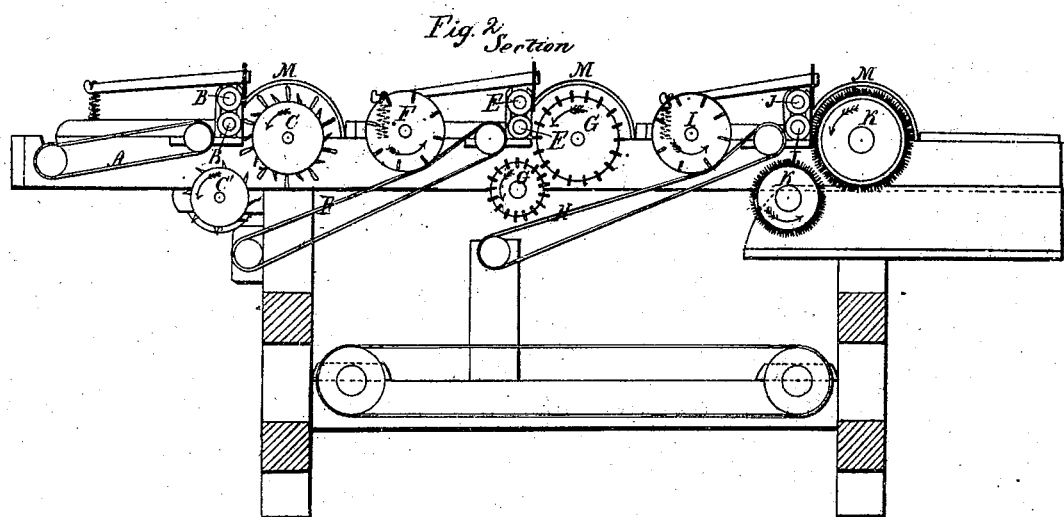
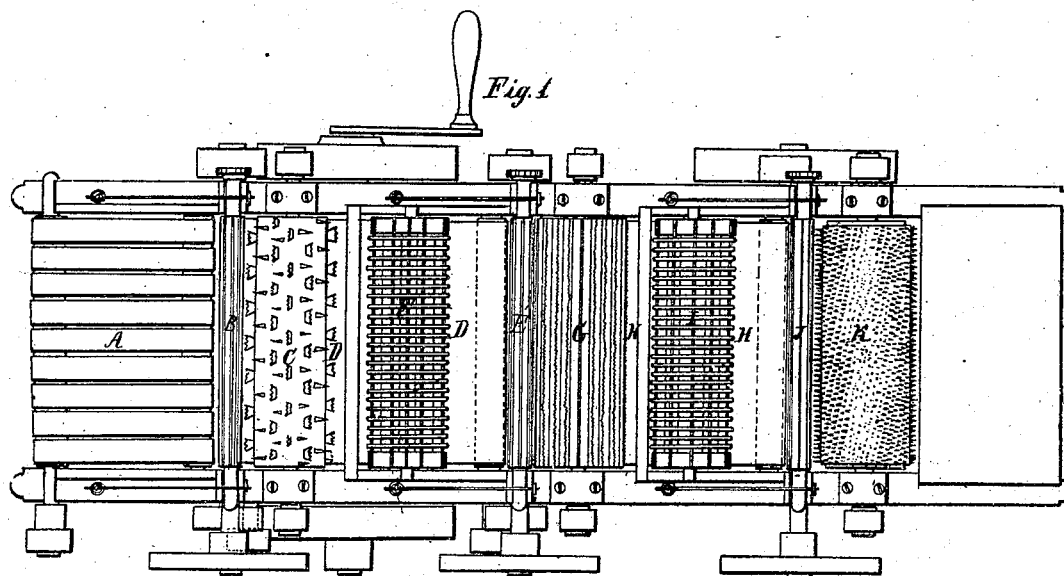


*W. Gray*  
*Cotton Picking*  
*N<sup>o</sup>. 302.* *Patented Jul. 29, 1837.*



# UNITED STATES PATENT OFFICE.

WM. GRAY, OF HEBRON, CONNECTICUT.

## MACHINE FOR REDUCING THREAD-WASTE INTO WOOL.

Specification of Letters Patent No. 302, dated July 29, 1837.

*To all whom it may concern:*

Be it known that I, WILLIAM GRAY, of Hebron, in the county of Tolland and State of Connecticut, have invented a new and useful machine for the converting of the thread-waste of cotton-mills into cotton-wool, so that it can be spun into yarn for various purposes; and I do hereby declare that the following is a full and exact description thereof.

Figure 1, is a top view of the machine, exhibiting the principal working parts; and Fig. 2, a vertical section along the middle of the machine, showing the arrangement of those parts, together with such as are not visible in the top view. In each of these figures, where the same parts occur, they are designated by the same letters of reference.

The cotton-waste is to be spread upon a feed apron A, whence it is carried between the fluted feeding rollers B, B'; the upper roller being borne down by weighted levers, or by springs, so as to hold the fibers between them with considerable force. As it passes through between these rollers it is presented to the toothed cylinder C, which revolves with considerable velocity, and taking hold of the waste, separates its fibers to a considerable extent. The cylinder C', set with teeth in a similar manner, but, revolving with less velocity than C, catches hold of these fibers, and delivers them on to the endless apron D, by which they are carried to a second pair of feeding rollers E, E'. In their way to these, they are pressed upon by the roller F, the surface of which may be covered by coiling wire around it, or prepared in any other suitable way. The pressure of this roller condenses the fibers into a loose kind of web, in which state it is passed between the rollers E, E', and is acted upon by the rollers G, G', and by them passed, or thrown, on to the endless apron H. The teeth in these rollers should be finer than those of the first pair, and they may be formed by setting plates of metal edgewise along them, and indenting the outer edges of the plates, so as to form teeth like saw teeth. These reduce it mode completely into

fine fibers which are pressed, as before, by the pressing roller I, preparing it to pass between the third pair of feeding rollers J, J', and thence to the last pair of reducing rollers K, K', the teeth on which may be pointed wires, or tacks set in leather, and very close to each other, and by which the operation will be completed, and the cotton discharged through the opening, L.

If necessary, the operation may be repeated; and it may sometimes be preferred to use but two pair of feeding rollers; and to send the waste twice through; it not being requisite in the construction of this machine that there should always be three pair of reducing rollers, but it is believed that this number will suffice to accomplish the object in view in one operation, or one pair may be used by passing the waste through three or more times. The direction in which the rollers move is indicated by the arrows; and the teeth upon them, especially on the first pair, should be somewhat inclined, or hooked, in the direction of their motion, so as more certainly to take hold of, and to separate, the fibers. The reducing rollers are to be cased over, as shown at M, M'.

I have not thought it necessary to show the whirls and bends, or other gearing, by which the rollers are to be moved, as these will admit of much variation, and no competent mechanist will be at a loss in arranging these so as to produce the desired effect.

What I claim as my invention in the foregoing machine, is—

The general construction and arrangement thereof in such a way that the thread-waste may be reduced into cotton wool by passing it successively between feeding rollers, on to reducing rollers, whence it is delivered on to endless aprons, and pressed by pressing rollers, preparatory to its being again acted upon by reducing rollers; the whole formed and operating substantially in the manner described.

WILLIAM GRAY.

Witnesses:

R. C. SCOVELL,  
A. D. SCOVELL.