

(No Model.)

2 Sheets—Sheet 1.

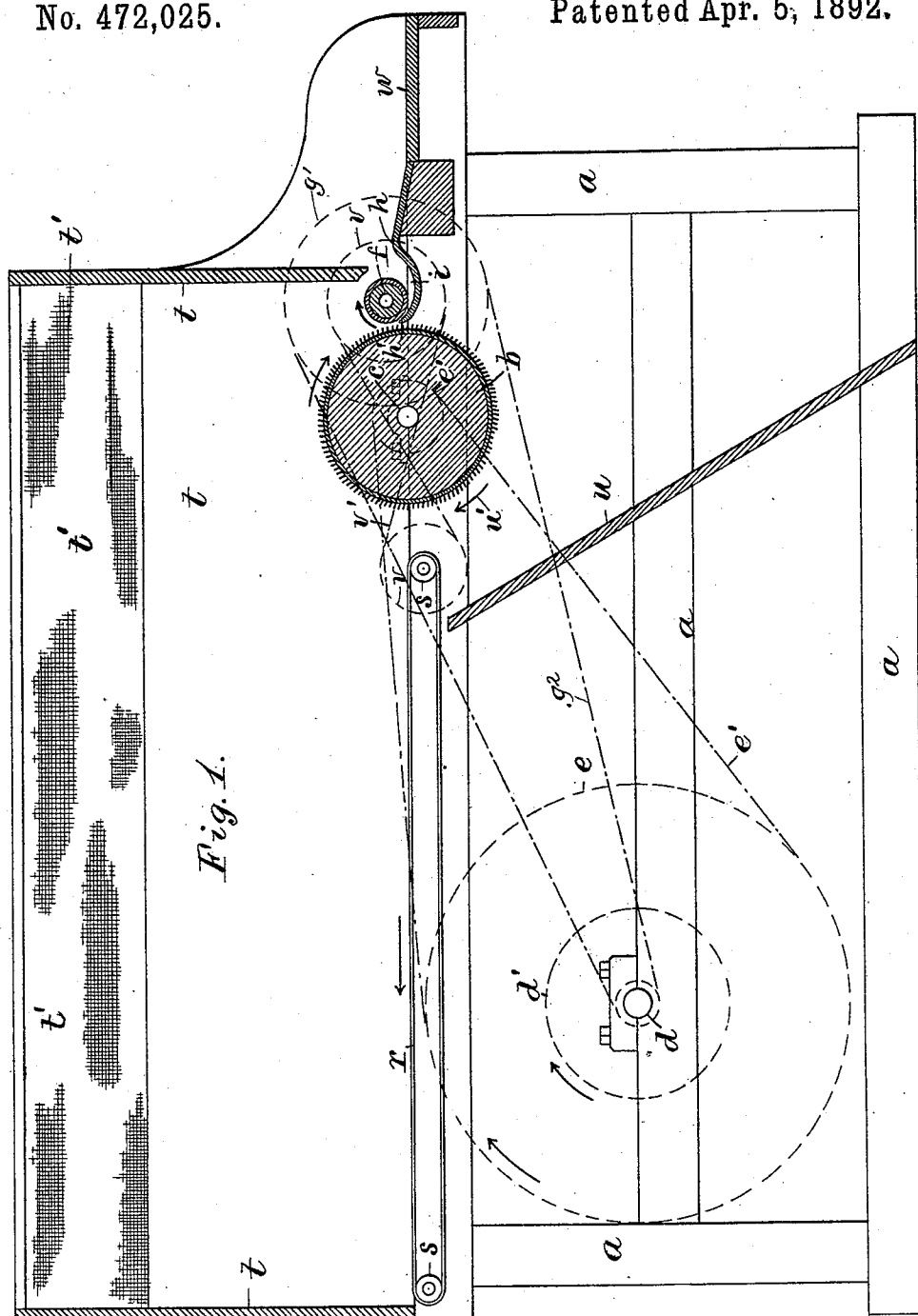
EDWARD BEESLEY, Sr., ELLIS BEESLEY, Jr. &

EDWARD BEESLEY, Jr.

MACHINE FOR OPENING FUR BAGS.

No. 472,025.

Patented Apr. 5, 1892.



Attest:

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Inventors.

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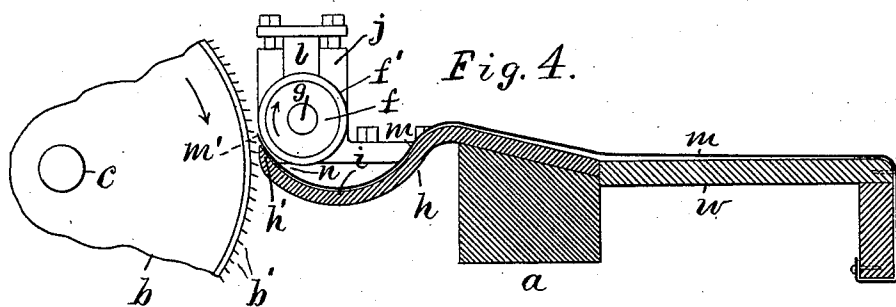
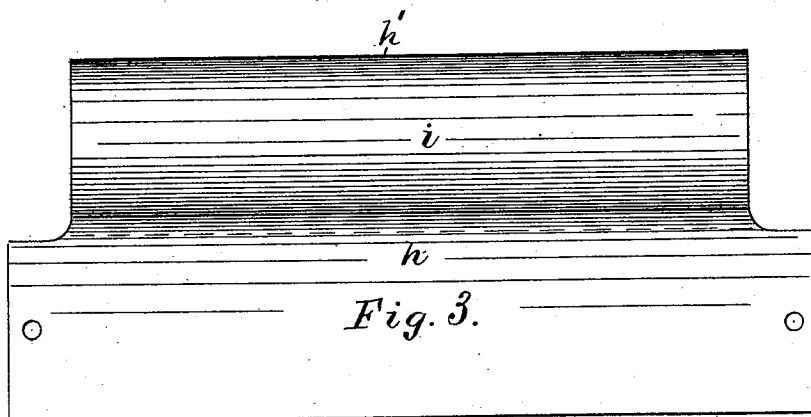
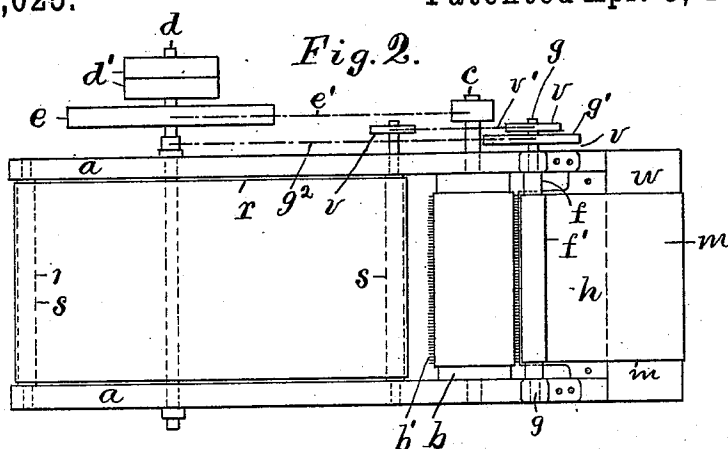
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UNITED STATES PATENT OFFICE.

EDWARD BEESLEY, SR., ELLIS BEESLEY, JR., AND EDWARD BEESLEY, JR.,
OF NEWARK, NEW JERSEY, ASSIGNORS TO THOMAS STONE AND GEORGE
M. STONE, OF SAME PLACE.

MACHINE FOR OPENING FUR-DAGS.

SPECIFICATION forming part of Letters Patent No. 472,025, dated April 5, 1892.

Application filed November 19, 1891. Serial No. 412,442. (No model.)

To all whom it may concern:

Be it known that we, EDWARD BEESLEY, Sr., ELLIS BEESLEY, Jr., and EDWARD BEESLEY, Jr., all citizens of the United States, residing at Newark, Essex county, New Jersey, have invented certain new and useful Improvements in Machines for Opening Fur-Dags, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of this machine is to open and separate the fur particles in the so-called "dags," which are separated from the fur used in forming hat-bodies and other articles. Such dags are formed by the cementing of the fibers together by blood, oil, and glutinous substances, to which the skins are exposed before the fur is clipped therefrom, and as such dags produce imperfections in the articles felted from such furs they are carefully separated from the other particles of the fur in forming the bats for such articles. The blowing machines and pickers heretofore used for loosening the particles of fur have not been constructed to hold the particles in such proximity to the picker that a small object like a dag could be grasped and its particles torn asunder.

In the present invention a card-roll is used instead of a picker to operate upon the fur, and a single feed-roll is used in connection with an elastic grasping-plate, which holds the dags upon the surface of the feed-roll while they are torn open by the carding-teeth. The feed-roll is preferably formed with a yielding surface of leather or india-rubber, and the plate and roll are pressed elastically together, so that the dags are partially bedded in the elastic surface, and are thus held more effectively until they are disintegrated.

In the drawings, Figure 1 is a longitudinal section of the apparatus. Fig. 2 is a plan of the same with the top casing removed; Fig. 3, a plan of the grasping-plate, and Fig. 4 a section similar to Fig. 1 of the feeding device with a portion of the card-roll. Fig. 2 is upon one-half the scale of Fig. 1, and Figs. 3 and 4 are upon twice the scale of Fig. 1.

a is the frame; *b*, the card-roll mounted transversely upon the top of the frame upon a spindle *c*.

d is a counter-shaft upon the frame, connected with the card-roll by pulleys *e* and belt *e'*.

f is the feed-roll, mounted upon shaft *g* close to the card-roll and having a coating *f'* of leather or india-rubber. The shaft *g* is furnished with a pulley *g'* and connected with a pulley upon the counter-shaft *d* by belt *g''*.

A casing *t*, with wire-cloth in its upper part, incloses all the rolls and is extended upward and rearward to form a closed settling-chamber for the fur which is discharged from the card-roll. An apron *r* is mounted upon rolls *s*, fitted in the frame in the rear of the card-roll, and forms the bottom of the settling-chamber. The apron is connected with the roll *f* by the pulleys *v* and belt *v'*. The fur delivered from the card-roll is carried by the apron to the rear end of the settling-chamber and discharged therefrom into a suitable receptacle placed directly below the end of the apron. A partition *u* is inserted between the preferably closed sides of the frame *a* beneath the forward end of the apron to create an upward draft between the rapidly-rotating card-roll and the apron, as indicated by the arrow *u'*, to discharge the fur into the casing.

A plate *h* is shown mounted upon the frame beneath the roll *f* and extended with its end *h'* between such roll and the card-roll to support the elastic grasping-plate *m*, which is applied to the top of the same to bear against the feed-roll, and thereby grasp the fur-dags elastically as they approach the card-roll. The plates *h* and *m* are concaved upon the upper side to form the depression *i*, thereby producing the upturned edges *h'* and *m'*, respectively, which are introduced between the card-teeth *b'* and the feed-roll. This depression *i* forms a gradually-tapering channel beneath the feed-roll, into which the dags are drawn by the roll when they are placed in such hollow.

In Fig. 4 the spindle *g* is shown supported in housings *j* and pressed toward the plate by springs *l*, so that the dags are firmly grasped between the plate and the side of the roll nearest to the card-teeth.

The forward edge *m'* of the elastic plate *m* projects a little beyond the corresponding edge *h'* of the plate *h* to give the desired elasticity

to the same in its operative portion, and the said plate is preferably made of thin sheet metal. Such sheet metal when consisting of tin presents a very smooth surface and may
 5 be laid over a plate *h*, made of cast-iron, and thus obviate the necessity of polishing the latter, while the thinness of the tin permits its penetration between the feed-roll and the card-teeth to a greater degree than a plate of
 10 cast-iron.

By making the hollow *i* of larger radius than the feed-roll the edge of the plate *m'* is placed tangential to the feed-roll, and the tapering form of the channel *n* thus secures the great-
 15 est pressure upon the dags where they are in contact with the extreme edge of the plate. If the channel were not tapering, the dags that were first introduced thereto might operate to separate the roll and plate and loosen the
 20 grasp of the plate upon the dags at its extreme edge.

It is obvious that two rolls could not have their point of contact placed close to the card-teeth, and that the only means of holding
 25 small particles firmly to the teeth is to furnish a support for such particles as close as possible to the tangential point or line of centers between the feed and card rolls. As a cast-iron or thick plate could not be readily
 30 reduced to a very thin edge, it is obviously preferable to furnish the plating of tin or thin sheet metal, which is not only smooth and less likely to rust and become rough, but is also elastic in character, so as to hold the separate
 35 dags more effectively at different points along its edge as they pass between the same and the feed-roll.

As the feed and card rolls are nearest together at their tangential point, the edge of
 40 the plate *m'* is turned upward in the direction in which the feed-roll *f* is rotated, and as the card-teeth are moved downward, as shown in Fig. 4, it will be seen that the dags which are fed slowly over the edge of the stationary
 45 plate are held upon such edge in the most favorable position for the card-teeth to open the dags and gradually separate all their particles.

The operator places the dags or other particles of fur requiring to be opened upon a feed-board *w* and pushes the same forward at a
 50 suitable rate over the plate *m* to the under side of the roll *f*, where they are drawn slowly forward by the rotation of the roll and held elastically in contact with the curved end of
 55 the plate. The elastic pressure of the plate

m' or the pressure of the springs *l* in the housing operates to hold the dags firmly between the roll and plate while they are acted upon
 60 by the card-teeth. The particles of fur are then carried by the draft created by the card-roll up into the casing *t*, where the air escapes through the netting *t'* and the fur is deposited upon the apron.

The sides of the frame are preferably closed,
 65 and a box may be set below the rear end of the apron to catch the fur discharged therefrom.

Fast and loose pulleys *d'* are shown upon the counter-shaft to drive the entire machine;
 70 but it is obvious that any other means may be used to rotate the different parts of the structure, as the essential feature of the invention is the use of a fine card-roll, instead of a picker-roll, in connection with a single
 75 feeding-roll, and with an elastic grasping-plate inserted between the feed and card rolls as closely as possible to their tangential point.

It is obvious that the adjacent surfaces of the feed and card rolls must be rotated in op-
 80 posite directions, as the card-roll would otherwise tend to draw the dags from between the plate and feed-roll without disintegrating them at all. We do not, therefore, limit ourselves to any other of the constructive fea-
 85 tures shown, as a feeding-apron may be used to supply the dags to the machine and other attachments applied which are common in such constructions.

Having thus set forth the invention, what
 90 is claimed is—

A machine for cleaning fur-dags, comprising a card-roll, a feeding-roll in close proximity thereto, a supporting-plate *h*, having its
 95 end *h'* projected between the feed and card rolls, and the elastic grasping-plate *m*, laid over the plate *h* and having its edge *m'* projected between the feed and card rolls beyond the edge *h'* of the supporting-plate, the said rolls having their adjacent surfaces rotated in op-
 100 posite directions and the dags being fed between the feed-roll and the grasping-plate, substantially as herein set forth.

In testimony whereof we have hereunto set our hands in the presence of two subscribing
 105 witnesses.

EDWARD BEESLEY, SR.
 ELLIS BEESLEY, JR.
 EDWARD BEESLEY, JR.

Witnesses:

T. P. VANDERHOEF,
 THOS. S. CRANE.