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W. F. HUTCHINSON.
DRIER.

APPLICATION FILED MAY 4, 1906.

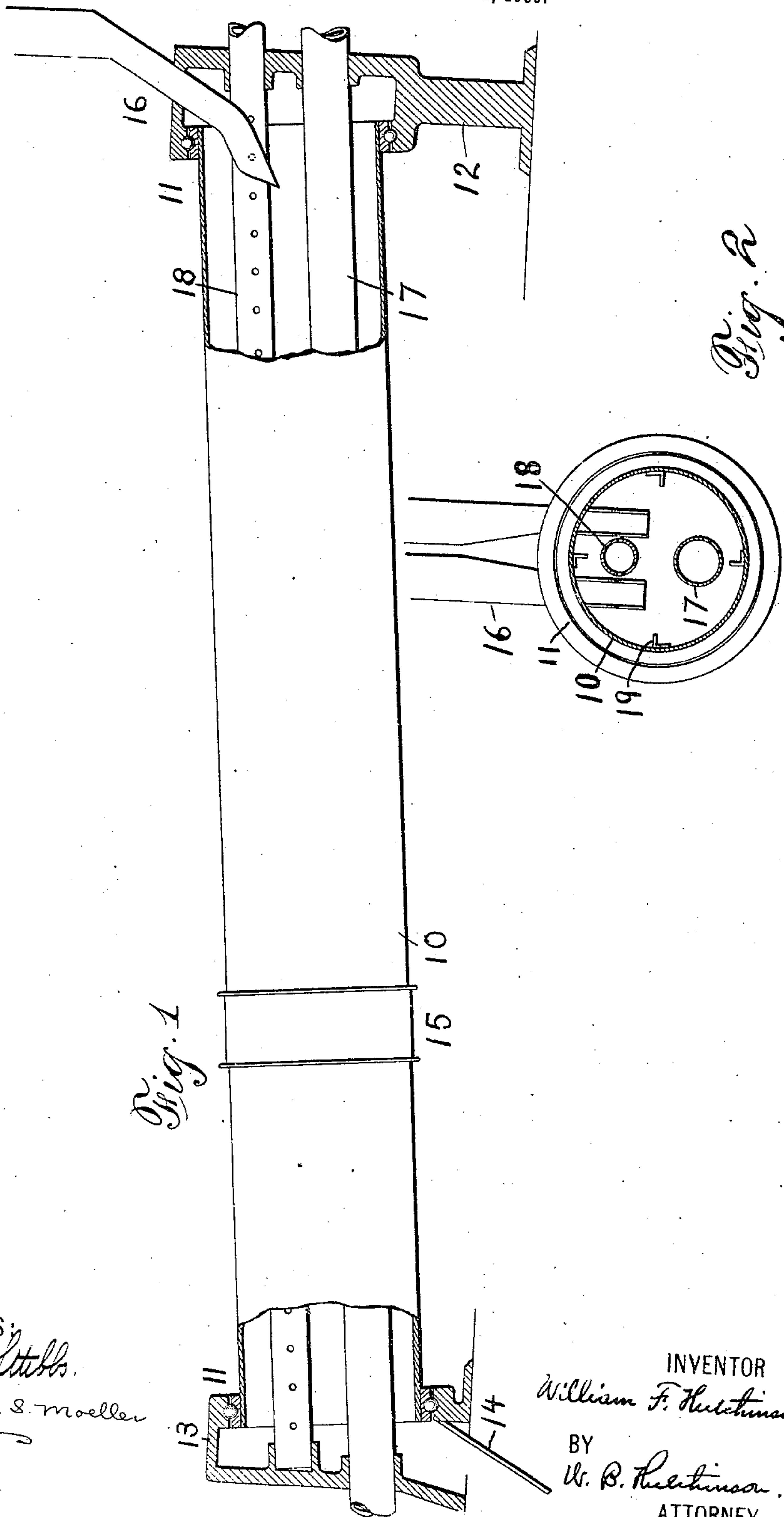


Fig. 1

Fig. 2

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DRIER.

No. 843,608.

Specification of Letters Patent.

Patented Feb. 12, 1907.

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To all whom it may concern:

Be it known that I, WILLIAM F. HUTCHINSON, of Nyack, in the county of Rockland and State of New York, have invented a new and Improved Drier, of which the following is a full, clear, and exact description.

My invention relates to improvements in driers, and more especially to that class of driers which is adapted for drying tooth-picks, match-splints, or other wooden articles, although the drier may be used for drying any comparatively small free things which will pass through it. The drier is particularly adapted, however, for drying splints and toothpicks; and the object of my invention is to produce a drier which will receive the loose wooden articles in a very wet condition, such as the condition in which they are when cut fresh from a log containing sap or water, and which will quickly dry the articles and deliver them comparatively straight at one end of the machine.

My invention is also intended to provide means for rumbling or tumbling the articles while drying, so that they will emerge from the drier in a more or less polished condition, and, further, my invention is intended to produce a quick-drying means to the end that the articles under treatment may be whitened by the drying process, or at least will be dried so quickly that they will not be stained.

Another object of my invention is to produce a convenient means of withdrawing the steam of evaporation, so that the drier is thereby rendered more efficient.

Still further, my invention is intended to produce a drier having the above advantages and the further advantage of being cheap and simple.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in both the views.

Figure 1 is a side elevation of the drier with the end portions shown in vertical section, and Fig. 2 is a cross-section of the cylinder or drum and certain accessories.

The cylinder or drum 10 is relatively long and is mounted at the ends in suitable bearings 11, which are, as shown, preferably ball-

bearings and which may be of any suitable detailed construction. These ball-bearings are supported in stands 12 and 13, and the latter is hollow and discharges at the bottom, having therein a guide-spout 14, upon which the picks or splints fall after passing through the cylinder or drum 10. The cylinder or drum 10 can be revolved in any usual way, and as a simple means I have shown it provided with a pulley 15.

The picks or other things to be dried are supplied to the upper end of the drum by means of spouts 16, and usually they will come wet from the cutting-machine. Within the drum and extending longitudinally through it is a large steam-pipe 17; but in practice I sometimes use several pipes, and obviously a greater number than one can be used where necessary. I also extend longitudinally through the drum an exhaust-pipe 18, which is provided with numerous perforations, and this can be connected with an exhaust-fan which will withdraw the moist air and steam from the drum. The perforations will not permit the material being dried to enter the pipe, but the vapor and dust, if any is produced at the dry end, will be withdrawn.

Within the drum 10 and attached to the sides are angles 19; but any suitable abutments or blades can be substituted for them, and these as the drum turns pick up the picks or splints and cause them to be tumbled over each other, rubbed against each other, and fall in contact with the pipes 17 and 18, with the result that as the picks or splints get dry they also begin to polish one another, and any little fibrous matter or roughness on the edges thus disappears. This polishing and cleaning action obviously takes place very much faster toward the lower end of the drum 10, as the stock begins to get dry and brittle by the time it reaches this end of the machine. It will be understood that the rotary action of the drum will cause the splints to gradually straighten out and lie lengthwise of the latter, so that they will be discharged in good condition for packing; but an ordinary partitioned straightener can be arranged to receive them, if desired.

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

1. A drier comprising a rotary inclined

drum having closed heads at the ends, means for delivering material into the upper part of the drum, means for discharging material from the lower part of the drum, a steam-
5 pipe extending longitudinally through the drumheads, and a perforated exhaust-pipe also supported in the drumheads and leading from the drum.

2. A drier, comprising a rotary drum having stationary heads at the ends in which the drum turns, means for delivering material into one end of the drum, means for discharging material from the opposite end of the drum, a steam-pipe supported in the
15 drumheads and extending longitudinally through the drum, and a perforated exhaust-

pipe extending longitudinally through the drum.

3. A drier, comprising a rotary inclined drum having stationary end heads serving to 20 support the drum-bearings, means for feeding material into the upper end of the drum, a discharge for said material at the lower end of the drum, a heating medium extending longitudinally through the drum, and a per- 25 forated exhaust-pipe arranged longitudinally in the drum and leading from same.

WILLIAM F. HUTCHINSON.

Witnesses:

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