

(No Model.)

2 Sheets—Sheet 1.

M. M. SUPPES.
MECHANISM FOR COOLING MACHINERY.

No. 566,633.

Patented Aug. 25, 1896.

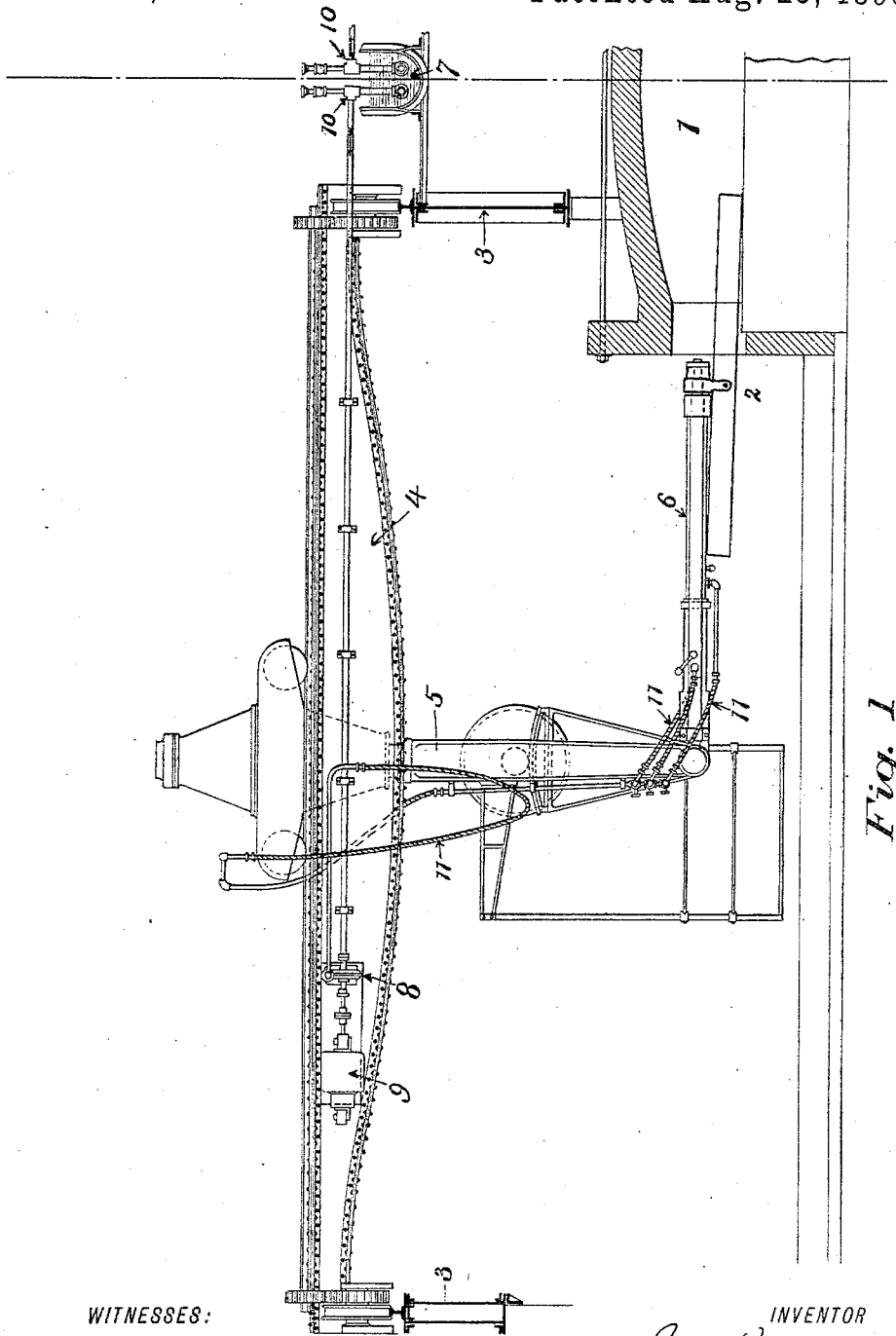


Fig. 1

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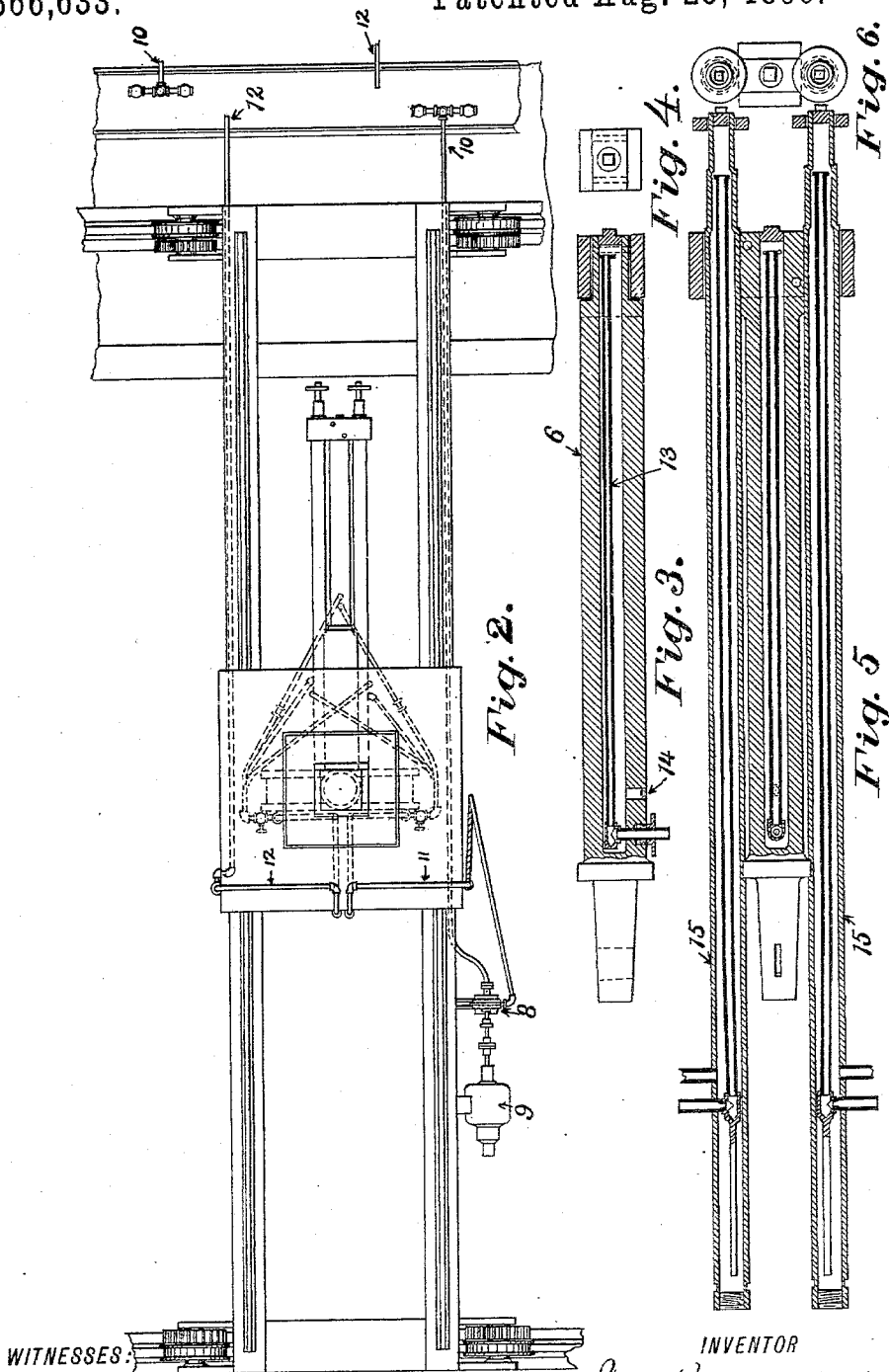
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MECHANISM FOR COOLING MACHINERY.

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Patented Aug. 25, 1896.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MAXIMILIAN M. SUPPES, OF LORAIN, OHIO.

MECHANISM FOR COOLING MACHINERY.

SPECIFICATION forming part of Letters Patent No. 566,633, dated August 25, 1896.

Application filed June 13, 1896. Serial No. 595,430. (No model.)

To all whom it may concern:

Be it known that I, MAXIMILIAN M. SUPPES, of Lorain, county of Lorain, State of Ohio, have invented certain new and useful Improvements in Mechanism for Cooling Machinery, of which the following specification is a true and exact description, due reference being had to the accompanying drawings.

My invention relates to mechanism for cooling such machinery as charging-cranes and similar devices used around rolling-mills, and I will describe it as applied to a crane used in charging and drawing blooms at the heating-furnaces. These machines have an arm which grips the bloom and places it in the furnace, which arm, coming in contact with the heat of the furnace, must be constantly cooled. This has been done by means of water-circulation through the several parts, so that it absorbs the heat therefrom. Heretofore this water has been supplied from a suitable source, and, after passing through the parts, has been allowed to waste. By my invention I am enabled to use the water over and over again and avoid the slop and disagreeable wetness incidental to wasting the water.

Referring to the drawings, Figure 1 is a general view of a charging-crane embodying my invention. Fig. 2 is a top view of the same. Fig. 3 is a section of the charging-arm, and Fig. 4 is an end view of the same. Fig. 5 is a section of the charging-arm and also of the gripping-rods, and Fig. 6 is an end view of the same.

In the drawings, 1 is one of a series of heating-furnaces arranged for heating the blooms. Above the furnaces is arranged the track 3, upon which travels the crane 4, so that it passes along in front of the row of furnaces. This crane is moved upon the track by suitable power, which, not forming any part of this invention, is not shown. Upon the crane is the carriage 5, carrying the charging-arm 6, which, by means of suitable jaws, is adapted to grip and lift the bloom 2. At any convenient place I arrange the trough 7, extending the length of the track 3 and parallel thereto. Upon the crane I place a pump 8, operated

by any suitable power, as motor 9. The suction-pipe 10 of this pump is placed in the trough 7, so as to draw water therefrom, and the discharge, after passing through the circulating-pipes 11 to the several parts to be cooled, empties into the trough through the discharge-pipe 12. The trough 7 being parallel to the track 3 the suction-pipe always remains immersed in the water, and the return is discharged back again, so that there is no waste. The great length of the trough, possibly several hundred feet, is amply sufficient to radiate the heat absorbed by the water, so that it returns to the circulating-pipes thoroughly cooled. In Fig. 3 is shown clearly the method of circulating the water. The arm 6, which this figure shows, is made hollow throughout its length and within this hollow is the pipe 13, through which the water passes to the extreme end of the arm. It then returns along the space surrounding the pipe to the outlet 14. Fig. 5 shows also the gripping-rods 15 and the construction of their waterways.

It will be seen that the construction herein shown possesses great advantages over simply using the water once, as I am enabled to use it more freely, and in the case of movable cranes, as is herein shown, I am enabled to greatly simplify the piping.

Having thus described my invention, what I claim, and desire to protect by Letters Patent, is—

In combination with a machine movable upon a track and having members through which it is desired to pass cooling-water, a water-trough parallel to the track carrying the machine, a circulating-pump carried by the machine and having its suction adapted to draw water from the trough and its discharge arranged to return the water to said trough.

In testimony whereof I have affixed my signature in presence of two witnesses.

MAXIMILIAN M. SUPPES.

Witnesses:

C. R. HINCHMAN,
GEORGE M. FERGUSON.