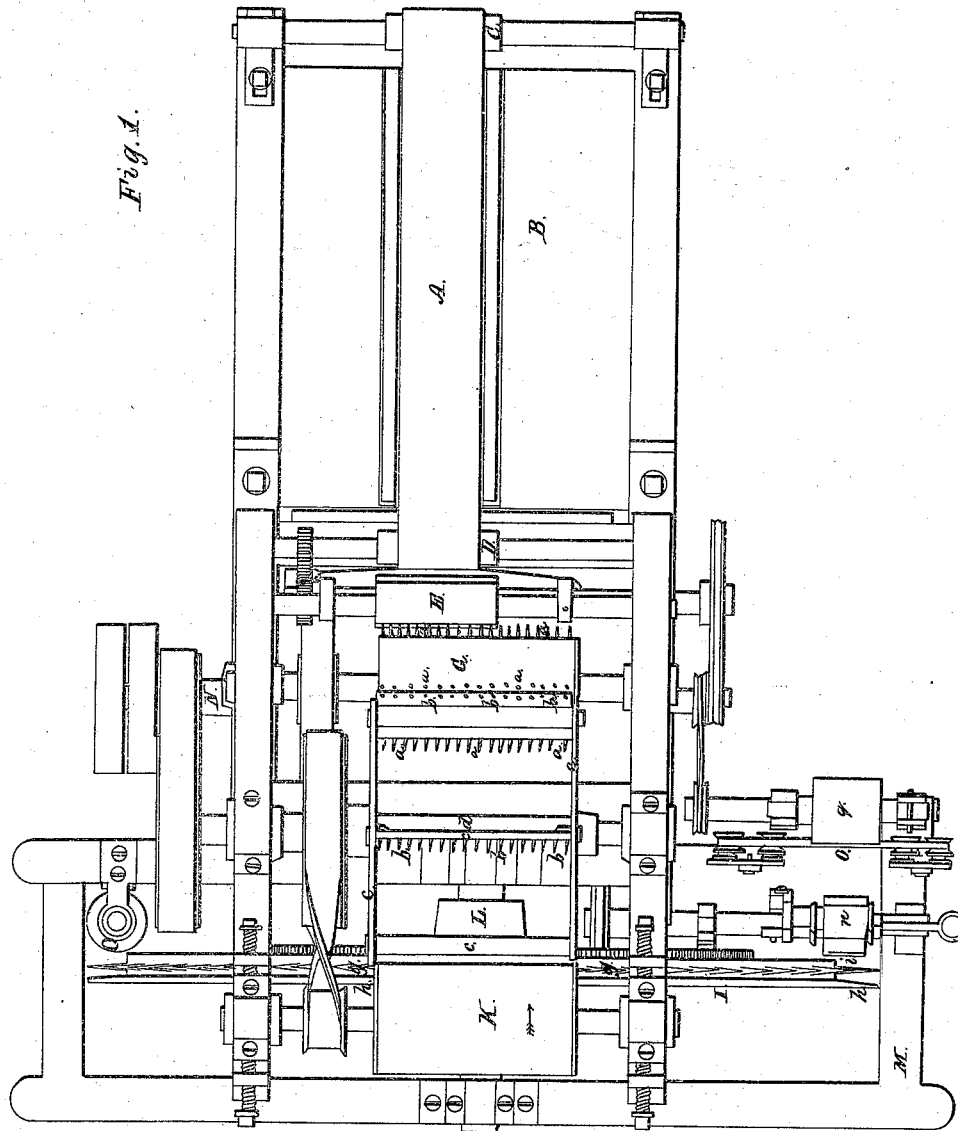


C. G. Sargent,
Combing Machine.

N^o 2,805.

Patented Oct. 7, 1842.

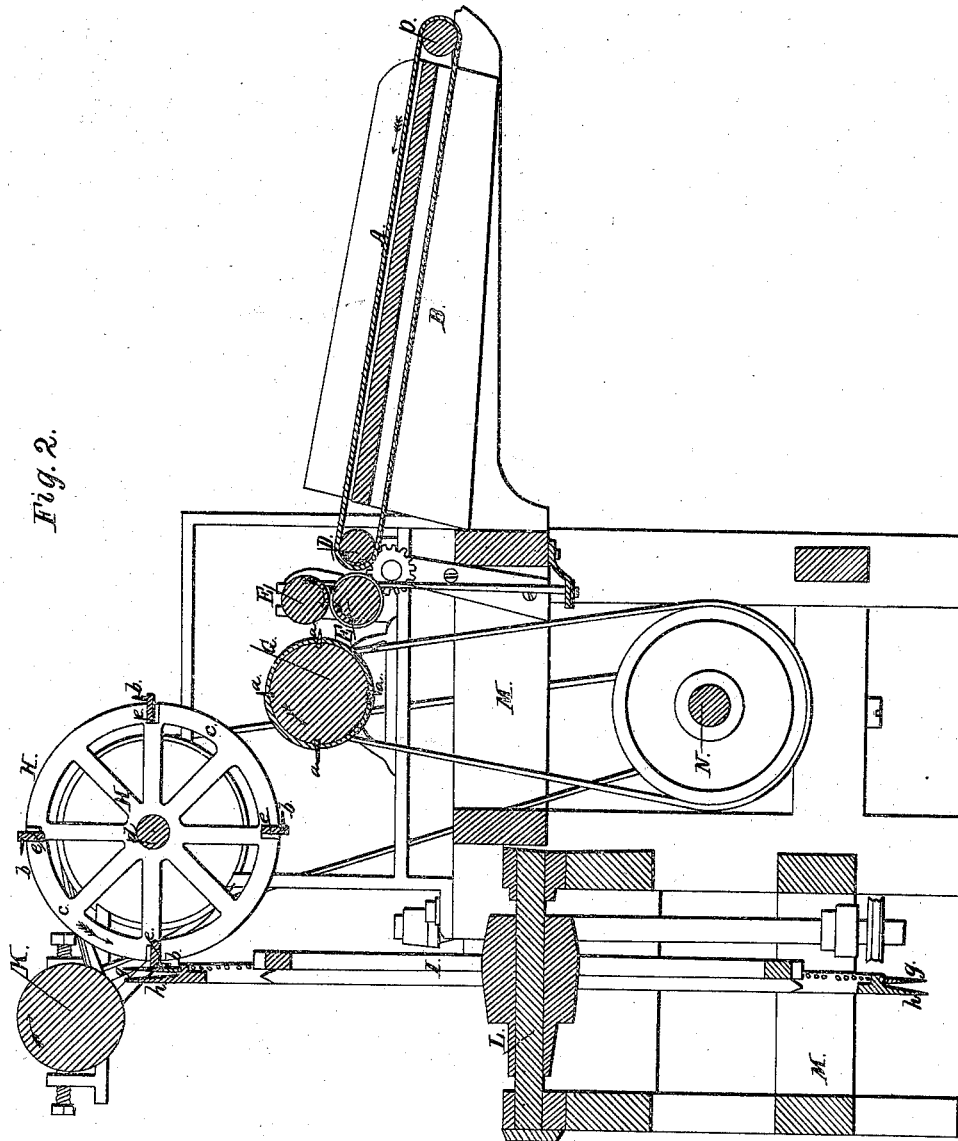


*C. G. Sargent,
Combing Machine.*

4 Sheet 9. Sheet 2.

N^o 2,805

Patented Oct. 7, 1842

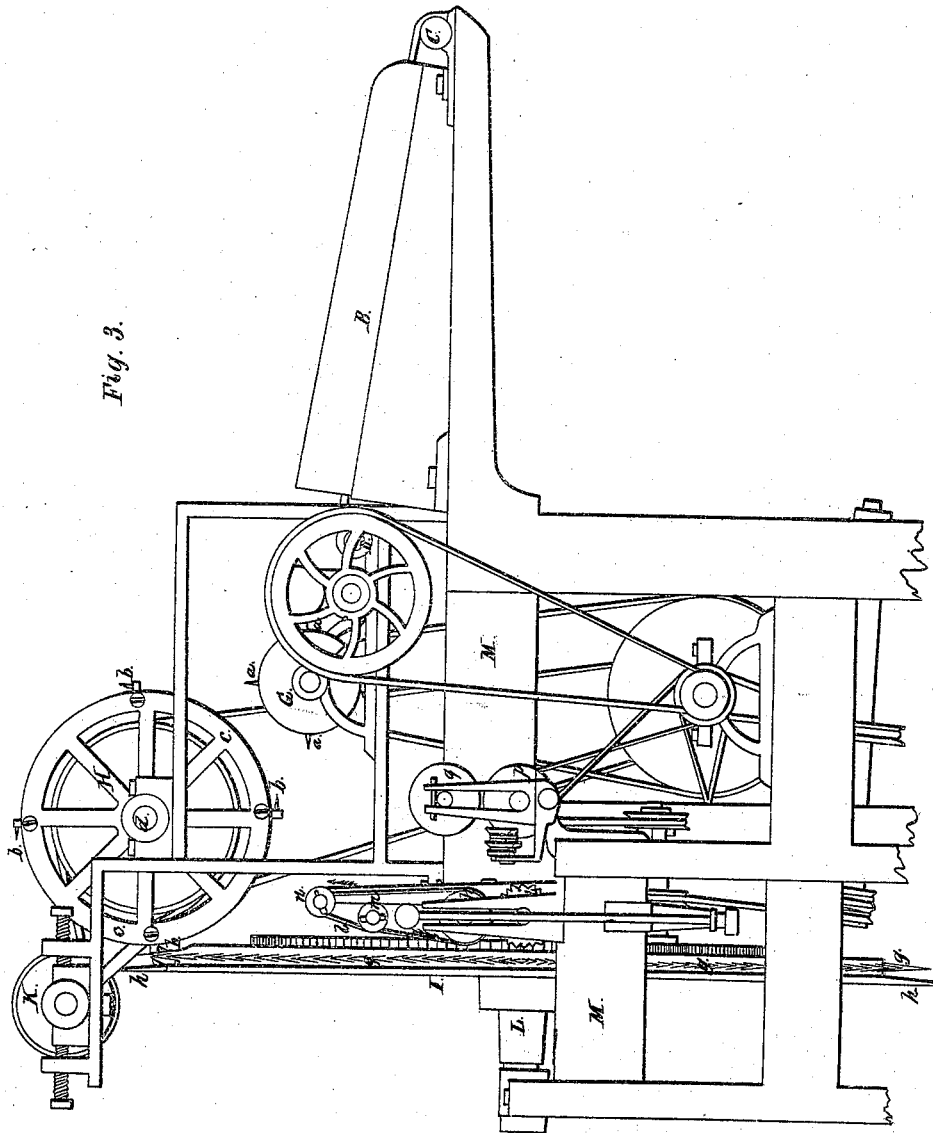


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Fig. 3.



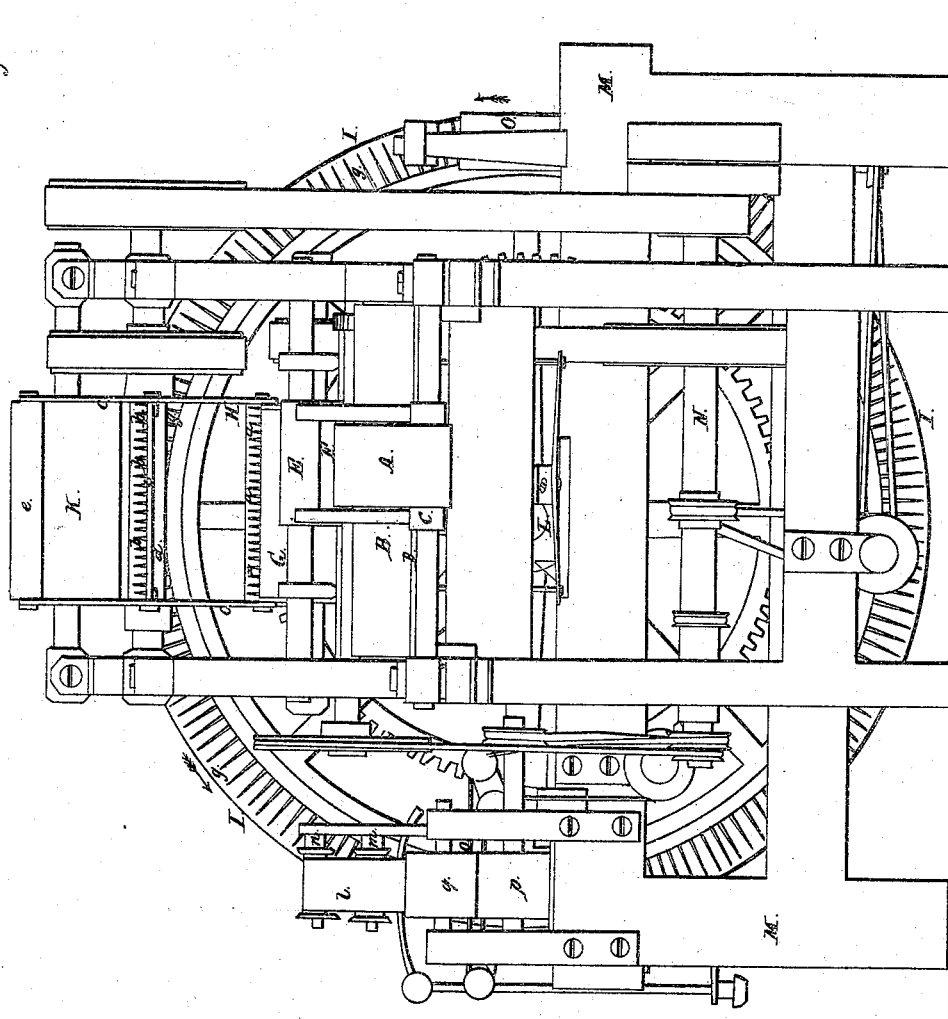
*C. G. Sargent,
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4 Sheets. Sheet 4.

N^o 2,805.

Patented Oct. 7, 1842.

Fig. 4.



UNITED STATES PATENT OFFICE.

CHARLES G. SARGENT, OF LOWELL, MASSACHUSETTS.

MACHINE FOR COMBING WOOL.

Specification of Letters Patent No. 2,805, dated October 7, 1842.

To all whom it may concern:

Be it known that I, CHARLES G. SARGENT, of Lowell, in the county of Middlesex and State of Massachusetts, have invented new and useful improvements in machinery for combing and straightening wool or such other fibrous materials to which the same may be successfully applicable, and of which improvements the following description, taken in connection with the accompanying drawings, forms a full and exact specification.

In said specification I have set forth the nature and principles of my invention, by which it may be distinguished from others of a like character, together with such parts or combinations therein as I claim, and for which I solicit Letters Patent.

Of the drawings above referred to, Figure 1, represents a top view of my improved wool combing machine. Fig. 2, is a vertical, central and longitudinal section. Fig. 3 is a side elevation and Fig. 4, is an end elevation of the same.

The wool to be combed is introduced to the machinery upon an endless apron A, Figs. 1, and 2, which is supported upon an inclined table B and passes over cylindrical rollers C, D, to which motion is communicated by suitable geared wheels. From the apron A the wool is taken by draw rollers E, F, Figs. 1, 2, and as it passes from between the same it is received upon a revolving cylinder G, whose external curved surface, has a series of wire teeth or points *a*, *a*, &c. projecting therefrom in planes passing through the axis of the cylinder, or in other words, standing perpendicularly to the periphery of the cylinder as seen in Fig. 2. The cylinder G (revolving in the direction denoted by the arrow thereon see Fig. 2), by the action of the centrifugal force, throws the fibers of the wool outwards in order that they may be brought into contact with the teeth *b*, *b*, *b*, &c. of another revolving cylinder H (Figs. 1, 2, 3, 4,) mounted somewhat above and in front of the cylinder G. The above named cylinder H consists of two circular heads *c*, *c*, fixed upon a horizontal shaft *d*, and having a series of bars or plates *e*, *e*, extending from one to the other of them; the said bars or plates being each arranged parallel with the shaft *d* and in radial planes passing through its axis. The exterior edges of the plates *e*, *e*, project somewhat beyond the peripheries of the cir-

cular heads *c*, *c*, as seen in the drawings; and each of the plates or bars has teeth or pointed wires *b*, *b*, &c. inserted in its side, so as to project at a right angle or thereabouts from the said side, as represented in Fig. 2. As the cylinder H has a revolving motion imparted to it in the direction denoted by the arrow thereon in Fig. 2, the teeth thereof draw the fibers of the wool from the cylinder G, before named, and throw or deposit them upon or between the teeth *g*, *g*, &c. of a large vertical wheel I. A cylinder K whose surface is covered with card teeth is placed above the wheel I and in front of and parallel to the cylinder H, its object being to aid in the removal of the wool from the teeth of the cylinder H and the depositing of the same upon the vertical wheel I. The shaft L of the wheel I is disposed in a vertical plane which is at right angles to that of the shaft of the cylinder H, therefore the movement of the wheel I is in a plane perpendicular to the direction in which the wheel H revolves. The teeth *g*, *g*, Figs. 1, 2, 3, 4 project from the circumference of the wheel I, in radial lines, the same being particularly represented in Fig. 4. A guard or circular rim *h* is raised upon the periphery of the wheel I, in front of and parallel with the teeth *g*, *g*, (see Figs. 1, 2, 3). The radial positions of the teeth of the wheel I, prevent clogging and adhesion of the fibers of the wool between them, thereby greatly facilitating the removal of the wool therefrom. The position of the teeth of the cylinder H readily permits the wheel I to draw the fibers of the wool from them, while they also contribute greatly toward the removal of the wool from the teeth of the cylinder G. The wheel I revolves with a slow movement in the direction denoted by the arrow in Fig. 4, thus carrying the wool from the cylinder H down to a set of draw rollers *i*, *k*, arranged in a convenient position just in rear of the wheel as seen in Figs. 1, 3. The lower of them, viz *i*, is a fluted roller, while the upper is a plain cylinder having an endless band or belt *l* passing around it or between it and the lower roller, and thence over two other rollers *m*, *n*, situated above and parallel with the roller *k*, as denoted by the drawing. This endless belt should have a velocity imparted to it (in the direction as represented by the arrows in Fig. 3), which shall be somewhat greater than that of the rim or

teeth of the wheel I, in order that when the fibers of the wool adhering to the wheel, are brought down into contact with the endless belt, it shall turn them downward, and (by their adhesion to the belt) direct them between the drawing rollers *i, k*; from whence they pass rearward between an ordinary doubling band *o* and another set of draw rollers *p, q*, Figs. 1, 4; (arranged in rear of the first named), by the operation of which upon the fibers they are formed into a sliver as they are discharged from the rollers *p, q*. As the doubling band is in common use in machinery of this nature, it will be unnecessary to enter into a further description of it.

The noils and short wool adhering to the points of the wheel I, are removed therefrom by a vertical cylinder or roller O, (covered with card teeth or otherwise suitably prepared) whose side is in apposition with the teeth *g, g*, the said cylinder being such as is commonly used for this purpose, and being placed on the opposite side of the wheel I to that in contiguity with the draw rollers hereinbefore mentioned.

The several constituent elements of my machine, as above set forth, are supported upon a framework M, upon which they are properly arranged, their respective motions being imparted to them by suitable belts, pulleys or gear wheels, connecting them with one main shaft N, Figs. 1, 2, 4, which latter may be driven by hand, steam or water power, according to circumstances, and although much of the mechanism necessary to the operation of the above described machinery is represented in the drawings making part of my specification, I do not consider a particular description of it materially essential, as it will be subject to

variation in character and proportions by every workman who may hereafter construct a machine on the principles above described.

I would here remark that I am aware that machines for combing wool have been constructed with cylinders and wheels having points or teeth projecting from their surfaces or peripheries; such teeth being generally inserted in the sides of the wheels and consequently standing parallel to each other. Therefore I do not intend to claim the use of such wheels or cylinders, but

What I consider new and claim as my improvement is—

1. The horizontal cylinder H (having its points or teeth arranged as above described), in combination with the vertical wheel of radial teeth; or in other words the combined arrangement of the teeth of the cylinders and wheel as set forth.

2. Also, the combination of the cylinder K, cylinder H, and wheel I having their teeth arranged as set forth, the object of the cylinder K being to aid in the removal of the wool from the cylinder H, and its deposit upon the wheel I.

3. Also, the combination of the endless guiding band *l* with the wheel I of radial points, the same being arranged and operating as herein above set forth.

In testimony that the foregoing is a true description of my said invention and improvements I have hereto set my signature this twenty-fifth day of August in the year eighteen hundred and forty-two.

CHAS. G. SARGENT.

Witnesses:

R. H. EDDY,
EZRA LINCOLN, Jr.