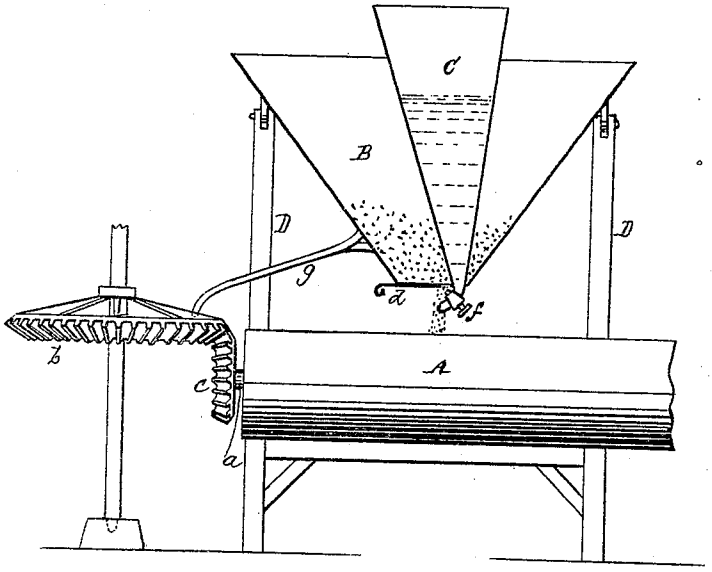
A. D. FOOTE.

Improvement in Apparatus for Feeding and Mixing Gravel, &c., for Forming Concrete.

No. 129,330. Patented July 16, 1872.



Witnesses.
C. B. Nottingham.
Thomas C. Smith

Inventor.
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UNITED STATES PATENT OFFICE.

ARTHUR D. FOOTE, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN APPARATUS FOR FEEDING AND MIXING GRAVEL, &c., IN FORMING CONCRETE.

Specification forming part of Letters Patent No. 129,330, dated July 16, 1872.

To whom it may concern:

Be it known that I, ARTHUR D. FOOTE, of Guilford, New Haven county, Connecticut, temporarily residing in Washington, District of Columbia, have invented certain new and useful Improvements in Apparatus for Feeding Composition and Gravel into Machines for Mixing Concrete and other paving material, of which the following is a specification:

In the preparation of paving material for concrete and other composition pavements it is necessary to thoroughly mix the composition and gravel in certain definite and ascertained proportions before the same are ready to be used as paving material. The mixing is effected usually by means of a suitable mixing-machine, into which the composition and gravel are thrown, and heated and mixed up together. The material has heretofore been put into the machine by hand, and no means have been provided for regulating accurately the proportion of the composition and gravel, but this has been in a great measure guessed at and been left to the judgment of the workmen. The consequence is that very often the materials are not mixed in the proper proportions, and there are thus produced, when the pavement is laid, soft spots and imperfect patches, which must be taken up and relaid.

The object of my invention is to remedy this difficulty and to afford means whereby the composition and gravel can be fed always to the mixing-machine in the right proportions.

The manner in which my invention is or may be carried into effect will be understood by reference to the accompanying drawing, which represents in vertical section an apparatus embodying my invention, so much of a mixing-machine being shown in connection therewith as needed for the purpose of explanation.

The mixing-machine may be of any ordinary or suitable construction. In this instance it is composed of a trough, A, in which is placed a rotary mixer mounted upon a horizontal shaft, shown at *a*, and driven by gearing *b c*, actuated by power derived from a suitable source in the usual manner. Above the mixing-trough I place the two hoppers or receptacles B C, the former to contain the gravel or sand, the latter to contain the liquid composition. The sand or gravel-hopper has its bottom provided with a slide, *d*, or its equivalent, for regulating the escape therefrom of the sand or gravel. The contracted lower end or nozzle of the composition-receptacle is provided with a cock, *f*, by which the flow of liquid composition may also be regulated. The discharge-openings in the bottom of the hopper B and receptacle C are so placed that the composition and gravel will fall in a body together into the mixer. For several reasons I prefer to place the vessel C within the hopper B, both to allow the sand and composition to fall together in one stream, and because the receptacle will be surrounded by the heated gravel or sand in the hopper, and the composition will thus be kept warm and prevented from clogging. In this instance the receptacle C is so placed that its lower end will be at one side of the opening in the hopper-bottom, and the slide is arranged so that it may fit close up against the vessel C to cut off all escape of sand when desired. The nozzle of the vessel is slightly bent so as to bring it directly under the aperture through which the sand escapes. I prefer to suspend the hopper B by links from post D, and provide it with an arm, *g*, the outer end of which is arranged to come in contact with and to be struck by the spokes of wheel *b*. In this way, when the machine is in operation, the hopper will be jogged and shaken so as to insure proper delivery of its contents.

In using the apparatus, the slide *d* and cock *f* are adjusted to permit the escape of the gravel and composition in the proper proportions. This adjustment having been made and the machine set in motion, all that is required for feeding the material is to keep the hopper supplied with gravel and the receptacle with composition. With an apparatus of this kind the difficulties and inconveniences above alluded to are to a great extent if not entirely removed.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The gravel-hopper and liquid-composition

receptacle, arranged above, and combined with the mixing-trough, substantially as shown and described, and provided at their bottoms or outlets with means for regulating the discharge of their contents into said trough, as set forth.

2. The arrangement of the composition-receptacle within the sand or gravel hopper, substantially as and for the purposes shown and set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

ARTHUR D. FOOTE.

Witnesses:
EDM. F. BROWN,
M. BAILEY.