A. Barber.

Flocking Mach.

No. 4,857. Patented Nov. 18, 1846.

Fig: 5.

Fig: 6.

Fig: 1.

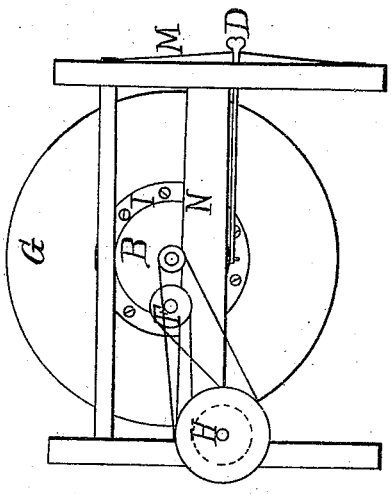


Fig: 4.

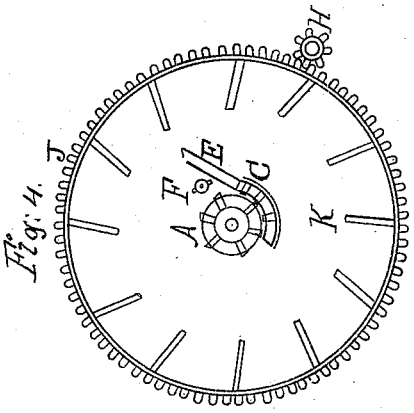


Fig: 2.

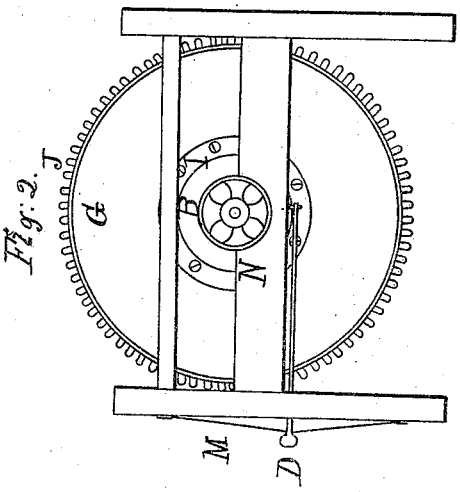


Fig: 7.

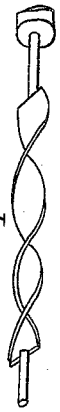
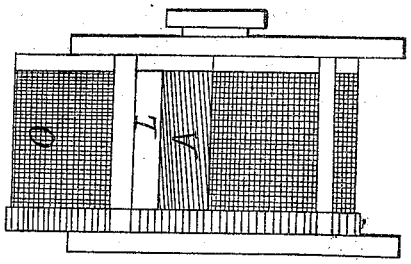


Fig: 3.



UNITED STATES PATENT OFFICE.

ASA BARBER, OF STEPHENTOWN, NEW YORK.

MACHINERY FOR CUTTING FLOCKS.

Specification of Letters Patent No. 4,857, dated November 18, 1846; Antedated May 18, 1846.

To all whom it may concern:

Be it known that I, ASA BARBER, of Stephentown, Rensselaer county, New York, have invented a new and Improved Machine for Cutting Flocks in a Dry State, the Same to be Used in the Manufacture of Woolen Cloths and Satinets; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side view of the machine in elevation; Fig. 2 the opposite or geared side of the same in elevation. Fig. 3 is a transverse or end view in elevation. Fig. 4 is a section through the center of the large cylinder. Fig. 5 is the flying cylinder and its blades. Fig. 6 is the segment bed piece, with the bed blades.

The nature of my invention consists in the provision of a stationary, though adjustable or self adjusting bed of blades which are held and kept up to a cylinder of blades, to be kept in motion, and by this motion of quick speed brought against the stationary blades, the flocks are caused to be cut. They are then dropped upon a sieve through which the fine particles drop and thus may proceed as hereinafter more fully described in the construction and operation.

To enable those skilled to make and use my machine I will proceed to describe its construction and operation.

I make a "flying cylinder," Fig. 5. This consists of a shaft with journals resting upon the stationary heads B, which may be of cast iron, and of the proper dimensions, say 13 inches in diameter by 1 inch thick more or less. The shaft passes through the frame and receives a pulley on the out side. Upon the shaft I place wood or other material and attach to it a set of knives in spiral lines around it, equal distances apart as near as may be; these I fasten in place in any of the known ways and make of a length to fit the cylinder and of sufficient width to act well and remain firm, say half inch by inch and a half more or less. The stationary heads are screwed fast to the frame work N. I also provide a bed of knives or blades, as C, Figs. 4 and 6. These are straight knives placed in a foundation and this foundation hangs on its own journals having the privilege of rocking and by the connecting pieces or rods is attached to the springs M which cause it to press hard upon the "flying cylinder" A, by means of these springs which are adjustable by the screws D. This "bed of knives" hangs parallel to the "flying cylinder" and both are horizintally applied which brings the bed blades on the proper angle to fit the cylinder blades and in nearly a perpendicular position to the knives or periphery of the "flying cylinder" the bed journals are secured in the heads B; and the bed blades may be of such dimensions as are in judgment required for stiffness and durability.

The "hopper" E is a single piece of board or any material of proper dimensions and its ends are secured to the stationary heads B. The lower edge is brought in an angular position so as to meet the edge of the side of the segment so as to conduct the flocks to the cutters as may be seen at E, Fig. 4. Near this hopper upon its side is a spiral twisted piece of plate or sub-roller, which conducts and guides the feed from the hopper to the cutters, regulating it and this may be known as F in drawings as here in Fig. 7. This is hung on its own journals, placed in the stationary heads and is put in revolution by the pulley which receives its motion from a belt connecting it with the pulley H, itself being in slow and regular motion. I have used in this place a roller or cylinder with pins in its periphery forming a surface but do not consider the plan so good as that last described.

In closing the whole is the main revolving drum or cylinder G. This may be of suitable dimensions say three feet in diameter. This is put in slow motion or revolution, by the pulley H acting upon the cogs or periphery of J. This is made as follows, a ring of metal, (it may be of cast iron), is formed to fit the stationary heads; and this is extended to the full diameter of the main cylinder, in metal or in wood this same being screwed to the last named ring, and on the periphery I cast a set of gear teeth or insert a set of segments of the same as may be, the object being to furnish such gear by which the drum is put in revolution; and this is thus effected by this gearing as it will turn the drum in the reverse direction to the "flying cylinder." The periphery of this drum is composed of wire, or perforated material and the openings are of suitable dimension, say one tenth part of an inch in

size, through which openings the cut flocks may pass, and this governs their degrees of fineness, this may be known as the sieve and is represented at O, in drawings; also upon this periphery is an opening of suitable dimensions into or through which the flocks may be passed to the hopper, this I cover with sheet iron but any material may be used that will answer the purpose. Inside of this drum and near by its periphery are the floats K, these are plain pieces of metal or wood placed upon proper angles and they are intended to bring the flocks up and discharge them into the cylinder hopper by which they are carried through again and again until all are cut fine enough to pass through the sieve so as to be discharged.

I will here repeat that the springs M through which the screws D pass are connected with the bed of blades and are the means by which the "flying cylinder" and bed blades are kept in contact, one with the other so as to cause the cutting of the flocks; and will also add, that in the matter of culling the blades the positions and actions are such that they are sharpened by the very action of the knives one upon the other in the process of cutting the flocks. The springs M have the governing quality of pressure upon the flocks and in case of sticks or other hard substances being mixed with the wool, the springs give way and let them pass through without injury to the knives or other parts of the machine.

Operation: This mechine being arranged as above the cover is withdrawn and the flocks are put into the cylinder and the hopper when a quick motion is given to the "flying cylinder" and slow one to the feeding or sub-roller and the drum, the flocks are fed into the cutters, or between the blades and becoming cut drop down and pass through the sieve as fast as they are fine enough, when those remaining uncut are returned by the floats to the hopper and passed through again and again until all finally become fine. The operation may then be repeated by a fresh supply of flocks.

I do not claim as new the cutting of flocks, or the cutting of flocks in a dry state. But,

What I claim as my invention and desire to secure in Letters Patent is—

The combination of the spiral revolving cutters; and the bed of straight cutters, with the revolving screen and the floats, operating substantially in the manner and for the purpose set forth.

ASA BARBER.

Witnesses:
J. L. KINGSLEY,
J. P. PIRSSON.