

G. M. RICHMOND.
Feathers for Dusters.

No. 209,080.

Patented Oct. 15, 1878.

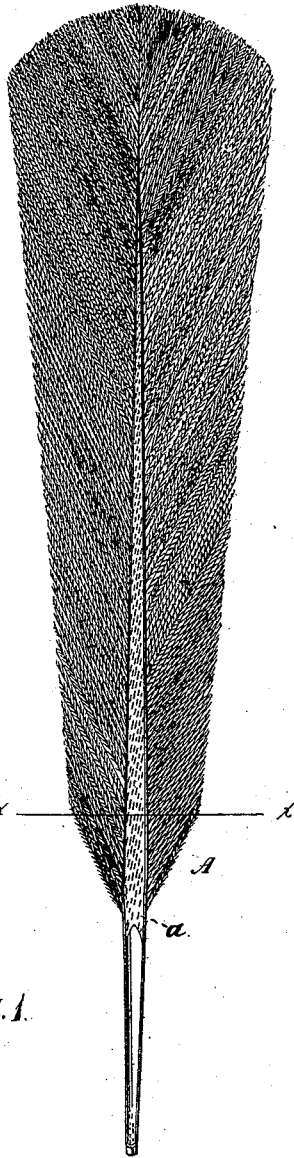


Fig. 1.

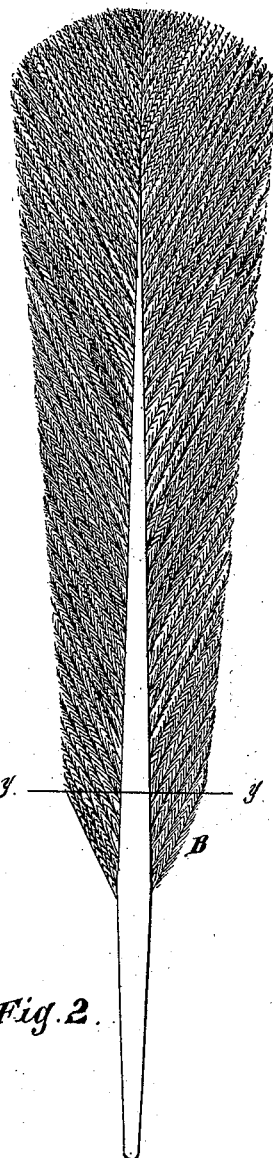


Fig. 2.

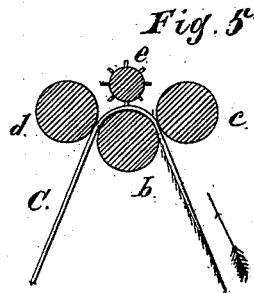


Fig. 3.

Fig. 3. a A

Fig. 4. B

Inventor:

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GILBERT M. RICHMOND, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN FEATHERS FOR DUSTERS.

Specification forming part of Letters Patent No. 209,080, dated October 15, 1878; application filed July 28, 1877.

To all whom it may concern:

Be it known that I, GILBERT M. RICHMOND, of the city of Chicago, Cook county, State of Illinois, have invented a new and useful Improvement in Feathers for Feather-Dusters, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is an inside view of a split feather, from which the pith of the stem has not been removed. Fig. 2 is an inside view of such a feather after the pith has been removed. Fig. 3 is a section at *x* of Fig. 1; Fig. 4, a section at *y* of Fig. 2. Fig. 5 is a cross-section of the main portions of a machine by means of which the pith may be removed.

In manufacturing feather-dusters from turkeys' feathers it has become common to split the feathers, in order to render them more pliable. The feathers are sometimes crushed without splitting, for the same purpose.

When feathers have been so split, the pith has hitherto been left unremoved from the stem, and this pith after a short time becomes dry, and loses to a great extent its pliability, materially interfering with the flexibility of the feather. In such feathers the pith, when dry, will break by bending the feather, and where the pith breaks the whole stem is liable to break. This has been found to be a serious objection to split feathers.

The object of my invention is to overcome this difficulty, which I accomplish by removing the pith from the split feather.

In the drawings, A represents a split feather; *a*, the pith remaining in the split feather. B represents such a feather after the pith has been removed. The removal of the pith leaves the stem in a very pliable condition, and it can be bent over almost double without breaking or injuring it. The pith can be removed in various ways. A cleaning-roller having sand-paper wound upon it would be efficient; but a steel cylinder having spiral threads cut thereon and placed about half an inch apart will be better.

The roller for cleaning might be provided with numerous short sharp points; but this form would be more likely to injure the feather. An emery-wheel might be used.

In Fig. 5 I have shown the arrangement of the main parts of a suitable device to be used for removing the pith from the stem, in which *b c d* represent three smooth-faced rollers of any suitable length and size. *e* is another shaft or roller, provided with a series of spiral threads or other suitable projections on its face.

The feathers are to be fed in between rollers *b* and *c*, with the pith up. The rotation of these rollers will carry the feathers along under roller *e*, and they will pass out between rollers *b* and *d*.

Another cleaning-roller might be located below roller *d*, covered with sand-paper, for the purpose of completing the work by removing any small portion of the pith left by the cleaning-roller *e*, the feather passing between this second roller and roller *b*.

The roller *e* is to be located relatively to roller *b*, so that the cleaning devices thereon will come in contact with the pith upon the feather, effectually removing it. Roller *e* should rotate quite rapidly—much faster than the feed-rollers. If the rollers are of sufficient length a number of feathers can be passed between them at the same time, being placed side by side. All the rollers are to be mounted in a suitable frame, and can be rotated by well-known devices.

I do not limit myself to this method of removing the pith.

I intend to file another application for a patent for my machine for doing this work.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. A split feather from the stem of which the pith has been removed, substantially as and for the purpose specified, for use in feather dusters.

2. A split feather from the stem of which the pith has been removed and the stem cleaned, substantially as and for the purpose set forth.

GILBERT M. RICHMOND.

Witnesses:

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