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SHAKER FOR FIRE GRATES.
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942,029.

Patented Nov. 30, 1909.

Fig. 1.

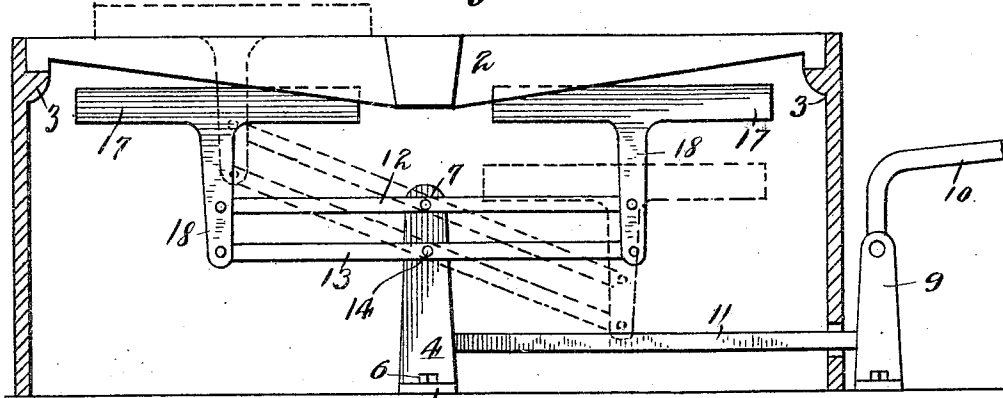


Fig. 2.

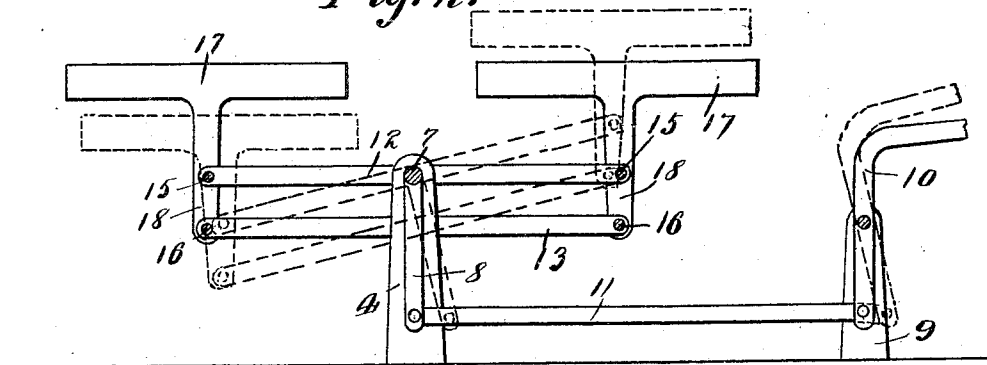
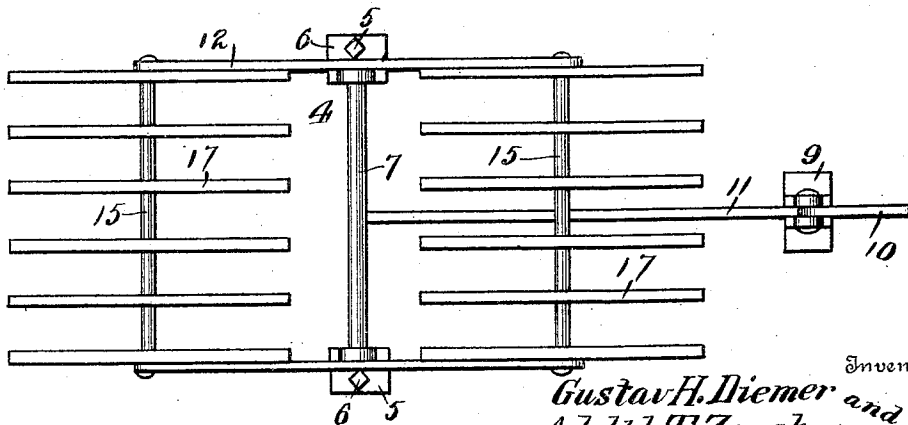


Fig. 3.



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UNITED STATES PATENT OFFICE.

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SHAKER FOR FIRE-GRATES.

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Specification of Letters Patent.

Patented Nov. 30, 1909.

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To all whom it may concern:

Be it known that we, ADOLPH THOMAS ZUECH and GUSTAV HENRY DIEMER, citizens of the United States, residing at Trinidad, in the county of Las Animas and State of Colorado, have invented new and useful Improvements in Shakers for Fire-Grates, of which the following is a specification.

This invention relates to improvements in shakers for fire grates such as are used in stoves and furnaces.

The object of the invention is to provide a shaking mechanism which is entirely independent of the grate bars and has shaker bars which are caused to remain between the grate bars to shake out the ashes and cinders and stir the coals.

In the accompanying drawings:—Figure 1 is a sectional view of the ash pit of a furnace, showing the shaking mechanism. Fig. 2 is a detail elevation partly in section of the shaking mechanism. Fig. 3 is a plan of the same.

The base portion of a furnace, forming the ash pit is indicated at 1 and the grate bars at 2 bearing on supporting flanges 3 with which the furnace base is provided. In the ash pit under the grate is a pair of standards 4 here shown as provided with outstanding bases 5 which may be readily secured in place by bolts 6. The said standards are connected together by a rock shaft 7 which has its bars in openings near the upper ends of said standards. Said rock shaft is provided at its center with a depending rock arm 8. At a suitable point near the base of the furnace is a standard 9 in which is mounted a rocking lever 10, the lower end of which is connected by a link rod 11 to the lower end of the rock arm 8. It will be understood that by means of the said lever and connections the rock shaft may be readily oscillated. To the end of the rock shaft are secured rocking bars 12 and below the said rocking bars 12 are rocking bars 13 which are parallel therewith and are pivotally mounted on the standards 4 as at 14. The rocking bars 12 are connected together by the rods 15 and the rocking bars 13 are connected together by rods 16. T-shaped shakers 17 are disposed to operate in the spaces between the grate bars and have their downwardly extending arms 18 pivotally mounted on the rods 15, 16 so that

the said shakers are carried by the parallel rocking arms 12, 13 and when the latter are operated by the lever and connections hereinbefore described the said shakers are caused to move vertically in the spaces between the grate bars so as to shake out the ashes and cinders and stir the coals in the bottom of the fire as will be readily understood.

When our improved shaking mechanism is used the grate bars may be entirely stationary and it is only necessary to move the grate bars in order to replace them when burned out.

Having thus described the invention what is claimed as new is:—

1. In combination with grate bars of a furnace, a rock shaft mounted below the grate bars, rocker bars having their central portions connected to said rock shaft, rocker bars parallel with the first mentioned rocker bars and having their pivots disposed centrally thereof and mounted below the rock shaft, and pivot devices connecting the ends of the said rocker bars, and shaker elements mounted on said pivot devices for vertical movement so that the shaker elements at opposite ends of the rocker bars move simultaneously in reverse directions, said shaker elements being disposed for operation in the spaces between the grate bars, and means to actuate said rock shaft to impart motion to said rocker bars and shaker elements.

2. In a shaking mechanism of the class described comprising supporting standards, a rock shaft mounted thereon and having a rock arm, parallel rocker bars some connected to the rock shaft and others pivotally connected to said standards, shaker elements having depending arms, rods connecting the parallel rocker bars and connected to the depending arms of the shaker elements to support and actuate the latter, and a lever connected to the rock arm of the rock shaft to actuate said rock shaft, said rocker bars and shaker elements.

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

ADOLPH THOMAS ZUECH.
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Witnesses:

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