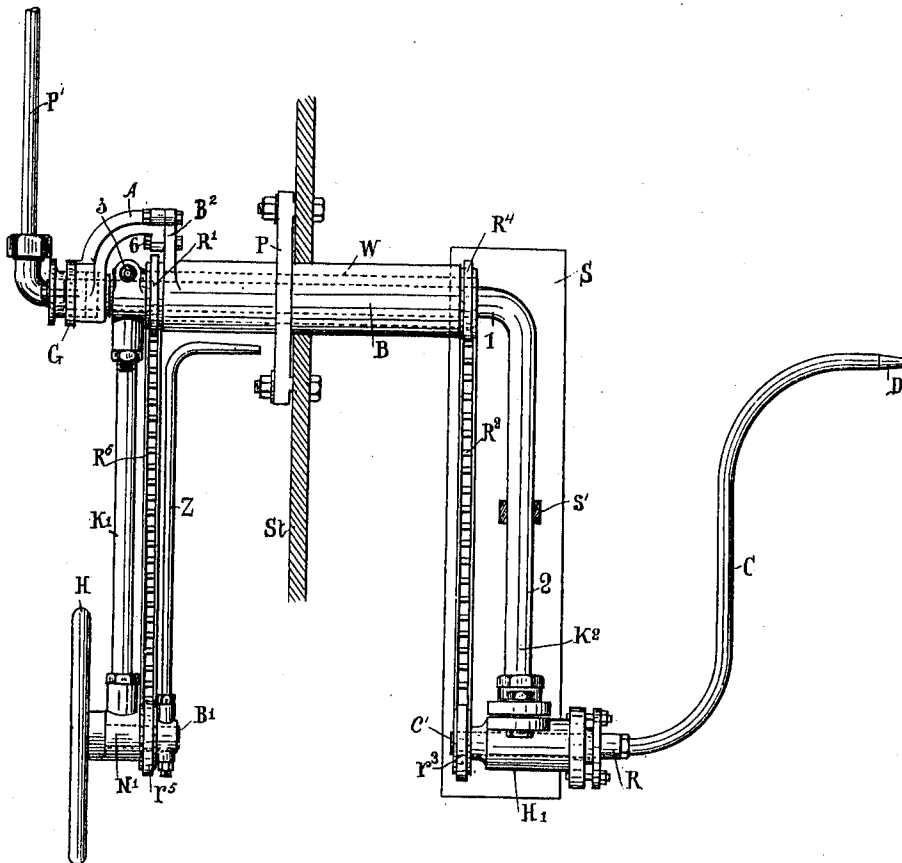


E. EFRAN.
 DEVICE FOR ADJUSTING NOZZLES.
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980,223.

Patented Jan. 3, 1911.



Witnesses:
 E. M. Moore.
 H. E. Backley.

Inventor:
 Emil Efran,
 by Frank A. Appleman,
 atty.

UNITED STATES PATENT OFFICE.

EMIL EFRAN, OF BRÜNN, AUSTRIA-HUNGARY.

DEVICE FOR ADJUSTING NOZZLES.

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Specification of Letters Patent.

Patented Jan. 3, 1911.

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To all whom it may concern:

Be it known that I, EMIL EFRAN, a subject of the Emperor of Austria-Hungary, and residing at Brünn, Austria-Hungary, have invented certain new and useful Improvements in Devices for Adjusting Nozzles.

This invention relates to a device for directing a jet of steam, air, gas, water, sand and the like escaping from a nozzle to a particular spot hidden from the operator.

The object of the invention is to produce a device which may be mounted in a partition and operated from one side thereof to adjust a nozzle on the other side of the partition.

A further object of the invention is to provide means on the operative side of the partition for indicating where to direct the nozzle.

The novel features of my invention will be hereinafter described and definitely set forth in the claims.

The accompanying drawing illustrates a side elevation of the device.

In the drawing, B represents a sleeve which passes through a partition St, the said sleeve being provided with a flange P secured to the partition in any suitable manner.

Rotatably mounted in the sleeve B is a hollow shaft W carrying on each of its ends, which project beyond the hollow shaft, one of the chain wheels R' and R⁴. In the hollow shaft W is rotatably mounted a pipe 1 having a right angle portion 2 carrying on the end thereof a cock H' extending parallel to the sleeve B. The plug C' of said cock is formed of a pipe C which passes through a stuffing-box R at the outer end of the cock and is then bent in an S-shape terminating in a nozzle D. On the inner end of said plug is fastened a chain wheel 7³ alining with the chain wheel R⁴ and over these chain wheels passes a chain R². The other end of the pipe 1 terminates in a stuffing-box G supported by a bracket A secured to an extension B² on the sleeve B. Leading to the stuffing-box G is an inlet pipe P' for conveying gas, liquid, or other substances to the pipe 1. Secured to the pipe 1 between the chain wheel R' and the stuffing-box G is a crank arm K' carrying a bearing N' having journaled therein a spindle B' alining with the plug C' of the cock H'. On said spindle is fastened a chain wheel 7⁵ alining with the chain wheel R' and connected thereto by a chain R³. The spindle B' projects beyond the chain wheel

7⁵ and carries an indicator arm Z having its end bent at a right angle pointing toward the partition and being in alinement with the nozzle D. On the front side of the partition opposite the bent portion of the arm Z is a diagram showing the direction in which to aim the nozzle D to cause the jet of fluid escaping therefrom to strike any particular spot. The spindle B' is provided with a hand wheel H by which it is rotated and the device manipulated. Those parts of the device located back of the partition St except the nozzle D, may be preferably inclosed in a box S which is secured to the pipe 2 by means of a collar S'.

It can be readily seen from the construction set forth that when the hand wheel H is rotated, the plug C' correspondingly turns, and in order to further adjust the nozzle D, the crank arm K' may be swung around to rotate the pipe 1 in the hollow shaft W. As the bent portion of the indicator arm Z is in alinement with the nozzle D, the operator is enabled to direct the nozzle according to the diagram.

I claim:

1. In a nozzle adjusting device, the combination of a sleeve mounted in a partition, a hollow shaft rotatably mounted in the sleeve, a pipe passing through the shaft having a right angle portion, said portion carrying a cock, a tube forming the plug of the cock extending parallel to the pipe in the shaft, the outer portion of the tube being bent in an S-shape having a nozzle at the end thereof, the other end of the pipe in the shaft terminating in a stuffing-box, an inlet pipe leading to the stuffing-box, and means on one side of the partition for rotating the hollow shaft to communicate rotary motion to the tube in the cock on the other side of the partition.

2. In a nozzle adjusting device, the combination of a sleeve mounted in a partition, a pipe journaled in the sleeve having a right angle portion, said portion carrying a cock, a tube forming the plug of the cock extending parallel to the pipe in the sleeve, the outer portion of the tube being bent in an S-shape having a nozzle at the end thereof, the other end of the pipe in the sleeve terminating in a stuffing-box, an inlet pipe leading to the stuffing-box, and means on one side of the partition for rotating the pipe in the sleeve to rotate the cock on the other side of the partition.

3. In a nozzle adjusting device, the combination of a sleeve mounted in a partition, a hollow shaft rotatably mounted in the sleeve, a pipe passing through the shaft having a right angle portion, said portion carrying a cock, a tube forming the plug of the cock extending parallel to the pipe in the shaft, the outer portion of the tube being bent in an S-shape having a nozzle at the end thereof, the other end of the pipe in the shaft terminating in a stuffing-box, an inlet pipe leading to the stuffing-box, means on one side of the partition for rotating the hollow shaft to communicate rotary motion to the tube in the cock on the other side of the partition, and means on the front side of the partition showing where to direct the nozzle.

4. In a nozzle adjusting device, the combination of a sleeve mounted in a partition, a hollow shaft rotatably mounted in the sleeve, sprocket wheels on the ends of the hollow shaft, a pipe passing through said shaft having a right angle portion, said portion carrying a cock, a tube forming the plug of the cock, the outer portion of the tube being bent and having its end extend parallel to said pipe, a sprocket wheel on the inner end of the tube alining with the wheel on the shaft, an arm secured to the other end of said pipe, a spindle journaled in the arm, a sprocket wheel on the inner end of the spindle, a chain passing over the sprocket wheels on the tube and on the shaft, a second chain connecting the other sprocket wheel on the shaft and the sprocket wheel on the

spindle, a pipe for conveying fluid to the pipe in the shaft, and a hand wheel on the outer end of the spindle whereby the device is operated.

5. In a nozzle adjusting device, the combination of a sleeve mounted in a partition, a hollow shaft rotatably mounted in the sleeve, sprocket wheels on the ends of the hollow shaft, a pipe passing through said shaft having a right angle portion, said portion carrying a cock, a tube forming the plug of the cock, the outer portion of the tube being bent and having its end extend parallel to said pipe, a sprocket wheel on the inner end of the tube alining with the wheel on the shaft, an arm secured to the other end of said pipe, a spindle journaled in the arm, a sprocket wheel on the inner end of the spindle, a chain passing over the sprocket wheels on the tube and on the shaft, a diagram on the front side of the partition, an indicator arm fastened on the inner end of said spindle adapted to trace the diagram, a second chain connecting the other sprocket wheel on the shaft and the sprocket wheel on the spindle, a pipe for conveying fluid to the pipe in the shaft, and a hand wheel on the outer end of the spindle whereby the device is operated.

In testimony whereof I have hereunto set my hand in presence of two witnesses.

EMIL EFRAN.

Witnesses:

ALEXANDER RELM,
AUGUST FUGGER.