels, so that it may be caused to travel over the ground. Any suitable engine or motor (not shown) may be mounted upon the frame of the mixer for supplying power to drive the mixing mechanism and also to cause the ground-wheels to travel over the ground when desired to shift the apparatus.

The materials are supplied to the hopper of the mixer, and by the revolving of the mixing-shaft D, which is provided with knife-arms H and shovel-arms I, the materials are thoroughly mixed into concrete and discharged over the spout 5.

The shaft D, the knife-arms H, the shovel-arms I, and a suitable inclosing hopper are the principal elements of said mixing apparatus required for the mixing of material for concrete pavement. These parts are shown in Fig. 1, a portion of the hopper being broken away for that purpose, and also in Fig. 2.

A strong frame A' is strongly secured upon

the frame of the mixer, so that its upper end will extend over the top of the hopper, and its lower end is secured to supporting ground-wheels, as indicated.

A strong platform A is attached to and carried by the push-frame A', and approaches or runways 1 2 are secured to the platform A, so as to be held in place and carried along with the platform when moving over the ground.

The push-frame A' is provided with a series of rollers and a carrier-belt a, as indicated, and power is applied to the driving-shaft 4 to cause the belt to revolve continuously, so as to carry material up the incline and into the hopper.

The material—such as stone, sand, or other material—is put into wheelbarrows or wheeled vehicles and moved over a runway onto the platform A and dumped upon the carrier-belt or near to it and then shoveled onto the carrier-belt, which carries it up into the hopper, where it is continuously mixed and discharged from the other end of the hopper over the spout 5, and these operations may be continued without any interruption when power is applied to cause the mixer, the push-frame A', and the platform A to move simultaneously over the ground to any new position, so as to facilitate the work.

The proper proportion of cement and water are preferably added to the stone and sand after they are in the hopper of the mixer, or they may be added at any convenient time or place before they are put into the hopper.

A strong upright frame 7 is provided at the discharge end of the mixer, and a guy rope or rod or a strong brace 8' is secured to the frame of the mixer and to the top of the frame 7, and a guy-rope 8 is secured to the top of the frame 7 and to the outer end of the carrier-frame C, so as to support the outer end of the carrier and allow it to swing to the right or to the left as far as may be required. The other end of the carrier-frame is strongly secured to the discharge end of the mixer-frame by a suitable coupling which will permit such lateral motion of the carrier-frame.

Suitable pulleys or rollers and a carrier-belt are provided in the carrier-frame, and power from the mixer-motor is transmitted through the driving-chain 10 to the shaft 12, which is secured to the under side of the carrier-frame.

The chain 10 passes between two loose rollers 11, which are secured to the under side of the mixer-frame, so as to retain the driving-chain at or near the vertical pivotal center of the lateral motion of the carrier-frame, and a driving-chain from shaft 12 transmits the power to the carrier-driving shaft 13 and to the carrier-belt 6, so as to cause it to revolve continuously and carry the mixed concrete which falls from the spout 5 onto the belt away from the mixer and deposit the concrete in any part of the pavement as the carrier is swung to the right or to the left, and then the concrete may be tamped in the usual manner.

Power may be applied to cause the ground-wheels to travel over the ground without any interruption of the operation of the mixer or of the carrier C, and the whole apparatus may be moved to any place to facilitate the work.

I claim as my invention—

In a machine of the character described, the

combination with a movable mixer, of an endless carrier for delivering material to the mixer supported upon the mixer and extending outwardly and downwardly therefrom, a platform located near the outer end of the carrier from which the material may be fed thereto, a second carrier for receiving and conveying away the material delivered from the mixer supported at the opposite end of the mixer and projecting outwardly therefrom, and intermediate gearing instrumentalities connecting the respective carriers adapted to impart simultaneous proportionate movement thereto, the whole of the apparatus being capable of being shifted from place to place, substantially as described.

Chicago, December 9, 1899.

CHESTER T. DRAKE.

Witnesses:

OSCAR PETERSON,
OSCAR MARTINSON.