2 Sheets—Sheet 1

G. BROOK, Jr., & J. STAKE.

Wool-Combing Machine.

No. 211,695. **Patented Jan. 28, 1879.**

FIG. 1.

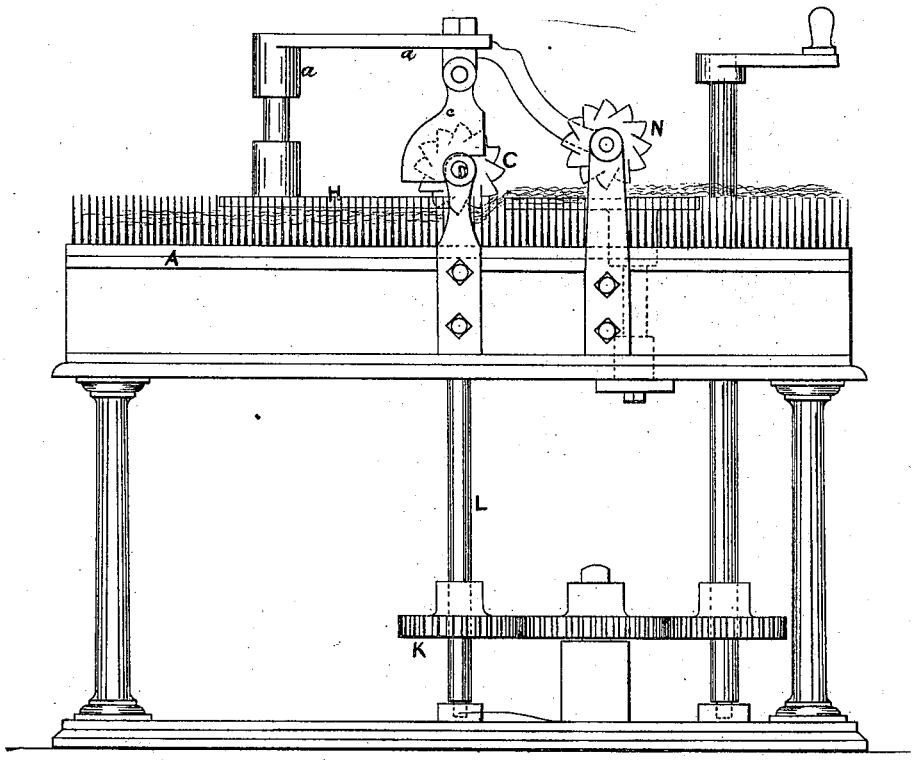

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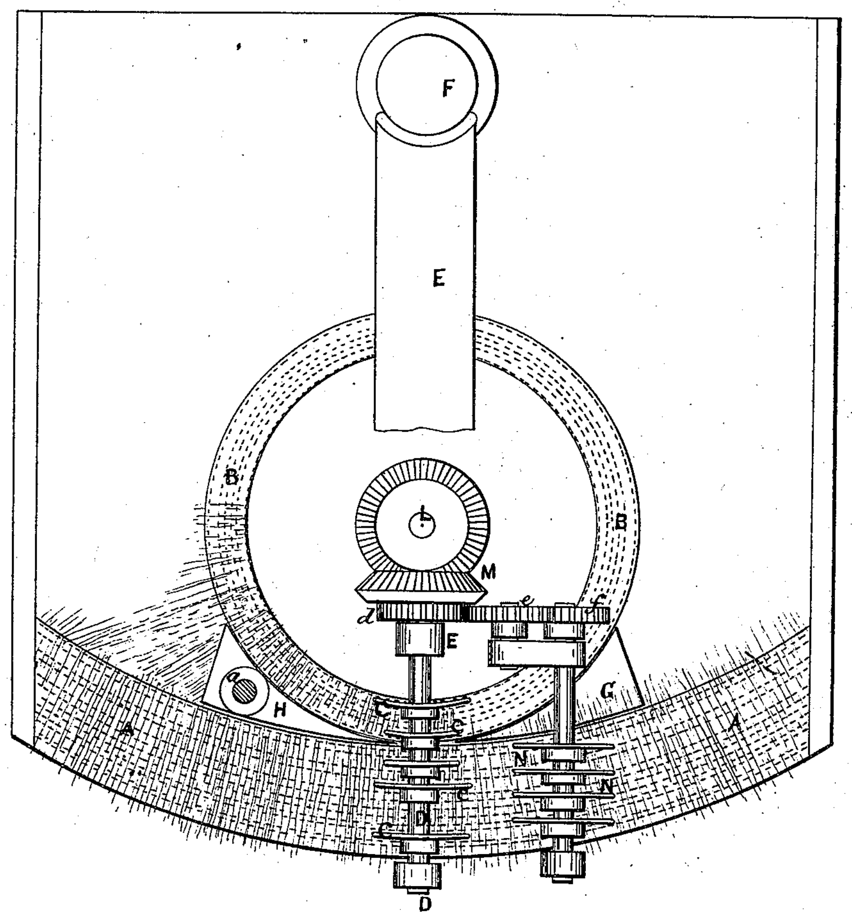
FIG. 2.



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UNITED STATES PATENT OFFICE.

GEORGE BROOK, JR., AND JOB STAKE, OF HUDDERSFIELD, ENGLAND.

IMPROVEMENT IN WOOL-COMBING MACHINES.

Specification forming part of Letters Patent No. **211,695**, dated January 28, 1879; application filed October 5, 1878.

To all whom it may concern:

Be it known that we, GEORGE BROOK, the younger, of Huddersfield, in the county of York, England, woolen manufacturer, and JOB STAKE, of the same place, combing-machine maker, have invented certain new and useful Improvements in Machinery for Combing Wool and other fibrous substances; and we do hereby declare that the following is a full, clear, and exact description thereof, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to machinery for combing wool and other fibrous substances wherein circular combs are employed, into which the fibrous substance is pressed by brushes commonly called "dabbing-brushes."

The object of our improvement is to dispense with the use of these brushes, which rapidly wear away and are a source of considerable expense. In place thereof we propose to press the fibrous substance into the teeth of the comb by means of one or a series of star-wheels, or wheels placed between the rows of teeth, and having fingers, which, as they revolve, will force the wool or fibrous substance gradually down into the teeth of the comb. Other rollers similarly constructed may be employed for the purpose of flattening the material before reaching the star-wheels, so that the whole of the fibers are certain to be operated upon. Having been passed into the combs, the material passes under an angle-pressing plate or knife, which prevents it from being lifted out of the teeth during the process of separation or combing.

Figure 1 is a front elevation, and Fig. 2 a plan view, of such parts of a circular or Noble's comb as are required for our explanation.

A is a portion of the large-circle, and B is the small-circle, comb. C represents a series of star-wheels, which are mounted on a short shaft or axis, D, carried in bearings E fixed to the pillar F in the center of the small circle.

G and H are adjustable plates for guiding and holding down the fibers, the plate G being fixed to the circle by stud and nut, and the plate H being carried by the bearings *a*.

When the machine is working, rotation is communicated to the star-wheels C from the same source as that from which the large circle receives its motion, by means of pinions K, upright shaft L, and bevel-wheels M. During the rotation of the large circle the fibers pass over the plates G, which supports them until reaching the wheels C, which revolve at a quicker surface-speed than the circle and press the fibers firmly into the teeth thereof.

It will be seen that spaces are left between the rows of teeth in both circles, to admit of the star-wheels entering sufficiently deep between them. After leaving the star-wheels the fibers are prevented from rising out of the comb by the plate H, which extends from about the tangent point of the circles to the point of separation of the fibers. Adjustable guides *c* are employed to keep the wheels steady and prevent damage to the comb-teeth.

n represents a series of star-wheels, for the purpose of flattening the fibers and preparing them for the action of the wheels C, with which they are connected by means of pinions *d e f*.

We do not claim to be the first to dispense with the use of dabbing-brushes; neither do we broadly claim the use of star-wheels as substitutes for such brushes.

We claim—

1. The combination of the circular comb A, the circular comb B, the star-wheels C, revolving on an axis at right angles to the axis of the combs, and the guide-plates G H, substantially as specified.

2. The combination of the circular comb A, the circular comb B, the star-wheels C, revolving on an axis at right angles to the axis of the combs, and the guide-plates G H with the auxiliary or preparatory star-wheels N, revolving on an axis parallel to the axis of the wheels C, substantially as described.

In testimony that we claim the foregoing we have hereunto set our hands this 9th day of August, 1878.

GEORGE BROOK, JR.
JOB STAKE.

Witnesses:
HENRY WEINTZ,
J. LISTER RUSHFIRTH,
Clerks to Messrs. Barker & Sons, Solicitors, Huddersfield.