

Witnesses:—  
 E. W. Tommaney  
 E. L. De Giorgi

Inventor  
 Charles I. Williams  
 per  
 Kisley & Love  
 Attorneys.

C. I. WILLIAMS.  
 ASPHALT PAVING PLANT.  
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2 SHEETS—SHEET 2.

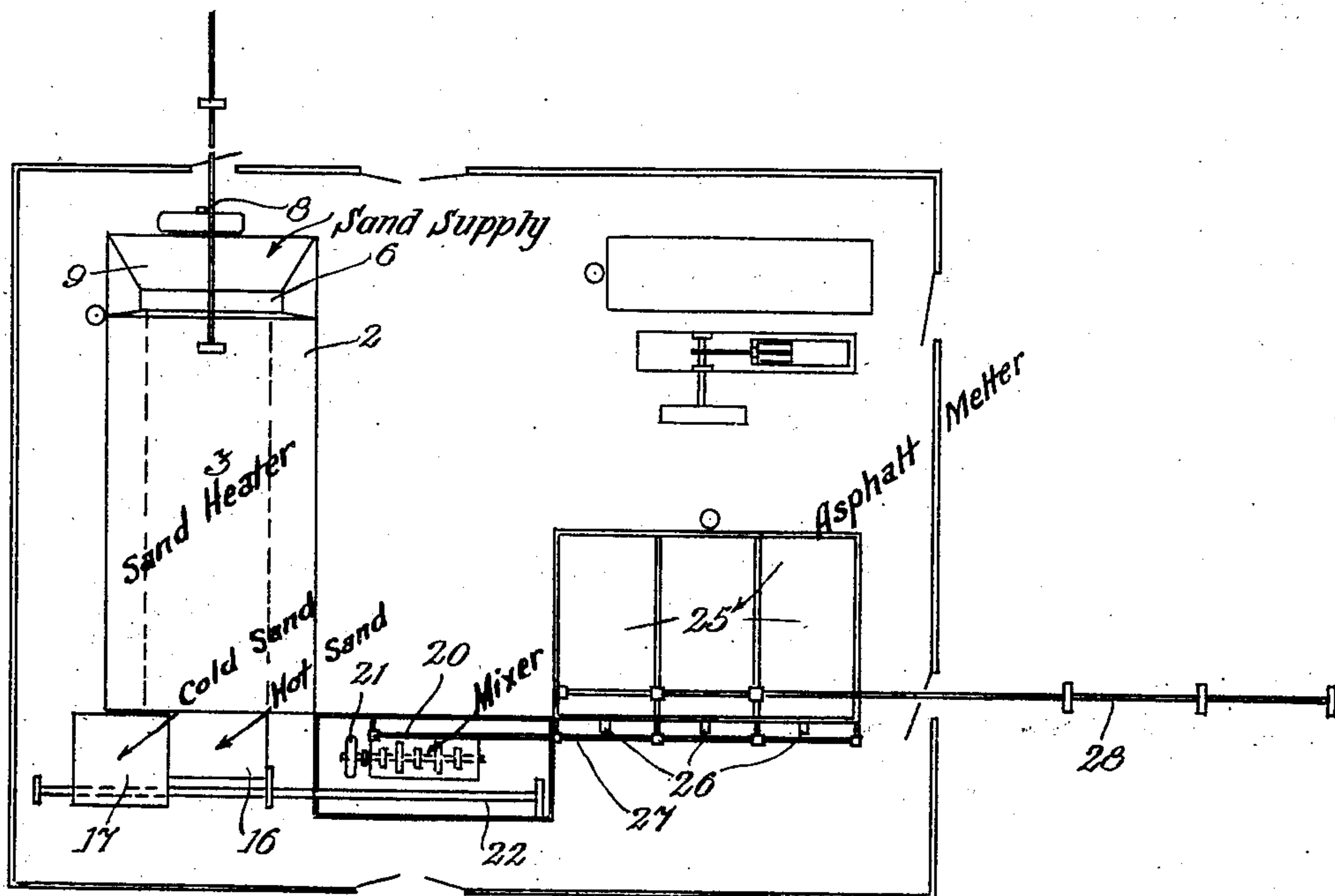


Fig. 4.

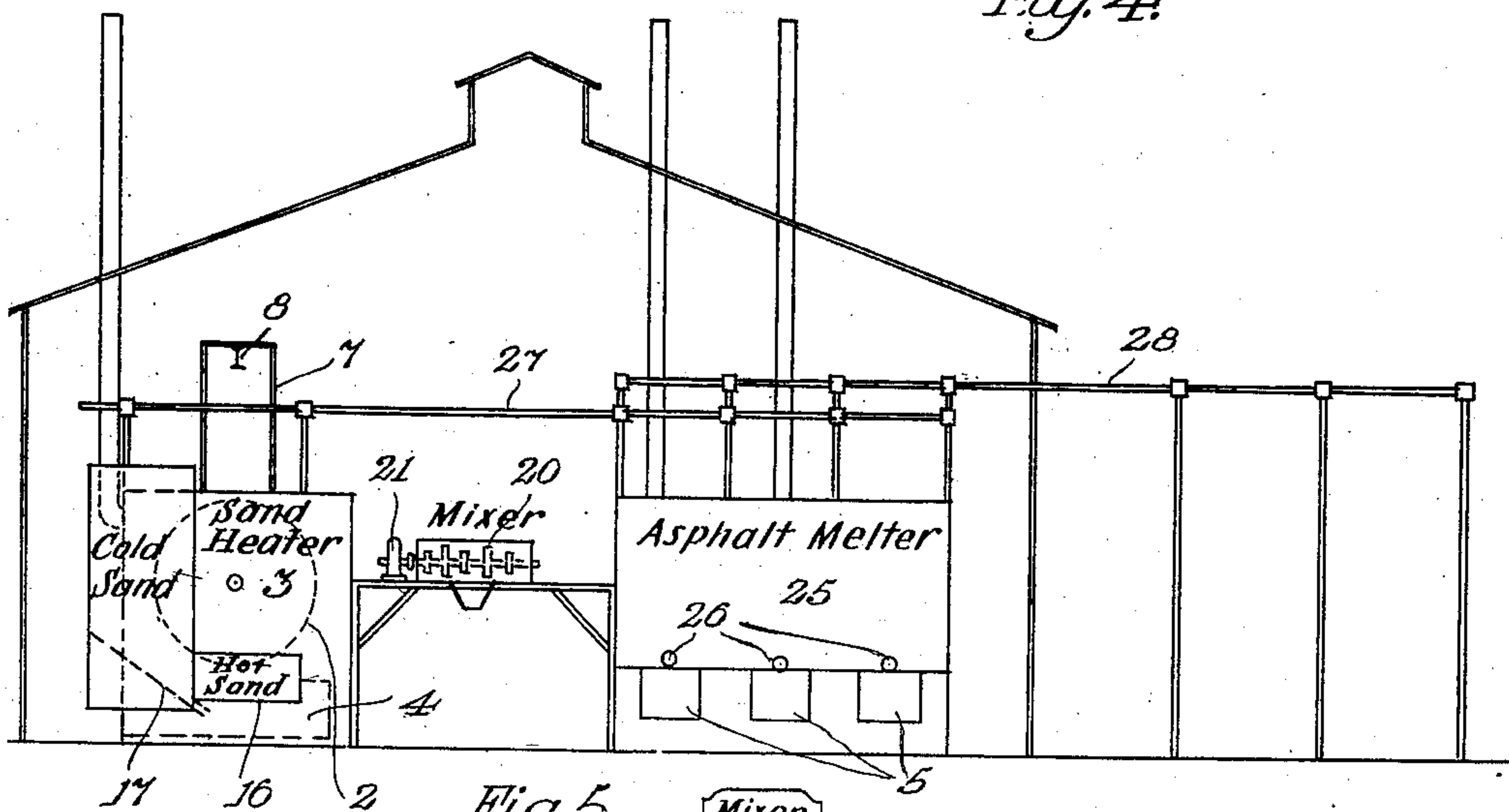


Fig. 5.

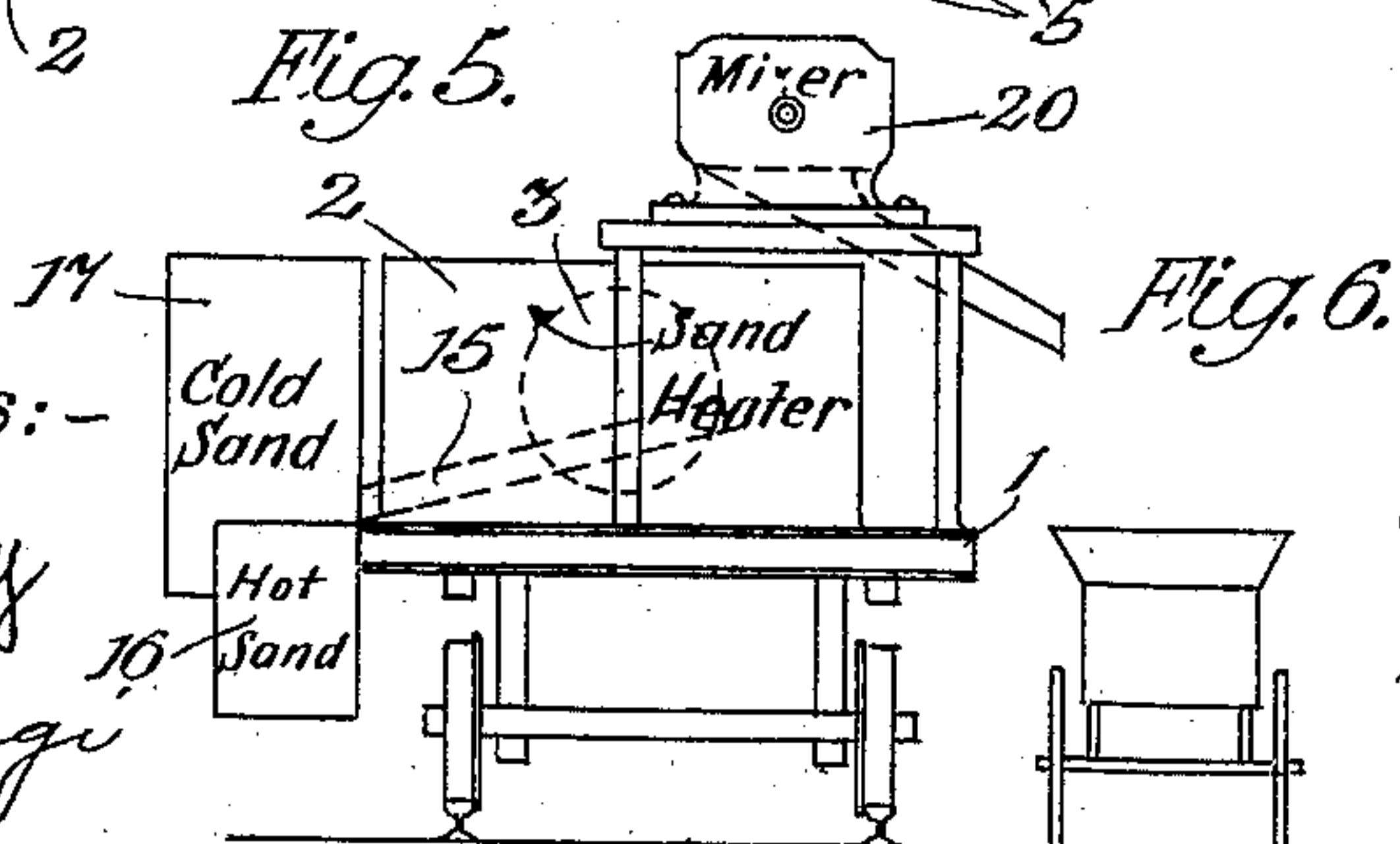


Fig. 6.

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 Risley & Love  
 Attorneys.



# UNITED STATES PATENT OFFICE.

CHARLES I. WILLIAMS, OF UTICA, NEW YORK.

## ASPHALT-PAVING PLANT.

978,973.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed July 10, 1907. Serial No. 383,128.

*To all whom it may concern:*

Be it known that I, CHARLES I. WILLIAMS, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Asphalt-Paving Plants, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to an improved asphalt paving plant, and I declare that the following is a full, clear concise and exact description thereof, sufficient to enable one skilled in the art to make and use the same, reference being had to the accompanying drawings in which like numerals and letters refer to like parts throughout.

While the invention is called an asphalt paving plant, it is evident that it may be given a variety of uses and is not limited to the particular showing.

The purpose of the invention is to provide an efficient, compact, economical and improved construction for such a plant, especially one which can be set up in a building of much smaller dimensions than is customary, or can be readily transported from place to place.

With this idea I illustrate the invention as mounted on a single platform car for transportation and for the manufacture of asphalt paving mixture on the car. In another view I show how these utilities can be arranged in a compact manner in a building of comparatively small dimensions, and so positioned as to greatly increase the facilities for the work as is also the case in the showing of the other form.

The features of my invention will appear from an examination of the drawings and the following description.

Figure 1 of the drawings is a plan view of the device mounted on a platform car, showing the parts in position for operation; Fig. 2 is a side view of the same, and Fig. 3 is a view from the opposite side. Fig. 4 is a plan view of such plant located in a building, and Fig. 5 is an end view of the same. Fig. 6 is a sectional view on line  $x-x$  of Fig. 2, but with the mixer elevated above the car floor.

With reference particularly to the form shown in Figs. 1, 2 and 3, it may be said that one of the advantages of my improvement is that the plant can be expeditiously

set up on arrival at a given point, different outlying parts of the apparatus being so constructed as to be readily dismantled and loaded on the car, the several members being so arranged, both on the car and also in the example shown in Figs. 4 and 5, so as to avoid the elaborate superstructure of storage bins, hoisting apparatus and elevators which have heretofore been thought necessary to get proper feed to the apparatus and also to avoid the necessity of numerous sprockets, chains, belts and conveyers which have been necessary for the operation of such a device.

Referring to the figures in detail, 1 represents a platform car of ordinary construction. At one end of the car is located the sand supplying apparatus and at the other end the asphalt supplying apparatus. The former comprises a casing 2 within which is mounted the usual cylinder or drum used in driers which consists of a cylindrical member 3 suitably mounted to revolve and provided at one end to receive the material to be dried and heated and at the other end to discharge the same. This drier is of familiar construction and need not be shown or described in detail. Beneath the cylinder and its boxes are located suitable fire-boxes for heating the material and shown at 4, and also at the other end are located fire-boxes 5 for heating the asphalt. At the outer end of the drier 3 is a supply-box or storage-bin 6 above which is mounted the trolley-structure 7 comprising track 8 shown as an I-beam. The box is formed with a slanting bottom 9 to feed into the cylinder by gravity, or it can be arranged for mechanical feed. This outlet is here governed by a lever 10 extended to a point convenient to the operator, as shown in Fig. 1, so that he can regulate the feed of material to the drier. The track 8 extends on one or both sides of the car to such points as are convenient to take the material in buckets 11 which are hoisted and carried on the track by suitable means. But I prefer to employ a motor hoist and travel A so that the bucket can be located and when filled be raised and carried on the track to discharge the contents into the supply-box or storage-bin.

It will be understood that these tracks are suitably supported by braces or guys at suitable points, and indicated in a general way by 13. It will also be understood that suit-



able means are to be provided for operating the plant, and I show at one end of the car platform a small engine B suitable to operate a dynamo C. All power is to be supplied  
5 from the single source, or from other suitable sources, or, if preferred, from the local electric supply.

At the discharge end of the drier cylinder, 3, there is provided a trough 15, shown in  
10 dotted lines in Fig. 1, into which material is discharged from the cylinder and the bottom of which being on a slant discharges the same into the storage-bin 16 for hot material, which is suitably and removably  
15 mounted on the side of the car, as for instance by bolts passing through it and the side beam of the car. Adjacent this storage-bin for the hot material is a bin, 17, likewise suitably mounted to hold dry cold material  
20 and having a slanting bottom, as is also the case with bin 16. The purpose of this bin 17 is to provide a supply of cold dry material to mix with that which is taken from the hot storage-bin 16 to regulate the tem-  
25 perature of the material which is to be used in the mixture.

About midway of the car platform and at one side is shown a mixer or pug-mill 20 which is of ordinary construction and the  
30 details of which need not be specifically shown or described. If desired, a motor 21 may be provided in connection with the mixer to operate the same. From a point above the mixer to a point adjacent to the  
35 hot storage-bin 16 is an elevated track 22 adapted to carry a motor and hoist, of the character described, for the carriage of bucket 23 to be lowered to receive hot material from the box 16 and cold material  
40 from the box 17, if required, and thence to carry the same to be discharged into the mixer 20. On the other end of the car are provided asphalt tanks, 25, of which I show a number, each having a discharge valve at  
45 the bottom shown at 26. Alongside these tanks is mounted a track to carry a motor and bucket for collecting the component material, such as asphaltic cement, from the proper tank and conveying it to the mixer,  
50 20, the track being indicated by 27. At the opposite end of these tanks is shown a track 28 suitably supported and carrying a motor and bucket 29 to convey material from the supply source to the tanks.

30 indicates a track extending from a point over the mixer outwardly and supported at suitable points, as by braces 31, and which is provided with a like motor to carry bucket 32 and which bucket is carried under  
60 the car on lower track 33, so that the mixer discharges into the bucket which is then taken by the trolley and carried out on the track 30 to wagons, or a motor and bucket may be used to discharge directly into wag-  
65 ons without the use of bucket 32, or, as seen

in one illustration, the wagon may be brought into position to receive the discharge directly from the mixer.

It will be understood that the mixer may be elevated above the platform of the car so  
70 as to make discharge through an inclined chute into wagons and as indicated in Fig. 6.

It will be understood that the parts which form and support the several tracks are to be suitably framed for immediate erection  
75 and dismantling and are to be suitably secured as on standards fixed to the car-sills or base structure, being removably attached so that they can be readily mounted and dis-  
80 mounted for transportation. Further, the track structure may be made extensible by duplication of sections and may be arranged to reach any given point.

Instead of using tracks for the motors it may be preferred to use other suitable con-  
85 veyer means located as in the showing in practically one level of work, it being my purpose to avoid the necessity of working from one level through elevated members of the apparatus and of erecting, maintaining  
90 and operating such members.

Referring particularly to the showing made in Figs. 4 and 5, it will be seen that I  
95 arrange the drier and the accompanying parts in substantially the same manner with track, motor and bucket to convey the hot material to the mixer 20. On the other side are the tanks for the component material, with their associated utilities, including  
100 means to convey the material to the tanks 25 and therefrom to the mixer 20.

To those familiar with the art it will be apparent that my device is substantially different from anything heretofore employed,  
105 in that the several elements which make up the apparatus are located substantially on a level and the feed of material is made by carriage which avoids the cost of machinery and apparatus, and the expense of maintain-  
110 ing the same, to convey material to an elevated point, and the multitude of gearing, sprockets, chains, conveyers and belting which is necessary in the operation of such a device and the mounting and dismantling of  
115 which require a great deal of time as well as expense.

The drier and the tanks are separated by a space wide enough for a wagon and the mixer is on a platform raised high enough  
120 to allow the wagon to drive under so that the discharge into the wagon can be made directly from the bottom of the mixer into the wagon.

Having described my invention, what I claim as new and desire to secure by Letters  
125 Patent, is:

1. In a plant of the character described, the combination with an asphalt melter and a mixer, of a sand heating member, the same comprising an automatic feeding supply, a  
130



receptacle for the heated output therefrom  
and a receptacle adjacent to the latter for  
cold sand, the two latter receptacles having  
outlets for discharge into a common recep-  
5 tacle whereby the sand may be mixed to  
supply the mixer with sand of desired tem-  
perature, substantially as described.

2. In a plant of the character described,  
the combination with an asphalt melter and  
10 a mixer, of a sand heater all arranged on a  
single portable platform, the sand heater  
comprising means for the passage of sand  
therethrough to be heated, with means for  
opening and closing the supply thereto, and

a plurality of bins at the outlet end of said 15  
heater, one to receive the discharge there-  
from and one to contain a supply of cold  
sand, the two bins having a common dis-  
charge whereby the contents may be pro-  
portioned in the mixing of the product to 20  
supply sand of a given temperature, sub-  
stantially as described.

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

CHARLES I. WILLIAMS.

Witnesses:

ELEANOR T. DE GIORGI,  
EVERETT E. RISLEY.