

No. 658,106.

Patented Sept. 18, 1900.

T. ENDER, A. KLEINDIENST & J. PROCNER.

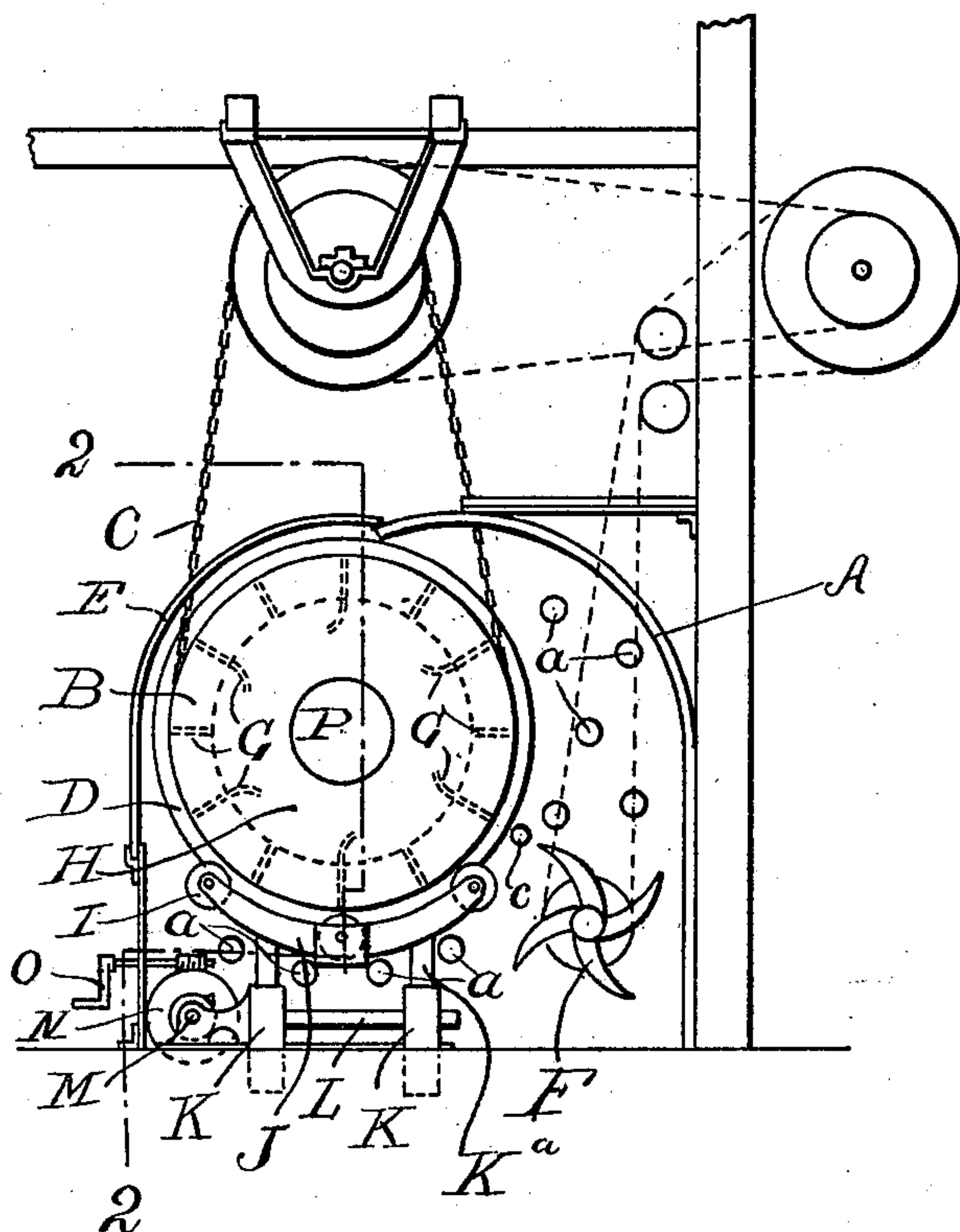
WOOL DRYING APPARATUS.

(Application filed Dec. 6, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1



Witnesses:

C. F. Wilson

Wm. B. Snowhook.

Indentors:

Theodor Ender

Alexander Kleindienst

Joh. Procner

By *Rudolph J. M. Long*

Attorney.

No. 658,106.

Patented Sept. 18, 1900.

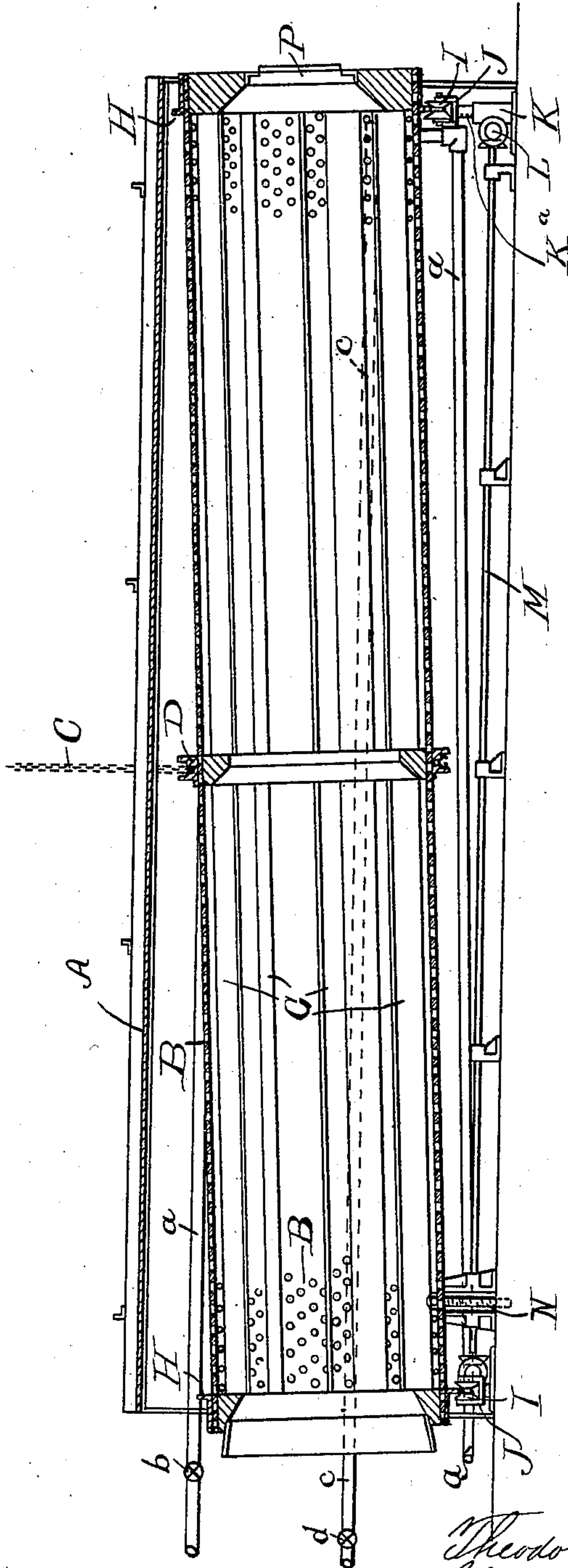
T. ENDER, A. KLEINDIENST & J. PROCNER.
WOOL DRYING APPARATUS.

(Application filed Dec. 6, 1897.)

(No Model.)

2 Sheets—Sheet 2.

Dr. 2.



Witnesses:

C. F. Wilson.
Wm B Snowhook

Inventors:

Theodor Ender
Alexander Kleinclaus
Joh. Procter

By *Jen Procter*
Rudolph M. Loeb
Attorney.

UNITED STATES PATENT OFFICE.

THEODOR ENDER, ALEXANDER KLEINDIENST, AND JAN PROCNER, OF
PABIANIZE, RUSSIA.

WOOL-DRYING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 658,106, dated September 18, 1900.

Application filed December 6, 1897. Serial No. 660,920. (No model.)

To all whom it may concern:

Be it known that we, THEODOR ENDER, manufacturer; ALEXANDER KLEINDIENST, dyer, and JAN PROCNER, engineer, subjects of the Emperor of Russia, residing at Pabianize, Russia, have invented certain new and useful Improvements in Machines for Drying Wool, Cotton, and the Like, of which the following is a specification.

Our invention relates to a novel construction in an apparatus for drying cotton, wool, and like materials, the object being to provide a simple, durable, and efficient device for this purpose; and it consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings, illustrating our invention, Figure 1 is an end elevation of a machine made in accordance with our invention. Fig. 2 is a longitudinal section on line 2 2 of Fig. 1.

In the casing A the drying-drum B, covered with foraminated metal, is arranged to revolve and may be adjusted according to requirements. This drum is caused to rotate by means of the chain C and chain-wheel D, passing around the periphery. Inside the casing a number of heating-tubes *a* are fitted, which are all connected with a steam-pipe controlled by the valve *b*. The steam-pipe *c*, closed at its extremity and passing behind the drum, can be closed by the valve *d* and is perforated with a great number of discharge-openings directed against the drum and serving to steam the cotton, impregnated with a preparation of anilin. The covering or lagging E, applied outside the drum, which is otherwise open, is removable and is used to develop the anilin-black upon the cotton. In the casing A there is arranged between the heating-pipes and behind the drum a fan or ventilator F, having for its object to drive the air which has been previously heated through the drum. Upon the inner side of this drum B are fixed the blades or lifters G, which raise the loose wool when the drum revolves in the direction indicated by the arrow. The ends of the drum are provided with angular flanges H, each of which runs upon the rollers I, attached to the adjusting device. Each set of three rollers is carried

by a strong support J, in turn carried by two racks *K*^a, which are vertically adjustable in the uprights K, fixed to the floor. The standards K carry cross-shafts L, provided with two spur-wheels meshing with said racks *K*^a, so that when this shaft rotates the said support J is raised or lowered.

The standards are provided with extensions or ends sunk in the ground and serving to guide the toothed arms and to prevent the support and rollers from being tilted. The two cross-shafts and their spur-wheels are driven with the aid of bevel-gearing by a shaft M, mounted on the floor alongside the drum. Upon this shaft is fixed a worm-wheel N, gearing with a worm carried at one end of a small shaft arranged above the worm-wheel and fitted at its other end, which projects outside the casing or envelop, with a crank-handle O. When the bevel-gear is in a suitable position, the supports carrying the rollers which support the drum ends are simultaneously adjusted in a vertical direction by turning the crank-handle O, so that one end of the drum may be raised and the other end lowered, by which means the inclination of the drum can be easily and accurately regulated. The drum and the fan are driven in any suitable manner by means of a common driving-shaft.

The machine operates as follows: The propulsion of the wool or cotton in the drum is effected in the following manner: The damp cotton or wool is introduced at the higher end of the drum through the opening P, formed in the front end or wall thereof and inside the inclined and rotating drum B. The blades or lifters G of the latter raise the cotton or wool upward, the latter falling down again after one-half of a revolution of the drum has been accomplished and reaching the lowermost part of the drum, whence it is lifted again, the operation continuing until the cotton or wool finally reaches the lower open end of the drum and is discharged out of the same. To regulate the degree of dampness of the cotton or wool as required for spinning, the adjusting device is used, whereby the inclination of the drum can be altered at will without interruption, so that the cotton or wool may be continuously propelled along

the drum at a greater or less speed. The quantity of damp cotton or wool continuously introduced into the drum will likewise depend upon this operation.

5 This drying-machine may likewise be used to develop anilin-black upon cotton, this being effected in the following manner: The lowermost open end of the drum is closed by a readily-movable lid or cover, and the im-
10 pregnated cotton-wool is introduced after its treatment in a centrifugal machine into the drum B in order to be dried. After the drum has been sufficiently filled the admission-opening is closed by the movable cover, the
15 drum is brought into a horizontal position by means of its adjustable device, and the cotton is dried in this position.

We claim—

20 In an apparatus for drying wool, the combination with a revoluble perforated cylinder provided with inwardly-projecting longitudinal ribs and provided with inlet and outlet openings at its ends for the material to be dried, means for revolving said cylinder, and

annular flanges at the ends of same, of de- 25
vices for supporting said cylinder comprising rollers journaled in supports on the floor and adapted to receive the annular flange at one
end of said cylinder, and rollers journaled in
vertically-adjustable standards and adapted 30
to receive said other annular flange, whereby the inclination of said cylinder may be adjusted at will to regulate the speed at which the material to be dried passes through the
same, a casing in which said cylinder re- 35
volves, and a fan in said casing adapted to create circulation of air in said casing and said cylinder.

In witness whereof we have hereunto set
our signatures in the presence of two sub- 40
scribing witnesses.

TH. ENDER.

ALEXANDER KLEINDIENST.

JAN PROCNER.

Witnesses:

RUDOLF SCHOLZ,

THEODOR MADERARY.