

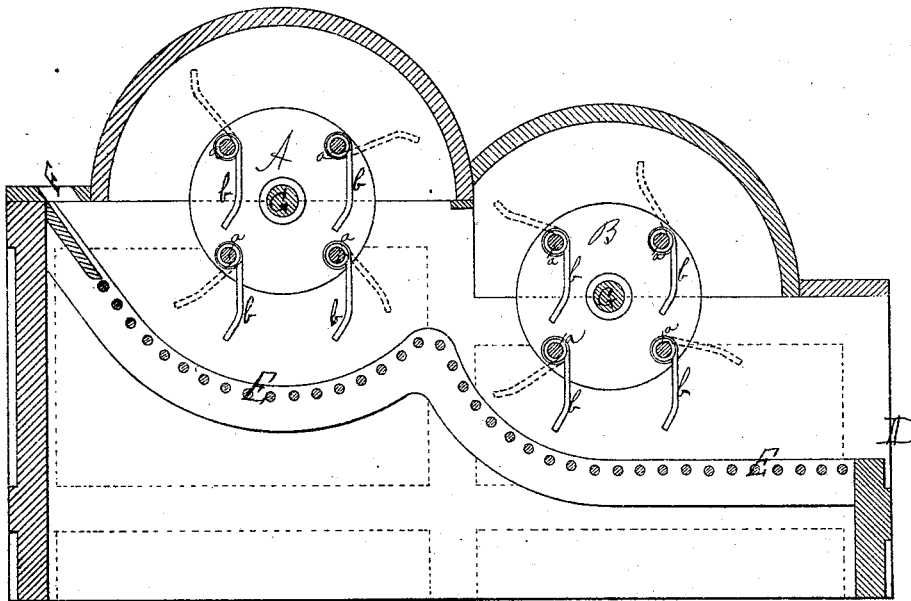
*Jillson & Palmer,*

*Cotton Picker.*

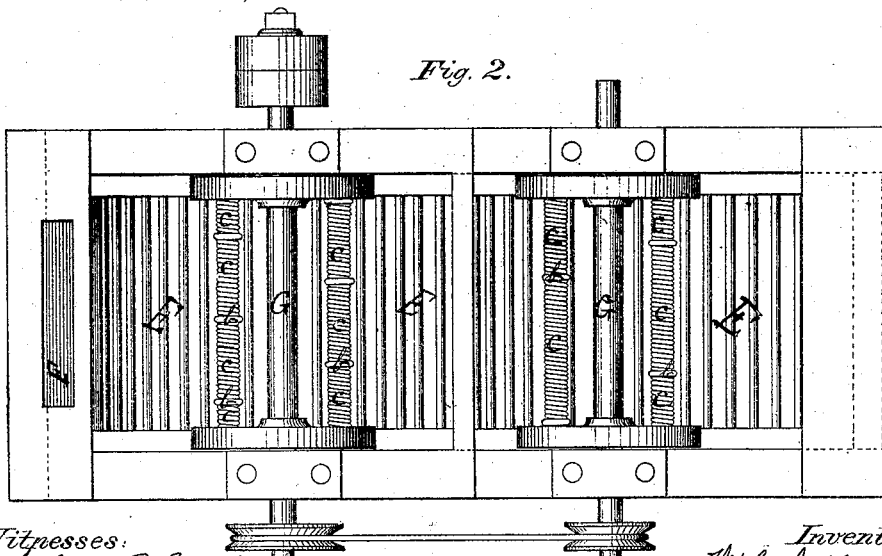
*No. 110,308.*

*Patented Dec 20 1870*

*Fig. 1*



*Fig. 2.*



*Witnesses:*

*John S. Smith*  
*Asahel Farley*

*Inventors:*

*Wm. C. Gillean*  
*Amos B. Baker*

# UNITED STATES PATENT OFFICE.

WILLIAM C. JILLSON AND AMOS B. PALMER, OF WILLIMANTIC, CONN.

## IMPROVEMENT IN MACHINES FOR OPENING COTTON.

Specification forming part of Letters Patent No. **110,368**, dated December 20, 1870.

We, WILLIAM C. JILLSON and AMOS B. PALMER, of Willimantic, county of Windham, State of Connecticut, have invented certain Improvements in Cotton-Openers, of which the following is a specification:

The object of our invention is to open or loosen up and clean the cotton without injury to the staple, and leave it in a condition to be easier worked by the aid of other subsequent machinery; and it consists in two or more reels or spiders, provided with loose or movable whippers or flails, and combined with two or more shells or concaves, as will be fully described hereafter. These loose whippers or flails are attached on the four opposite sides of the circumference of the skeleton drums or pulleys alternately, and, when the skeleton-drums or spiders are in rapid revolution, are thrown out in radial lines by centrifugal force.

In the drawing, Figure 1 is a longitudinal sectional view of the machine; Fig. 2, an upper plan view with the covering-hoods or bonnets removed.

A B are sections of the skeleton-drums. *a a* are the cross-bars connecting the drum-heads, and upon which the flails turn. *b b* are the flails, bent at one end to form an eye, which eye is slipped over the cross-bars before the drum is put together. The dotted lines show the flails in motion.

C C are coils of wire, or washers, also slipped over the cross-bars, and which serve to regulate the distance at which the flails are to be set from each other. F is a slot in the machine-frame, through which the cotton may pass, and this may or may not be furnished with feed-rolls, as desired. G G are the central shafts of the skeleton-drums, and are journaled properly in the side of the machine frame or casing. E E are open screens beneath the drums.

The operation of this machine will be readily understood. The cotton is passed in at F, and the whippers loosen or tighten it up, and, in turn, pass it out at D; or, if desired, it can be passed out between two rollers and over an apron. Each one of these flails being independently attached, if either of them is clogged

or filled up, it does not affect the working of the others. Thus the fiber of the cotton cannot possibly be torn or injured.

We are aware that skeleton drums or reels with pivoted or hinged flails are old, and also that they have been used in duplicate for thrashing grain; but in this latter case the construction was such that the flails, when brought in contact with the grain, were tangential to the reel and parallel to the support upon which the grain rested, so that the whole length of the flail was brought down upon the grain with a blow, as it is in hand-thrashing—an operation which, it will at once be seen, is fatal to the process of opening cotton; but in our construction the flails are bent or curved at their outer ends, as shown, and the shell is at such a distance from their ends that they cannot come in contact with it.

We are also aware that a long thin piece of metal has been loosely hung on a drum for opening cotton; but these latter are very objectionable, for the reason that cotton clogging at any one point on the bar affects the entire bar, and thus the staple is torn and injured; but we are not aware of any cotton-opener in which skeleton-drums with loosely-pivoted flails are used.

What we claim is—

1. In a machine for opening cotton, two or more reels or pulleys provided with hinged or pivoted flails, in combination with two or more shells or concaves, these parts being constructed and arranged substantially as shown and described, whereby the cotton, after being partially opened by the first set of flails, shall be fed to the second set of flails by the action of the first, substantially as set forth.

2. In combination with the bent flails and reel-bars, constructed as shown, the elastic sleeves for separating the flails and allowing them to yield laterally, substantially as set forth.

WM. C. JILLSON.  
AMOS B. PALMER.

Witnesses:

ALLEN LINCOLN,  
MASON LINCOLN.