

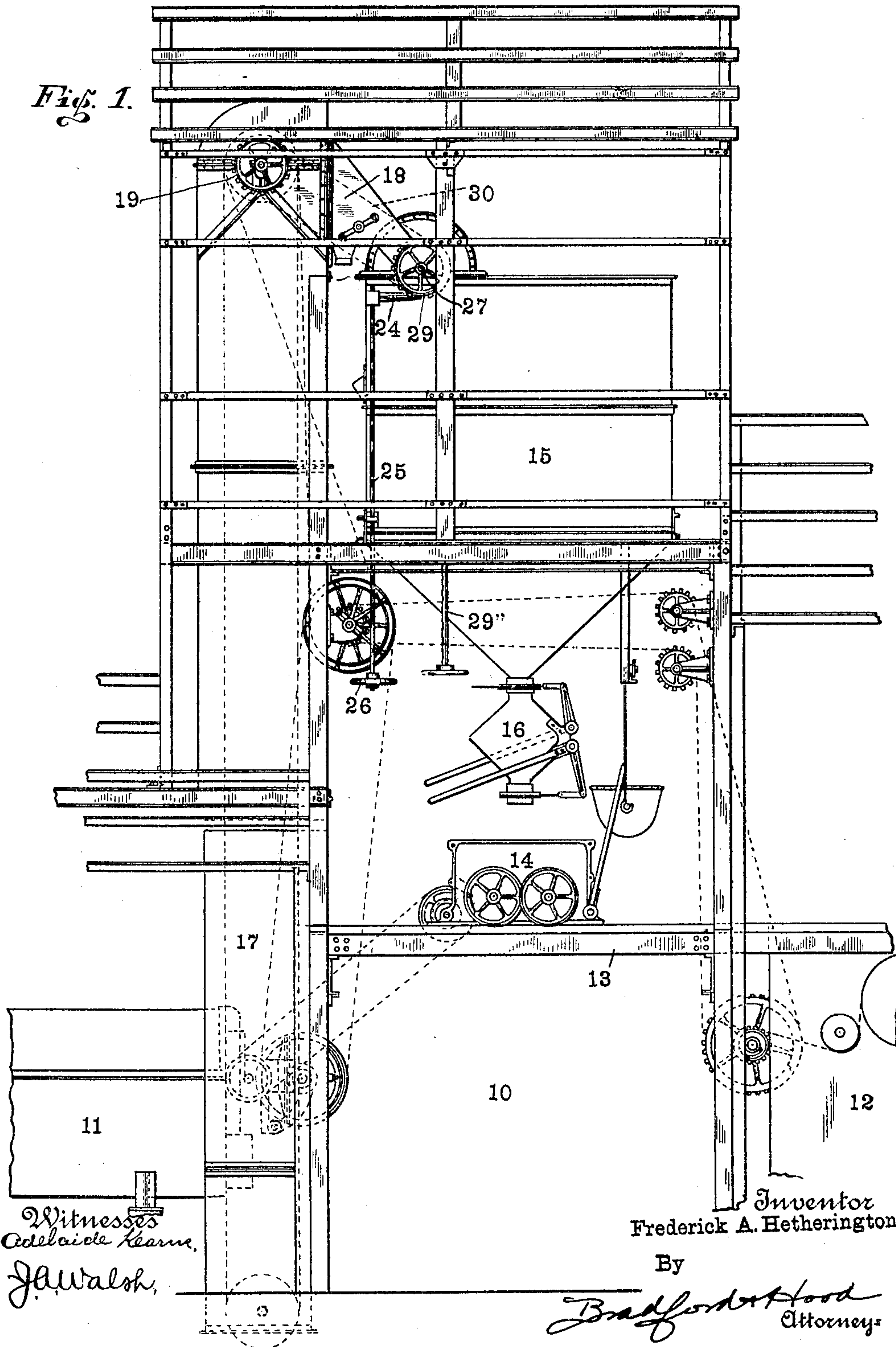
No. 816,229.

PATENTED MAR. 27, 1906.

F. A. HETHERINGTON.
SCREEN AND STORAGE BIN FOR ASPHALT.

APPLICATION FILED FEB. 29, 1904.

2 SHEETS—SHEET 1.



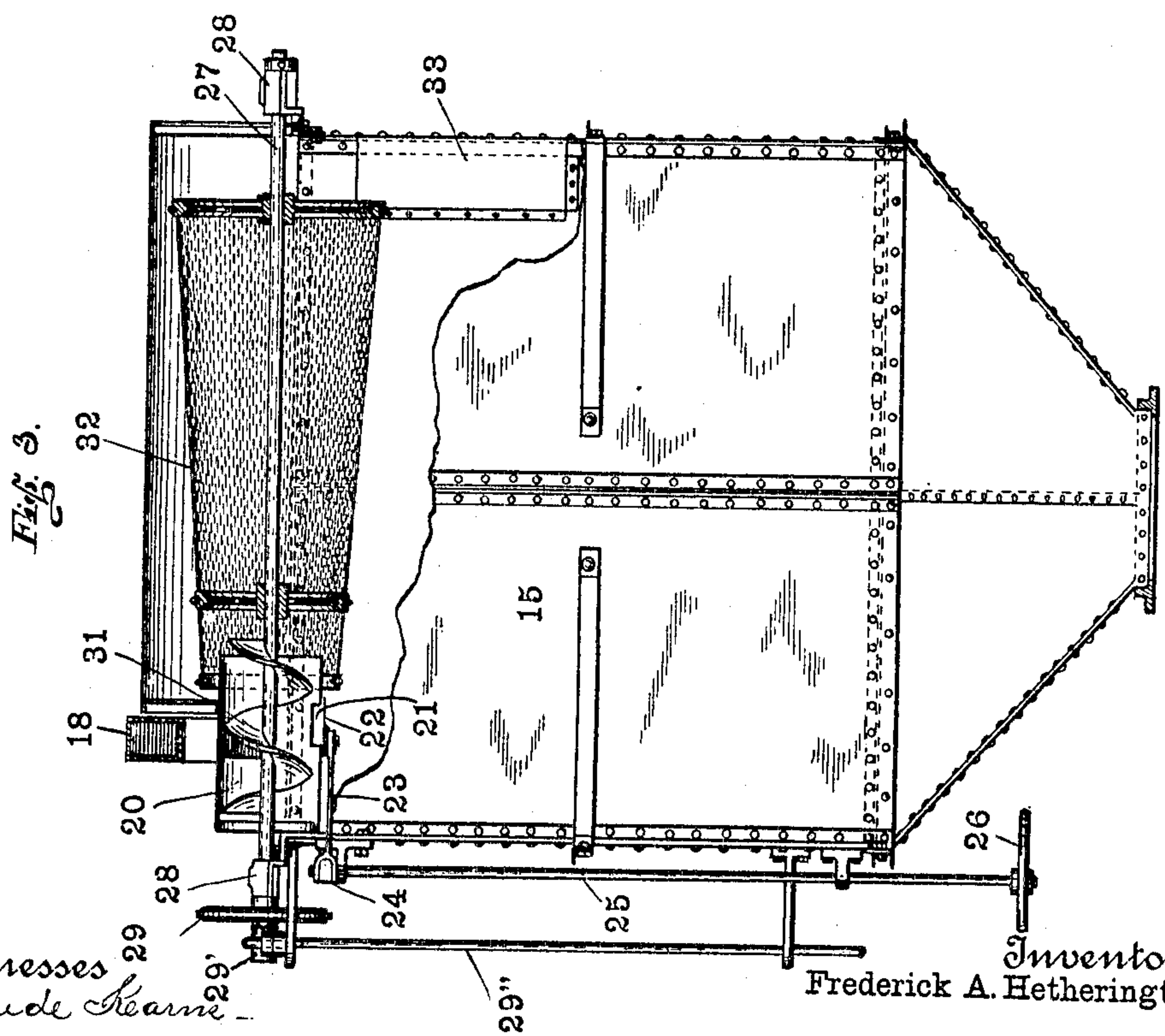
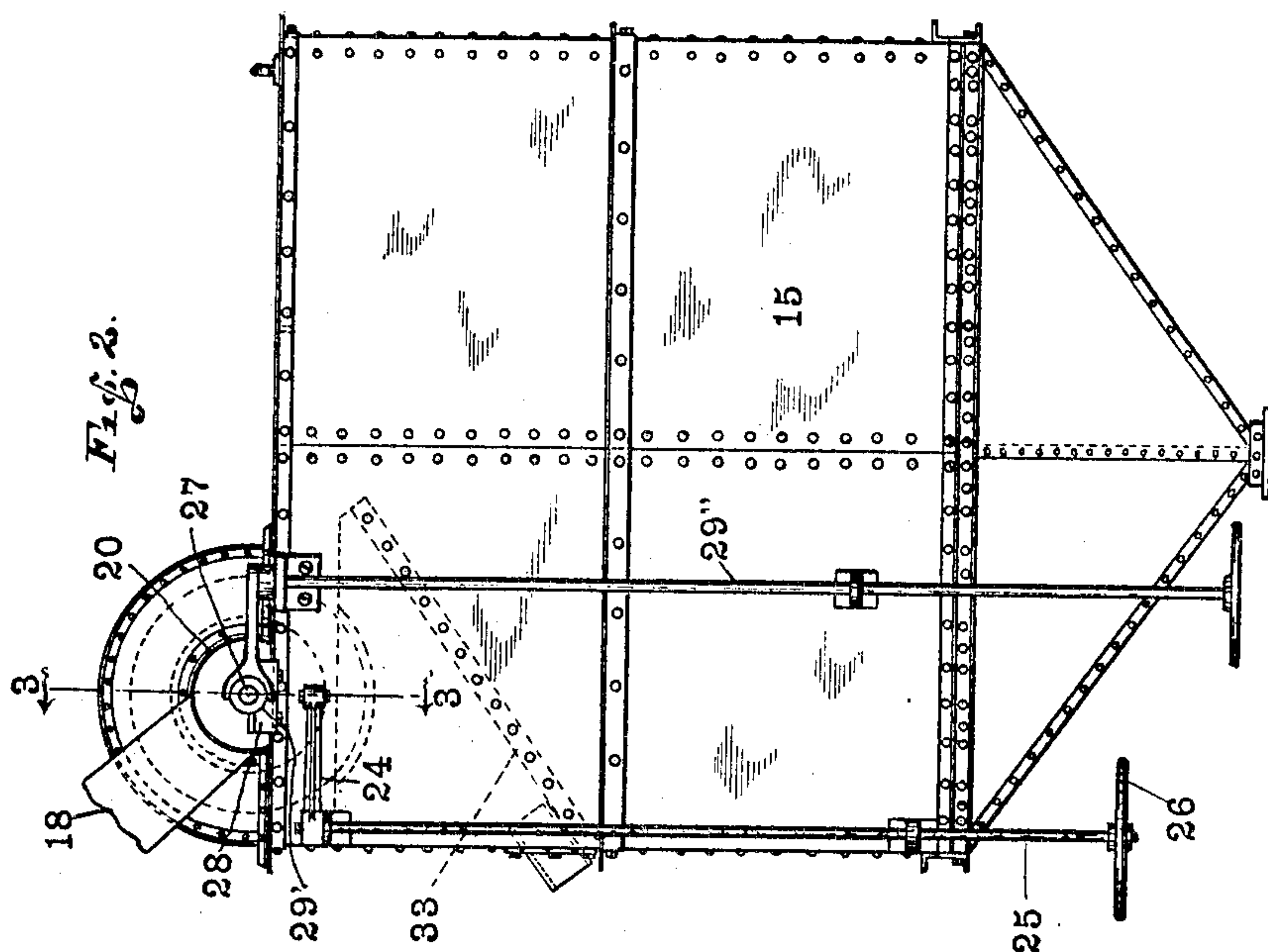
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2 SHEETS—SHEET 2.



Witnesses
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UNITED STATES PATENT OFFICE.

FREDERICK A. HETHERINGTON, OF INDIANAPOLIS, INDIANA.

SCREEN AND STORAGE-BIN FOR ASPHALT.

No. 816,229.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed February 29, 1904. Serial No. 195,855.

To all whom it may concern:

Be it known that I, FREDERICK A. HETHERINGTON, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Screens and Storage-Bins for Asphalt, of which the following is a specification.

In the manufacture of asphalt pavements at least two courses of asphalt are laid down, the upper or topping course being of finer material than the lower or binder course. The same plant is used for the production of both these courses; and the object of my invention is to provide a storage-bin and screen construction by means of which the parts may be readily converted for use in connection with the production of either course.

A further object of my invention is to provide a construction in which the storage-bin screen may be supported upon a horizontal shaft instead of being supported, as heretofore, upon an inclined shaft, thus making it possible to drive the storage-bin screen by a direct chain-drive and avoiding the usual train of belts and gearing.

The accompanying drawings illustrate my invention.

Figure 1 is an elevation of that portion of an asphalt plant lying immediately above a driveway which passes beneath the mixer, with the adjacent portions of the sand-drying apparatus on one side and the melting-kettles upon the other. Fig. 2 is an elevation, on an enlarged scale, of the storage bin and screen; and Fig. 3 a partial section on line 3-3 of Fig. 2.

In the drawings, 10 indicates a driveway formed transversely of the plant between the sand-drying drums 11 on one side and the melting-kettles 12 upon the other. Bridging the driveway is a platform 13, upon which is supported the mixer 14. Arranged above the mixer 14 is a suitable storage-bin 15, having at its lower end a usual or desired form of measuring-spout 16. Leading up from drier 11 is a sand-elevator 17, provided with a discharge-spout 18, (preferably of the form described and claimed in my copending application, Serial No. 195,857.)

The moving parts of the hot-sand elevator 17 are driven in any suitable manner, as indicated in dotted lines, and the upper shaft thereof is provided with a sprocket-wheel 19. The discharge-spout 18 leads directly into a drum 20, which is arranged in the upper end of the storage-bin 15 with its axis parallel

with the axis of the hot-sand elevator. The lower side of drum 20 is provided with a discharge-opening 21, leading directly into bin 15, and its opening is closed by a sliding door 22, connected by a pitman 23 with an arm 24, carried at the upper end of a shaft 25. The lower end of shaft 25 is brought down far enough to be within easy reach of the platform 13 and is provided with a suitable hand-wheel 26, by means of which it may be rocked. Extending through drum 20 and substantially in the axis thereof is a shaft 27, which is supported in suitable substantial horizontal bearings 28, supported on the storage-bin 15. Shaft 27 is provided at one end with a sprocket-wheel 29, arranged in line with sprocket-wheel 19. The sprocket-wheel 29 is preferably mounted on shaft 27 and may be connected therewith or disconnected therefrom by means of a clutch 29', which may be shifted by means of a hand-shaft 29'', connected therewith and extending down to a point within convenient reach from platform 13, so these two sprockets may be connected by a suitable chain or other belt 30. (See dotted lines in Fig. 1.) Mounted upon shaft 27 and rotatable therewith within drum 20 is a suitable feed flight or screw 31, which operates to discharge material from the inner or open end of drum 20 into the smaller end of a conical screen 32, which is secured to shaft 27 with its smaller end overlapping the inner end of drum 20. Located beneath the larger open end of the screen 32 is a gravel-discharge spout 33, which discharges from one side of the storage-bin 15. It will be noticed that by the use of the conical screen instead of a cylindrical screen, as has heretofore been used, I am enabled to place shaft 27 parallel with the upper shaft of the sand-elevator, and thus connect these two shafts directly by a single belt, thus avoiding the complication train of gearing and also avoiding the necessity of thrust-bearings on the screen-shaft.

In operation, if binder course is to be produced, where broken stone or other material is to be used the operator rocks shaft 25, so as to withdraw door 22 and open 21. The screen-shaft is then disconnected from the driving parts by shifting clutch 29' and turned so as to place feed-screws 31 in a position where it will not prevent a direct flow from spout 18, through drum 20, and out of opening 21 directly into the storage-bin.

When topping course is desired, the operator has merely to return door 22 to its normal

position and connect shaft 27 to the driving parts by returning clutch 29', whereupon the material is fed from drum 20 into the smaller end of the conical screen 32, where by reason of a downward inclination of the lower side the material runs toward gravel-chute 33, the finer sand passing through the screen in the storage-bin, while the gravel passes into the chute 33.

10 I claim as my invention—

1. The combination, with an endless-belt sand-elevator and a storage-bin to which said elevator delivers, of a conical screen rotatably mounted upon a substantially horizontal axis and interposed between the discharge end of said elevator and said bin to receive material from said elevator, the axis of said screen being substantially parallel with the axis of the upper end of the elevator, a direct belt-driving connection between said elevator and screen, and means for deflecting the

flow of material from said elevator directly into the storage-bin.

2. In an asphalt plant, the combination with a sand-elevator and storage-bin, of a receiving-drum arranged between the storage-bin and elevator, a connection between said elevator and said receiving-drum, a conical screen rotatably mounted adjacent said receiving-drum with its smaller end overlapping the same, and feeding means arranged within the drum, a door arranged to close an opening in the bottom of said receiving-drum, and means for moving said door.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 23d day of February, A. D. 1904.

FREDERICK A. HETHERINGTON. [L. s.]

Witnesses:

ARTHUR M. HOOD,
JAMES A. WALSH.