No. 798,477. PATENTED AUG. 29, 1905.

G. R. YOUNG & F. A. TETOR.

CONVEYER TROUGH AND CHUTE.

APPLICATION FILED NOV. 27, 1903.

Fig. 1

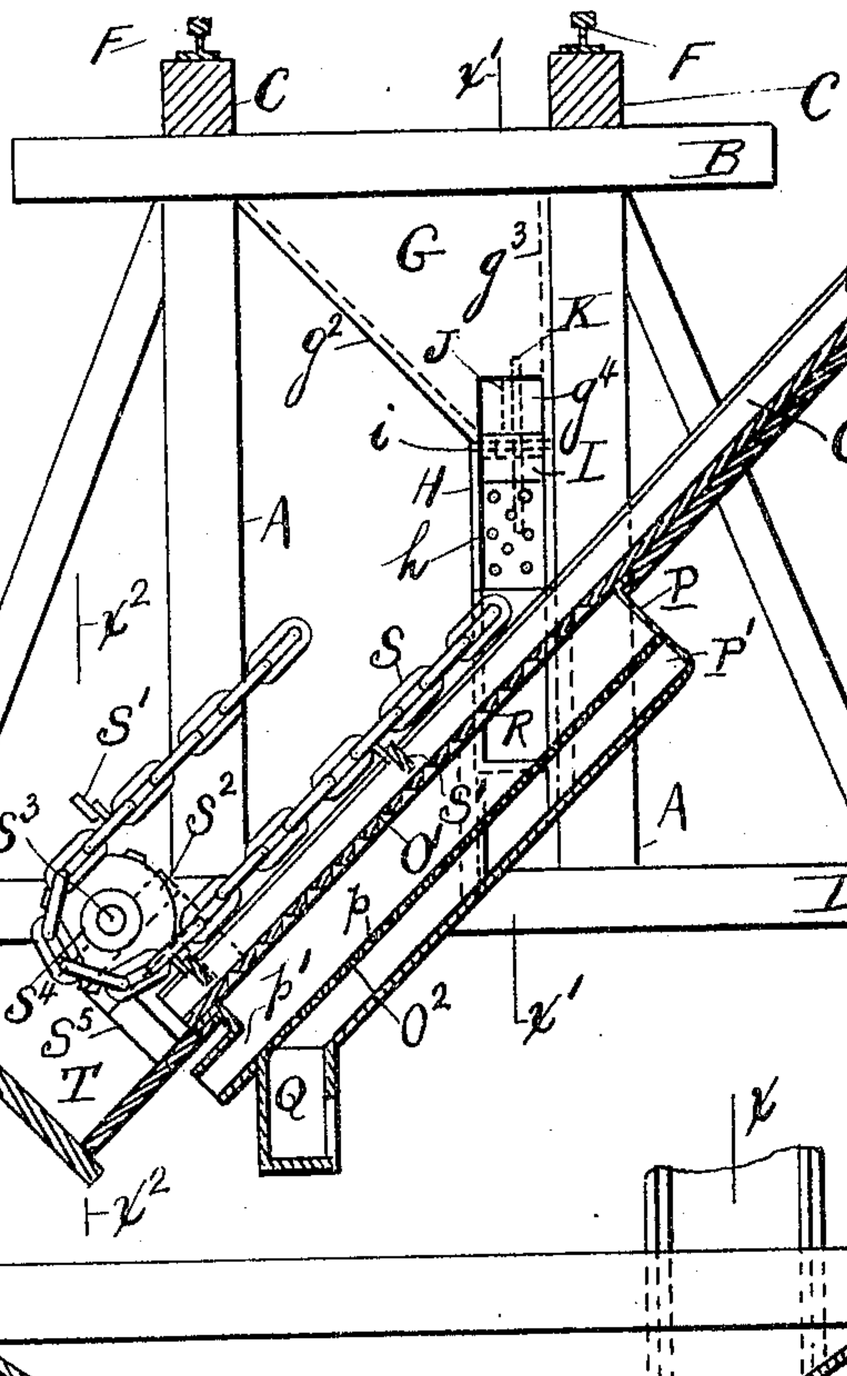
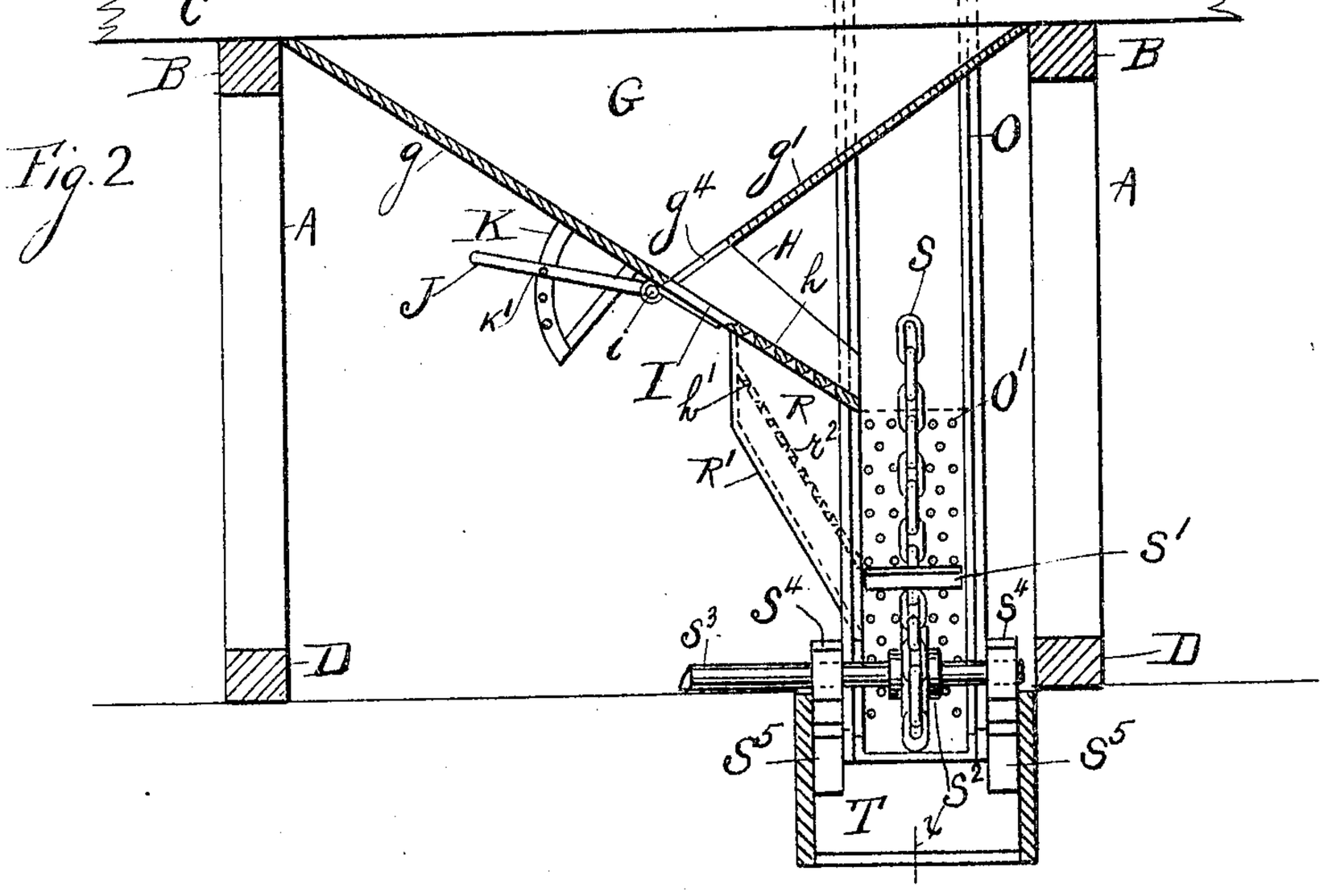


Fig. 2



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CONVEYER TROUGH AND CHUTE.

No. 798,477. Specification of Letters Patent. Patented Aug. 29, 1905.

Application filed November 27, 1903. Serial No. 182,805.

To all whom it may concern:

Be it known that we, GEORGE R. YOUNG, a resident of Ridgewood, county of Bergen, State of New Jersey, and FREDERICK A. TETOR, a resident of West Pittston, county of Luzerne, Pennsylvania, citizens of the United States, have invented certain new and useful Improvements in Conveyer Troughs and Chutes, of which the following is a specification.

This invention relates to means for conveying and screening coal, minerals, and other material. Its object is the production of a trough and chute with perforations which will allow the separation of small particles from the main bulk of the material while being conveyed and also the separation of dust and the like from the said small particles.

In the drawings we have shown the invention applied to a coal-conveyer operating with a hopper extending below railway-tracks.

Figure 1 represents a section of Fig. 2 as on the line $x\ x$. Fig. 2 shows a partial section of Fig. 1 on the lines $x'\ x'$ and $x^2\ x^2$.

An ordinary railway-trestle is represented, with the posts A, cross-ties B, longitudinal stringers C, bottom cross-pieces D, braces E, and tracks F. A receiving-hopper G is located between the posts A and has the sides $g\ g'$ and ends $g^2\ g^3$. An opening g^4 is formed in the side g', from which extends a chute H. Fitted in the said chute is the door or gate I, which swings on a pin i and has a handle J, which latter swings over a sector K, to which the said handle can be fastened by a pin k'. At O there is shown an inclined trough, in the bottom of which are formed perforations O′, forming a screen leading to a screening-box P, which has an inclined bottom p, with perforations O^2, an outlet at p', and forms a second screen. Below the said screening-box P there is located a dust-chamber P′, with an outlet Q.

In the bottom of the chute H are formed perforations h, forming a screen that leads to a screening-box R, in the bottom r^2 of which are perforations h', forming a second screen, that leads to a dust-chamber R′. The screening-box R leads to and connects with the screening-box P, and the dust-chamber R′ leads to and connects with the chamber P′. The perforations O′, O^2, h, and h' are preferably made countersunk at their bottom outlet ends, as shown, although they may be made cylindrical.

In the trough O there is indicated a flight conveyer having the chain S, from which extend flights S′, the said chain being shown with the sprocket-chain wheel S^2 mounted on the shaft S^3, the latter turning in journal-boxes S^4, mounted on suitable framing S^5. A reservoir T extends below the trough O.

To use the invention, coal or the material to be conveyed and screened is dropped from a car into the hopper G, from which it is allowed to run by lowering the door or gate I to the position shown in Fig. 2, and while the coal is running down the chute H the fine and small particles will drop through the perforations h, while the larger pieces will run into the conveyer-trough O. The fine particles will be screened of their dust by means of the perforations h' and will run into the screening-box P and from thence out of the outlet p', while the dust will run from the said dust-chamber R′ to the dust-chamber P′ and will be deposited from the latter by means of the outlet Q. The large pieces of coal on leaving the chute H and falling into the trough O are acted upon by the conveyer-flights S′ and by so doing are separated a second time from their smaller particles, which drop through the perforations O′ and which small particles run to the outlet p', they being screened in so doing over the perforations O^2, the dust collecting in the chamber P′ and being taken out at the outlet Q.

Having described our invention, we claim—

1. The combination of a hopper having an opening at its lower end, a chute having perforations extending from said opening, a gate swinging from said opening in the hopper, a handle on the gate, a sector, means to secure the handle on the sector, a screening-box having perforations below the chute, a dust-chamber below the said box, an inclined trough below the chute and having perforations, a screening-box below the trough having perforations and connecting with the screening-box below the chute, a dust-chamber below the screening-box of the trough and connecting with the dust-chamber of the chute, a flight conveyer operating in the trough, and a reservoir at one end of the trough.

2. The combination of a trestle, a hopper connected thereto having an opening at its

lower end, a chute having countersunk perforations extending from said opening in the hopper, a gate swinging from said opening, a handle on the gate, a sector, means to secure the handle on the sector, a screening-box having countersunk perforations below the chute, a dust-chamber below the box, an inclined conveyer-trough below the chute having countersunk perforations and connecting with the screening-box below the chute, a dust-chamber below the screening-box of the trough and connecting with the dust-chamber of the chute, a flight conveyer operating in the trough, and a reservoir at one end of the trough.

Signed at Ridgewood, in the county of Bergen and State of New Jersey, this 21st day of November, A. D. 1903.

GEORGE R. YOUNG.
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Witnesses:
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