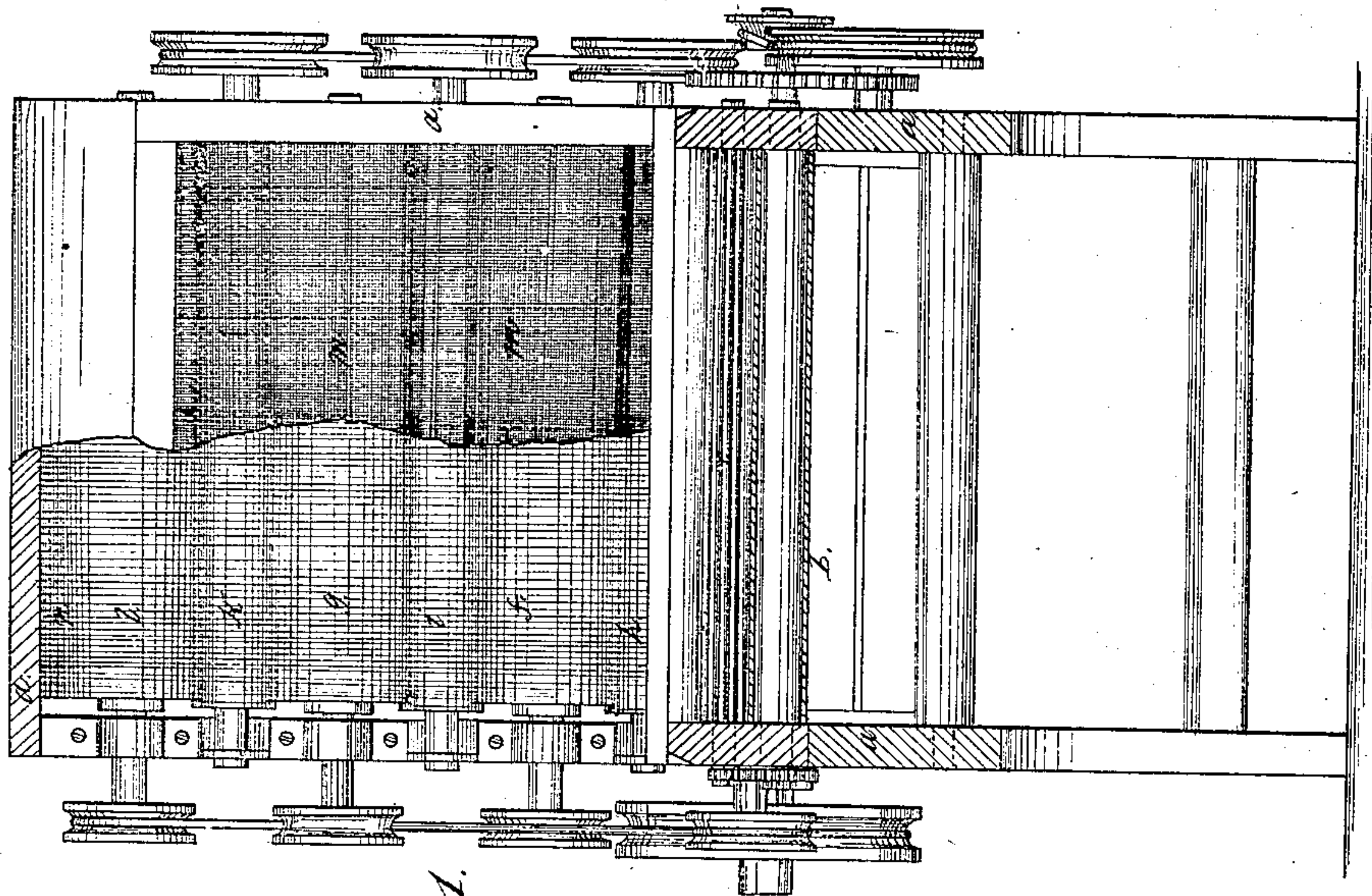


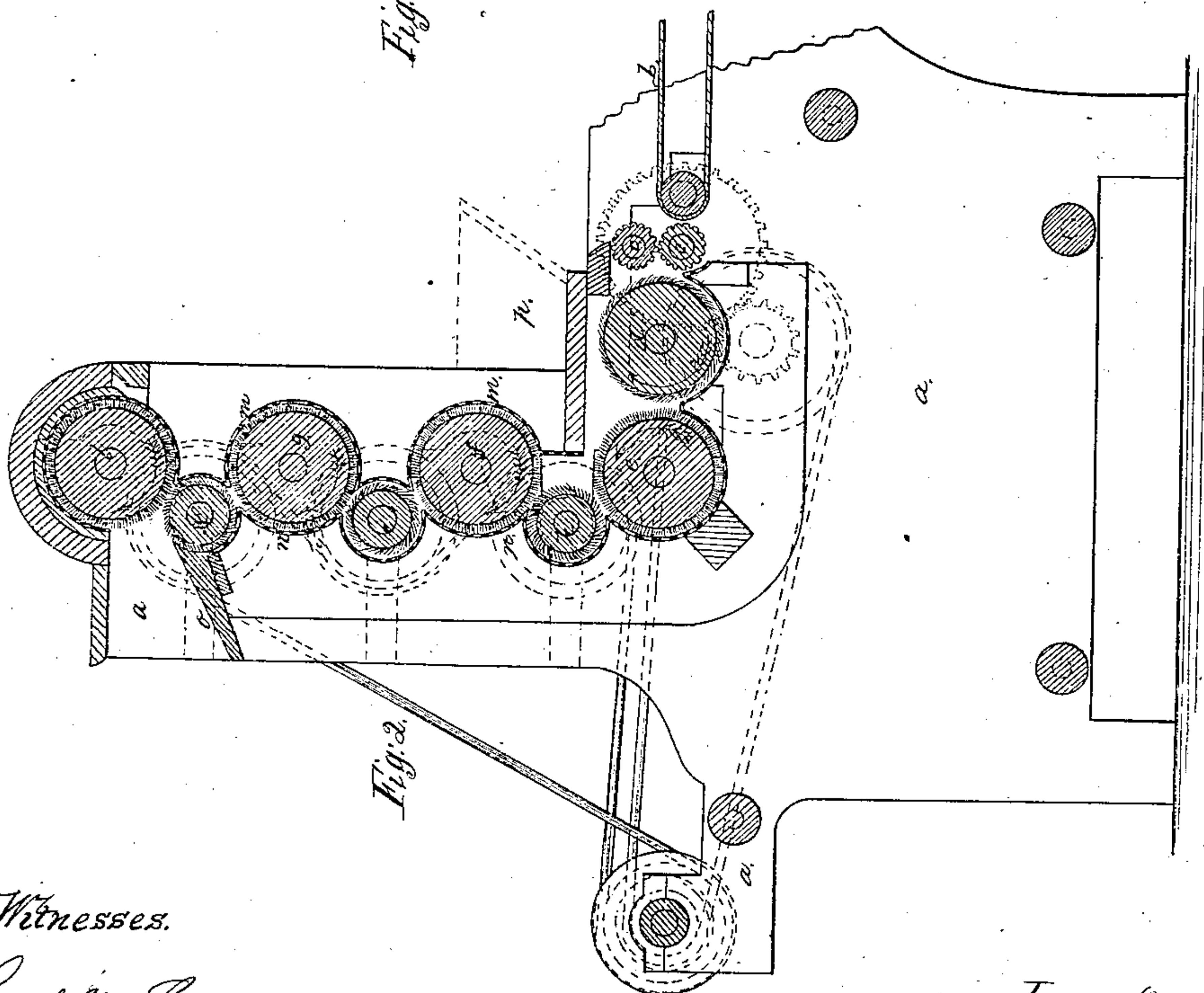
*J. B. Fuller.*  
*Flax Brake.*

*N<sup>o</sup> 51,652.*

*Patented Dec. 19, 1865.*



*Fig. 1.*



*Fig. 2.*

*Witnesses.*

*Lemuel W. Correll*  
*Chas. H. Smith.*

*Inventor.*

*J. B. Fuller.*



# UNITED STATES PATENT OFFICE.

JIM B. FULLER, OF CLAREMONT, N. H., ASSIGNOR TO HIMSELF, J. P. UPHAM, OF SAME PLACE, AND E. T. RICE, OF NEW YORK, N. Y.

## IMPROVEMENT IN MACHINERY FOR PREPARING FLAX.

Specification forming part of Letters Patent No. 51,652, dated December 19, 1865.

*To all whom it may concern:*

Be it known that I, JIM B. FULLER, of Claremont, in the county of Sullivan and State of New Hampshire, have invented, made, and applied to use a certain new and useful Improvement in the Preparation of Flax and other Fibrous Material; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is an elevation of the machine employed by me at the feeding end, part of the screen being removed from the cylinders for more clearly showing them; and Fig. 2 is a longitudinal section of the machine at right angles to the operating-cylinders.

Similar letters denote the same parts in both figures.

The object of my invention is to free the fiber of flax and other vegetable substances of the shives or hard woody portions that remain with and adhere to the fiber after it has been subjected to a beating, breaking, or crushing operation.

Said invention consists in a series of toothed cylinders and workers that comb out the said shives or woody portions and separate the fiber, in combination with a screen contiguous to the surface of said cylinders, that retains the fibrous portions and causes them to pass on from one cylinder to the next without falling away from the teeth of said cylinders. At the same time the shives, woody portions, dust, and other foreign matters fall away readily.

In the drawings, *a* is a suitable frame-work, carrying the parts of the machine.

*b* is a feeding-belt, upon which the flax or other vegetable material is placed, either in its native state or partially prepared.

*c c* are feeding-rollers, which I prefer to have longitudinal flutes in their surfaces, so as to crack and thoroughly break up the woody portions and shives. These rollers may be pressed together by weights or springs.

*d* is a cylinder armed with teeth conveying the fiber from the rollers *c* to the cylinder *e*, which is the first of a series of working-cylinders, *e f g*, which may be multiplied in number, if desired. They are to be rotated in the

directions indicated by the arrows, and are to be covered with teeth standing either radially or with their points slightly inclined forward. Between these cylinders *e f g* are strippers *h i*, covered with inclined or card teeth. These may be rotated in either direction, but at a considerably slower speed than the cylinders *e f g*, and their teeth pointing toward the fiber brought along by the respective cylinders comb off the fiber, so that it is carried along by the stripper *h* from the cylinder *e* to the cylinder *f*, and thence from the cylinder *f*, by the stripper *i*, to the cylinder *g*, and so on.

I employ screens *m n* on the opposite sides of the strippers and workers, curved as shown in Fig. 2, so as to stand contiguous to the surfaces of said cylinders, but not touching the same.

The fiber, as carried through the machine, is opened and loosened by being passed from one cylinder to the next, and the centrifugal action of the cylinders *e f g* throws the fiber against the surface of the screens, and the heavier the particles of wood the greater this centrifugal action, the result of which is that the shives, pieces of woody matter, and other foreign substances are thrown out through the sieves. At the same time the operation is greatly accelerated by the fiber in its passage moving over and in contact with the rough surfaces of the gratings or screens, which aid in cleansing the fiber.

The screens must be sufficiently near to the respective cylinders to allow the teeth to move the fiber along with rapidity and prevent any accumulation of the fiber in a bat against the screens. The fiber, having passed a sufficient number of these workers and strippers to be in the desired condition for carding or otherwise preparing for use, is delivered from the machine by a blower, fan, or other suitable means.

I have shown a cylinder, *l*, with smooth radial teeth for throwing the fiber off from the cylinder *k*, and delivering it over the incline or mouth *o*.

I prefer that the machine stand vertically, as shown, to allow the woody portions, &c., to fall away with ease from the machine, and a receptacle may be formed, as at *p*, for the re-

ception of such woody matter; but the machine may stand horizontal and the shives all pass through the bottom screen.

The cylinders, rollers, &c., may be driven at the proper speed by suitable mechanism. I have shown belts and pulleys.

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

The grating or screens contiguous to and in

combination with a series of strippers and workers fitted and acting substantially as specified, and for the purposes set forth.

In witness whereof I have hereunto set my signature this 13th day of June, A. D. 1865.  
JIM B. FULLER.

Witnesses:

LEMUEL W. SERRELL,  
THOS. GEO. HAROLD.