

(No Model.)

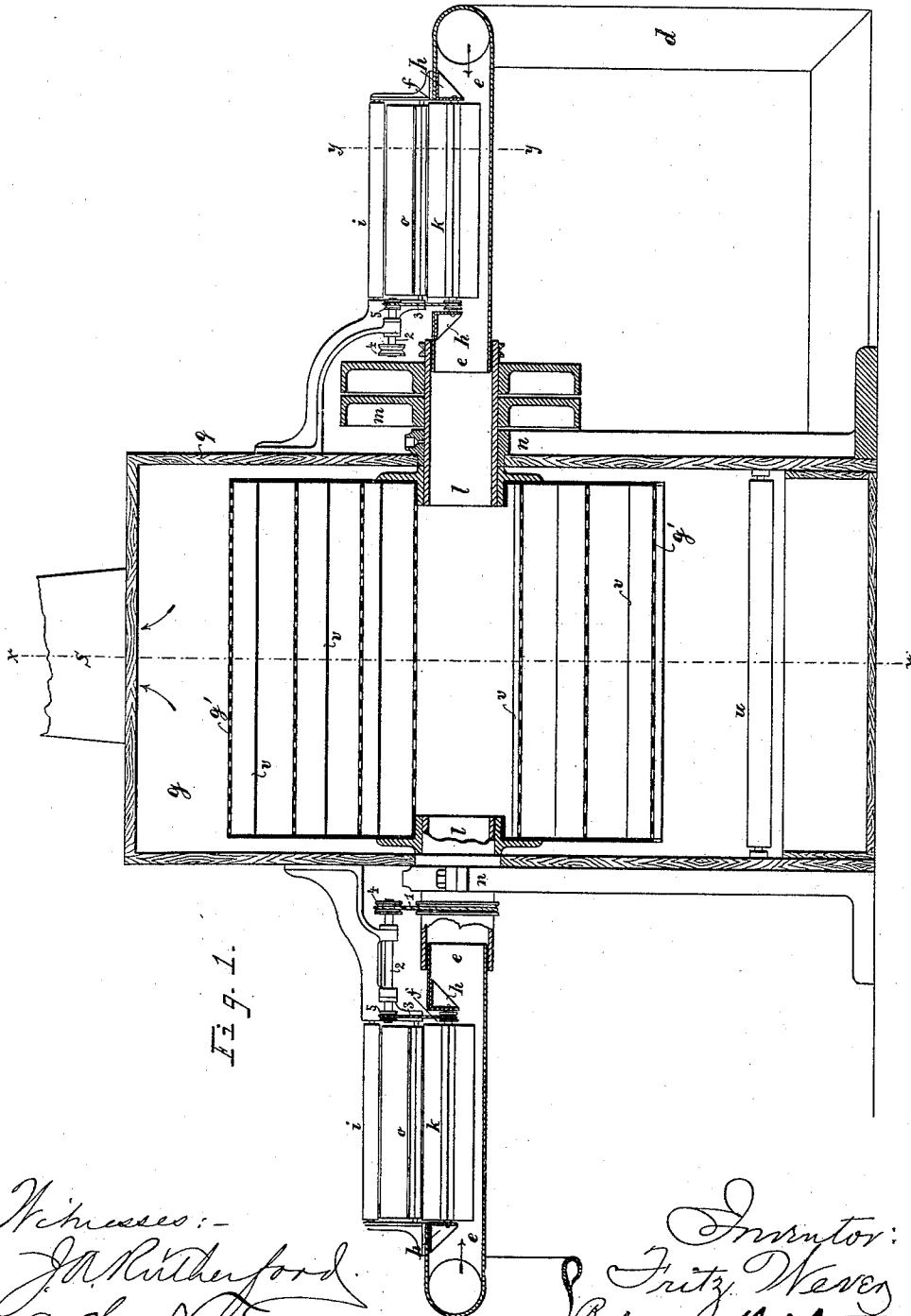
3 Sheets—Sheet 1.

F. WEVER.

APPARATUS FOR DRYING WOOL OR OTHER FIBROUS MATERIAL.

No. 462,184.

Patented Oct. 27, 1891.



Witnesses:-
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Attorney

(No Model.)

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Fig. 2.

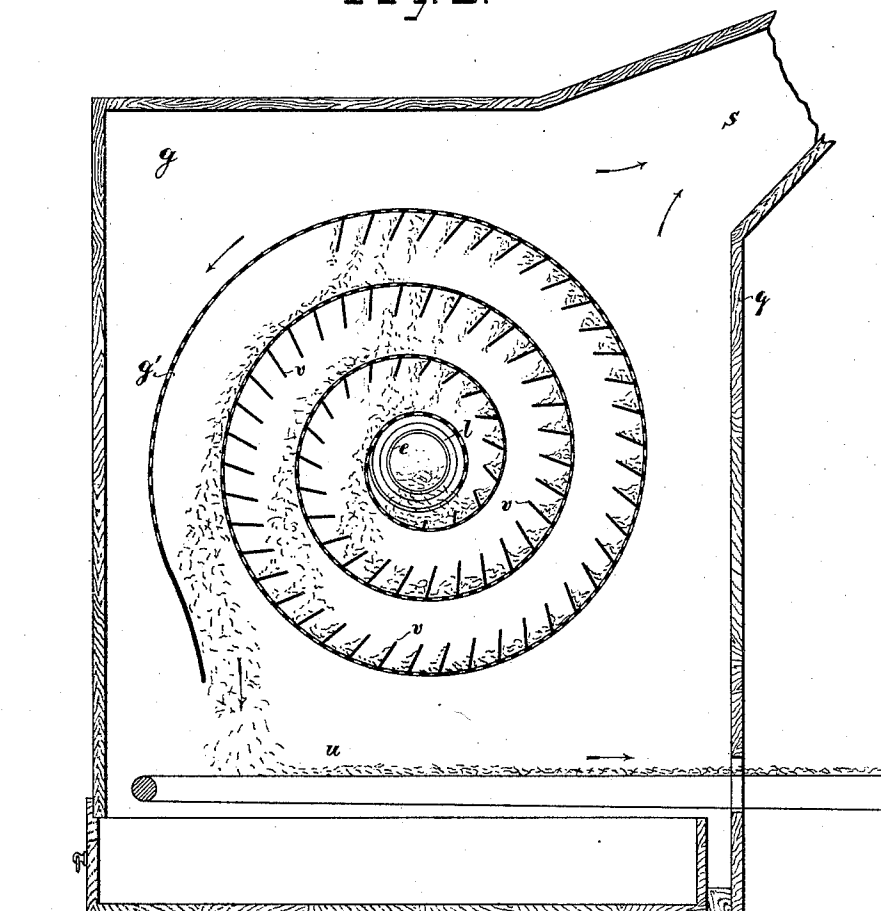
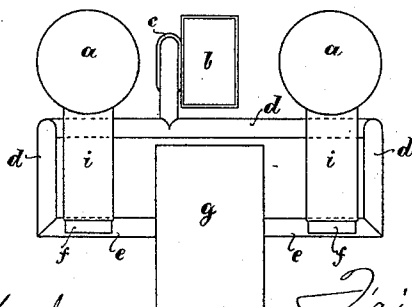


Fig. 4.



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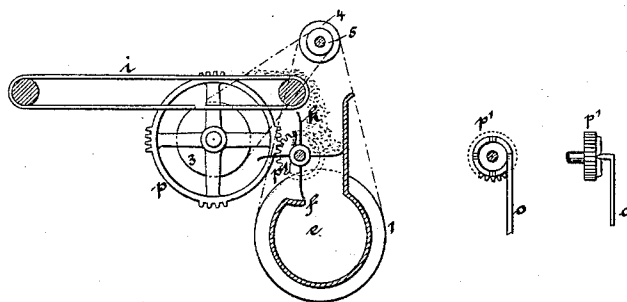
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Fig. 3.



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UNITED STATES PATENT OFFICE.

FRITZ WEVER, OF CHEMNITZ, GERMANY.

APPARATUS FOR DRYING WOOL OR OTHER FIBROUS MATERIAL.

SPECIFICATION forming part of Letters Patent No. 462,184, dated October 27, 1891.

Application filed July 8, 1890. Serial No. 358,076. (No model.)

To all whom it may concern:

Be it known that I, FRITZ WEVER, of the city of Chemnitz, in the Kingdom of Saxony and German Empire, have invented a new and useful Improvement in Apparatuses for Drying Wool or other Fibrous Material, of which the following is a specification, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon.

This invention relates to an improved means for drying wool or other fibrous material.

The object of my invention is to provide novel means for drying large quantities of fibrous materials in a continuous manner, and to accomplish this object my invention consists in the features of construction and the combination or arrangement of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section. Fig. 2 is a lateral vertical section of the improved apparatus on the line *x x*, Fig. 1. Fig. 3 is a detail shown in section on the line *y y* of Fig. 1. Fig. 4 is a diagram showing the arrangement of the machine with regard to a heating apparatus and a blower or ventilator employed in combination therewith.

a a, Fig. 4, designate two centrifugal apparatuses from whence the fibrous material freed of part of its moisture is, by means of the traveling cloths *i i*, conveyed to the improved drying apparatus. An oven *b*, for heating the air, is provided between the two centrifugal apparatuses *a a*, the heated air being taken from such oven by means of a hot-air forcing-fan *c*, provided with a hot-air-conducting pipe *d*, which delivers such hot air into the oppositely-arranged conduit or pipes *e*. At *f* the conduit-pipes *e* have openings formed in their tops through which the fibrous material is fed into the machine by means of the feed apparatus shown in Fig. 3. The fibrous material after having been conveyed to a point above the conduit or pipe *e* by means of a traveling endless belt or band *z*, which deposits the fibrous material directly between the arms or wings of the wheel *k*. The rotation of the wheel *k* is intermittent, this being effected by the following means: The wheel *p*, rotated from the pulley 5 by a belt,

has only a limited number of teeth on four equidistant portions of its periphery, the intermediate portions thereof being left blank. The toothed portions of the said wheel *p* are so arranged as to engage with the toothed wheel *p'*, mounted on the same shaft as the winged wheel *k*, at intervals when the said wheel *p* is rotated, thereby rotating the wheel *p'* and with it the wheel *k*. When the toothed portions of the wheel *p* have left the teeth of the wheel *p'*, the latter ceases to rotate until the next toothed portion of the wheel *p* engages with it and causes it to rotate farther. The toothed portions on the wheel *p* are so arranged as always to give the wheel *p'*, and with it the wheel *k*, but one-quarter of a revolution, during which the fibrous material fed onto the respective wings of the wheel *k* is deposited into the conduit or pipe *e*. The current of heated air in passing through the said pipe *e* in the direction indicated by the arrow on reaching the wheel *k* and finding the greater part of the opening in the pipe *e* obstructed by the horizontal blades of the wheel *k* and its bearings, will pass under the said blades and around the lower pending blade of the same. In doing so the current of air will carry the fibrous material there delivered along with it and into the center of the rotating scroll-drum *g'*. The said scroll-drum *g'* may be made of sheet metal, wood, or any other suitable material, and is rigidly connected with two tubular brass journals *l l*, Fig. 1, so as to turn with the same in the bearings *n n*. The scroll *g'*, as well as the sides of the drum, are perforated, and the scroll on its interior surface is provided with small guide-plates or pegs *v*. The scroll-drum is rotated by means of belt-pulleys *m*, the rotary motion being likewise transmitted to the wheels *k* through the cords or belts 1, shafts 2, and cords or belts 3. The quantity of fibrous material fed to the machine may be varied, as desired, by changing the sizes of the pulleys 4 and 5. The ends of the pipes *e* loosely enter the tubular journals *l*. It will be seen that as the scroll-drum *g'* rotates the fibrous material entering the same through the pipes *e* and tubular journals *l* will, by reason of the guide-plates *v*, slowly follow the windings of the scroll, becoming thoroughly permeated by the heated air on the way, and will ultimately be

discharged in a dry state from the opening at the scroll's end near the periphery of the drum and deposited on a traveling cloth *u*, to be thence conveyed to the carding-room or a
5 suitable place where it may be stored.

A casing *g*, surrounding the scroll-drum *g'*, is provided with an exhaust-opening *s*, through which the moist or humidified air is drawn off by means of an exhauster. (Not shown in the
10 drawings.)

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination, in a drying apparatus, of
15 a casing *g*, a rotary scroll-drum *g'*, having its scroll portion perforated throughout its extent and provided with inwardly-projecting guide-plates *v* for causing the fibrous material to follow the windings of the perforated part
20 of the scroll, the revolving tubular journals *l*, supported by the casing, communicating with

and supporting and rotating the scroll-drum, a stationary air-conduit *e*, extending from each revolving tubular journal and provided with an opening *f*, mechanism for delivering 25 the fibrous material into the opening of each air-conduit, and a hot-air-forcing apparatus having a conducting-pipe extending therefrom in two different directions and connected with the oppositely-arranged air-conduits for 30 forcing the fibrous material therethrough and through the revolving journals into the opposite sides of the scroll-drum, substantially as described.

In testimony whereof I have signed my 35 name to this specification in the presence of two subscribing witnesses.

FRITZ WEVER.

Witnesses:

H. A. DE SOTO,

W. PORTER BOYD.