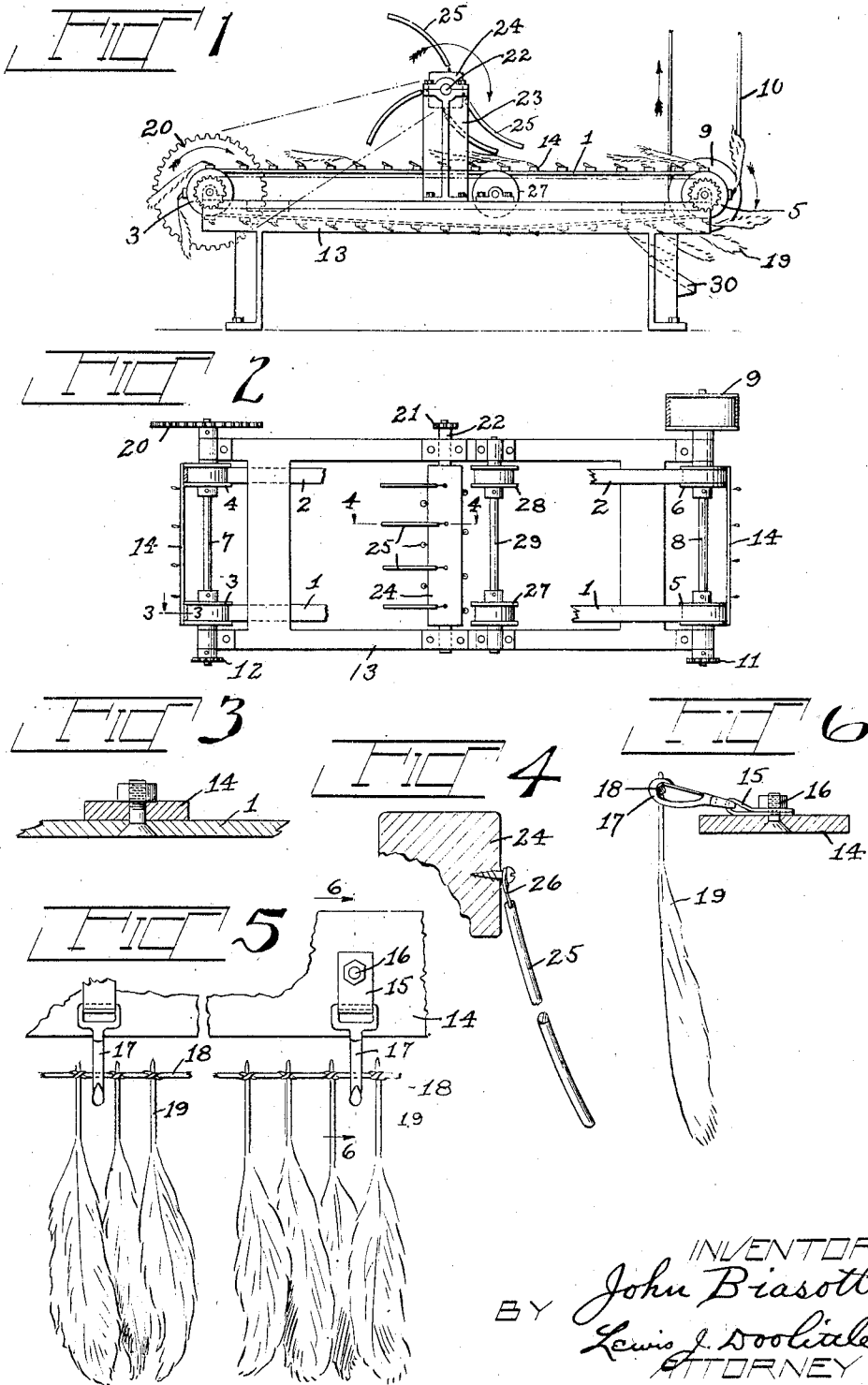


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MACHINE FOR DRYING FEATHERS.
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MACHINE FOR DRYING FEATHERS.

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Specification of Letters Patent. Patented Apr. 12, 1921.

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To all whom it may concern:

Be it known that I, JOHN BIASOTTI, a subject of the King of Italy, residing for the past 25 years in the city of New York, Bronx county, State of New York, have invented certain new and useful Improvements in Machines for Drying Feathers, of which the following is a specification.

This invention relates to a device or machine primarily devised for drying feathers or other similar articles.

After feathers have been subjected to a coloring or dyeing process it is desirable to dry the same while in motion in order to prevent the fine parts of the feathers from sticking together and in order to obtain the desired fluffy appearance. The object of this invention is to provide a device with which these results may be accomplished and an even distribution of the coloring material and drying effected in an efficient manner.

In carrying out the invention I provide a movable carrier provided with means for holding the feathers or other articles to be operated upon and means for a successive beating of the articles with a number of flexible flails, all of which and other features will appear more fully hereinafter in the description of the machine shown in the accompanying drawings illustrating an embodiment of my invention.

In the drawings like parts in the several views have been given the same reference numerals.

Figure 1 is a side elevation of the machine, in which the relative rotation or movement of the several parts is indicated by arrows.

Fig. 2 is a plan view of Fig. 1, with parts broken away in order to better show the construction.

Fig. 3 is an enlarged detail sectional view, taken on the line 3—3 of Fig. 2.

Fig. 4 is an enlarged detail sectional view, taken on the line 4—4 of Fig. 2.

Fig. 5 is an enlarged detail fragmentary view.

Fig. 6 is an enlarged detail sectional view, taken on the line 6—6 of Fig. 5.

A pair of endless belts, 1 and 2, are mounted on pulleys 3 and 4 at one end and 5 and 6 at the opposite ends, respectively, the belts being spaced apart and running over these pulleys at both ends, as shown in Figs. 1 and 2. The pulleys 3 and 4 are

mounted upon a shaft 7 and the pulleys 5 and 6 upon a shaft 8. On one end of the shaft 8 a driving pulley 9 is mounted, which is driven by a belt 10 from a suitable source of power. At the opposite end of the shaft 8 a sprocket 11 is mounted and on the corresponding end of the shaft 7 is mounted a sprocket 12, these sprockets 11 and 12 carrying a chain for driving the two shafts 7 and 8 at a uniform speed.

A support or frame 13 is provided with suitable bearings at either end in which the shafts 7 and 8 are mounted.

A number of cross-bars 14 are mounted upon and extend between the belts 1 and 2. These cross-bars carry a number of flexible loops 16, attached thereto by suitable bolts 16 or otherwise.

To each loop is secured a convenient means for attaching and detaching a cord 18, by means of which the feathers 19 or other articles are held by knots in the cord or otherwise.

At the other end of the shaft 7 is mounted a large sprocket 20 which operates a chain which, in turn, operates a small sprocket 21 on a shaft 22 mounted in suitable bearings in a pair of uprights 23 carried on the frame 13.

A support 24 is mounted on the shaft 22, this support being preferably rectangular in cross section to provide a convenient means of attaching the flexible flails 25, which may be of leather or other suitable material, by means of a flexible attachment 26, which is attached to the support 24 by screws or other suitable means.

In order to provide an additional support for the belts 1 and 2, idler-pulleys 27 and 28 are mounted on a shaft 29, which is mounted in suitable bearings on the frame 13, positioned intermediate the shafts 7 and 8 and under the point on the belts where the flails 25 strike the feathers as the same are carried around by the endless belts.

The operation of the machine when used for drying feathers is as follows:—

The feathers are first secured to several cords 18, by knots or otherwise, spaced apart, and the cords are then secured in position by means of the snap-fasteners 17 to the several cross-bars 14, as shown in Figs. 1, 5 and 6.

When the machine is started the endless belts 1 and 2, carrying the cross-bars 14 with the feathers attached thereto, are re-

volved around the pulleys at either end of the machine in the direction indicated by the arrow at the right of Fig. 1 and, at the same time, the flails 25 are revolved in the direction indicated by the arrow at the top of Fig. 1. The revolving flails are of such a length and so positioned above the endless belts carrying the feathers that the flails, which are of flexible material, are caused to successively strike against and across the feathers, which are being carried successively underneath the same in a direction opposite to the direction of the movement of the flails as the same are engaged thereby. The whipping action to which the feathers are thus subjected frees the same from moisture and hastens the drying, which is also further assisted as the belts pass over the pulleys at either end, causing the feathers to swing outwardly by centrifugal action and, at one end, I provide an inclined plate 30 (Fig. 1) against which the feathers fall or strike as the same pass around to the under side, which also further assists in the drying.

The result of these several operations, which have been evolved from many years of experience in this class of work, is to effectively produce the fluffy or loose effect in the feathers when finally dried, which is the object sought to be obtained.

What I claim is:—

1. In a machine of the class described, a movable carrier comprising an endless belt provided with means for holding the articles to be operated upon, a pair of pulleys over which said belt is looped, a rotatable beating device located adjacent one reach of said belt, and a member positioned to be engaged by the articles being operated upon as they swing around one of said belts.

2. In a machine of the class described, a movable carrier comprising an endless belt provided with means for holding the articles to be operated upon, a pair of pulleys over which said belt is looped, a rotatable beating device positioned adjacent the upper reach of the belt, and a member positioned adjacent the underside of one of said pulleys and adapted to be struck by the articles being operated upon as they swing down and under said pulley.

3. In a machine of the class described, a pair of endless belts spaced apart and running over pulleys at both ends, a plurality of cross-bars mounted upon and extending between said belts, means carried by said cross-bars for holding articles to be operated upon, means for beating the articles held thereby, means for driving said belts

and cross-bars to bring said articles successively in position to be operated upon by said beating means, and means for operating said beating means.

4. In a machine of the class described, a pair of endless belts spaced apart and running over pulleys at both ends, means carried by said belts for holding articles to be dried, a rotatable support and a plurality of flexible flails attached thereto and mounted adjacent said belts whereby said flails are caused to successively beat the articles held thereon as the support and flails are rotated, means for driving said belts, and means for rotating said flails.

5. In a machine of the class described, a pair of endless belts spaced apart and running over pulleys at both ends, means carried by said belts for holding articles to be dried, a rotatable support and a plurality of flexible flails attached thereto and mounted adjacent said belts whereby said flails are caused to successively beat the articles held thereon as the support and flails are rotated, means for simultaneously driving said belts in one direction and rotating said support and flails in the opposite direction.

6. In a machine of the class described, a pair of endless belts spaced apart and running over pulleys at both ends, means carried by said belts for holding articles to be dried, a rotatable support and a plurality of flexible flails attached thereto and mounted adjacent said belts whereby said flails are caused to successively beat the articles held thereon as the support and flails are rotated, a member positioned in the path of the articles presenting an inclined surface against which the articles are caused to engage as the same are carried along by said belts, means for driving said belts, and means for rotating said flails.

7. In a machine of the class described, a pair of endless belts spaced apart and running over pulleys at both ends, means carried by said belts for holding articles to be dried, a rotatable support and a plurality of flexible flails attached thereto and mounted adjacent said belts whereby said flails are caused to successively beat the articles held thereon as the support and flails are rotated, a member positioned below the said belt pulleys at one end in the path of the articles presenting an inclined surface against which the articles are caused to engage as the same are carried along by said belts, means for driving said belts, and means for rotating said flails.

Signed at the city, county and State of New York, this 9th day of January, 1920.

JOHN BIASOTTI.