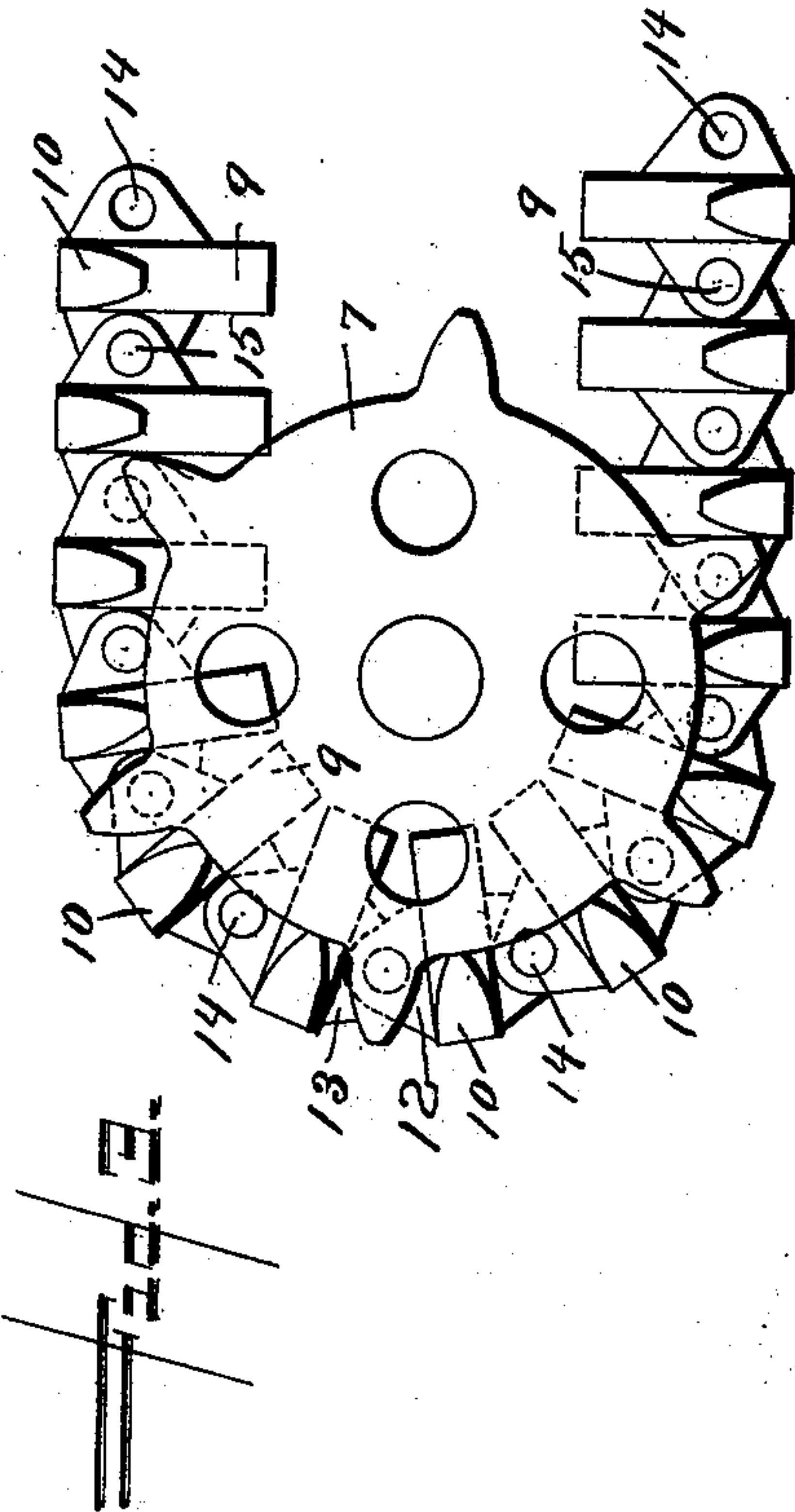
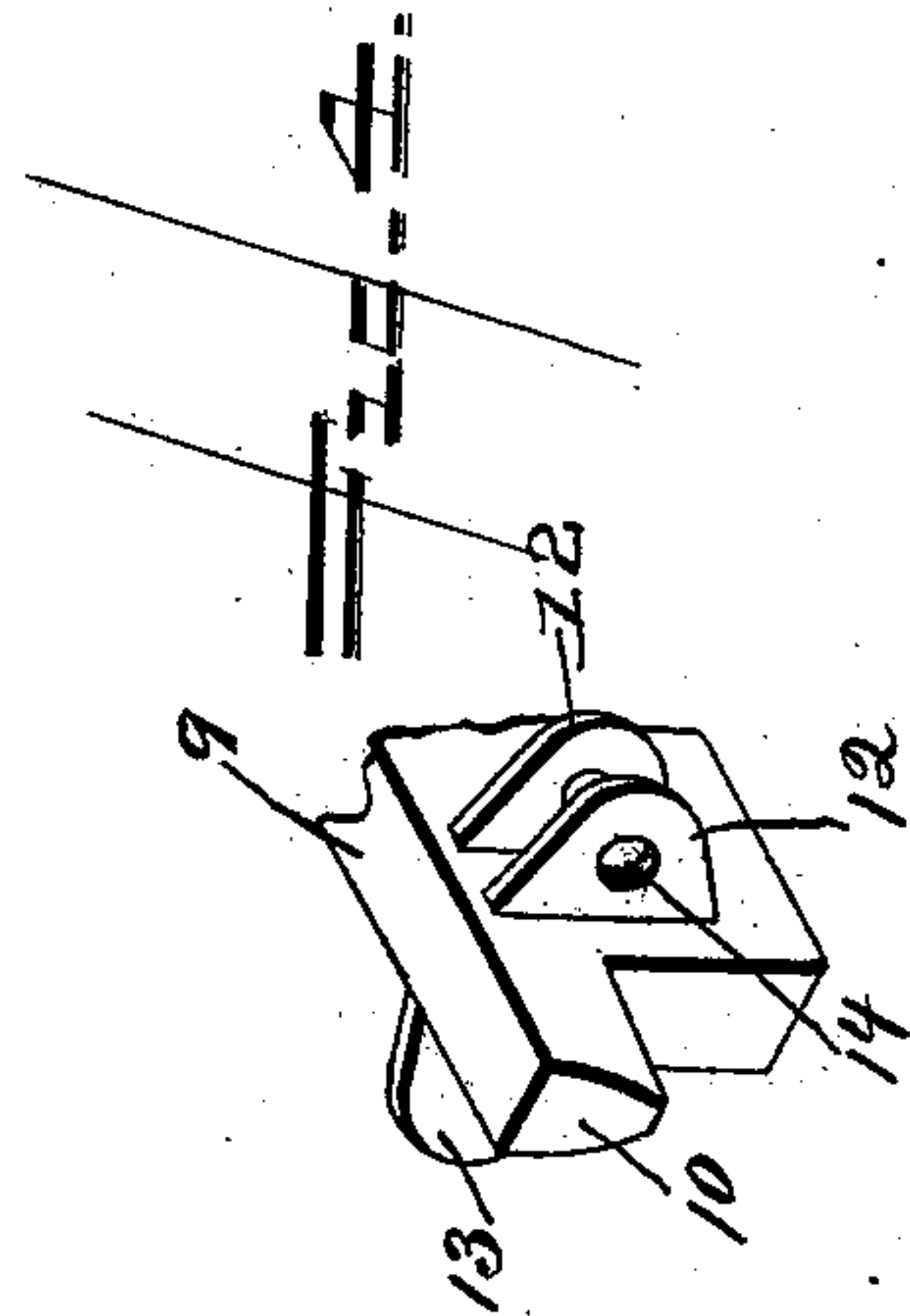
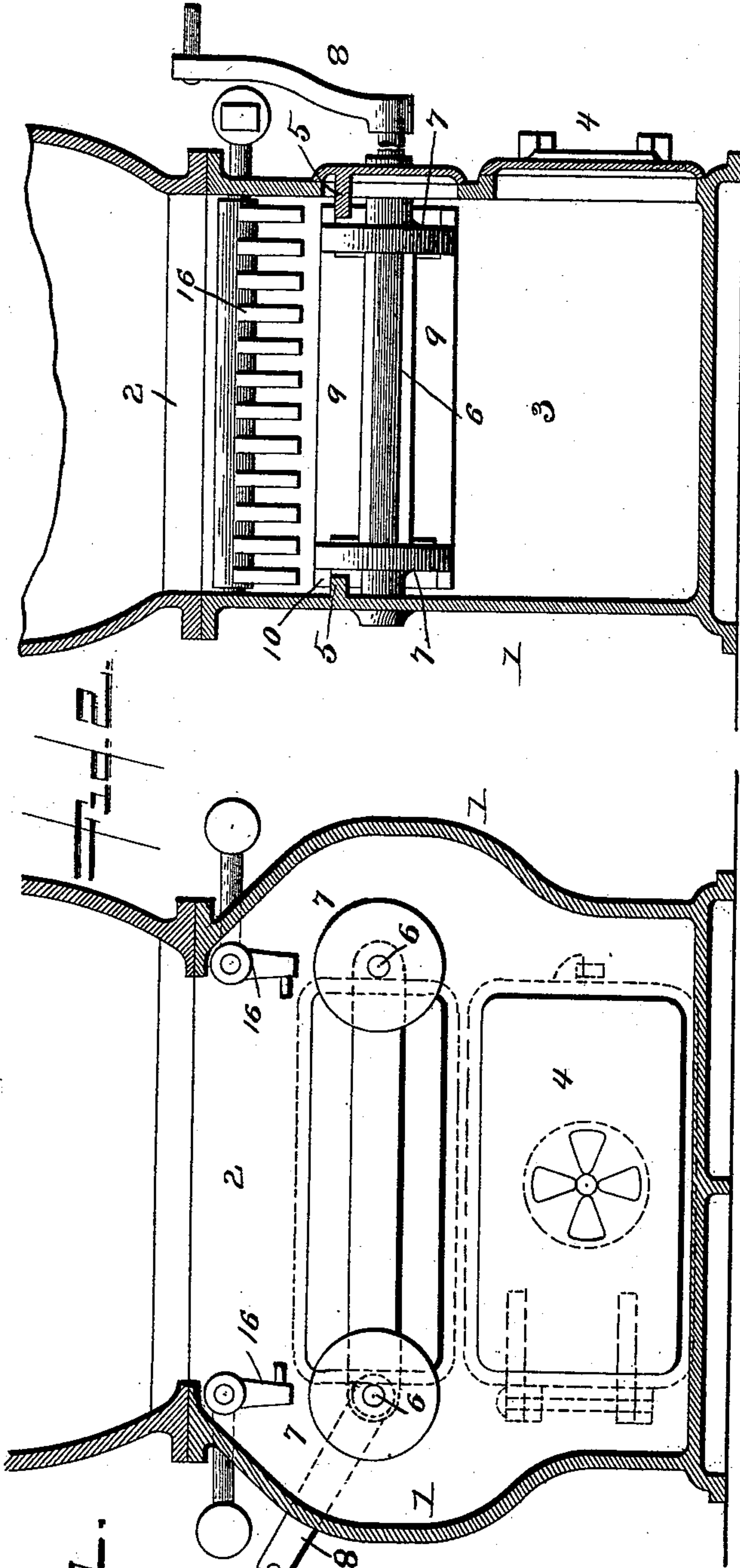


(No Model.)

R. J. SHOEMAKER.
TRAVELING GRATE.

No. 465,295.

Patented Dec. 15, 1891.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ROBERT J. SHOEMAKER, OF PHILADELPHIA, PENNSYLVANIA.

TRAVELING GRATE.

SPECIFICATION forming part of Letters Patent No. 465,295, dated December 15, 1891.

Application filed May 8, 1891. Serial No. 392,057. (No model.)

To all whom it may concern:

Be it known that I, ROBERT J. SHOEMAKER, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Traveling Grates; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in traveling grates for stoves, ranges, heaters, steam-boilers, and other furnaces.

The object of the invention is to provide a stove or other grate in which the grate-bars are linked together, forming, as it were, an endless chain, which passes over sprocket-wheels journaled in the stove or other furnace, by the rotation of which the bars are caused to travel along simultaneously underneath the fire-pot, whereby the ashes or other solid products of combustion are cleared from the fuel and deposited in the ash-pit.

The invention consists in the novel construction and combination of parts, which will be hereinafter fully described, and definitely set forth in the claim.

In the accompanying drawings, Figure 1 is a sectional end view of a furnace with my improved grate applied thereto. Fig. 2 is a sectional side view of the same. Fig. 3 is a side elevation, on an enlarged scale, of one of the sprocket-wheels and a portion of the grate. Fig. 4 is a perspective view of one of the grate-bars detached.

In the present instance I have shown the invention as applied to a heater, although it is obvious that it can be employed in connection with an ordinary stove, a range, or other similar article, as well as steam-boiler and other furnaces.

In the said drawings, the reference-numeral 1 designates the casing of a furnace, 2 the fire-pot, and 3 the ash-pit having door 4. These may be of any ordinary or suitable construction. The sides of the casing below the fire-pot are provided with horizontal ledges 5

5, upon which the ends of the grate-bars rest and slide, as will hereinafter appear.

At each end of the furnace and journaled in the casing are transverse shafts 6 6, upon which are mounted, near each end, sprocket or cog wheels 7. One or both of these shafts may be provided with an operating-crank 8 for rotating the same. Over these sprocket-wheels passes an endless grate consisting of a number of grate-bars linked or pivoted together, as seen more clearly in Fig. 3. Each grate-bar, (designated by the numeral 9,) consists of a rectangular metal bar slightly tapering from top to bottom and having its ends arranged to form arms 10, the sides of which may be beveled or curved, so that in cross-section they correspond approximately in shape with the cogs or sprockets on wheels 7.

Upon one side of each grate-bar, near the ends thereof, are formed two outwardly-projecting lugs 12, while upon the opposite side, at each end, is formed a corresponding lug 13, the construction being such that the lugs upon one side will engage with the corresponding lugs of the next adjoining bar. Each lug is provided with an aperture 14, which is aligned when the bars are in position to form an endless chain and through which passes the pivot pins or bolts 15.

The numeral 16 designates swinging grates, which are pivoted to one or both ends of the fire-pot. This grate consists of a metallic plate with a series of downwardly-depending fingers, and is so arranged as to be swung upward by the objects on the traveling grate coming in contact therewith.

The operation will be readily understood. The endless grate-bars are passed over the cog or sprocket wheels, with the ends resting on the horizontal ledges, so that they are supported thereby directly underneath the fire-pot. When it is desired to clear the fire-pot of ashes, cinders, &c., the shafts carrying the cog or sprocket wheels are revolved by means of the crank, and the cogs or sprockets engaging with the ends of the grate-bars cause a longitudinal movement to be imparted thereto, carrying the contents of the fire-pot, so that the ashes will fall through the spaces between the bars into the ash-pit below, or

with the cinders be carried over the curved portion of the traveling grate, the pivoted grate swinging upward for this purpose.

Having thus described my invention, what
5 I claim is—

In a stove, range, heater, or other furnace, the combination, with the casing, the fire-pot, the horizontal ledges located beneath the fire-pot, of the transverse shafts journaled in the
10 casing, the cog or sprocket wheels in said shafts, the grate-bars having the curved or beveled arms at their ends adapted to move

upon and be supported by said ledges, the outwardly-projecting lugs upon opposite sides of the grate-bars, and the pivot pins or bars, 15 substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

ROBERT J. SHOEMAKER.

Witnesses:

WM. B. RAYBOLD,
FRANK E. GARTLEY.