

Plate 2.

M. JEROME & J. A. PLATT.

Machines for Thrashing and Cleaning Flax.

No. 153,259.

Patented July 21, 1874.

Fig 3

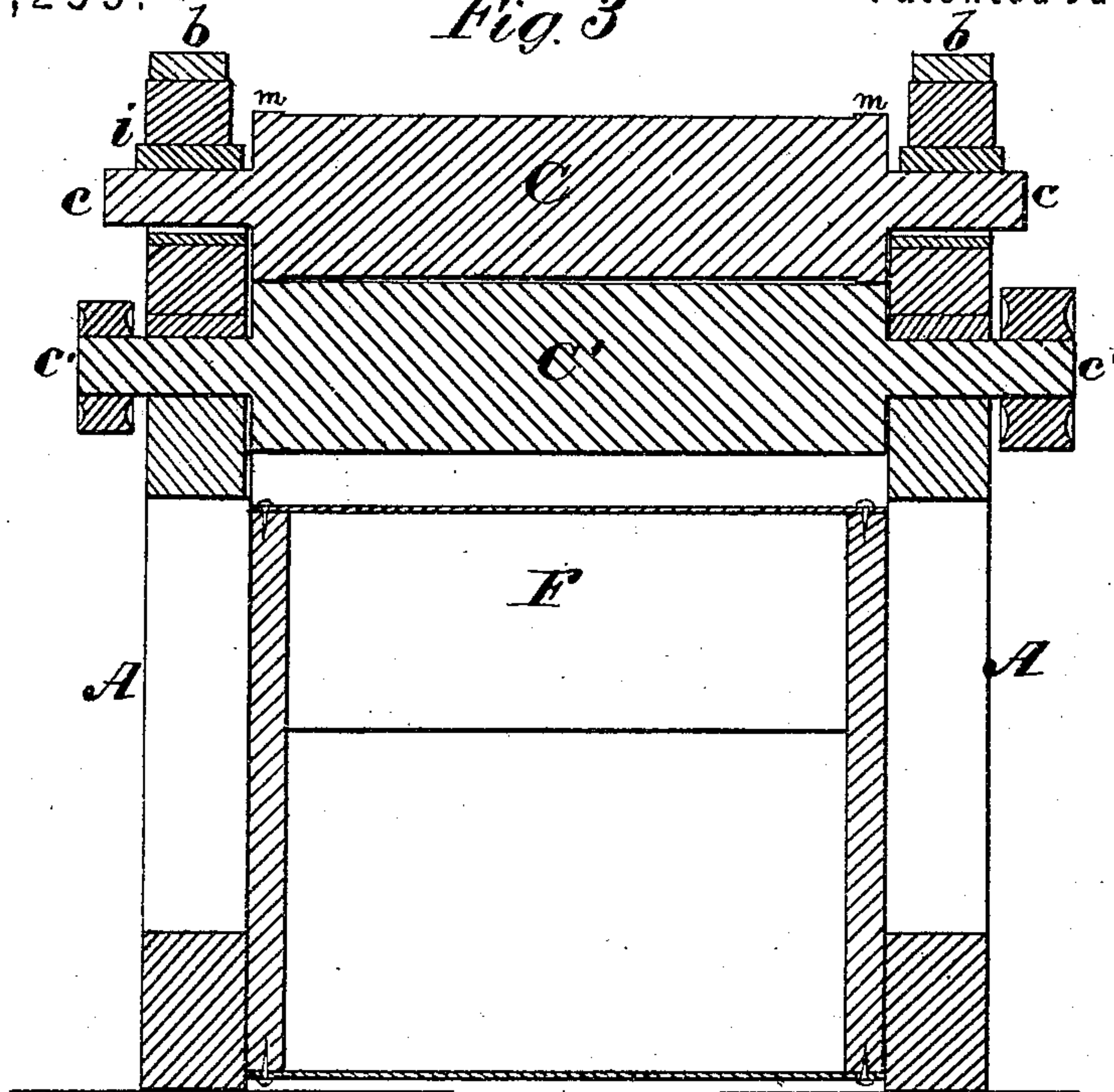
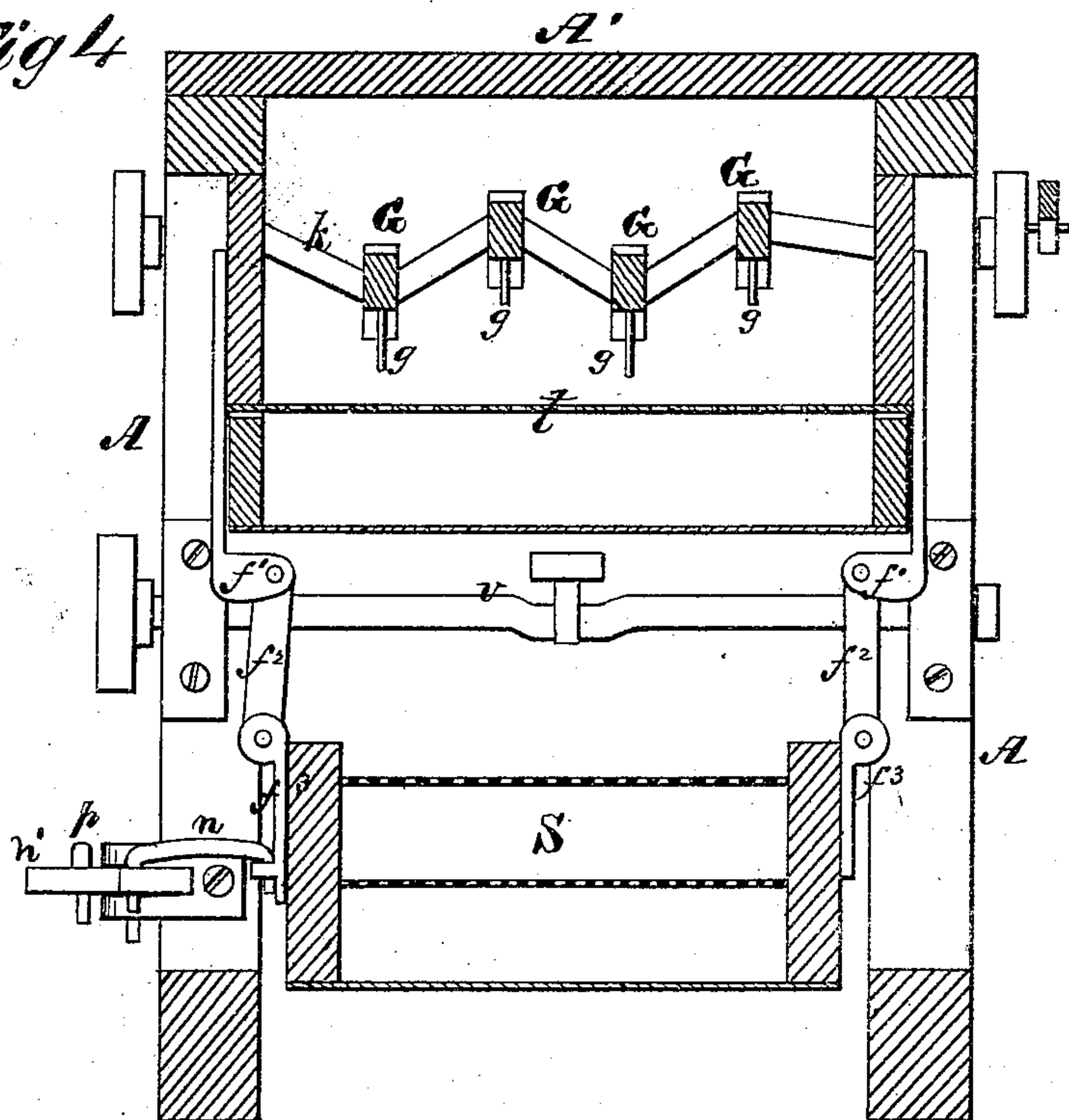


Fig 4



Witnesses.
R. W. Campbell,
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Inventor
Moses Jerome & Julius A. Platt
by their Attys
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UNITED STATES PATENT OFFICE.

MOSES JEROME, OF DIXON, AND JULIUS A. PLATT, OF WARREN,
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IMPROVEMENT IN MACHINES FOR THRASHING AND CLEANING FLAX.

Specification forming part of Letters Patent No. **153,259**, dated July 21, 1874; application filed
July 22, 1872.

To all whom it may concern:

Be it known that we, MOSES JEROME, of Dixon, in the county of Lee and State of Illinois, and JULIUS A. PLATT, of Warren, in the county of Jo Daviess, in the State of Illinois, have invented a new and Improved Machine for Thrashing Flax and Cleaning the Same; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1, Plate 1, is an elevation of one side of the improved machine. Fig. 2, Plate 1, is a section taken longitudinally and vertically through the center of the machine. Fig. 3, Plate 2, is a section taken vertically and transversely through the machine in the plane indicated by dotted line *x*, in Fig. 1, Plate 1. Fig. 4, Plate 2, is a section taken vertically and transversely through the machine in the plane indicated by dotted line *y y*, Fig. 1.

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

This invention relates to certain novel improvements on machinery which is designed for thrashing and cleaning flax, wherein the stalks and seed-bolls are crushed between rolling-surfaces, after which the seeds are separated from the stalks and loose trash, and both the seeds and stalks are delivered from the machine at different points, as will be hereinafter explained.

The following description of our invention will enable others skilled in the art to understand it.

In the accompanying drawings, A represents the frame of the machine, and A' a cover for the rake-trunk, which latter is arranged on an incline, as shown in Figs. 1 and 2. B represents the feed-table, on which are two guides, B' B', converging toward the first crushing or thrashing cylinders C' C', and designed for keeping the stalks of flax between the ends of these cylinders.

We have represented on Plate 1, Figs. 1 and 2, two pairs of cylinders, C C', between which the flax-stalks and seed-bolls are crushed on their way from the feed-table to the rake-trunk

D. The front or first pair of cylinders C C' are somewhat smaller than the second or rear pair, and the upper cylinder, C, of each pair is used as a pressure-cylinder, while the lower one, C', of each pair is used as the actuating-cylinder.

Instead of two pairs of cylinders three pairs may be employed; but we have found that, by giving the second pair a much more rapid motion than the first pair, the rubbing action of these cylinders on the stalks is such that a third pair is not necessary. The journals *c'* of the lower or actuating-cylinders C' are supported by fixed bearings, but journals *c* of the upper or pressure cylinders are allowed vertical movements between the guides of frames *b*, and between these journals *c* and the top bar of frames *b* springs *i* are applied, which act in conjunction with the weight of the cylinders to keep the latter down to their work of crushing or breaking the flax-bolls.

The machine receives motion first from a belt which is applied around one of three pulleys on the journals of the second actuating-cylinder C'. From this cylinder motion is transmitted by a belt to the front actuating-cylinder C', and also by another belt to a shaker-shaft, *v*. By means of a belt, *c*², motion is transmitted from a pulley on the journal of the front actuating-cylinder C' to a pulley, *c*³, on the shaft of a fan, F². As the stalks and crushed bolls leave the second pair of cylinders they pass over a bridge-plate, *q*, and are received upon a screen, *t*, beneath a series of longitudinally-reciprocating rakes, G, the teeth *g* of which are curved, as shown in Fig. 2. The rakes are arranged in the inclined trunk D, parallel to each other and at suitable distances apart. They are applied to two rotating shafts, *k k*, which are cranked in such manner that the rakes alternate with each other in their up and down and forward and backward movements, so as to lift, shake, and move forward the straw and chaff, which fall upon and are shaken through the screen *t*, upon the imperforated bottom *r* of an inclined conductor, D'. The conductor, to which the screen *t* is applied, is suspended beneath the rake-trough D by means of pivoted straps *ff*,

which allow the conductor to be vibrated longitudinally by means of a crank or eccentric on the shaft *v*, working between jaws which are secured to the bottom of said conductor. The seeds, mixed with chaff, are conducted down the plate *r*, and delivered from its lower end upon the upper screen of a shoe, *S*. This shoe is composed of two inclined screens, an imperforated inclined bottom, and a guard, *w*. The shoe is suspended from brackets *f*¹ by means of straps *f*², which are pivoted to ears *f*³ on the sides of the shoe. By means of a connecting-rod, *n*, a right-angular lever, *n'*, and a pitman, *p*, a lateral shaking motion is communicated to the shoe from the pulley *c*³ on the fan-shaft. The front end of the shoe is connected, by a plate, *s*, and pivot *s*¹, to the spout *F*¹ of a fan-case, *F*, which spout directs a blast of air through the shoe and blows away the chaff, cleaning the seed clean as it is delivered from the shoe.

By reference to the sectional view, Fig. 3, it will be seen that the upper cylinder, *C*, has narrow bands or annular raised portions *m m* on its extremities. These raised portions are designed for keeping the crushing-surfaces of the cylinders sufficiently far apart to prevent crushing the seed, but not far enough apart to prevent crushing the seed-bolls.

From the above description it will be seen that the stalks and seed-bolls are crushed between smooth cylinders without injury to the

seed, and that the second cylinders have a greater speed than the first cylinders, which different speeds produce a rubbing action on the stalks; also, that the stalks and crushed bolls are delivered from the said cylinders directly upon an inclined moving screen, where they are tossed about and conveyed forward, and where the seed and chaff are separated from the stalks or straw, and deposited upon an inclined board or plate, which, by its inclination and longitudinal motion, delivers the seed and chaff into a shoe. While passing through the screen or screens of this shoe the chaff and other light products are blown away by the blast produced by the fan *F*², and the seed is finally delivered from one part of the machine separated of its foreign matters, while, on the other hand, the stalks are delivered from another part of the machine.

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

The combination, in a machine for thrashing flax, of two or more pairs of plain or smooth-surfaced cylinders, arranged as actuating and pressing cylinders, the respective pairs moving with different speeds, substantially as and for the purpose set forth.

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Witnesses:

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