

No. 754,797.

PATENTED MAR. 15, 1904.

J. H. OSTRANDER.
FELT SPREADER.

APPLICATION FILED SEPT. 24, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig 1

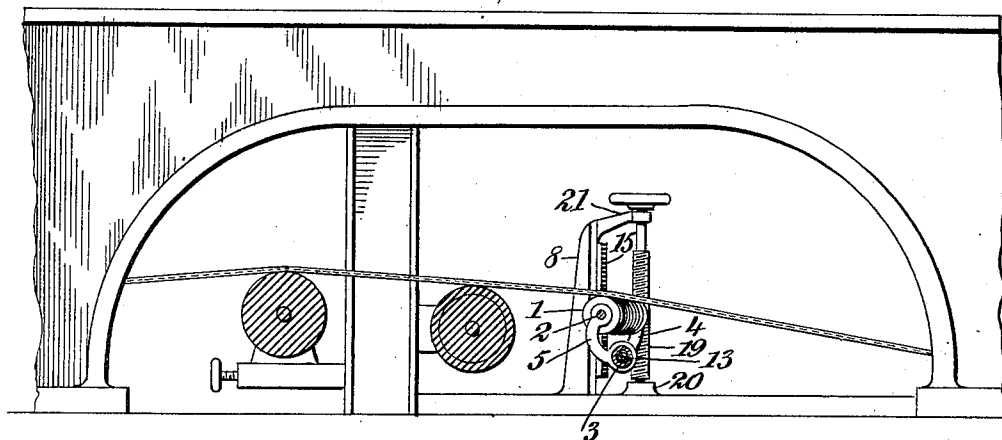
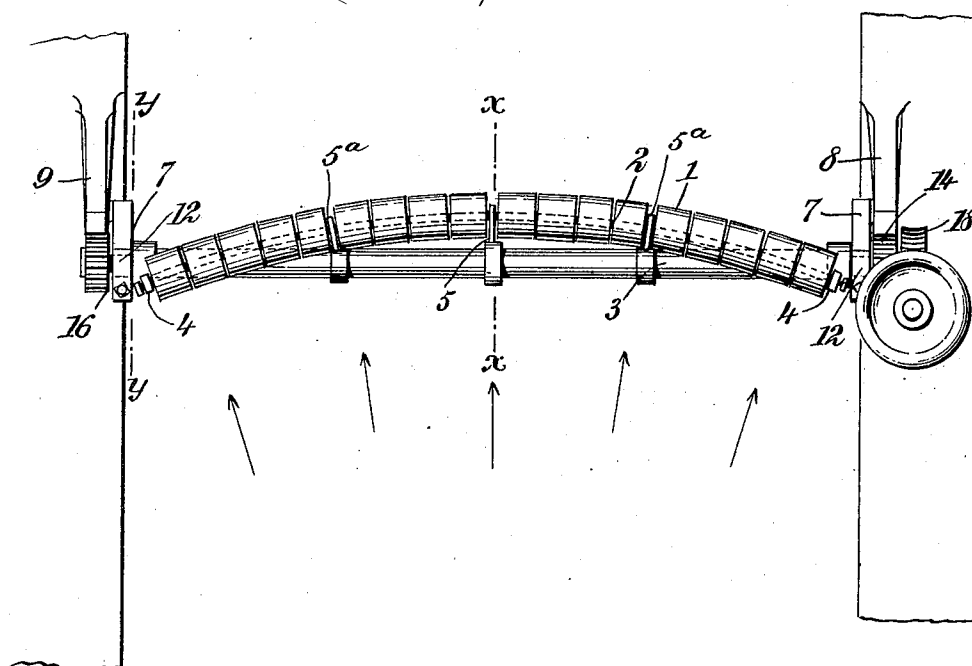


Fig 2



WITNESSES:

H. Walker
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INVENTOR

Joseph H. Ostrander

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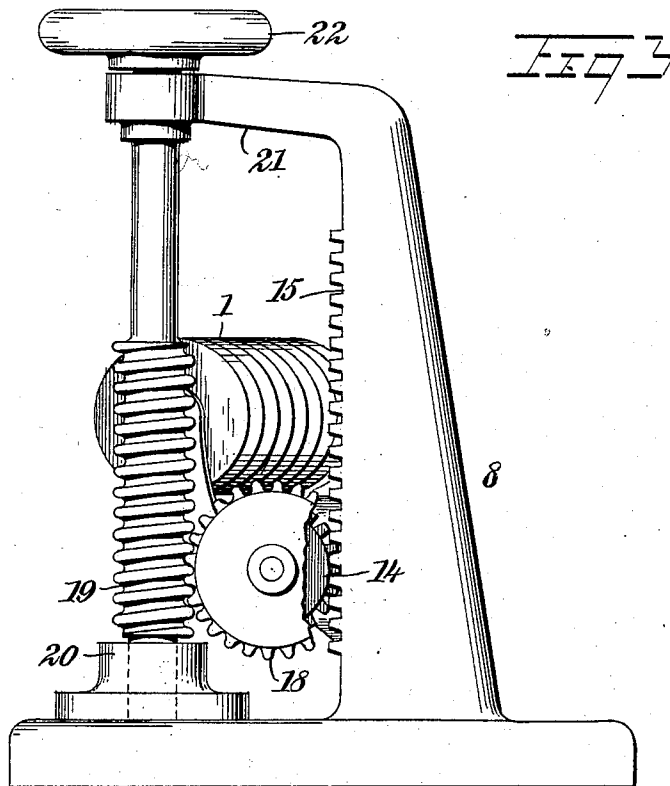
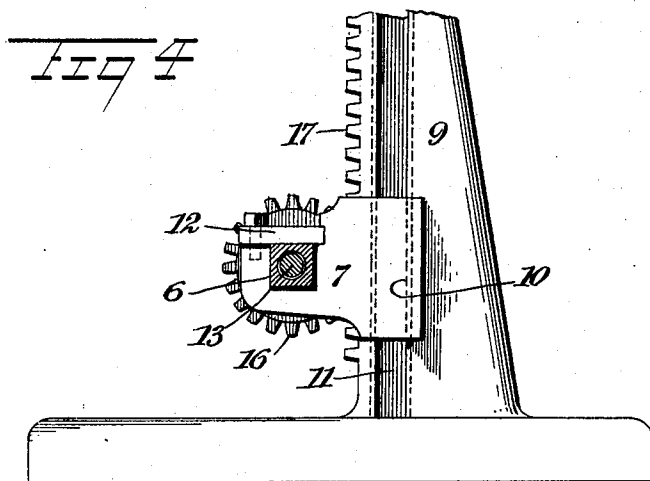
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UNITED STATES PATENT OFFICE.

JOSEPH H. OSTRANDER, OF TICONDEROGA, NEW YORK.

FELT-SPREADER.

SPECIFICATION forming part of Letters Patent No. 754,797, dated March 15, 1904.

Application filed September 24, 1903. Serial No. 174,439. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. OSTRANDER, a citizen of the United States, and a resident of Ticonderoga, in the county of Essex and State of New York, have invented a new and Improved Felt-Spreader, of which the following is a full, clear, and exact description.

This invention relates to improvements in devices for spreading any web of wool, cotton, or paper, and is especially adapted for paper-pulp and paper-machine felts, an object being to provide a spreader of novel construction that may be readily attached to a machine and which will effectually spread the paper-carrying felt; and a further object is to make the device adjustable, whereby it is possible to prevent the felt or paper sheet from creasing or wrinkling while traveling over the spreader.

I will describe a felt-spreader embodying my invention, and then point out the novel features in the appended claims.

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

Figure 1 is a sectional elevation on the line *x x* of Fig. 2 of a felt-spreader embodying my invention. Fig. 2 is a plan view thereof. Fig. 3 is an end elevation, and Fig. 4 is a section on the line *y y* of Fig. 2.

The spreader comprises a series of short rollers 1, mounted to rotate independently on a rod 2, longitudinally curved in the arc of a circle, the central projecting portion being forward or in the direction of the line of movement of the felt. The rod 2 is supported on a tube 3 by means of end arms 4, a center arm 5, and arms 5^a between the arms 4 and 5. The ends of the tube 3 are made angular, as indicated at 6, to engage in correspondingly-shaped openings in brackets 7, movable vertically on standards 8 9, which may be supported in any suitable manner in the machine-frame—for instance, on the sills thereof, as indicated in Fig. 1—and as many spreaders may be employed as desired. The brackets 7 are prevented from turning by having web portions 10 engaging in channels 11, formed in the inner sides of the standards. The brack-

ets are held from moving downward or releasing the tube 3 by means of latches 12, pivoted to swing on the brackets and engaging the upper sides of the angular portions of the tube. It is to be understood that these brackets are mainly for the purpose of preventing a rotary movement of the tube and the consequent displacement of the spreader.

A shaft 13 extends through the tube 3, and on one end of this shaft is a pinion 14, engaging with a rack 15 on the standard 8, and a similar pinion 16 on the other end of the shaft engages with a rack 17 on the standard 9. Also on the shaft 13 is a worm-wheel 18, engaging with a worm 19, having a step-bearing 20 at its lower end and a bearing at its upper end in an arm 21, projected from the standard 8, and above this arm 21 the worm-shank is provided with a hand-wheel 22.

In the operation the felt for the paper sheet or strip passes over the spreader, and the plurality of short rollers arranged in the segment of a circle, as is shown, operate to spread the felt laterally or from the center outward in both directions, keeping the same taut, or practically so, and thus preventing wrinkling. To secure the required tension on the felt, the spreader may be raised or lowered by manipulating the worm 19.

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

1. A felt-spreader comprising a plurality of rollers, a curved rod on which the rollers are mounted to rotate independently one of another, and means for vertically adjusting said rod.

2. A felt-spreader comprising a plurality of rollers, a rod formed in the arc of a circle and on which the rollers are mounted, a tube, supporting connections between said tube and rod, standards, brackets movable vertically along said standards and having angular openings to receive correspondingly-shaped portions of the tube, a shaft extended through the tube, pinions on said shaft, racks on the standards with which the pinions engage, and means for rotating the shaft.

3. A felt-spreader comprising a plurality of short rollers, a longitudinally-curved rod on which the rollers are mounted to rotate, a sup-

porting-tube for said rod, standards, brackets movable vertically along said standards and having angular openings to receive correspondingly-shaped portions of the tube, racks on said standards, a shaft extended through the tube, pinions on the shaft for engaging with said racks, a worm-wheel on the shaft, and a worm engaging with the worm-wheel.

10 4. A felt-spreader comprising a plurality of rollers arranged in the arc of a circle, a tubular support for the rollers, standards, brackets movable vertically along said standards and having angular openings to receive cor-

respondingly-shaped portions of the tube, latches mounted to swing on the brackets for engaging the upper sides of the angular portions of the tube, and means for moving the tube with the brackets vertically along the standards.

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

JOSEPH H. OSTRANDER.

Witnesses:

BRYDON B. LOCKE,
CHARLES H. ZEH.