L. S. CHICHESTER.

Machine for Thrashing Cotton.

No. 17,819. Patented July 14, 1857.

Fig: 1.

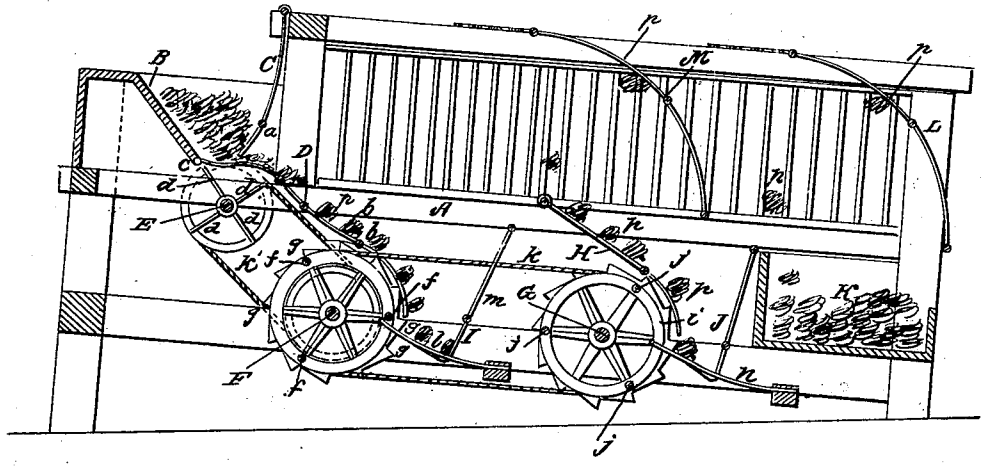
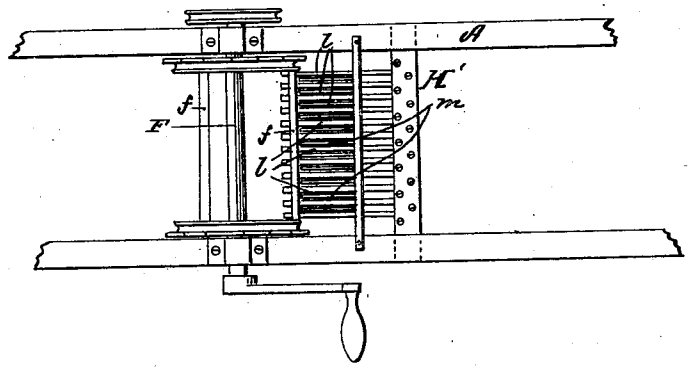


Fig: 2.



N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

LEWIS S. CHICHESTER, OF NEW YORK, N. Y., ASSIGNOR TO HENRY G. EVANS, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR CLEANING COTTON.

Specification forming part of Letters Patent No. **17,819**, dated July 14, 1857.

To all whom it may concern:

Be it known that I, LEWIS S. CHICHESTER, of the city, county, and State of New York, have invented a new and useful device for removing dust, sand, and similar foreign substances from cotton preparatory to ginning, and which device I term a "Cotton-Thrasher;" and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a longitudinal vertical and central section of my improvement. Fig. 2 is a detached plan or top view of a portion of the same.

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

This invention has for its object the removal of dirt, grit, or sand, and similar foreign substances from cotton, which substances become mixed with the cotton, as it is moved from place to place, from the time that it is picked from the stalks until it is deposited in the gin-house. The dirt, grit, or sand is very detrimental to both the saw and roller-gin, and its removal not only prevents unnecessary injury to the gins, but also expedites the process of ginning, as the cotton is not only freed from the substances alluded to, but by the operation to which it is subjected is also "lightened up," or its fibers distended, so that it will in ginning be presented in the most favorable condition to the action of the saws or rollers.

In order to obtain the object alluded to—that is, the removal of the dirt, grit, or sand from the cotton—the cotton is subjected to a series of blows produced by spring-bars arranged and operated as will be presently shown and described, and also using in connection with said bars a rotating picker with a slotted hopper and screens.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a rectangular frame, at the front end of the upper part of which a hopper, B, is placed. The hopper B is formed of a stationary screen, C, composed of rods *a*, which are slightly curved, and also composed of a screen, D, formed of rods *b*, the latter screen being pivoted to the frame at *c*.

Within the frame A and below the screen D a transverse shaft, E, is placed, and this shaft has rods or arms *d* projecting radially from it. The outer ends of the arms *d*, as the shaft E rotates, pass between the rods of the screen D.

F represents a shaft, which is placed transversely in the frame A and underneath the screen D. This shaft has a wheel, *e*, placed on each end, and the ends of horizontal rods *f* are attached to the wheels *e* near their edges. The outer edges of the rims of the wheels *e* are provided with projections *g*, and the ends of a cross-bar, *h*, through which the rods *b* of the screw D pass, rest on these projections, which give the screen D a short up-and-down shake motion. A shaft, G, is placed in the frame A some distance in front of the shaft F. The shaft G is provided with wheels *i*—one at each end, the same as the shaft F—and the wheels *i* are connected by rods *j*. The lower end of the screen H rests on the notch-edges of the wheels *i*, the screen H consequently having a shake motion the same as screen D. The wheels *e i* at the ends of the shafts F G have belts *k* passing around them, by which motion is communicated to the shaft G from shaft F. Motion is communicated to shaft E from E by a belt, *k'*.

Between the two shafts F G, and at the lower part of the frame A, a transverse bar, H', is secured, and to this bar a series of parallel springs or elastic bars, *l*, are attached; and I is a rack, which is formed of a series of inclined rods, *m*, secured permanently in the frame, the lower ends of said rods being bent parallel with the spring-bars *l* and fitted between them, as shown clearly in Fig. 2. A similar series of spring-bars, *n*, are placed in front of shaft G, and a similar rack, J, is also employed.

Directly in front of the rack J a box, K, is placed, and a curved deflecting-screen, L, is placed in the frame A, directly over the box K, a similar screen, M, being placed directly over the screen H. At each side of the upper part of the frame A wire screens N are placed.

The operation is as follows: The cotton (shown in red) is placed in the hopper B, and motion is given the shaft F in any proper manner. As the shaft F rotates, the arms *d* draw

the cotton through or between the lower ends of the rods *a*, and the cotton is thereby divided into locks or small parcels, which pass down the screen D by their own gravity, aided by the shake motion of the screen, produced by the projections *g*. The locks or parcels of cotton *p* fall upon the rack I, and are subjected to blows by the spring-bars *l*, the outer ends of which are depressed by the rods *f*, which are connected to the wheels *e*. The spring-bars *l* throw the locks or parcels upward, and they are deflected by the screen M down upon the screen H, from whence they fall upon the rack J and receive an additional blow from the bars *n*, and are thrown upward and deflected down into the box K by screen L. The blows to which the locks or parcels of cotton are subjected effectually deprive them of all dust and grit or sand, and the cotton is lightened up, or the fibers distended or loosened by the operation, so that it is well prepared for ginning.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of the spring-bars *l n*—one or more series—operated as shown, the hopper B, rotating picker or arms *d*, shake-screens D H, and deflecting-screens L M, arranged substantially as and for the purpose set forth.

LEWIS S. CHICHESTER.

Witnesses:
S. H. WALES,
W. TUSCH.