G. W., R. & A. HARGREAVES.

MOISTENING DEVICE.

APPLICATION FILED AUG. 9, 1912.

1,146,249. Patented July 13, 1915.

Fig. 1.

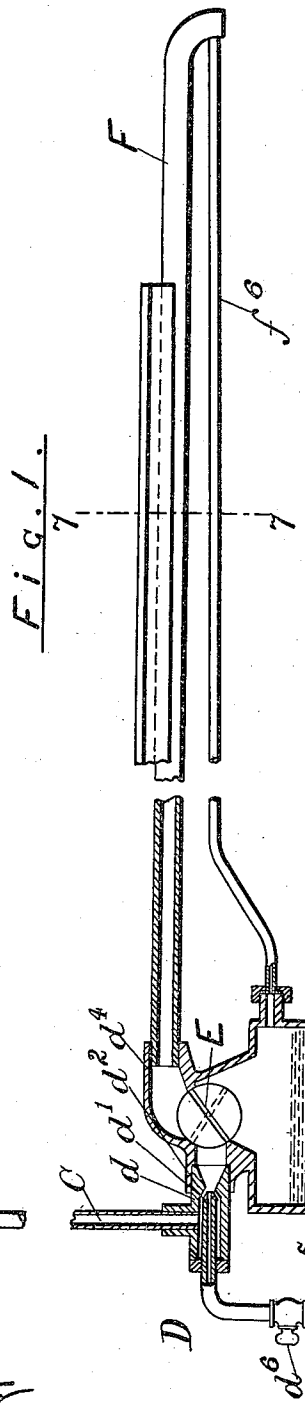
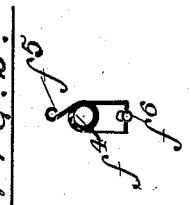


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE WHITTAKER HARGREAVES, ROBERT HARGREAVES, AND ALBERT HARGREAVES, OF BLACKBURN, ENGLAND.

MOISTENING DEVICE.

1,146,249. Specification of Letters Patent. Patented July 13, 1915.

Application filed August 9, 1912. Serial No. 714,237.

To all whom it may concern:

Be it known that we, GEORGE WHITTAKER HARGREAVES, ROBERT HARGREAVES, and ALBERT HARGREAVES, subjects of the King of Great Britain, residing at Brookhouse Lane, Blackburn, in the county of Lancaster, England, have invented certain new and useful Improvements in Moistening Devices, of which the following is a specification.

This invention relates to devices for moistening warps on looms for weaving textile goods; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In order that the said invention may be clearly understood and readily put into effect, the same is described more fully with reference to the accompanying drawings, in which:—

Figure 1, is a vertical section of moistening or conditioning apparatus constructed in accordance with this invention. Fig. 2 is a cross-section, taken on the line 7—7 in Fig. 1.

The moistening device is provided with an atomizer D having an induction pipe d which is connected to an inlet pipe C for compressed air. The pipe d has a contracted portion d^1 and a nozzle d^2. The nozzle d^2 is connected to the upper part of, and forms the inlet to, a vessel d^3 for water, and a regulating device F is arranged in the upper part of the said water vessel between its inlet and its outlet d^4. This regulating device consists of a pivoted deflecting plate, which can be set at various angles and which controls the communication between the atomizer nozzle and the outlet of the water vessel.

In addition to the regulating valve E there is also employed a liquid regulating valve d^6 and air controlling valve c either or both of which can be adjusted to regulate the supply of air and water relatively to each other or to cut off one or both of the supplies. One or more relief valves may also be fitted in the main air supply pipe or at any other convenient part of the air pressure system to allow the air to escape to the shed or to the external atmosphere when either of the valves E or c is closed. The pipe F is formed along its upper surface with a narrow slit f^4 which extends across the whole width of the warps and allows the vapor or moistened air to pass thereto a shield or deflecting plate such as f^5 reaching to or into proximity to the warps being advantageously employed to protect the vapor or moistened air from drafts and to insure that the vapor will be satisfactorily delivered to the warps. The end or lowest portion of the pipe F is connected by a small pipe f^6 to the receptacle d^3 for returning to the latter any liquid which may collect in the pipe F and for assisting in this purpose the small pipe f^6 advantageously falls or inclines from its point of connection with the pipe F to the receptacle d^3.

By the apparatus hereinbefore described the water delivered with the air to the warps can be controlled so that it issues from the pipe F in the form of damp or very slightly damp air without any suggestion of a spray or of beads of water or other liquid being delivered by the air to the warps.

What we claim as our invention and desire to secure by Letters Patent of the United States is:—

1. The combination, with a receptacle for air and liquid provided with an inlet at its upper part and an outlet arranged above the level of the inlet, of an adjustable deflector pivoted in the upper part of the receptacle between the inlet and outlet and adapted to control communication between said inlet and outlet, a substantially horizontal induction tube connected to the said inlet, a pipe for supplying compressed air to the induction tube, and a water inlet pipe having its lower end connected to the water space of the receptacle and provided at its upper end with a nozzle which projects within the induction tube.

2. The combination, with a receptacle for air and liquid provided with an inlet at its upper part and an outlet arranged above the level of the inlet, of an adjustable deflector pivoted in the upper part of the receptacle between the inlet and outlet and adapted to control communication between said inlet and outlet, a delivery pipe connected at one end to the said outlet and provided with an outlet for spray at its upper side, a drain pipe for water connected at one end to the free end portion of the delivery pipe below the

level of its spray outlet and at the other end to the said receptacle, a substantially horizontal induction tube connected to the said inlet, a pipe for supplying compressed air to the induction tube, and a water inlet pipe having its lower end connected to the water space of the receptacle and provided at its upper end with a nozzle which projects within the induction tube.

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

GEORGE WHITTAKER HARGREAVES.
ROBERT HARGREAVES.
ALBERT HARGREAVES.

Witnesses:
GEORGE H. LEWIS,
CHARLES WILLIAM CARTWRIGHT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."