No. 894,279. PATENTED JULY 28, 1908.

J. A. McKEE & G. R. EVANS.

DRYING APPARATUS.

APPLICATION FILED MAY 13, 1907.

Fig. 1.

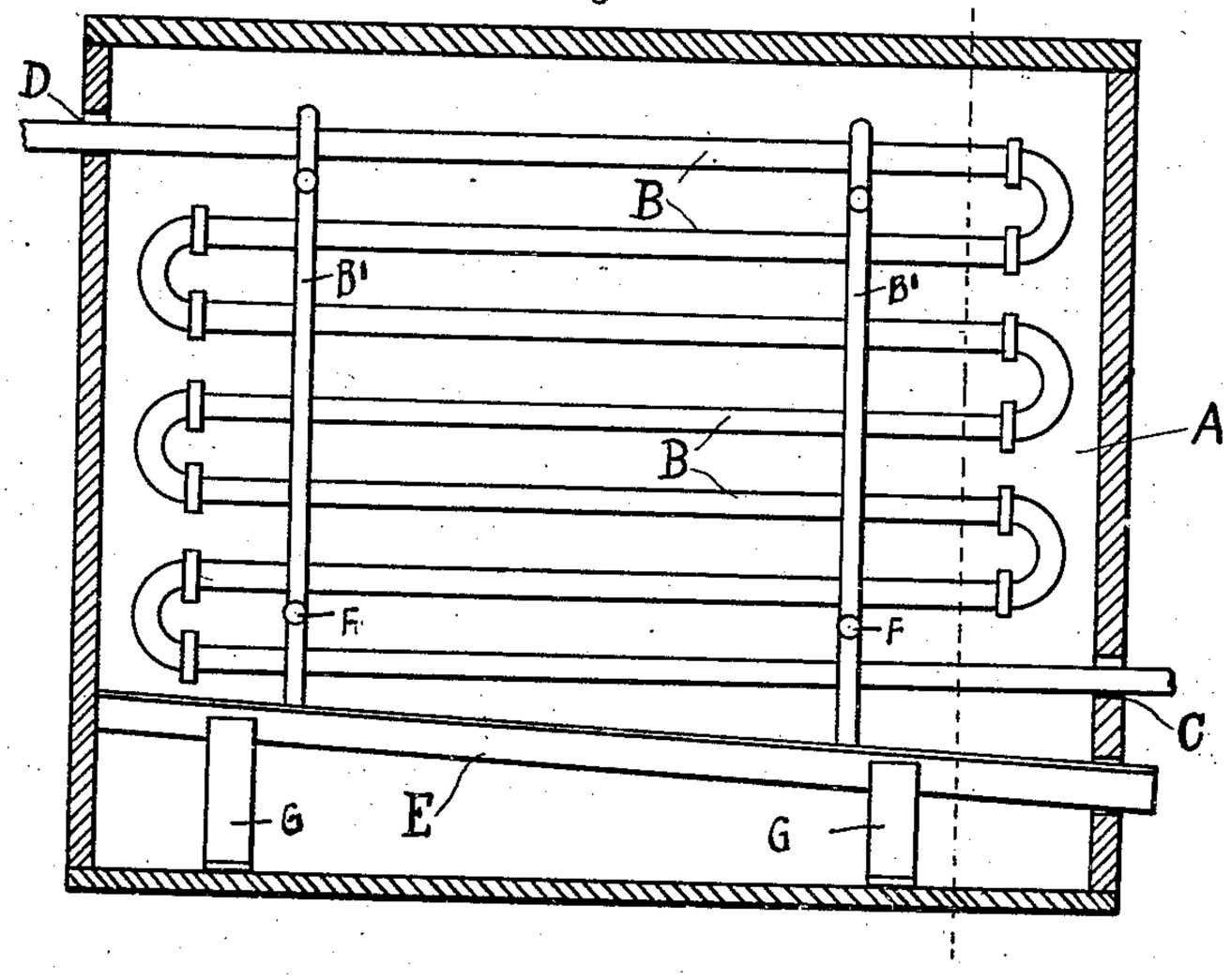
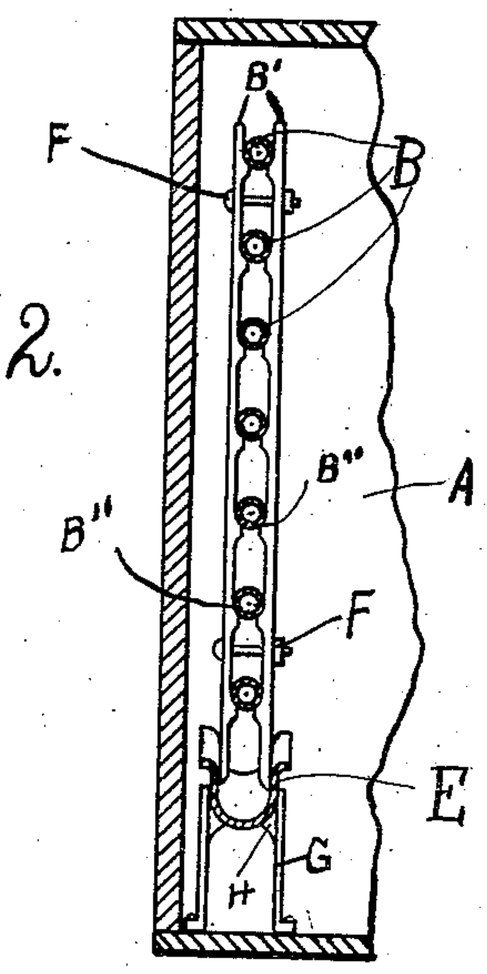


Fig. 2.



WITNESSES

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DRYING APPARATUS.

No. 894,279. Specification of Letters Patent. Patented July 28, 1908.

Application filed May 13, 1907. Serial No. 373,198.

To all whom it may concern:

Be it known that we, JOHN A. McKEE and GEORGE R. EVANS, citizens of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Drying, of which the following is a specification.

Our invention relates to a new and uesful improvement in drying, and has for its object to utilize the principle of exposing cold surfaces to the moisture ladened air of a drying room to cause condensation of the moisture, thus permitting the heated air to continue to take up moisture and thereby continually carry on the process of drying.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, we will describe its construction in detail, referring by letter to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a section of a drying compartment showing a series of pipes therein through which a cooling agent may be passed for reducing the temperature of the surfaces of these pipes below the temperature of the air in the compartment. Fig. 2, a section at the line *x*—*x* of a portion of the compartment.

In carrying out our invention it is not necessary that any particular form of drying compartment or pipes be adhered to, but the arrangement shown in the accompanying drawings will illustrate the manner of putting our improvement in practice, and in these drawings A represents the drying compartment which may be of any size sufficient to receive the articles to be dried by suspending the same upon hooks or poles.

B represents a series of pipes entering the compartment at C and leaving the same at D, so arranged that a cooling agent such as water may be run through these pipes to lower the temperature of their surfaces below the temperature of the air within the compartment, and these chilled surfaces will condense the moisture in the air causing it to accumulate in the form of sweat upon the pipes. Pipes B, have a horizontal arrangement and are supported by means of pairs of vertical opposed members B′, which are formed with curved parts B″, constituting seats to receive the pipes. These members are clamped to the pipes by means of nuts and bolts F. The lower ends of members B′, seat in and are supported by trough E, as shown in Fig. 2. Trough E, is in turn supported by legs G, which have seats H, formed at their upper ends to conform to the curvature of the under side of the trough. The lower ends of legs G, are turned outwardly to form feet which are firmly secured to the bottom of compartment A.

If found necessary the trough may lead into a pipe connected with any suitable trap so as to permit the outflow of the waters of condensation without permitting the outflow of the heated air.

It is well known in the art of drying that it is necessary to continually raise the temperature of the air higher and higher to cause it to absorb the moisture from the articles being dried, and this finally reaches a point where the air will no further absorb moisture when it is necessary to expel the moisture ladened air and replace it by fresh heated air, and this requires the expenditure of large quantities of fuel in getting up the constant supply of heated air, whereas, by our improvement it is only necessary to keep the air in the drying compartment at a reasonable temperature and continue to extract the moisture therefrom by condensation, thus permitting the air to reabsorb moisture from the articles being dried.

Any suitable means may be used for supplying heated air to the compartment either through fuels conveying fresh heated air to the compartment or by steam heated coils maintaining the temperature of the air within the compartment.

Having thus fully described our invention, what we claim as new and useful is,—

1. A drier embodying a compartment, a trough supported from the bottom of said compartment, a series of connected horizontal pipes, and means for supporting said pipes from said trough consisting of vertical members having seats formed on their inner faces to receive said pipes, said members having their lower ends supported by said trough, and means to clamp said members to said pipes.

2. A drier embodying a compartment, a trough, legs having feet rigidly secured to the

bottom of said compartment and having seats at their upper ends to engage and support said trough, a series of connected horizontal pipes, a pair of opposed vertical members having curved seats formed on their inner faces receiving said pipes, said members at their lower ends seating in and supported by said trough, and nuts and bolts for clamping said members to said pipes.

In testimony whereof, we have hereunto affixed our signatures in the presence of two subscribing witnesses.

JOHN A. McKEE.
GEORGE R. EVANS.

Witnesses:
JOSEPH C. SMITH,
FRED. S. SMITH.