

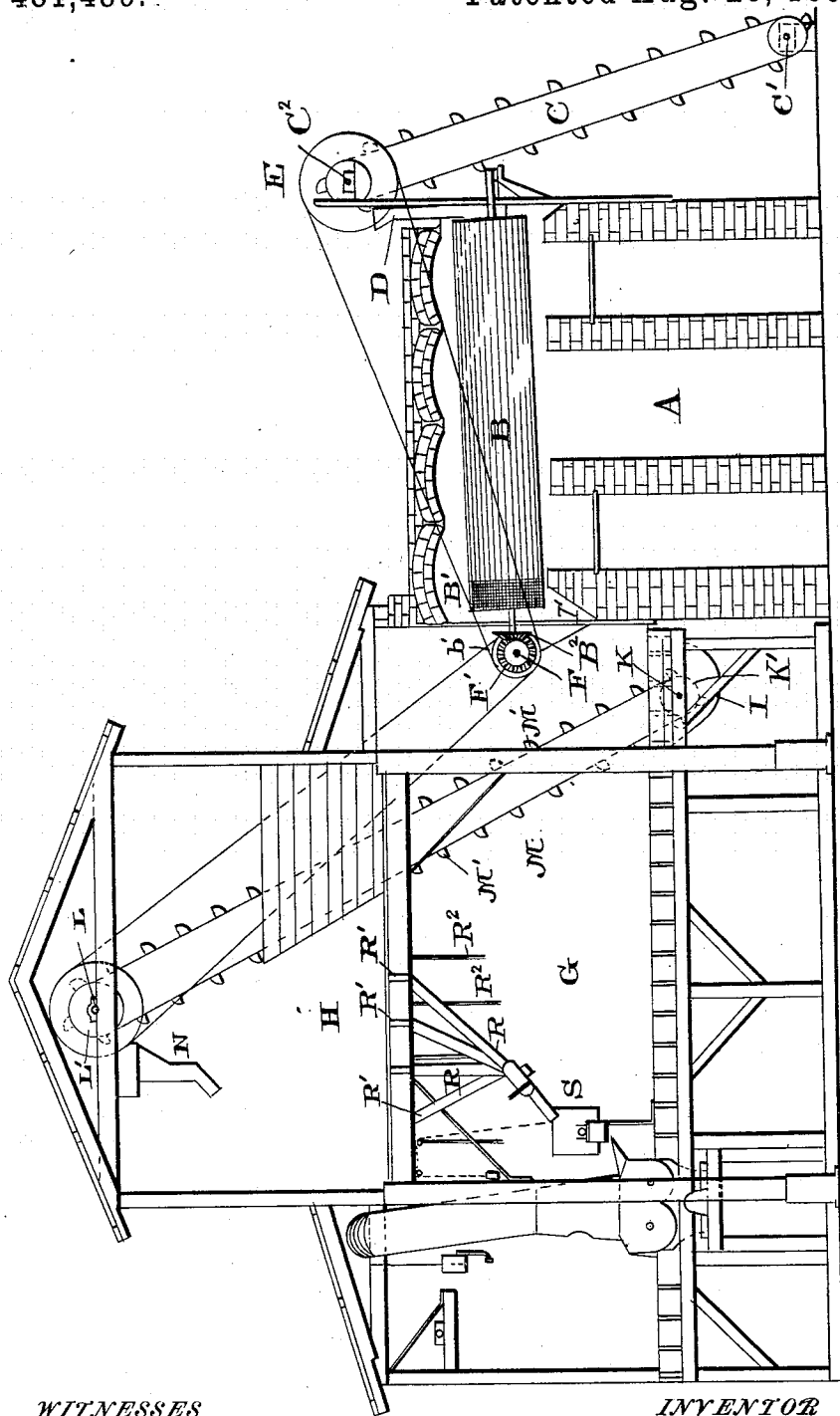
(No Model.)

F. V. GREENE.

PLANT FOR HEATING AND CONTROLLING SAND.

No. 481,489.

Patented Aug. 23, 1892.



WITNESSES

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UNITED STATES PATENT OFFICE.

FRANCIS VINTON GREENE, OF NEW YORK, N. Y., ASSIGNOR TO THE BARBER ASPHALT PAVING COMPANY, OF SAME PLACE.

PLANT FOR HEATING AND CONTROLLING SAND.

SPECIFICATION forming part of Letters Patent No. 481,489, dated August 23, 1892.

Application filed March 24, 1892. Serial No. 426,315. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS VINTON GREENE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Plants for Heating and Controlling Sand; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved apparatus or structure for facilitating the manipulation of sand and like substances to be heated for use for different purposes, whereby an attendant can control or regulate the flow to and from the sand-platform to the mixers or other receivers; and to this end my invention consists in a novel arrangement of the sand-drum and the means for conveying the sand therefrom to the hot-sand platform.

It further consists in connecting with the sand-platform a series of chutes or conveyers, each provided with an independent cut-off, whereby the attendant is enabled to control each independently of the other.

It further consists in connecting said series of chutes or conveyers together at the sand-box and in providing the same at this point with a general cut-off, whereby the flow of sand can be regulated by a single attendant.

It further consists in certain other novel features in the combination and arrangement of the several parts of the structure, all as hereinafter described.

The accompanying drawing represents a longitudinal section through the improved plant, showing the furnace for heating the sand, with its necessary attachments, the elevator for conveying the sand thereto and for conveying the sand therefrom to the sand-platform, and the chutes for conveying the same therefrom to the mixer, and showing the means for regulating or controlling the feed from the series of chutes to the mixer and from said mixer and the arrangement of belting and gearing for communicating motion to the parts.

The furnace A may be constructed in any usual or preferred manner and has the sand-

drum B located in the upper portion thereof in bearings $b\ b'$, secured to the end walls of the brickwork. An inclined conveyer C, having its lower end mounted in suitable bearings C' , rising from the foundation of the structure, extends up to the feed end of the drum and has its upper end mounted in suitable bearings C^2 , secured to the furnace-wall.

A hopper or hoppers D, communicating with the interior of the heating-drum, leads from the discharge end of the conveyer to receive the sand or like material to be operated upon therefrom and guide or convey it to the interior of the drum or drums to be heated.

The shaft at the upper end of the conveyer C has mounted thereon a belt or pulley wheel E, and in the bearing b' is also mounted a shaft F, having mounted on one end pulley-wheels, around one of which the belt from the wheel E passes, the purpose of the other wheel being hereinafter explained.

The shaft B' of the drum B has mounted thereon a beveled pinion B^2 , and the shaft F has also mounted thereon a beveled pinion F' , one for each drum employed, and which pinion or pinions mesh with and communicate motion to the pinion B^2 for rotating the drums.

The main structure or sand-room consists of the main working-floor or operating-room G, with the floor or platform constructed in any usual or preferred manner, with a hot-sand platform H above the same, resting on upright iron columns set in a stone foundation in the ground.

Within the main structure and preferably below the level is located a hopper or receptacle I, with which an inclined chute I' , leading from the discharge end of the drum, communicates. Mounted in this hopper is a shaft K, having mounted thereon one or a series of belt-wheels K' , and in the upper portion of the roof of the sand-room is located a shaft L, also provided with one or a series of belt-wheels L' , arranged in line with those on the shaft K, and mounted or carried by said pulleys is a conveyer belt or belts M, having suitable buckets M' , which act to pick up the sand from the hopper or receptacle I and convey the same to the sand-room, a conveyer-

spout N, with which the discharge communicates, receiving and distributing the sand from the conveyer onto the hot-sand platform and directing it toward the front thereof.

5 The shaft L has mounted on its end a pulley or belt wheel in line with the pulley or belt wheel on the shaft E, and by means of which motion is communicated from shaft F to the conveyer.

10 The hot-sand floor is provided with a series of openings or outlets from which lead pipes R, of sheet-iron or similar material, all meeting or coming together at the sand-box. Each of the openings with which the pipes R communicate are provided with slides or cut-offs R',
15 provided with a suitable operating-lever R², extending to within reach of the attendant in the main operating-room, whereby to regulate the flow of sand through said pipes at will.

20 The sand-box S is set in trunnions, and the pipes at the front where they come together at the sand-box are provided with a general cut-off, by means of which and the independent cut-offs one attendant is enabled to
25 control and regulate the supply of sand at will and control the entire working of the apparatus.

The plant or apparatus herein shown and described is especially designed for use in
30 mixing or manipulating sand and like materials in the construction of pavements, concrete flooring, foundations, and like structures, and by means of which the entire manipulation of the material is brought under

the attendant in the operating-room, thereby 35 making a great saving in the cost of attendance, and consequently a great saving in the production of the material for such structures.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is— 40

In an apparatus for heating and controlling sand in paving operations, a heating-drum arranged in a slightly-inclined position over furnaces for heating the same, provided with a 45 hopper at its feed end and a chute at its delivery end, a conveyer arranged in close proximity to the feed end of the sand-heating drum, adapted to carry up the sand and deposit it in the feed-hopper, a main operating- 50 platform located at one end of the sand-drum and below the same, to which the sand is conducted after leaving the heating-drum, a hot-sand platform arranged above the main platform, having its floor provided with a series 55 of chutes leading down to the main platform and to a main or central chute, each chute being provided with an independent cut-off, and a conveyer running from the main platform to a point above the hot-sand platform, substantially as described, and for the purpose 60 set forth.

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

FRANCIS VINTON GREENE.

Witnesses:

A. L. BARBER,
H. J. WARREN.