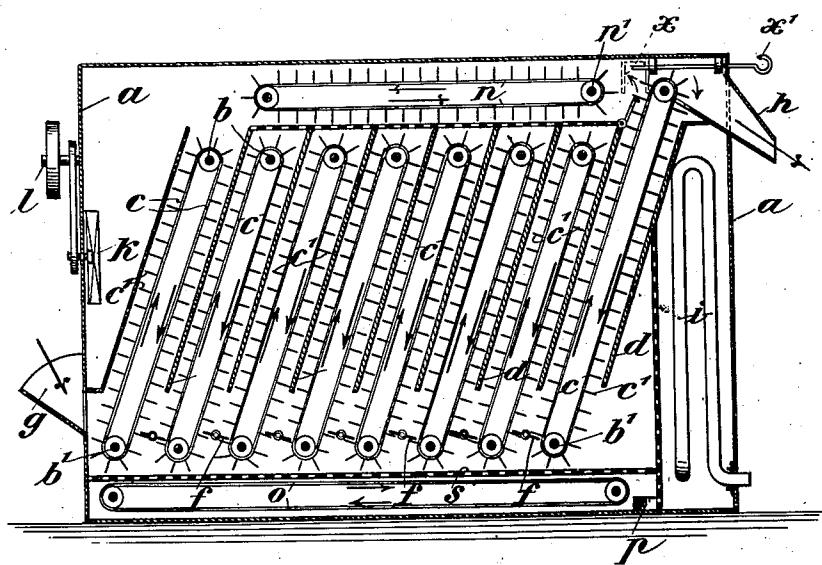
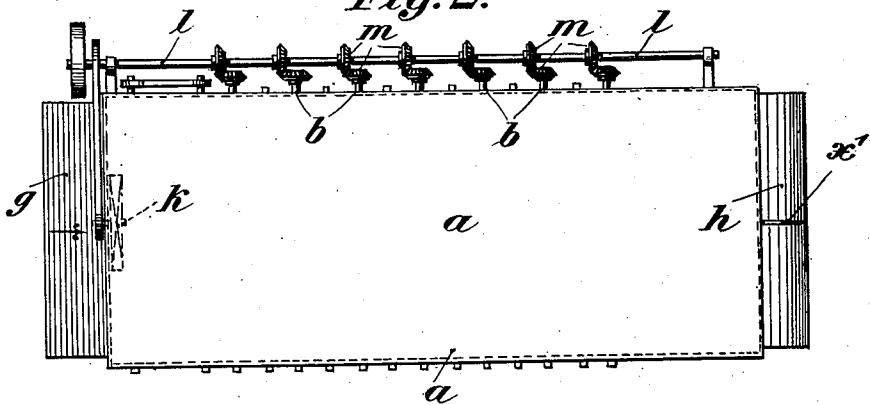


E. EICHLER & O. TIELEMANN.  
 DRYING APPARATUS FOR HAY AND SIMILAR MATERIAL.  
 APPLICATION FILED APR. 10, 1911.  
**999,706.** Patented Aug. 1, 1911.

*Fig. 1.*



*Fig. 2.*



*Witnesses:*  
 Georg Otto  
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# UNITED STATES PATENT OFFICE.

EMIL EICHLER, OF BUNTENBOCK, NEAR KLAUSTHAL, AND OTTO TIELEMANN, OF  
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## DRYING APPARATUS FOR HAY AND SIMILAR MATERIAL.

999,706.

Specification of Letters Patent.

Patented Aug. 1, 1911.

Application filed April 10, 1911. Serial No. 620,256.

*To all whom it may concern:*

Be it known that we, EMIL EICHLER and OTTO TIELEMANN, subjects of the German Emperor, and residents of Buntenbock, near 5 Klausthal, Harz, Germany, and Immemoede, Goslar, Germany, respectively, have invented certain new and useful Improvements in Drying Apparatus for Hay and Similar Materials, of which the following is 10 a specification.

The invention relates to an improved apparatus for drying hay and similar material which is carried through the apparatus by endless conveyers arranged in such a manner 15 as to provide a zig-zag movement or track through an inclosing casing which is fitted with heating and ventilating devices.

The main feature of the invention consists in the application of a conveyer arranged horizontally in the upper part of 20 the casing so as to operate practically at right angles to the conveyers forming the zig-zag track, which receives the material being dried, from the last conveyer band 25 of the said zig-zag track and returns it to or close to the feed aperture or to the first conveyer of the zig-zag track.

The invention is illustrated in the accompanying drawings, in which:—

30 Figure 1 is a vertical longitudinal section of the drying apparatus. Fig. 2 is a plan of same.

In a casing *a* the revolving shafts *b* and *b'* respectively are fixed in two parallel horizontal planes, and bear the endless conveyers *c* which run parallel in separate inclined compartments. Between adjacent conveyers, which are fitted with suitably formed hooks, fingers or the like, *c*, a fixed partition *d* is 35 arranged against the surfaces of which the said hooks or fingers pass slightly on the ascending and descending sides. Further, at about the height of the lower revolving shafts *b* between adjacent band partitions of 40 the conveyers there is provided a rotatable transfer plate *f* which has slots for the passage of the hooks or fingers *c*. A simple, and in proportion to the size of the casing a lengthy zig-zag track is thus formed for 45 the passage of the material such as grass, to be dried, and which commences at the feed aperture *g* and ends at the outlet chute *h*. At the discharge end is arranged a heating device *i* which may be heating coil for 50 example. At the opposite end of the casing

a ventilator *k* is provided for sucking out the hot air which comes in the opposite direction to the travel of the material in the zig-zag track.

Above the conveyers *c*, which are operated 60 from a common shaft *l* through the intervention of cog-wheels *m*, there is arranged a horizontal conveyer *n* which is near the ascending portion of the last conveyer *c* so that it receives the material raised thereby 65 and carries it back to the first conveyer *c* which it enters on a second journey through the zig-zag track, and so on until sufficiently dried. In order to discharge the dried material on to the outlet chute *h*, the horizontal 70 conveyer *n* is arranged so as to be readily disconnected or barred from the last conveyer *c* and the channel to the chute *h* opened. For this purpose a sliding guard *x* may be adopted which can be operated from the 75 outside by means of a handle *x'* and so set that the material, carried to the top of the last conveyer *c*, is kept away from the band *n* and taken along to the outlet chute *h*. The sliding guard must be slotted to allow for 80 the passages of the fingers of the conveyers. The transposition can also be effected by shifting the revolving shaft *n'* of the conveyer band *n* away from the last conveyer 85 *c* so that none of the material can reach the conveyer *n*. However, any other suitable means may be adopted for discharging the material, and instead of the direct transfer of the material on to the horizontal conveyer band, an indirect means, such as a removable intermediate conveyer or a reversible intercepting flap or such like device can be provided. Between the bottom of 90 the casing *a* and the lower shafts *b* or a perforated false bottom beneath the latter, a 95 conveyer *o* can be arranged to carry off to an outlet *p* the waste material which falls through the gaps between the conveyers *c* and the slotted plate *f*. The sides of the casing *a* can be fitted with air-regulating 100 valves of any suitable kind. Instead of band conveyers any other suitable conveyers can be used, for example, chain conveyers fitted with hooks or fingers.

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

A drying apparatus for hay and similar material comprising in combination a casing fitted with heating and ventilating devices, upright conveyers within separate 110

compartments having rotatable transfer plates and forming a zig-zag track, a horizontal conveyer above said conveyers which at the end of said zig-zag track receives the material being dried from the last upright conveyer and carries it back into or close to the feed aperture, substantially as set forth.

In testimony whereof we have hereunto

signed our names this 20th day of March 1911, in the presence of two subscribing witnesses.

10

EMIL EICHLER.  
OTTO TIELEMANN.

Witnesses:

BERTHA SECHEL,  
JULIUS SECHEL.