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SMOKE AND CINDER CONVEYER FOR LOCOMOTIVES AND TRAINS.
APPLICATION FILED OCT. 24, 1908.

917,730.

Patented Apr. 6, 1909.

Fig. 1.

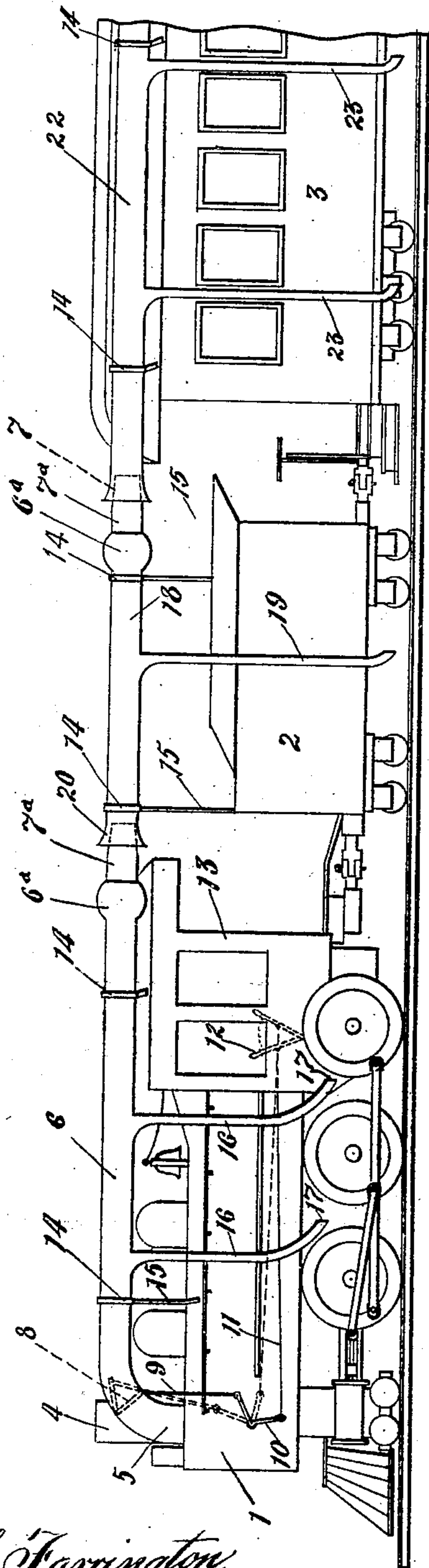


Fig. 4.

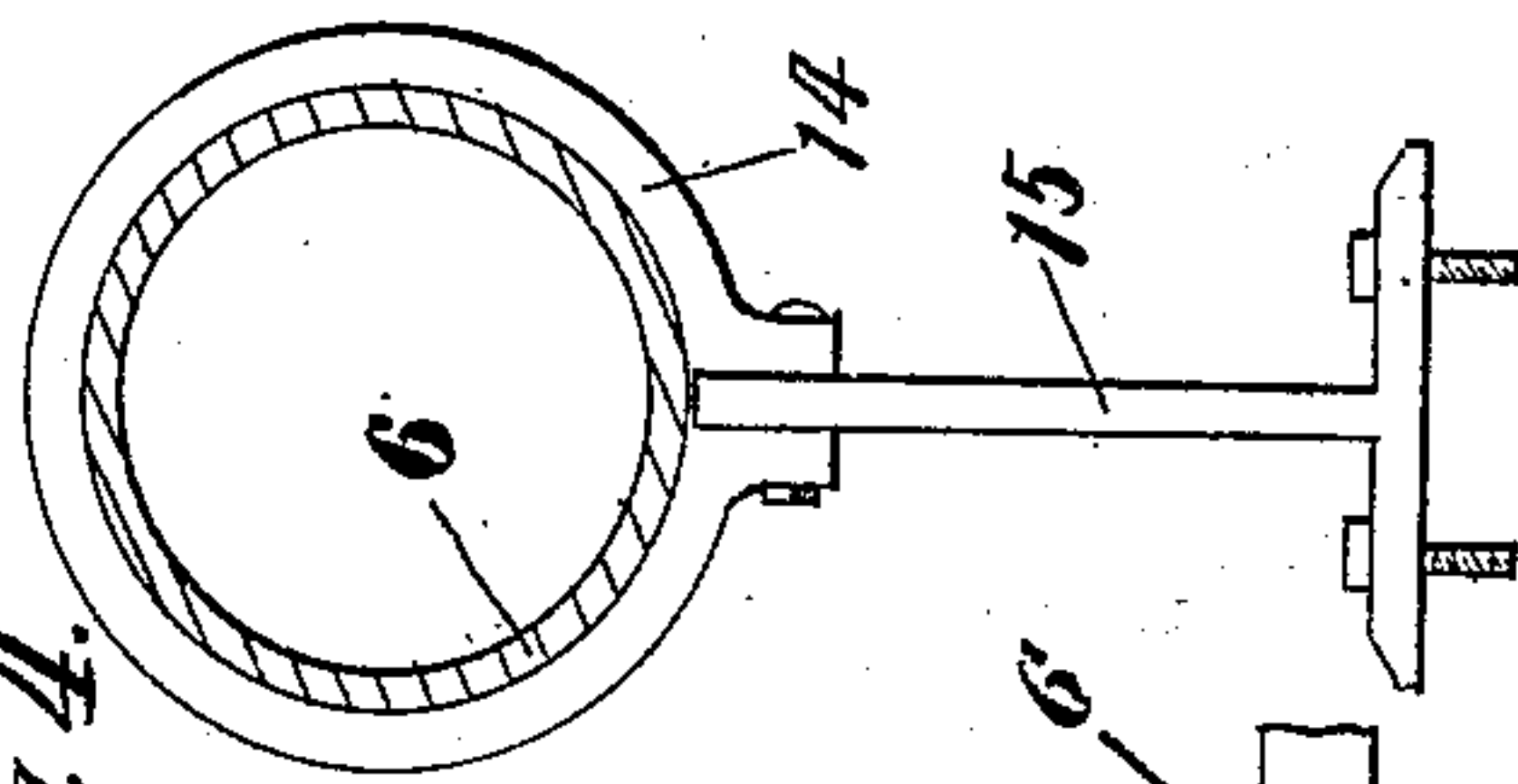


Fig. 3.

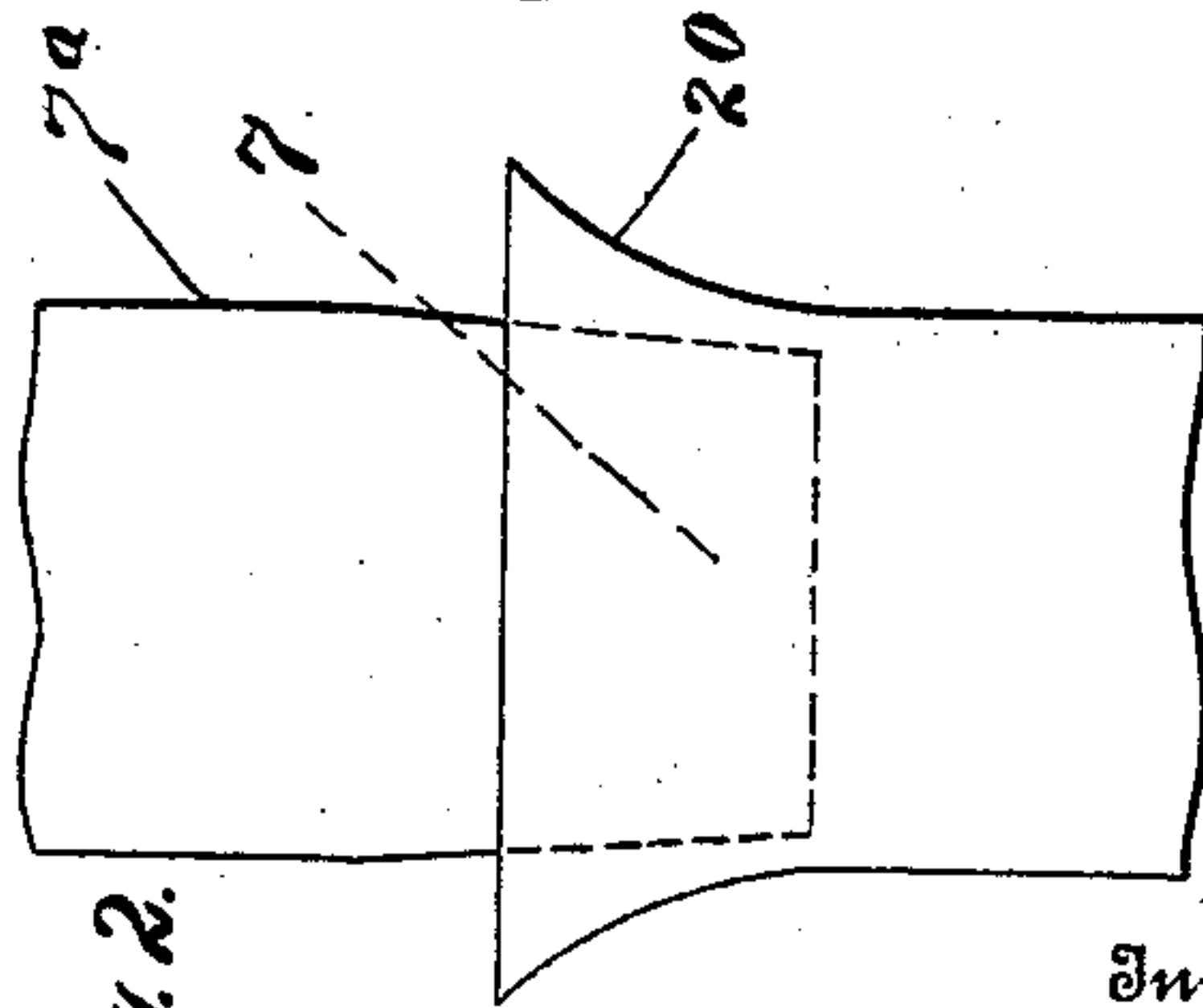
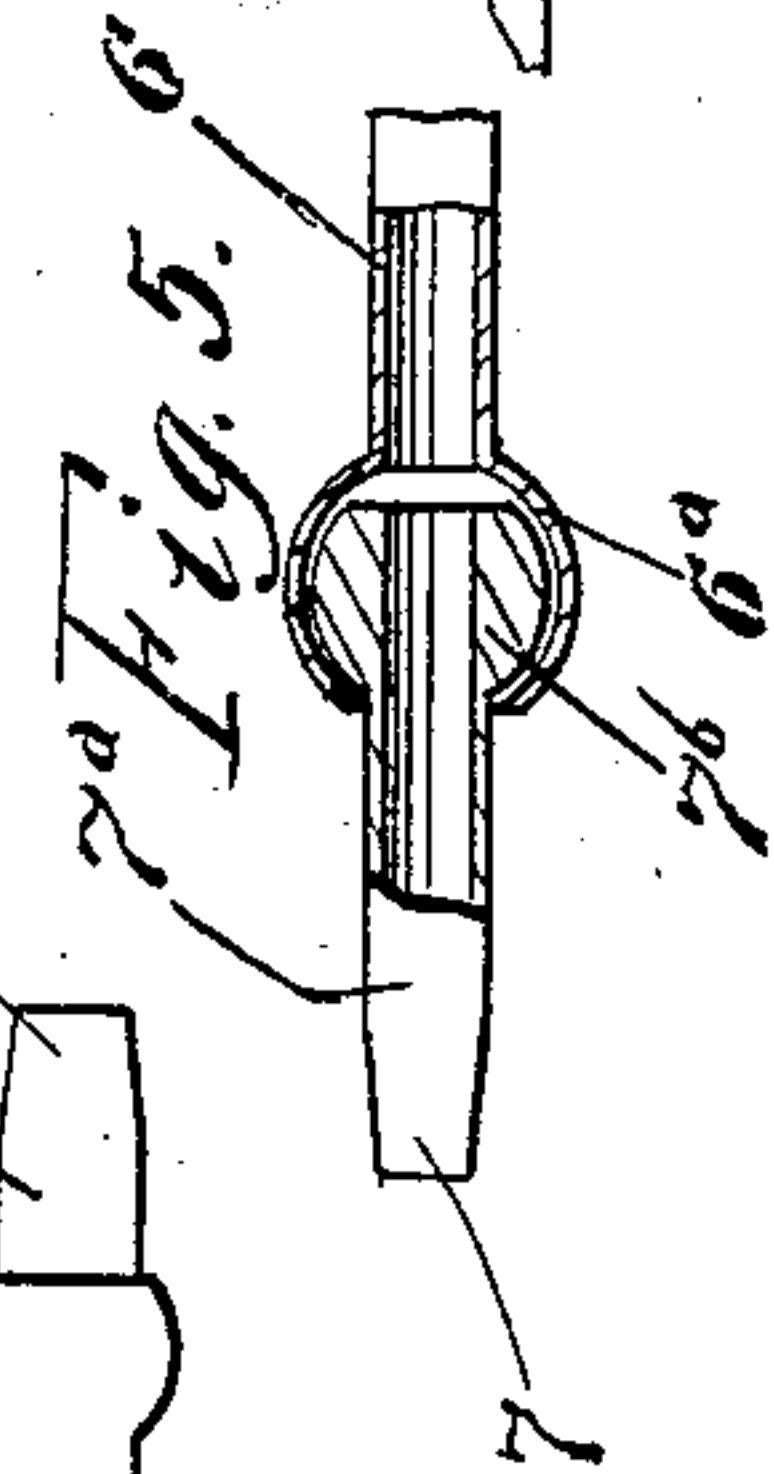
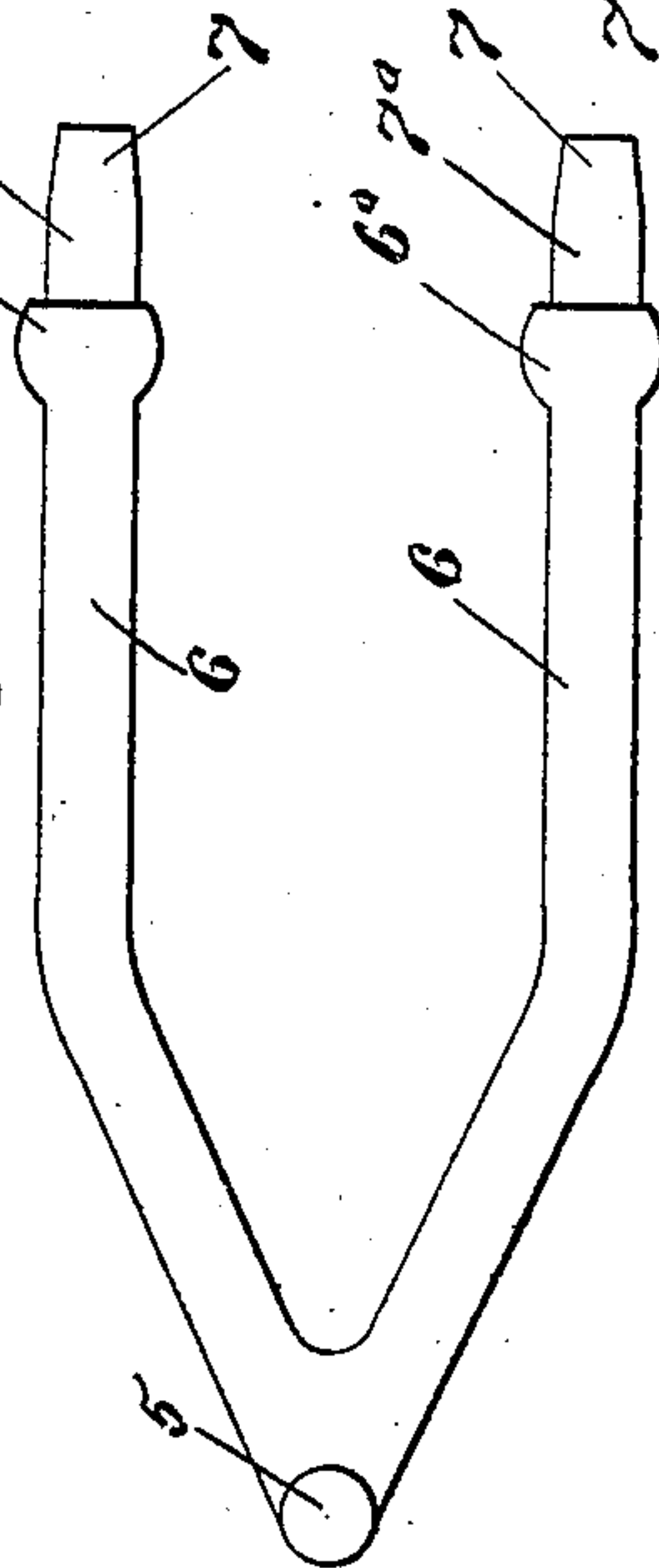


Fig. 2.

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UNITED STATES PATENT OFFICE.

FRANK ISHMAN, OF MARTINS FERRY, OHIO, ASSIGNOR OF ONE-HALF TO JOHN DUDA, OF MARTINS FERRY, OHIO.

SMOKE AND CINDER CONVEYER FOR LOCOMOTIVES AND TRAINS.

No. 917,730.

Specification of Letters Patent.

Patented April 6, 1909.

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To all whom it may concern:

Be it known that I, FRANK ISHMAN, a citizen of the United States of America, residing at Martins Ferry, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Smoke and Cinder Conveyers for Locomotives and Trains, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a smoke and cinder conveyer for locomotives and trains, and the object of my invention is to provide a novel conduit for conveying smoke and cinders along the top of the train, whereby the passengers on the train will not be bothered with smoke and cinders when traveling.

The smoke and cinder conveyer is designed as a convenience to travel, particularly when passing through tunnels, train sheds, and inclosures, which cause smoke and cinders to accumulate in passenger coaches when the windows thereof are opened.

In using my conveyer the cinders are prevented from flying about in the air and are deposited at the sides of the train while the smoke is conveyed to the rear end of the train and allowed to escape without enveloping the coaches.

In order that the train can pass around curves, the conveyer is constructed to conform to any irregularities in a track, and to permit of coaches being readily assembled and connected to a locomotive to provide a train.

My invention will be more fully described hereinafter and then specifically claimed.

In the drawings, Figure 1 is an elevation of a portion of a train equipped with my conveyer, Fig. 2 is a plan of one of the couplings of a conveyer, Fig. 3 is a plan of the locomotive equipment, Fig. 4 is an elevation of one of the conveyer supports, and Fig. 5 is a longitudinal sectional view of a conveyer coupling.

In the accompanying drawings, 1 designates a locomotive, 2 a locomotive tender and 3 a passenger coach. The locomotive besides having the ordinary stack 4, is provided with a stack 5.

The smoke and cinder conveyer embodies two sets of tubular conduits or pipes, as shown the pipes of each set are indicated by the reference characters 6, 18 and 22, the pipe 22 being broken away and its ends are con-

structed similar to that of the ends of the pipe 18. The train is illustrated as composed of a locomotive, a tender and a passenger coach, but the number of coaches can be increased, if so, additional pipes 22 are employed. There is also a pipe 22 employed for each coach 3. The pipes 6 are the forward pipes of each set and the said pipes 6 at their forward ends open into the stack 5.

In the stack 5 is located a damper 8, which is opened and closed by a rod 9 connecting with a bell crank lever 10 pivotally arranged at the forward end of the locomotive, said bell crank lever being connected by a rod 11 to an operating lever 12 arranged in the cab 13 of the locomotive. When the damper 8 is closed, the stack 4 is used as an exhaust for smoke, steam and cinders. With the damper 8 open, a greater draft is created in the stack 5 than in the stack 4, consequently, smoke and cinders will be drawn into the stack 5 when said damper is open.

The pipes or conduits 6 are supported upon the locomotive by straps 14 connecting with supports 15 mounted upon the boiler and cab of the locomotive. These conduits are provided with down-pipes 16 having rearwardly bent ends 17, for discharging cinders at the sides of the locomotive.

The pipes or conduits 18 above the tender are supported similar to the conduits 6, said pipes or conduits having down-pipes 19 for the same purpose as the pipes 16. The forward ends of the pipes or conduits 18 are flared or funnel-shaped, as at 20, to receive tapering or contracted ends 7 of coupling pieces 7^a having spherical enlargements 7^b adapted to fit in the globular ends 6^a of the pipes or conduits 6. The rear ends of the pipes or conduits 18 are constructed similar to the rear ends of the pipes or conduits 6 and are provided with coupling pieces 7^a to enter the funnel-shaped forward ends of pipes or conduits 22 supported in a similar manner to the previously mentioned pipes or conduits upon the coach 3. These pipes or conduits 22 are provided with down-pipes 23 and the coach equipment of the train is identical throughout. The globular ends 6^a and the spherical ends 6^b of the pipes or conduits and coupling pieces correspond to a ball and socket coupling, as clearly shown in Fig. 5, and insure a positive connection between the various equipments of a train.

It will be observed that the pipes or con-

duit couplings in connection with the pipes or conduits produce a continuous conveyer throughout the length of the train, and that the units of the train can independently
5 move without interrupting or retarding the passage of smoke and cinders through the pipes or conduits and the standing pipes.

My smoke and cinder conveyer is constructed of strong and durable metal and is
10 finished to harmonize with the rolling stock in connection with which the same is used.

Having now described my invention what I claim as new, is:—

A smoke and cinder conveyer for locomotives comprising a stack independent of the
15 locomotive stack and opening into the smoke box of a locomotive and having its upper end curving rearwardly, two sets of conducting pipe sections, the forward pipe section of
20 each set having a longitudinally extending portion and an inwardly inclined portion, the inclined portions of the forward pipe sections of said sets opening into each other and
opening into said stack, the longitudinal por-
25 tion of each of said forward pipe sections

having its rear end globular in contour, each of the other pipe sections of each set having a globular and a flaring end, coupling members between the pipe sections of each set, each
30 of said members having the periphery at one end provided with a spherical enlargement and having its other end tapering, said end of a coupling member having a spherical en-
35 largement engaging in the globular end of a pipe section, the tapering end of each of said members engaging in the flaring end of a pipe section, a damper positioned in the curved upper end of said stack, a bell crank
connected to the locomotive, a pair of rods, one of said rods coupling the damper to one
40 arm of said bell crank, the other of said rods connected to one arm of the bell crank, and a lever connected to said last mentioned rod.

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

FRANK ISHMAN.

Witnesses:

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A. D. COSS.