No. 751,929. PATENTED FEB. 9, 1904.

O. LINK & A. SCHNEDLER.

ASH PAN.

APPLICATION FILED JULY 9, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

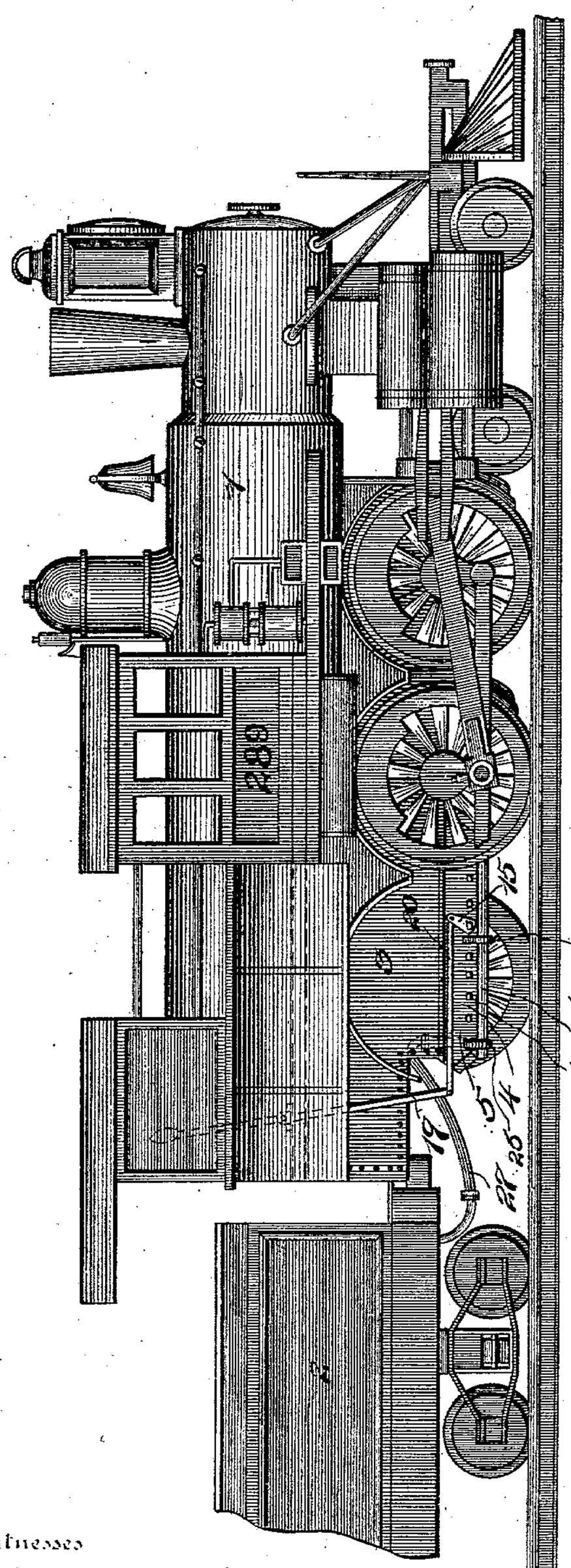
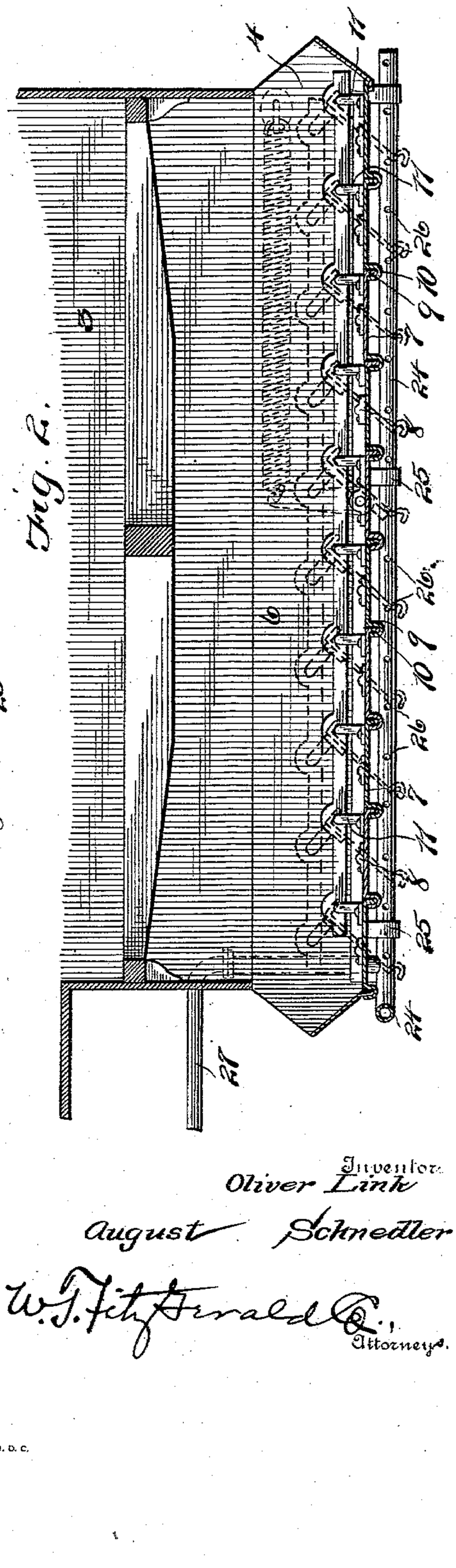


Fig. 2.



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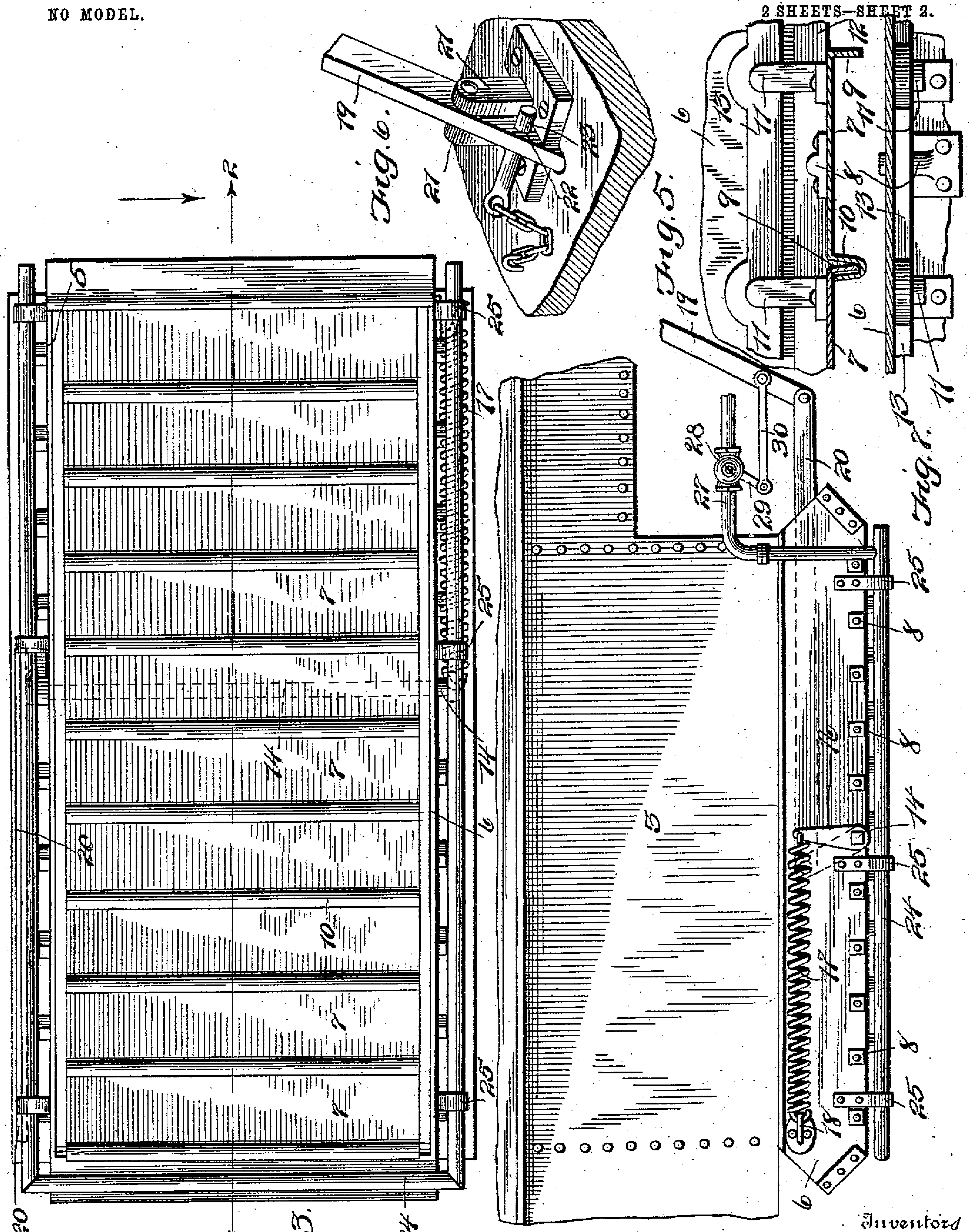
NO MODEL. 2 SHEETS—SHEET 2.



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No. 751,929. Patented February 9, 1904.

UNITED STATES PATENT OFFICE.

OLIVER LINK AND AUGUST SCHNEDLER, OF ST. CHARLES, MISSOURI.

ASH-PAN.

SPECIFICATION forming part of Letters Patent No. 751,929, dated February 9, 1904.

Application filed July 9, 1903. Serial No. 164,874. (No model.)

To all whom it may concern:

Be it known that we, OLIVER LINK and AUGUST SCHNEDLER, citizens of the United States, residing at St. Charles, in the county of St. Charles and State of Missouri, have invented certain new and useful Improvements in Ash-Pans; and we 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.

Our invention relates to an attachment for fire-boxes or furnaces, which, while primarily designed as an ash-box for railway-locomotives, will be found desirable and useful in other situations and places; and our invention consists of certain novel features of combination of parts, the preferred form whereof will be hereinafter clearly set forth, and pointed out in the claims.

The prime object of our invention, among others, is to provide an ash box or pit designed to receive the ashes and other similar products of combustion as the same falls from the grate-bars, as will be incident to a sudden jarring of the locomotive in passing over an uneven part of the track or over a bridge, resulting ordinarily in the escape of the hot ashes, cinders, or the like, which are liable to fall upon parts of the cross-ties or bridges and cause their destruction by fire.

A further object of our invention is to provide a convenient and reliably-efficient form of receptacle for ashes, cinders, &c., falling from the grate-bars of a locomotive, by means of which such products of combustion may be held in an assembled form without interference with the draft or the free operation of the grate-bars in the performance of their office.

Another object of our invention is to provide simple and easily-controlled means for dumping or discharging the accumulated ashes, &c., at the desired point and introduce a plurality of jets of water so projected in and through the falling mass of ashes, &c., that they will be cooled and the fire therein contained extinguished, while the dust will also be allayed.

Other objects and advantages will be hereinafter made clearly apparent, reference being had to the accompanying drawings, which are made a part of this application, and in which—

Figure 1 is a side elevation of a locomotive with our improved ash-pit attached thereto. Fig. 2 is a longitudinal sectional view as seen from the dotted lines 2 2 in Fig. 3. Fig. 3 is a bottom plan view of the ash-pit. Fig. 4 shows an elevation of the pit and a contiguous portion of the fire-box of a locomotive as seen from the opposite side of the engine from that illustrated in Fig. 1. Fig. 5 is a sectional view of a portion of our ash-pit on a slightly-enlarged scale from that followed in the other views. Fig. 6 is a detail perspective view of the locking mechanism for the controlling parts of our improved ash-pit. Fig. 7 shows a plan view of the construction presented in Fig. 5.

Briefly stated, our invention comprehends a suitable ash-receptacle, the bottom of which consists of a plurality of movable blades, said blades each having the trough-like edge or terminal upon one side and a depending flange upon the other side, whereby the flange of one blade will normally rest in the trough extension of the next contiguous blade, whereby when the said blades are disposed in a common horizontal plane a complete continuous floor for the ash-pit will be provided which will prevent all escape of the ashes deposited upon the blades until said blades shall have been simultaneously moved upon their extended ends or journals, all of which will be hereinafter pointed out in detail.

In order to conveniently refer in the following description to the various elements of our invention and coöperating features, numerals will be employed, the same numeral applying to a similar part throughout the several views.

Referring to the numerals on the drawings, 1 indicates a locomotive proper of the usual or any preferred form or type of construction, while 2 and 3 designate, respectively, the tender of the engine and the fire-box.

Attached to the lower edge of the fire-box 3 in any preferred manner is our improved ash-pit proper, 4, while pivotally carried by the lower edges of the walls 5 and 6 of our ash-

pit we properly mount a plurality of tilting floor sections or blades 7, said sections being provided at each end with supporting trunnions or journals 8, which are adapted to take into suitable bearings in a contiguous part of the walls 5 and 6. The plurality of floor-sections 7 are so formed that each of them will have at one edge a depending flange 9, while the other edge of each section is shaped by being properly bent downward and thence upward to form a trough-like or U-shaped member 10, the several floor sections or plates 7 being so assembled in their respective operative positions that the flange of one member will normally rest in the trough extension of the next contiguous plate, thus providing a seal against the escape of ashes deposited upon said plates, inasmuch as the ashes, dust, or the like could not escape without passing downward under the edge of the flange and thence upward over the edge of the trough extension, the joint between the floor-sections being practically air-tight. It is obvious that when all of the floor-sections are thus disposed in a common horizontal plane the upper surfaces thereof will present a continuous and smooth floor for the reception of ashes, cinders, &c., preventing such products of combustion from casually falling out of the ash-pit upon the cross-ties and endangering the loss thereof by fire.

In order that the sections 7 may be simultaneously tilted or moved so that each will occupy a separate vertical plane relative to the other sections, and thus leave an open space between them through which the ashes, &c., will fall, as indicated by dotted lines in Fig. 2, we provide for each floor-section a bracket or extension or controlling-arm 11, properly connected to each end of each floor-section, the location thereof being contiguous to the edge of the section carrying the depending flange 9. Each of the arms 11 is provided at its free end with a right-angled extension or crank-like terminal 12, adapted to be received by an aperture provided in a contiguous part of the connecting-bar 13, one of said bars being properly disposed upon each side of the ash-pit, immediately in contact with the walls of the pit, a suitable supporting-ledge 13[a] being carried by each side wall upon which the connecting-bar rests when the several floor-sections are disposed in a closed position. It is obvious that the purpose of the connecting-bar 13, which is common to all of the arms or extensions 11 upon one side of the ash-pit, is to provide means for simultaneously moving the floor-sections for the purpose of disposing them either in an open or a closed position.

The gudgeons or journals of the floor-sections 7, preferably those of the central section, may be extended entirely through the side walls of the ash-pit, or a continuous shaft 14 may be provided for this purpose, to which shaft one of the floor-sections is securely connected, and to the ends of said shaft after they have been extended through the wall of the pit we rigidly secure the actuating levers or arms 15 and 16, said levers being on opposite sides of the pit.

In order that the several floor-sections 7 may be normally held in a closed position, so as to rest in a common horizontal plane, we provide the spring 17, located upon one side of the ash-pit, one end of which is connected to the free end of the arm 16, while the opposite end of the spring is attached to and engaged by the hook 18 or equivalent device carried by a part of the ash-pit, as will be clearly seen by reference to the drawings.

The office performed by the lever or arm 15 is to afford means for connecting the journal or shaft 14 with the controlling-lever 19, which is accomplished through the mediation of the link 20. The lever 19 is of proper length to extend upward through the floor of the cab, whereby the upper free end thereof having a suitable handle or terminal will be readily accessible to the fireman or engineer. It will be noted that the controlling-lever 19 is pivotally mounted in position, the pivot-point thereof being provided by the bracket 21, said bracket or floor-plate being adapted to be anchored at the desired point in the floor and having a slot through which the lever extends.

It becomes desirable ,to at times securely lock the lever 19 in such position that it may not be casually moved or disturbed and thereby disturb the horizontal disposition of the several floor-sections, and with this purpose in view we form a suitable aperture 22 in the lever 19 near its pivot-point, through which may be extended the locking-pin 23, said pin serving to reliably hold the lever and parts coöperating with and controlled thereby in a secure and reliable manner.

We also provide as a desirable and important accessory to our ash-pit means for introducing any desired number of jets of water, and in accomplishment of this purpose we locate (preferably along each side of the pit and across one end thereof) the water-conveying pipe 24, having upon its inner side a number of small apertures through which the water may escape in the form of jets, each jet being directed inward toward the center of the ash-pit to commingle with the falling mass of ashes, &c., discharged by opening the plurality of floor-sections 7, as hereinbefore described. The pipe 24 is properly supported at suitable intervals by means of the brackets 25 or equivalent, the plurality of openings provided in said pipe being indicated by the numeral 26. It is further obvious that suitable pipe connections, as indicated by the numeral 27, and a proper form of controlling-valve therefor should be made to connect with the water-tank or other source of supply

whereby a proper pressure of water may, when desired, be introduced into the pipe to insure that the plurality of jets escaping from the pipe will possess proper force to extend into the falling mass of ashes, &c., and commingle therewith for the purpose of quenching any fire and allaying all dust or flying particles which would otherwise soil or damage the working parts of the locomotive.

It is thought from the foregoing description, setting forth the construction of the various parts of our invention, that the operation thereof will have been clearly apparent, though it may be stated that when it is desired to discharge an accumulation of ashes, cinders, or the like from the floor-sections 7 the attendant in the cab will first remove the pin 23 from the hole in the lever 19, when the latter is moved upon its pivot-point, which will, through the mediation of the link 20 and the arm 15, cause the shaft 14 to be partially rotated in its bearings and incidentally operate the connecting rods or bars 13 and simultaneously move each floor-section into a vertical plane and permit the ashes, &c., to drop through the openings between them. If preferred, suitable means may be provided for connecting the valve carried by the water-pipe 24 with the means for controlling the plurality of floor-sections, whereby the water will be automatically turned on when said floor-sections are moved into a vertical position and automatically cut off when said sections are restored to their horizontal or normally closed position, said means consisting of a valve 28, to the stem of which is attached an arm 29, said arm being in turn connected with the lever 19, near the lower end thereof, by means of a link 30, said parts being shown in Fig. 4 of the drawings. When the several floor-sections shall have thus been discharged of their load of ashes, &c., the spring 17 will cause the several floor-sections to resume their normally horizontal position, as hereinbefore set forth.

If it should be desired that the several floor-sections may be disposed in an open position by the attendant standing upon the ground, then it will be desirable to extend the ends of the journals or the shaft 14 beyond the connecting-point thereof with the arms 15 and 16, said extended ends being properly squared to receive a suitable key or wrench, as will be readily understood.

It will thus be seen that we have provided a simple though efficient form of ash-receptacle having means whereby the ashes, cinders, or the like may be securely retained within the same and instantly discharged therefrom when the locomotive has reached the proper point, and while we have described the preferred combination and construction of parts deemed necessary in materializing our invention we wish to comprehend such substantial equivalents and substitutes as may properly fall within the scope and purview of our invention.

Believing that the advantages and manner of using our invention have thus been made clearly apparent, further description is deemed unnecessary.

What we claim as new, and desire to secure by Letters Patent, is—

1. The herein-described receptacle for ashes, cinders, &c., comprising suitable side and end walls and having a plurality of floor-sections, each floor-section having a trough on one edge and a depending flange upon the other edge, whereby, the flange of one section will be received by the trough of the next contiguous section, and suitable means to dispose all of said sections in a horizontal or vertical position as desired, substantially as specified and for the purpose set forth.

2. In an ash-receptacle for locomotives or the like, the combination with the fire-box of an ash-receptacle proper comprising side and end walls and a plurality of pivoted floor-sections, each section having a trough upon one edge and a depending section upon its opposite edge and extending substantially at right angles to the plane of said floor-section, each of said floor-sections being provided with an arm 11 having an extension or crank 12; a connecting-bar provided with openings to receive said crank, and a controlling-lever and means to operatively connect said controlling-lever with the journal or shaft of one of said floor-sections, whereby, when the controlling-lever is moved, all of the sections will be simultaneously moved, substantially as specified and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

OLIVER LINK.
AUGUST SCHNEDLER.

Witnesses:
EDWARD SCHREIBER,
J. MORITZ WEYHRAUCHT.