

(No Model.)

2 Sheets—Sheet 1.

C. J. M. HAYNA.

GRATE BAR.

No. 394,115.

Patented Dec. 4, 1888.

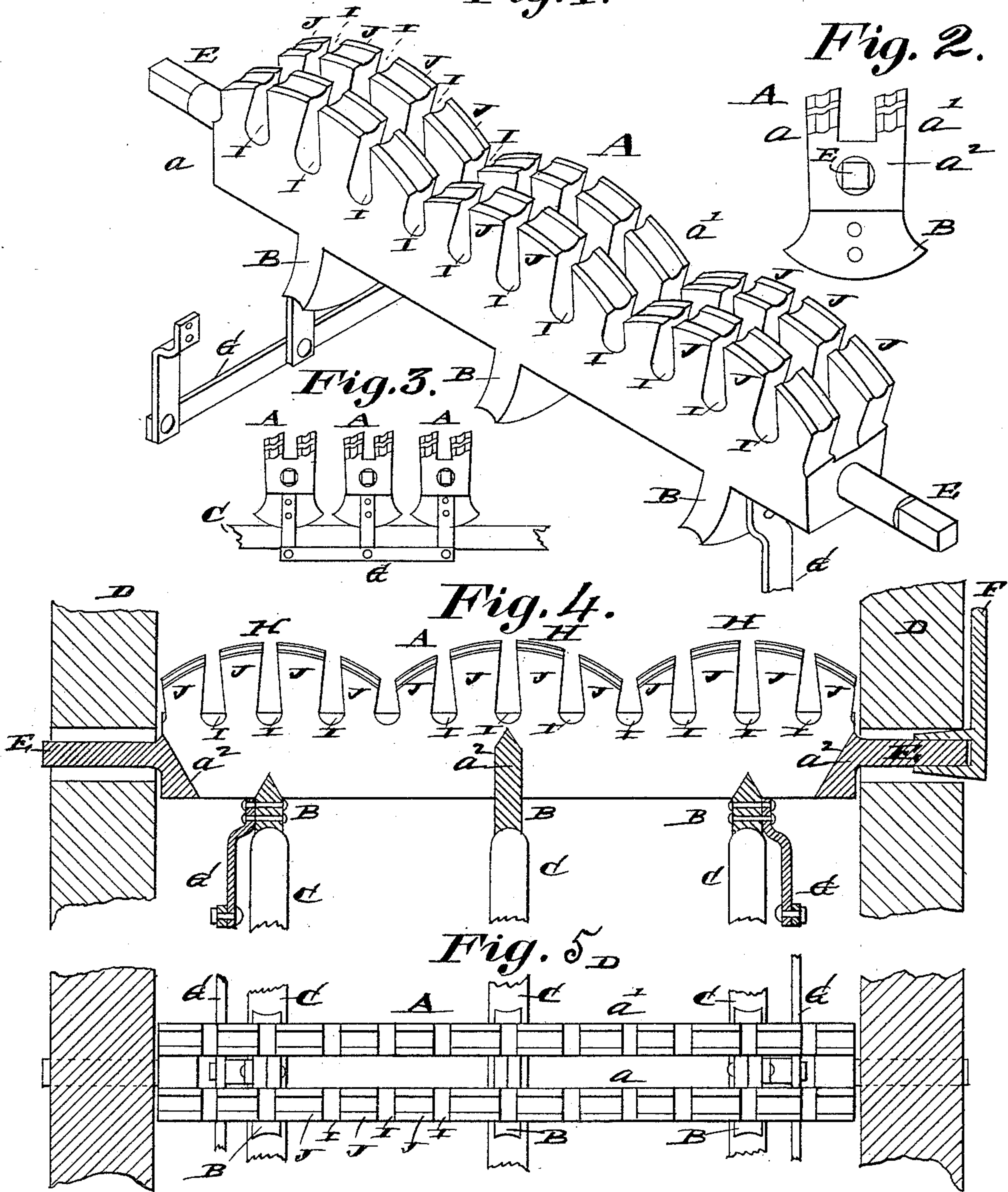
Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.



Witnesses:

W. B. Anderson,
J. W. Hoke.

Inventor:

Clémentine J. M. Hayna
by C. P. Moody,
atty.

(No Model.)

2 Sheets—Sheet 2

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Fig. 6.

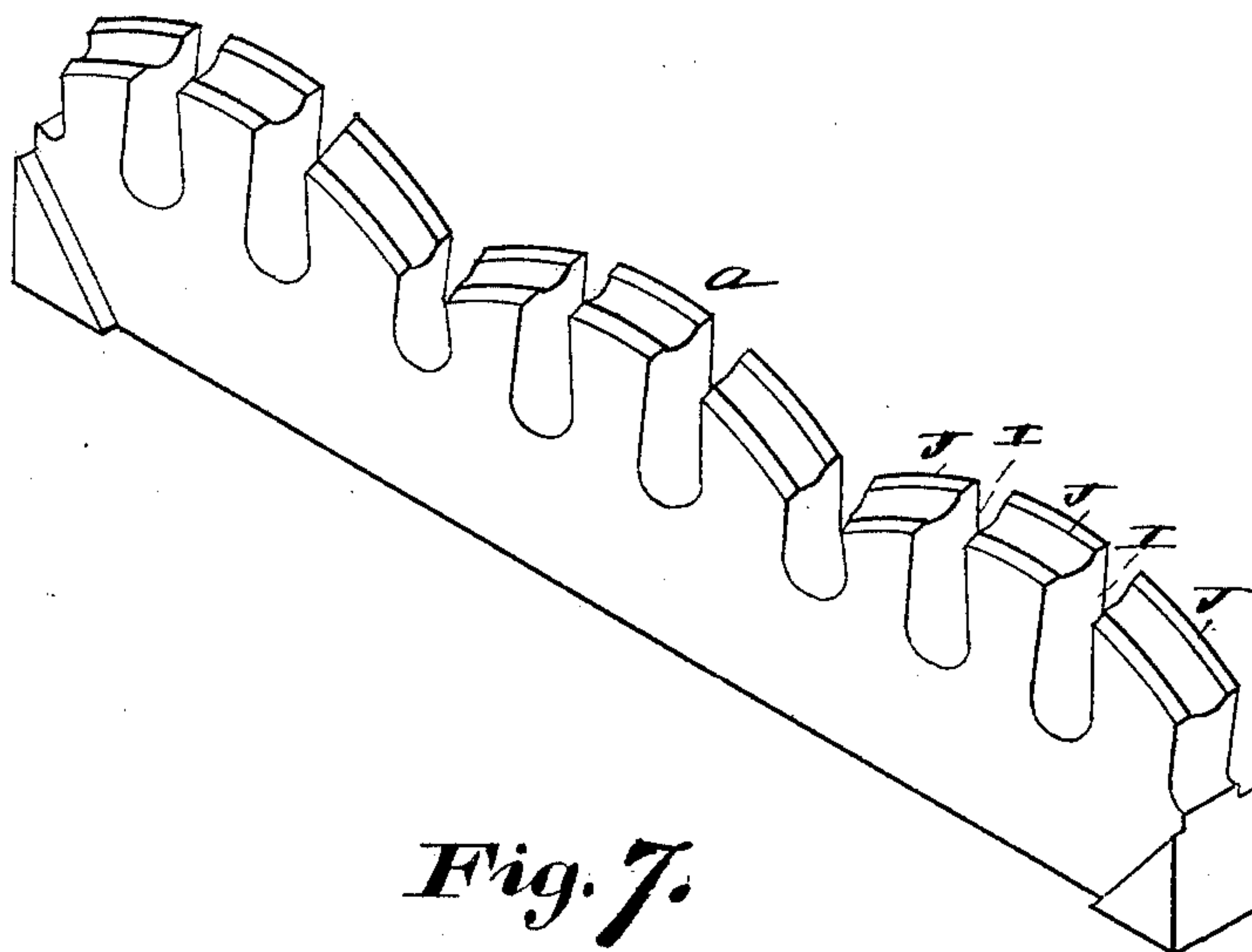
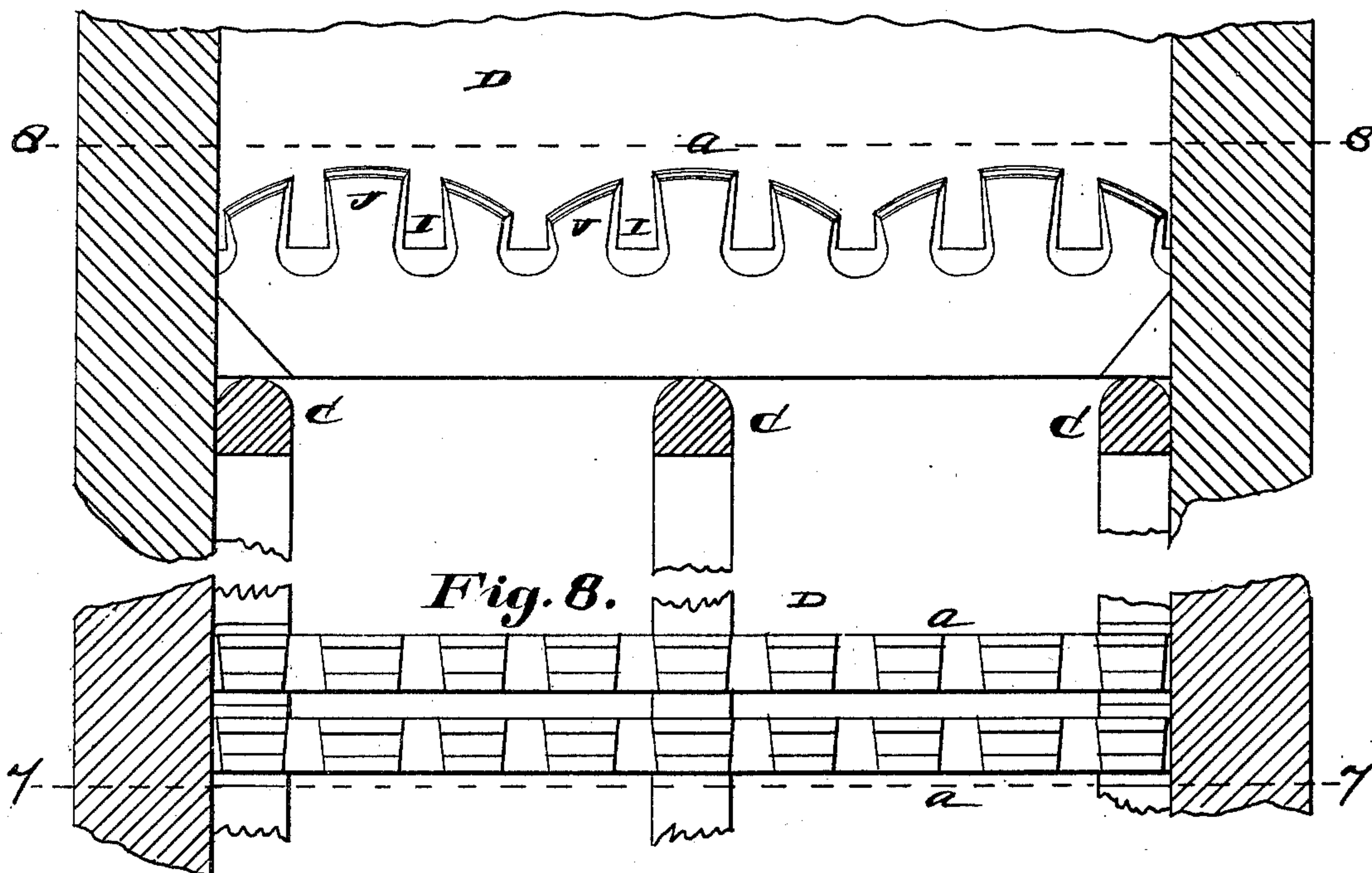


Fig. 7.



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

CLEEMENTINA J. M. HAYNA, OF ST. LOUIS, MISSOURI.

GRATE-BAR.

SPECIFICATION forming part of Letters Patent No. 394,115, dated December 4, 1888.

Application filed January 27, 1887. Serial No. 225,660. (No model.)

To all whom it may concern:

Be it known that I, CLEEMENTINA J. M. HAYNA, of St. Louis, Missouri, have made a new and useful Improvement in Grate-Bars, of which the following is a full, clear, and exact description.

I have heretofore made an improvement in grate-bars, described in a pending application for Letters Patent, filed January 15, 1887, Serial No. 224,499, whose prominent characteristic is its open form, by means whereof many passages are provided for the upward air-currents and the clearance of the ashes. The grate-bars referred to are in use arranged longitudinally in the furnace.

The present improvement is an adaptation of the main features of the construction referred to, to a grate-bar, which in use is arranged transversely in the furnace, substantially as is illustrated in the annexed drawings, making part of this specification, in which—

Figure 1 is a view in perspective of the improved bar. Fig. 2 is an end elevation of the same. Fig. 3 is an end elevation showing three of the bars coupled for the purpose of rocking several of the bars at once and by a single wrench. Fig. 4 is a cross vertical section of a furnace having the improved bars. Fig. 5 is a plan of the parts shown in Fig. 4. Fig. 6 is a view in perspective of one part of the grate-bar shown in Fig. 1—that is, in the place of the double form of bar shown in Fig. 1, a single bar is shown, and whose construction at the bottom and ends is also simplified. Fig. 7 is a cross vertical section on the line 7 7 of Fig. 8 of a furnace having the last-described form of bar, and Fig. 8 is a horizontal section on the line 8 8 of Fig. 7 of the furnace.

The same letters of reference denote the same parts.

A, Figs. 1 to 5, represents the double form of the improved bar. Its two longitudinal parts, *a* and *a'*, are separate from each other at their tops; but at their lower edges are united by the connecting portions *a*². At its bottom the bar is made flat to rest stationary in the furnace; or it may be adapted to be rocked, to thereby facilitate the discharge of the ashes. To this end the bar may be provided on its under side transversely to its length with rockers B, which in turn are adapted to rock either upon a flat support,

or, as shown in Figs. 4 and 5, upon a rounded support, C; and to enable the bars to be rocked from without the furnace D they are supplied with a squared projection, E, to which a wrench, F, can be applied, as shown in Fig. 4, and if it is desired to rock a number of bars at once they—say three of the bars—are connected by means of some suitable connection—say the jointed device G, Figs. 3, 4, and 5. At the top the bar is made to crown at several points, H H H—say two, three, or more points throughout its length—and in a transverse direction the bar is notched at I. The notches widen downward preferably, and the notches are preferably in line with each other in both parts *a a'* of the bar. Thus when the bars are in position in a furnace, D, the notches are in line throughout the length of the furnace, thus providing an opening from one side of the fire to the other for the insertion of a poker.

In Figs. 6, 7, and 8 a single part, *a*, of the bar is shown, and, as there exhibited, the bar is flat at the bottom edge and there is no provision for rocking it.

By means of the notches I the upper surface of the bar, upon which the fuel rests, is formed into a series of upwardly-projecting parts, J.

I claim—

1. In a grate-bar, the longitudinal fuel-supporting parts *a a'*, each crowned at several points, as at H, and provided with transverse notches I, wider at their bottoms than at their tops, the notches of one part being in line with those of the other, in combination with the connecting portions *a*², substantially as described.

2. The grate-bar A, provided on its bottom and transversely to its length with the rockers B, and having at each end the projection E, combined with the rounded supports C, substantially in the manner and for the purposes set forth.

3. The combination of the grate-bar A, having rockers on its under side transverse to its length, with the rounded supports C and the jointed connection G, substantially as described.

CLEEMENTINA J. M. HAYNA.

Witnesses:

C. D. MOODY,
B. F. REX.