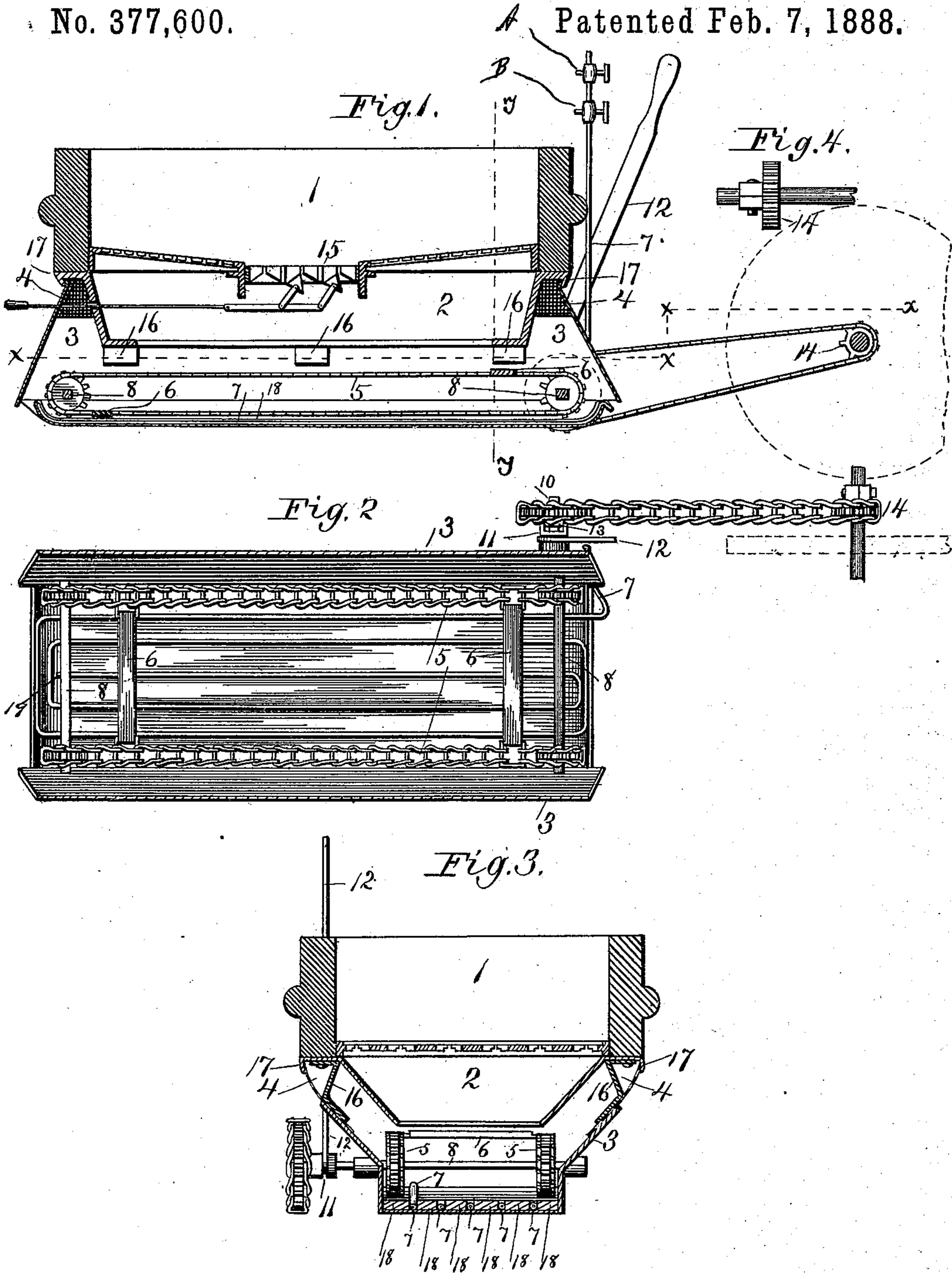


(No Model.)

P. J. BROWN.
LOCOMOTIVE ASH PAN.

No. 377,600.

Patented Feb. 7, 1888.



Witnesses:
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PERRY J. BROWN, OF ALBUQUERQUE, TERRITORY OF NEW MEXICO.

LOCOMOTIVE ASH-PAN.

SPECIFICATION forming part of Letters Patent No. 377,600, dated February 7, 1888.

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To all whom it may concern:

Be it known that I, PERRY J. BROWN, a citizen of the United States, residing at Albuquerque, in the county of Bernalillo and Territory of New Mexico, have invented certain new and useful Improvements in Locomotive Ash-Pans, of which the following is a description.

My invention relates to an improvement in locomotive ash-pans, the peculiar construction of which will be hereinafter set forth, and its essential features particularly pointed out in the claims.

The object of my invention is to provide an attachment for locomotive ash-pans whereby the cinders and live sparks are extinguished as they fall from the grate and are prevented from setting fire to objects along the railroad; and a further object of my invention is to provide means for constantly discharging the said cinders and sparks as they are extinguished, thereby dispensing with the ash and clinker pits now in common use, and also relieving the fireman of the locomotive from the laborious manual exertion of cleaning out the ash-pan.

In the accompanying drawings, which form part of this specification, Figure 1 is a vertical longitudinal sectional view of a locomotive ash-pan provided with my improved devices. Fig. 2 is a horizontal sectional view of the same, taken on the line *xx* of Fig. 1. Fig. 3 is a vertical transverse sectional view of the same, taken on the line *yy* of Fig. 1. Fig. 4 is a view of a sprocket-wheel as attached to a shaft of the locomotive.

1 represents a locomotive fire-box of the ordinary construction, provided at its bottom with a dump-grate, 15, which may be operated by means of a rod that projects beyond one end of the fire-box, as shown.

2 represents a hopper having inclined downwardly-converging sides and ends. At the upper outer edge of the hopper is a downturned flange, 17, which extends entirely around the hopper. This hopper is secured to the lower side of the fire-box, and serves to direct the cinders, sparks, and ashes as they fall from the grate into the ash-pan 3, the sides and ends of which are inclined, as shown, and extend above the bottom of the hopper. An air-opening, 4, is left between the sides of the hopper and the sides of the ash-pan, said opening being covered by a sheet of wire-netting, which serves

to prevent the escape of sparks and cinders, but admits air to promote combustion. The upper edges of the wire-netting are secured within the flange 17, and the lower edges thereof are secured on the sides of the ash-pan. The latter is supported in position by hangers or brackets 16, which depend from the fire-box. Openings are left at the ends of the ash-pan at a slight distance above the bottom thereof, through which the ashes and cinders may be discharged by the endless conveyer hereinafter described. The said conveyer comprises a pair of shafts, 8, which are arranged transversely in the ash-pan, near the ends thereof, are journaled in the sides of said ash-pan, and have sprocket-wheels attached to them, which sprocket-wheels are connected by endless chains 5. These chains are connected to each other by means of transverse drag-bars or scrapers 6.

7 represents a pipe which forms a coil in the bottom of the ash-pan, is provided with a cock, A, which communicates with the boiler (not shown) above the water-line or at the steam-dome, and is provided also with a cock, B, which communicates with the boiler below the water-line.

By opening the cock A steam may be discharged into the ash-pan through the open end 19, and by opening the cock B water may be discharged into the ash-pan through said open end and maintained therein at a depth of a few inches, so as to extinguish sparks and cinders as they fall from the fire-box.

One end of one of the shafts 8 projects beyond one side of the ash-pan, and on the same is secured a loose sprocket-wheel, 10, which is adapted to slide on the projecting end of the shaft, and has a clutch, 11, of suitable construction, by means of which it may be secured rigidly to the shaft when the said sprocket-wheel is moved inward. 12 represents a lever by which the sprocket-wheel 10 may be moved in or out, and thereby engaged with or disengaged from the shaft.

A sprocket-wheel, 14, is secured to one of the shafts of the locomotive, and is connected to the wheel 10 by an endless sprocket-chain. By this means, when the locomotive is in motion, the conveyer may be kept in constant operation, so as to continually discharge the extinguished ashes and cinders from the ash-pan

as fast as they fall therein, and thus keep the pan clear.

The sprocket-wheel may be made of two semicircular sections bolted together on opposite sides of the locomotive-shaft, to enable the same to be readily attached to the shaft.

In order to form a bed in the bottom of the ash-pan, I provide a series of bars, 18, which are arranged longitudinally on the bottom of the ash-pan between the longitudinal members of the pipe 7. These bars are slightly greater in thickness than the pipe 7 is in diameter, and consequently they protect the pipe from injury by friction with the scrapers or drags of the conveyer.

Having thus described my invention, I claim—

1. The combination of the fire-box, the ash-pan, and the conveyer arranged in the ash-pan, for the purpose set forth, substantially as specified.

2. The combination, in a locomotive, of the fire-box, the ash-pan, the endless conveyer ar-

ranged in the ash-pan, and connections between said conveyer and one of the shafts of the locomotive to operate the conveyer when the locomotive is in motion, substantially as shown and described.

3. The combination of the ash-pan, the pipe to discharge steam or water into the same, for the purpose set forth, and the endless conveyer arranged in the ash-pan, substantially as described.

4. The combination of the fire-box, the hopper 2, depending from the lower side thereof and having the downward-converging sides, the ash-pan arranged below the hopper and having the inclined sides parallel to the sides of the hopper, and the hangers or brackets connecting the sides of the ash-pan to the fire-box, substantially as described.

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Witnesses:

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