J. M. DICK.

Wool-Drier.

No. 167,074. Patented Aug. 24, 1875.

Fig. 1.

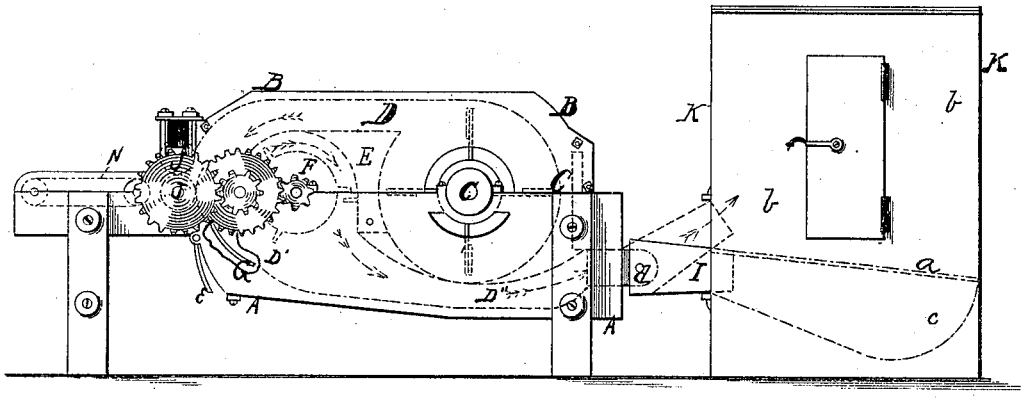


Fig. 2.

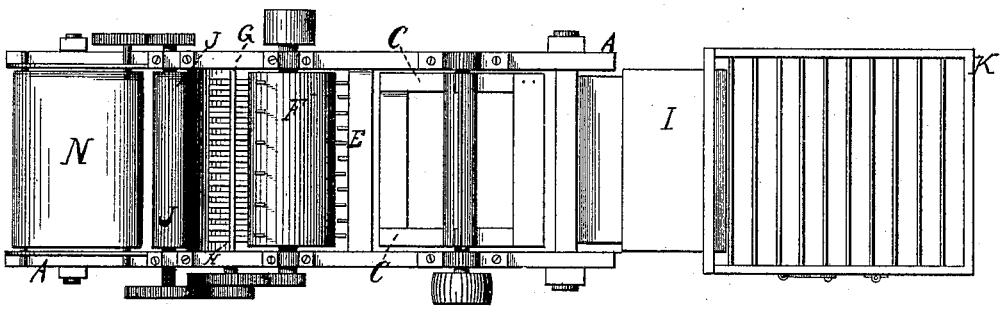
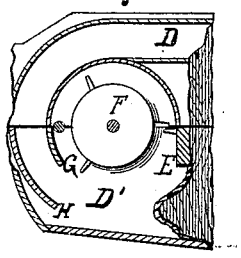


Fig. 3.



Witnesses:

C. M. Woodward

T. H. Parsons.

James M. Dick

Inventor,

By his attorney

J. R. Drake.

UNITED STATES PATENT OFFICE.

JAMES M. DICK, OF BUFFALO, NEW YORK.

IMPROVEMENT IN WOOL-DRIERS.

Specification forming part of Letters Patent No. **167,074**, dated August 24, 1875; application filed February 15, 1875.

To all whom it may concern:

Be it known that I, JAMES MILLEN DICK, of Buffalo, in the county of Erie and State of New York, have invented certain Improvements in Wool-Drying Machines, of which the following is a specification:

This invention relates to certain improvements upon the machine for drying wool for which Letters Patent of the United States were granted me June 20, 1871, numbered 116,032.

In the drawings, Figure 1 represents a side elevation, partly in section, for carrying out my invention. Fig. 2 is a plan view thereof; and Fig. 3, a sectional view of the wool-receiving chamber, showing the air-guide plate.

A represents the outer frame; B, the removable cover or top of the case; C, the fan or cold-air blast generator, which forces the cold-air current through the air-chamber D, as indicated by arrows. F is the revolving picker, and E the picker-bed. The picker revolves against the cold-air blast, as indicated by arrows. N is an endless apron, on which the wool is placed and carried into the expressing-rollers J J, and from thence into the receiving-chamber D′, in which is set an air-guide plate G. This directs the wool, on its entrance, below the center of the revolving picker. The top of this plate G is formed by the lining of the chamber D. This plate is a very important feature, as without it the wool would clog in the entrance, and therefore would be inadequately acted on by the cold-air blast, as the picker, revolving in the opposite direction, has a tendency to nullify the action of the fan.

Another important improvement in this receiving-chamber is the dripping and air-grate H, set slanting, as shown, and on which the wool falls from the rollers. This grate, or perforated plate, permits a portion of the moisture yet remaining in the wool to drip through these bars or holes, and at the same time the air-blast is forced through the mass of wool and through the bars, carrying with it a portion of the moisture into the air. This greatly aids the drying process. The wool, being continually acted on by the cold-air blast, is carried through the trunk D″, or lower air-passage, (said trunk being an extension of the air-passage D, and receiving-chamber D′,) and is blown through a conveyer or spout, I, into a drying-box, K, which is constructed with four or more walls, a solid bottom, and a grated or perforated top for a free action of the air through, and to prevent the wool being blown out. A perforated or grated shelf, *a*, divides the upper or wool-receiving chamber *b* from the bottom or air-chamber *c*. This conveyer or spout, I, is made with a joint, *d*, so that it is adjustable, being first raised, as shown in dotted lines in Fig. 1, while the wool is forced by the air-blast through the trunk D″ and the conveyer I into the wool-chamber *b*, in the drying-box K. When this is filled the running of the machine is stopped, except the fan C, and the spout is set down, so as to lead into the air-chamber *c* of the drying-box, by which the air-blast is forced through into the air-chamber *c* and underneath the wool. A great advantage is thus gained, as, instead of matting it together, it lightens it up, and keeps it in suspension or separated, allowing a free passage of the air through it, and out at the top. A combined effect is also obtained from the box, as it is a receptacle for the wool from the machine, and also holds it for the action of the air-blast from the fan C until thoroughly dried. A door, *e*, is set on hinges in front of the air-grate H, so that when the full force of the air-blast is required for the drying-box, it can be tightly closed and prevent the escape of air through it. When the wool is being passed through the machine this door is of course left open for the escape of a portion of the air through the wool, as before stated, to carry off a portion of a moisture therein.

I claim—

1. The combination, in a wool-drying machine, having a receiving-chamber, D′, of the dripping-grate H, the expressing-rollers J J, and the fan C, the whole arranged in said receiving-chamber, substantially as and for the purpose described.

2. The combination, in a wool-drying machine, having a fan, C, an air-trunk, D′, and a picker, F, constructed as described, so that the current of air is impelled against the wool, at its entrance, of an air-guide plate, arranged to partially surround the picker and deliver the wool below the center of said picker, and

prevent the blast from the fan being counteracted by the reverse revolution of the picker.

3. The combination, with the drying-chamber K, and air-trunk D′, of a wool-drying machine, of a pivoted conveyer-spout, I, constructed to be adjusted above or beneath the grate of the drying-chamber, substantially as and for the purpose described.

4. In a machine for drying wool with which is combined an air-forcing mechanism, and an air-trunk, arranged to impel a current of air against the wool at its entrance, a drying-chamber, connected with said machine by an adjustable spout, and arranged to receive the wool and the air for drying the same, substantially as shown and described.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

JAMES M. DICK.

Witnesses:
J. R. DRAKE,
T. H. PARSONS.