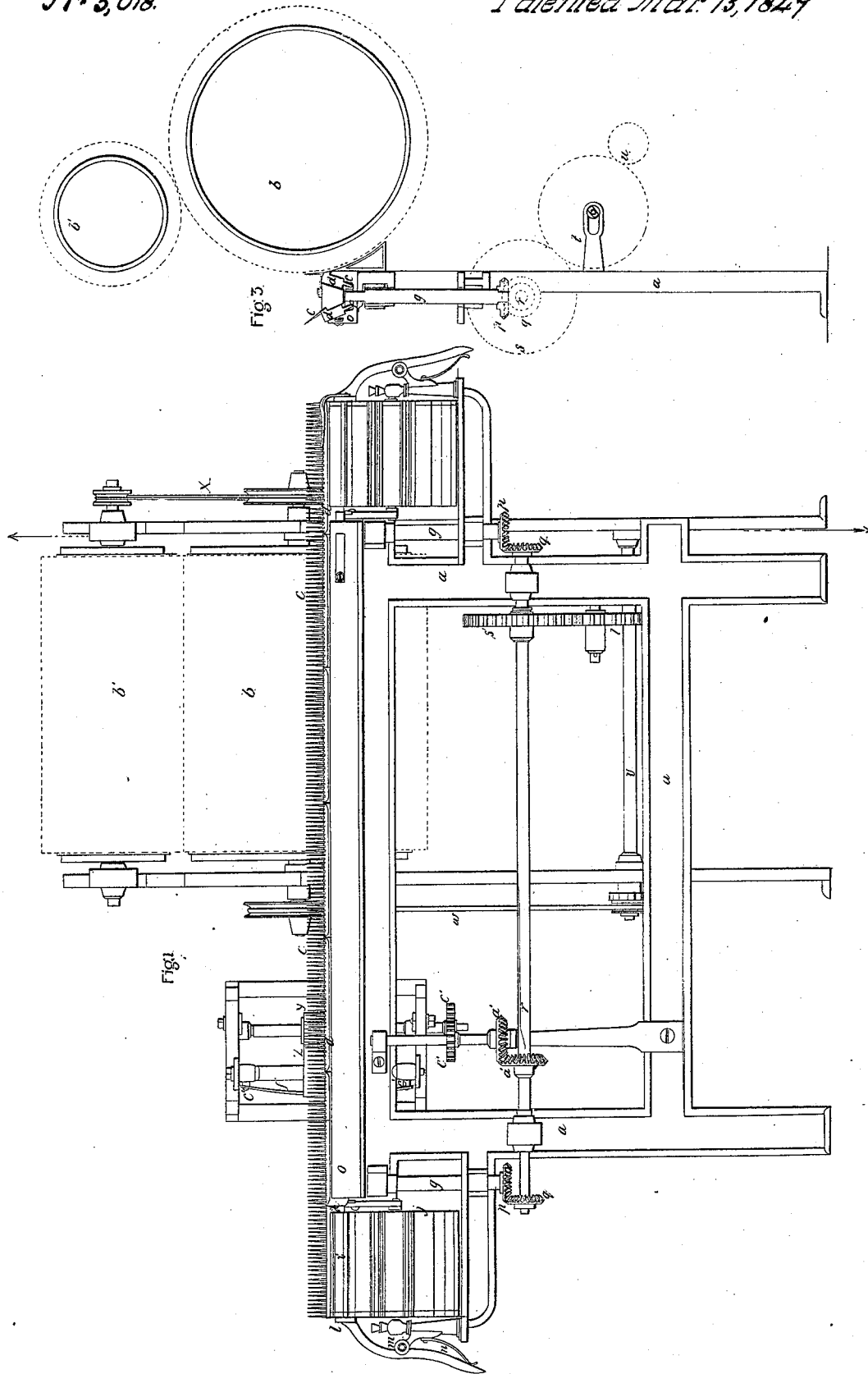


C. G. Sargent.
Wool Combing

Patented Mar. 13, 1847

No 5,018.



Sheet 2 of 2

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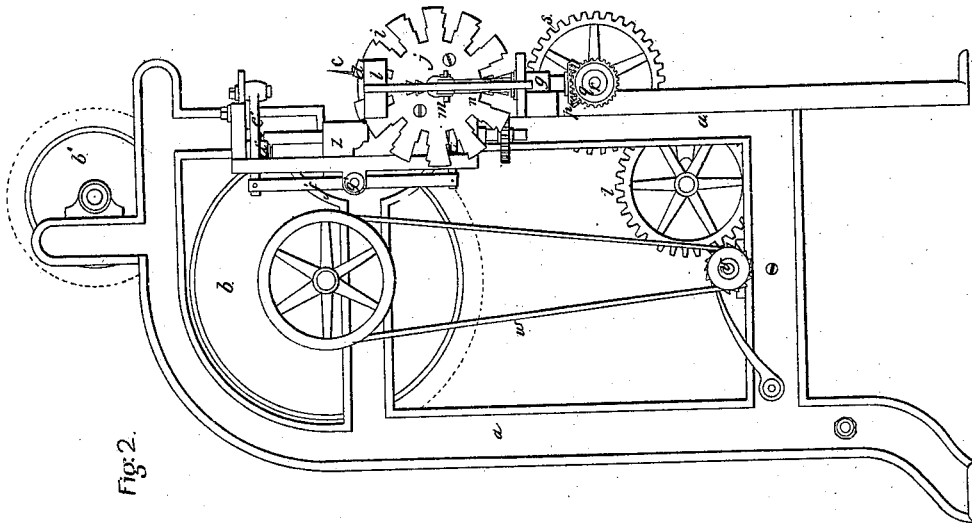


Fig. 2.

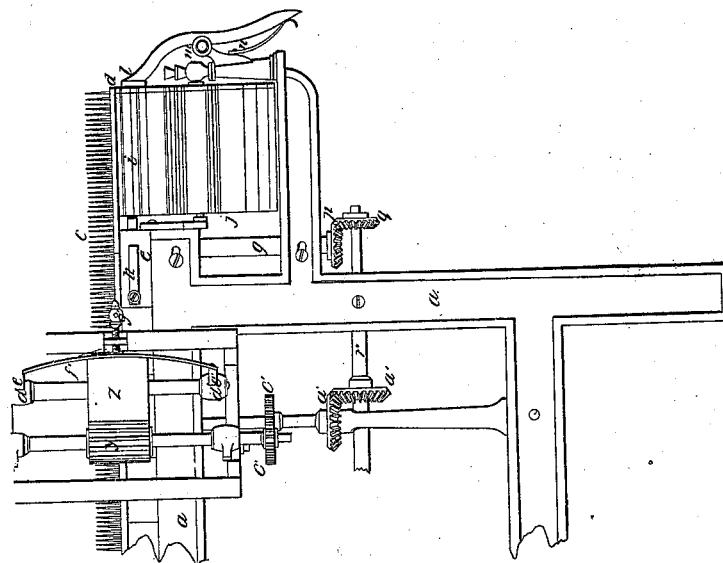


Fig. 4.

UNITED STATES PATENT OFFICE.

C. G. SARGENT, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN MACHINERY FOR COMBING WOOL.

Specification forming part of Letters Patent No. 5,018, dated March 13, 1847.

To all whom it may concern:

Be it known that I, C. G. SARGENT, of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in the Machine for Combing Wool; and I do hereby declare that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a front elevation of the machine; Fig. 2, an end elevation; Fig. 3, a vertical section taken at the line *x x* of Fig. 1; and Fig. 4, a back elevation of one end of the machine.

The same letters indicate like parts in all the figures.

The nature of my invention consists in attaching the comb-teeth to a series of plates that are caused to slide along in front of the cylinder of cards, and a pair of rollers for the fibers to be acted upon, and stripped from the teeth, and are then shifted in a parallel position to slide back to the end from whence they first started, and there shifted back to pass along as at first, a hollow box through which steam or heated air circulates being placed between the comb-teeth and the cylinder of cards, and little below the points of the comb-teeth for the purpose of keeping the fibers at the required temperature while under operation in the machine.

In the accompanying drawings, *a* represents the frame of the machine, properly adapted, as shown in the drawings, to the purpose intended; and *b*, a cylinder of cards, made in the usual manner, to which the wool is supplied by a small card-cylinder, *b'*, or in any way desired, as this makes no part of my invention. The comb-teeth *c*, on which the wool is to be combed, are attached to and project from the upper surface, and near one edge of a series of metal plates, *d*, which are formed, as represented in the drawings, to fit and slide freely in a groove made in a bar, *e*, placed in front of the cylinder of cards and parallel with its axis, and at such a height as to bring the points of the teeth at the required height in front of the cards—say a little below a horizontal line radiating from the axis of the cylinder—so that the card-teeth shall touch the body

of the comb-teeth without catching onto their points; and to admit of this that part of the plate *d* to which the comb-teeth are attached projects over and runs on top of the bar *e*. The lower part of the plates *d* is provided with rack-teeth, into which the cogs of two pinions, *f*, (one only of which is shown in the drawings,) on the upper ends of the two vertical arbors *g g*, one at each end, mesh, the diameter of these pinions being such as to have their cogs act on the rack on the two ranges of comb-plates, so as to carry them forward and back. As each plate reaches the end of its course in the bar *e*, it is pressed upon by a spring, *h*, attached by one end to the bar, the other passing through an aperture to bear onto the back of each plate, which, as it passes out of its groove in the bar, enters a corresponding groove, *i*, in a cylinder, *j*, the axle of which is provided with journals that run in appropriate boxes in the frame, and as the plate passes into this groove it forces back a lever, *l*, that has its fulcrum at *m*, a spring, *n*, keeping it up against the end of the cylinder.

From the foregoing it will be obvious that so soon as the plate is entirely out of the groove in the bar and in the groove of the cylinder, the end cog of the rack only is engaged with the cogs of the pinion, which by its rotation forces it forward, aided by the spring *h* until it comes in line with a groove in another bar, *o*, similar to and parallel with the bar *e*, and then the spring-lever *l* forces it into this groove, aided by the action of the pinion-cogs on the rack, and so soon as the pinion is fairly engaged with the rack the plate is carried back to the other end of the machine by the pinion, unaided by the spring-lever, which remains in its original position prepared to perform the same office on the next plate, the cylinder *j* being of sufficient diameter and provided with the required number of grooves for the purpose intended. The other end of the machine is provided with the like arrangement of parts, but reversed to transfer the plates from the front bar, *o*, to the back main bar, *e*.

The vertical arbors *g g* have each at their lower ends a beveled pinion, *p p*, the cogs of which engage with the cogs of two similar pinions, *q q*, on a horizontal line-shaft, *r*, to insure the turning of the two arbors with equal velocity, the line-shaft receiving motion by the train of wheels *s t u*, from the main driving-shaft *v*,

which also communicates motion to the combing-cylinder by a belt, *w*, another belt, *x*, communicating motion from this to the small card-cylinder *b'*, which supplies the woolen fibers to the main cylinder. As the comb-teeth leave the combing-cylinder they pass by two rollers, *y z*, which strip the combed fibers from them and deliver them in the form of a sliver. One of these rollers, *y*, is fluted, and receives motion from the line-shaft by means of the two beveled cogged wheels *a' a'* and the spur-wheels *c' c'*, and the other, *z*, turns freely in boxes *d' d'* in the jointed arms *e' e'*, and the surface of this latter roller is pressed against the other by a spring, *f'*, the ends of which bear against the arms *e' e'*, its tension being regulated by a set-screw, *g'*.

It will be obvious that this mode of moving and transferring the plates of comb-teeth may be employed in connection with a combing, carding, or brushing cylinder, or any two or all three of them in succession, and that the fibers may be applied and removed from them

by any means desired, as these make no part of my invention; and that, instead of using the grooved cylinders at the ends of the machine to transfer the plates from one of the grooved bars to the other and back again, slides may be substituted, moving either horizontally, vertically, or in any other direction; or that they may be made to slide in appropriate grooves or slides, as I do not limit my invention to the precise arrangement of machinery for effecting the transfer.

What I claim, therefore, as my invention, and desire to secure by Letters Patent, is—

Making the series of plates that carry the comb-teeth continuous in their action by transferring them at each end from one groove or set of ways to another and back again, substantially as herein described.

CHAS. G. SARGENT.

Witnesses:

ALEX. WRIGHT,

MERTON C. BRYANT.