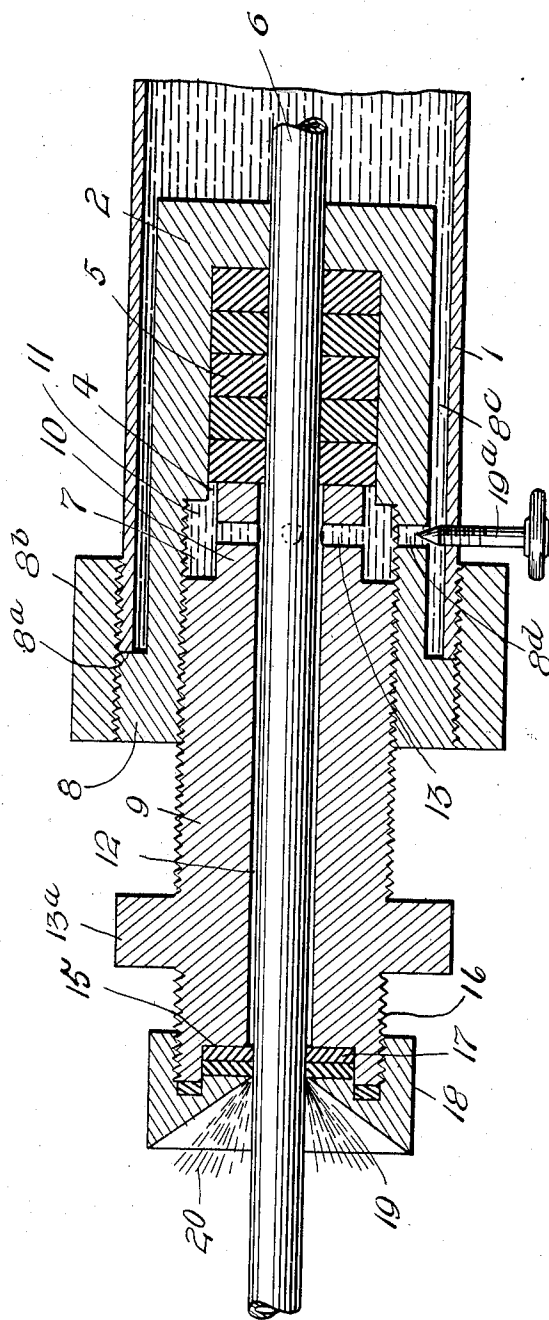


C. E. TAYLOR & A. C. WOLFE.
CLEANSING AND WIPING DEVICE.
APPLICATION FILED OCT. 11, 1911.

1,038,231.

Patented Sept. 10, 1912.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES E. TAYLOR, OF PITTSBURGH, AND ALFRED C. WOLFE, OF ALICIA,
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CLEANSING AND WIPING DEVICE.

1,038,231.

Specification of Letters Patent.

Patented Sept. 10, 1912.

Application filed October 11, 1911. Serial No. 654,153.

To all whom it may concern:

Be it known that we, (1) CHARLES E. TAYLOR and (2) ALFRED C. WOLFE, citizens of the United States of America, residing at (1) Pittsburgh and (2) Alicia, in the counties of (1) Allegheny and (2) Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Cleansing and Wiping Devices, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a cleansing and wiping device for the periphery of water conducting pipes employed in connection with coke quenching machines, more particularly that form of coke quenching machine as set forth in our co-pending application filed October 11, 1911, Serial No. 654,152.

Although the device is designed primarily for use in connection with the form of machine as set forth in the application referred to, yet it is to be understood that the device can be employed for any form of machine or any purpose wherein it is found applicable.

The invention has for its object to provide a device for the purpose set forth for wiping and cleansing the periphery of a slidable conducting pipe of ash and dust to overcome any impediment to the sliding movement of the pipe and furthermore to overcome injury to the packing joint between the pipe and the water reservoir, thereby preventing leakage.

Further objects of the invention are to provide a cleansing and wiping device for a slidable water conducting pipe which is simple in its construction and arrangement, automatic in its action, durable, efficient in its use, and comparatively inexpensive to set up.

With the foregoing and other objects in view, the invention consists of a novel construction, combination and arrangement of parts as hereinafter more specifically described and illustrated in the accompanying drawing, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of claims hereunto appended.

In the drawing is illustrated in longitudinal section a cleansing and wiping device

for a slidable water conducting pipe in accordance with this invention.

In coke quenching machines of certain types, the water conducting means to the sprinkler head is in the form of a hollow member which communicates with the water supply, the said conducting means is shifted into the coke oven simultaneously with the shifting of the sprinkler head and when the water is discharged upon the coke to quench it, dust and ash are formed and invariably accumulate upon the periphery of the hollow member so that when said member is withdrawn from the oven and moves into the reservoir through the packing joint between the reservoir and said member, the dust and ash retard or impair the movement of said member and furthermore injure the packing, thereby causing leakage and necessitating the constant renewal of the packing and also the manual cleaning of the conducting pipe. A cleansing and wiping device in accordance with this invention overcomes the objection pointed out and furthermore overcomes the constant repairing and discontinuing of the operation of the machine.

Referring to the drawing in detail, the water reservoir is indicated by a hollow tubular member 1 to which water is supplied under pressure in any suitable manner. That end of the reservoir 1 which is positioned to oppose the coke oven, has extending therein a fitting 2 provided with a recess, the inner portion thereof being of less diameter than the outer portion. Said inner portion is indicated at 4 and has mounted therein a series of packing rings 5 which snugly engage a slidable water conducting pipe 6. The engagement between the rings 5 and pipe 6 is such as to prevent leakage, but at the same time permits of the sliding movement of the pipe 6. That portion of the recess in the fitting 2 of larger diameter, is indicated at 7 and threaded for a purpose to be presently referred to. The fitting 2 has the outer portion thereof enlarged as at 8, thereby providing a shoulder 8^a, which abuts against the end of the member 1. The enlarged portion 8 of the fitting 2 has peripheral threads which are engaged by the interior threads of a coupling collar 8^b, the latter extending upon and secured to the member 1, the latter being provided with

peripheral threads, which are engaged by the interior threads of the collar 8^b. That portion of the fitting 2 which is arranged within the member 1 is of such diameter with respect to the inner diameter of the member 1 as to provide an annular water space 8^c. The fitting 2 is provided with a port 8^a, which communicates at one end with the annular water space 8^c, and at its other end, opens into that portion of the recess of larger diameter of the fitting 2.

Extending into the fitting 2 and engaging with the interior threads thereof is a packing gland 9, having a reduced inner end 10, which abuts against the packing rings 5 for maintaining them in position. The reduced inner end 10 of the gland 9, in connection with the inner part of that portion of larger diameter of the recess in the fitting provides a water receiving chamber 11, to which water under pressure is supplied through the medium of the port 8^a. The packing gland 9 is formed with a longitudinally-extending bore through which extends the pipe 6, the diameter of the bore of the gland with respect to the pipe 6, being such as to provide an annular space 12, to which water is supplied under pressure through the medium of the ports 13, which are formed in the reduced inner end 10 of the gland 9 and open into the chamber 11. By providing the annular space 12, a thin film of water surrounds the pipe 6 and is forced from the gland so that as the pipe 6 moves toward the member 1, the water engaging with the periphery of the pipe will cleanse the same from any dust or ash adhering thereto, so as not to retard the sliding movement of the pipe 6 or injure the packing. The gland 9 is formed with an annular flange 13^a to enable the convenient adjustment of the gland.

The outer end of the gland 9 is recessed as at 15 and peripherally threaded as at 16. Mounted in the recess 15 is a plurality of packing rings 17 neatly fitting the pipe 6, and constituting what may be termed wipers, for wiping the pipe as it moves in the member 1. Engaging with the thread 16 and abutting against the packing rings 17, is a head or nozzle 18 having an outlet opening 19 of suitable diameter. A regulating valve 19^a is provided for controlling the supply of water to the interior of the fitting 1.

The discharging of water at the head or nozzle 18 whereby the periphery of the pipe 6 is cleaned and wiped is indicated by 20.

The pipe 6 extends through the head or nozzle 18, gland 9, fitting 2 and projects into the member 1, as well as opening into said member 1, whereby water is supplied to the pipe 6, the latter conducting it to the discharge means. The member 1 is stationary, but the pipe 6 is connected with the water

discharging means and moves into and out of the oven simultaneously with the water discharging means during the quenching operation.

What we claim is:—

1. A wiping and cleansing device for use in a coke-quenching apparatus, comprising the combination with a slidable water-conducting pipe of a water reservoir with which the conducting pipe communicates and in which it is longitudinally slidable in both directions, means communicating with said reservoir for supplying water therefrom against the periphery of said pipe for cleaning the periphery of the pipe during the sliding movement thereof, and means for wiping the pipe during the sliding movement thereof.

2. In a wiping and cleansing device for a coke-quenching apparatus, comprising the combination with a slidable water conducting pipe of a water reservoir with which the said pipe communicates and in which it is longitudinally slidable in both directions and means communicating with said reservoir for surrounding the periphery of said pipe with a thin film of water under pressure to cleanse the periphery of the pipe during the sliding movement thereof.

3. In a wiping and cleansing device for a coke-quenching apparatus, comprising the combination with a slidable water conducting pipe of a water reservoir with which the said pipe communicates and in which it is longitudinally slidable in both directions, means communicating with said reservoir for surrounding the periphery of said pipe with a thin film of water under pressure to cleanse the periphery of the pipe during the sliding movement thereof, and means for wiping the periphery of the pipe simultaneously with the cleansing thereof by the film of water.

4. In a wiping and cleansing device for a coke-quenching apparatus, comprising the combination with a slidable water conducting pipe, of a water reservoir with which the said pipe communicates and in which it is longitudinally slidable in both directions, means communicating with said reservoir for surrounding the periphery of said pipe with a thin film of water under pressure to cleanse the periphery of the pipe during the sliding movement thereof, and means for regulating the supply of water from said reservoir for cleansing the periphery of the pipe.

5. In a wiping and cleansing device for a coke-quenching apparatus, comprising the combination with a slidable water conducting pipe of a water reservoir with which the said pipe communicates and in which it is longitudinally slidable in both directions, means communicating with said reservoir for surrounding the periphery of said pipe

with a thin film of water under pressure to cleanse the periphery of the pipe during the sliding movement thereof, means for wiping the periphery of the pipe simultaneously with the cleansing thereof by the film of water, and means for regulating the supply of water from said reservoir for cleansing the periphery of the pipe.

6. A wiping and cleansing device for use in a coke-quenching apparatus, comprising the combination with means to constitute a water reservoir, a fitting mounted in one end of said reservoir for closing it, and a packing gland extending into said fitting, of a slidable water conducting pipe mounted in said packing gland and fitting and communicating with said water reservoir, said pipe longitudinally slidable in said water reservoir in both directions, and said fitting and said packing provided with means whereby water is supplied from said reservoir to surround the periphery of said pipe in the form of a thin film under pressure to cleanse the periphery of the pipe during the sliding movement thereof.

7. A wiping and cleansing device for use in a coke-quenching apparatus, comprising

the combination with means to constitute a water reservoir, a fitting mounted in one end of said reservoir for closing it, and a packing gland extending into said fitting, of a slidable water conducting pipe mounted in said packing gland and fitting and communicating with said water reservoir, said pipe longitudinally slidable in said water reservoir in both directions, and said fitting and said packing provided with means whereby water is supplied from said reservoir to surround the periphery of said pipe in the form of a thin film under pressure to cleanse the periphery of the pipe during the sliding movement thereof, and means carried by the outer end of said packing gland for wiping the pipe simultaneously with the cleansing thereof by the film of water.

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

CHARLES E. TAYLOR.
ALFRED C. WOLFE.

Witnesses:

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WATSON CRAWFORD.