J. B. VOGEL,

MACHINE FOR SEPARATING FIBER FROM PLANTS.

No. 181,382. Patented Aug. 22, 1876.

Fig: 1

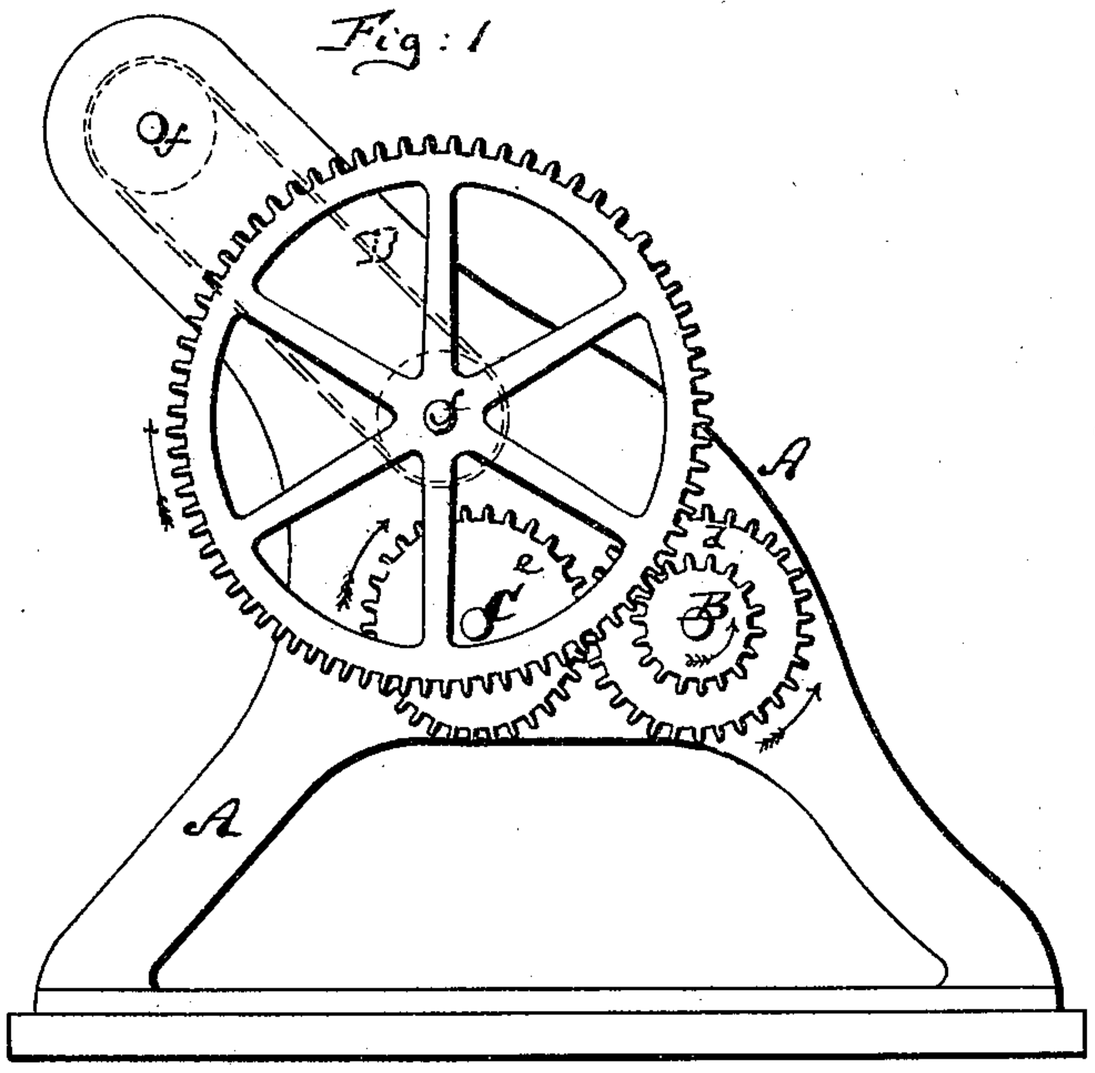


Fig: 2

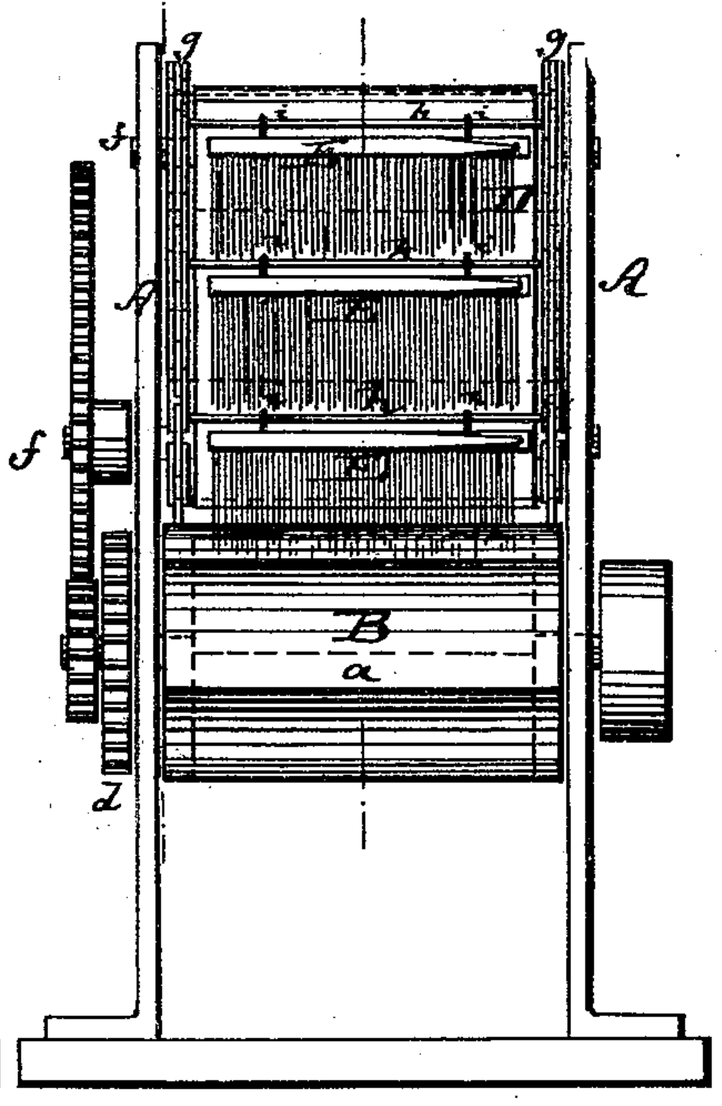


Fig: 3

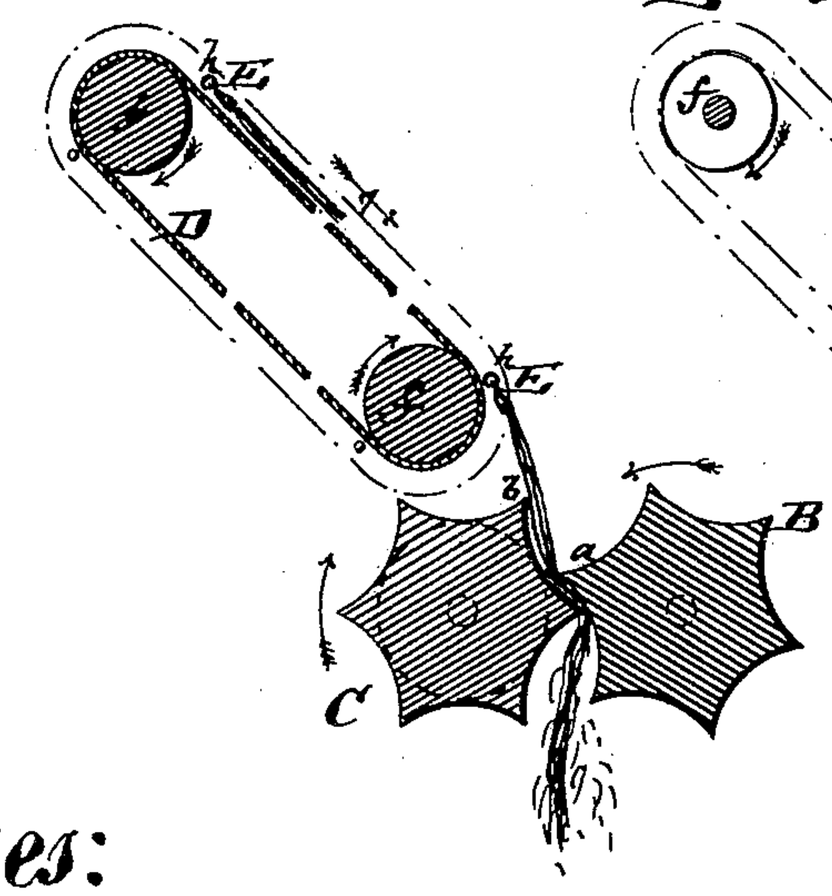
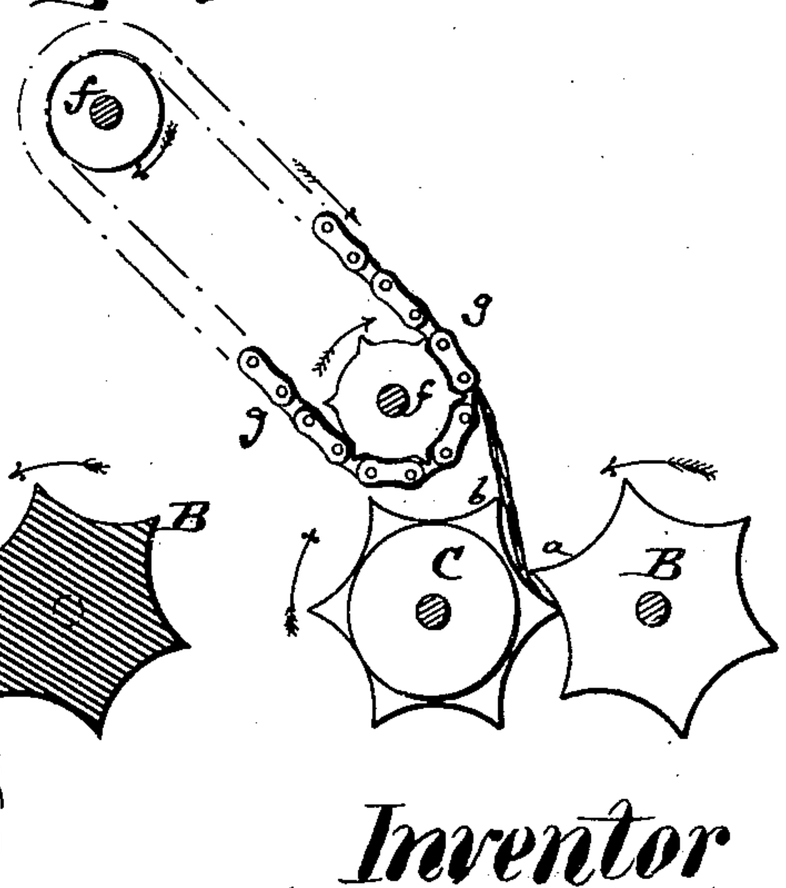


Fig: 4



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UNITED STATES PATENT OFFICE.

JOHN B. VOGEL, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND WILLIAM LLOYD BOWRON, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR SEPARATING FIBER FROM PLANTS.

Specification forming part of Letters Patent No. **181,382**, dated August 22, 1876; application filed July 3, 1876.

To all whom it may concern:

Be it known that I, JOHN B. VOGEL, of New York city, in the county and State of New York, have invented a new and Improved Apparatus for and Method of Decorticating China Grass and other Fibrous Plant, of which the following is a specification:

This invention relates to a new machine for dressing the stalk of the "*Bœhmeria nivea*," known as "China grass," and of other fibrous plants, by breaking the rind and cellulose matter, and separating it from the fibrous body, leaving the latter in condition for use in the arts.

The invention consists in the combination of an endless apron, having suspending devices, with a pair of rollers, arranged for breaking and withdrawing the rind from the fiber, as hereinafter more fully described.

In the accompanying drawing, Figure 1 is a side elevation of my improved decorticating-machine. Fig. 2 is a front elevation of the same. Fig. 3 is a detail vertical section through the operating mechanism; and Fig. 4 a side view of the same.

Similar letters of reference indicate corresponding parts in all the figures.

The frame A of the machine serves to support two parallel fluted or ribbed drums or paddle-rollers, B and C, which are placed so near together that the projecting ribs or blades *a* of the roller B will, in revolving, lap over the ribs or blades *b* of the roller C, respectively, in substantially the manner indicated in the drawing. These two rollers are, preferably, of equal diameter, and are revolved in opposite directions, as by arrows in Fig. 4. The rollers B C are geared together by suitable toothed wheels *d e*, as in Fig. 1, or derive their motion by other equivalent means. *f f* are two or more rollers, hung in the frame A, parallel to the rollers B and C. They serve to hold an endless apron, D, to which slow motion in direction of the arrow, shown above such apron in Fig. 3, is imparted.

The apron may be connected with endless chains *g g* at its borders, or otherwise adapted to receive or provided with cross-bars *h h*, that extend across its face. From these cross-bars may be suspended lateral clamps E E, that serve to hold the ends of the tufts of fibrous stalks to be manipulated. Each clamp E should be about as long as the apron D is wide, and is composed of two plates that can be screwed or otherwise forced together, to clamp the fibrous stalks between them. Two or more hooks, *i i*, are on each clamp to suspend it from the cross-bar *h*, and allow its ready removal therefrom.

The stalks of China grass or other fibrous plant are in tufts, secured with their ends in the clamps E, and placed on the apron, as indicated in Fig. 3. The machine being set in motion, the apron gradually and slowly feeds the stalks between the rollers, holding what is above the rollers properly taut. The blades or ribs *a* of the roller B will, as they successively overlap the blades *b* of the roller C, crush the rind of the plant, which rind when crushed, will be stripped off the fibrous body of the plant by the continued downward motion of the blades or ribs *a b*, that have served to crush it. After one pair of ribs or blades *a b* has acted upon a short length of the fibrous plant, the next succeeding pair of such ribs or blades will take hold of and act on a further section of the plant, and so forth, until the clamp E that holds the tuft has nearly reached the rollers B C. The clamp is then either opened to allow the tuft to pass entirely through the rollers, or, remaining on the apron, it will draw the tuft up during the upward motion, and thereupon another tuft, held in another clamp, reaches the rollers, and is by them affected in manner described.

I claim as my invention—

1. The combination of the endless apron D, having suspending devices *h*, with the rollers B and C, of a decorticating-machine, substantially as specified.

2. In combination with the endless apron D and rollers B C, the clamping device E, arranged for use, substantially as herein shown and described.

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