

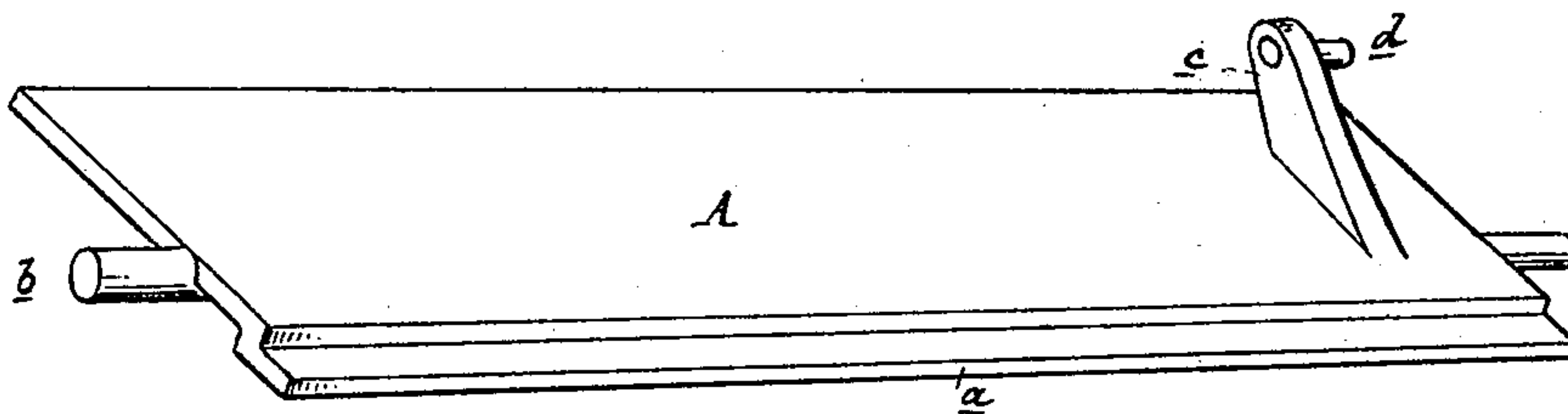
(No Model.)

J. RITCHIE.

GRATE BAR.

No. 272,773.

Patented Feb. 20, 1883.



Attest:

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UNITED STATES PATENT OFFICE.

JAMES RITCHIE, OF DETROIT, MICHIGAN, ASSIGNOR TO HIMSELF AND
W. H. D. NEWTH, OF SAME PLACE.

GRATE-BAR.

SPECIFICATION forming part of Letters Patent No. 272,773, dated February 20, 1883.

Application filed August 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES RITCHIE, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Grate-Bars; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

10 The nature of this invention relates to certain new and useful improvements in the construction of grate-bars particularly adapted for locomotive ash-pans, while at the same time they will be found very serviceable for use in many other places where it is desired to employ tilting grate-bars.

15 The invention consists in so constructing the bar that it will be adapted to swing on pintles at each end of the device eccentric to its longitudinal center of gravity, and in providing the bar with a counterpoise which also will perform the functions of a crank-arm, as more fully hereinafter described.

20 The invention is described in my specification in my recent application for Letters Patent for improvements in locomotive ash-pans, in which, however, I did not claim the specific construction of the bar, as I designed at the time of making said application to apply for a patent upon the invention herein described.

25 In the accompanying drawings, which form a part of this specification, and wherein my improved grate-bar is shown in perspective, A represents a flat cast-iron grate-bar, although it may be formed by forging, if preferred. When the bars are designed to overlap each other when closed, the overlapping edge is rabbeted out or provided with an offset, *a*; but this

is not necessary when the bars are not designed to overlap each other. Cast or forged with or otherwise secured are the pintles or journals *b*, in line with each other, but eccentric to the horizontal center-line of the bar, upon which the bar is designed to be supported, and upon which it swings. The bar is also provided, 45 near one end thereof, with a counterpoise-lug, *c*, cast with or otherwise secured in place, and this lug is provided with a wrist-pin, *d*, which may either be cast with the device or otherwise secured in any known manner. The weight or counterpoise-lug is an important factor in the operation of a series of these bars when set for use. The toe of the base is in line with the pivotal bearings of the slats or bars, and the heel of such base is in front of said pivotal line, with the body of the lug inclining toward the front edge of the bar and the free end of the lug nearly in a line vertical to the said front edge. Thus, while the lugs are the means, 55 with suitable attachments, of opening the bars by partially rotating them, the lugs are also counter-balances to assist in closing the bars and holding them in position against accidental opening or swinging.

What I claim as my invention, and desire to 65 secure by Letters Patent, is—

The grate-bar herein described, consisting of the plate A, having journals *b*, arranged eccentrically to the longitudinal center-line of the bar, the rabbet *a*, and the arm *c*, having wrist-pin *d*, the whole constructed and adapted to serve as and for the purpose set forth.

JAS. RITCHIE.

Witnesses:

H. S. SPRAGUE,
E. W. ANDREWS.