G. MALLISON.

Driving Mechanism for Rubbing Rollers of Condenser Carding-Engines.

No. 212,102. Patented Feb. 11, 1879.

Fig. 1.

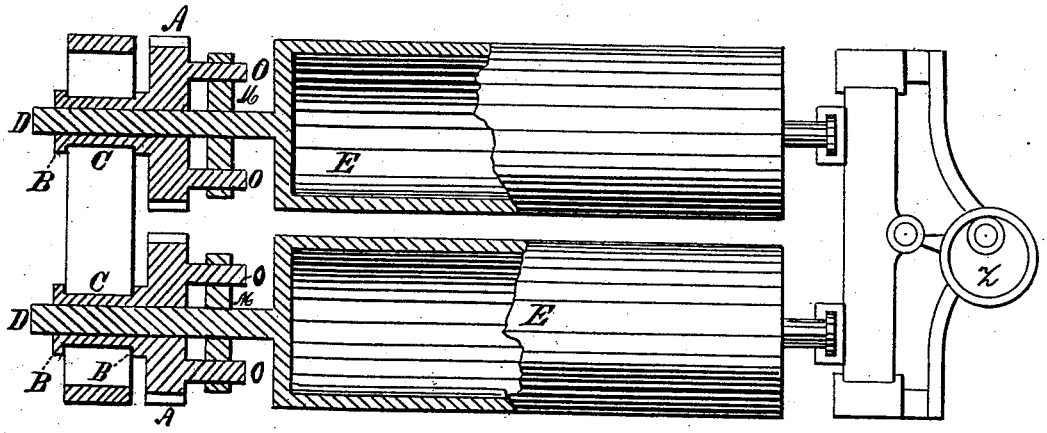


Fig. 2.

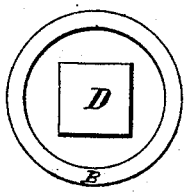


Fig. 3.

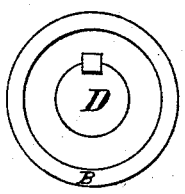


Fig. 4.

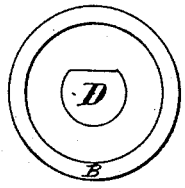
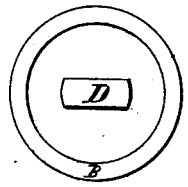


Fig. 5.



Witnesses

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Inventor.

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UNITED STATES PATENT OFFICE.

GEORGE MALLISON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN DRIVING MECHANISMS FOR RUBBING-ROLLERS OF CONDENSER CARDING-ENGINES.

Specification forming part of Letters Patent No. **212,102**, dated February 11, 1879; application filed March 14, 1876.

To all whom it may concern:

Be it known that I, GEO. MALLISON, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Driving Mechanism for Rubbing-Rollers of Condenser Carding-Engines, of which the following is a specification:

In the process of carding fiber which is to be used for spinning, three distinct machines are employed, the fibers being first fed into the first breaker-card, which delivers them in the form of a very loose rope, technically known as a "sliver" or "bat." A number of these slivers or bats are fed into the second breaker-card, from which the fibers are again delivered in the same form as from the first breaker, but in a more advanced state of manufacture. A number of these slivers or bats from the second breaker are now fed into the third machine of the series, called a "condenser," which discharges the fiber in the form of a number of narrow strips of a very loose texture, and about one inch wide.

In order to give these tapes or strips sufficient cohesion for further stages of manufacture, they pass between two series of rollers, which have not only a revolving motion in order to draw away the strips as fast as they are delivered by the condenser, but they also reciprocate longitudinally, and thereby roll the strips into threads of a loose texture. The transmission of motion to these rubbing-rollers has heretofore been accomplished by forming the hubs of the wheels with shoulders, so that they could revolve freely in their bearings, but were prevented from moving longitudinally. The spindle which passed through the hub was made of such section or provided with such means as would prevent it from revolving in the hub of the wheel, but would permit its longitudinal motion therein, as indicated in Figs. 2, 3, 4, and 5; but the limited surface exposed by this contrivance to the propelling force and the excessive pressure required on account of the nearness to the axis caused very rapid destruction of the spindle and the hub of the wheel.

In my invention I remove the means for transmitting the power between the wheel A and the spindle D as far from the axis of D as circumstances will permit, and I use the hubs C of the wheels A only as guides for the longitudinal motion of the spindle D, and the latter, being thus relieved of the driving-strain, will therefore be much less subject to wear.

My invention consists in providing the wheels A A with clutch-prongs O O, which engage with another clutch, M, which is fastened securely to the spindle D. The points of contact between the prongs O O and the clutch M should be as far from the center of revolution of D as practicable, because the greater that distance the less pressure is required between O O and M, and consequently the less wear and tear. The clutch-prongs O O are made of such length that they will remain in contact with the clutch M, while the longitudinal motion of the spindle D is produced by the eccentric Z.

It will be observed that an important result of my invention is the fact that the greater part of the wear and tear is removed from the spindle D, an expensive part of the apparatus, and is thrown upon the clutch-prongs O O and clutch M, which are comparatively inexpensive.

I do not claim as my invention any of the parts mentioned separately; but

What I claim is—

In combination with the wheel A, rubbing-roller E, and spindle D of condenser-cards, the clutch-prongs O O and clutch M, acting and operating substantially as and for the purpose set forth.

GEORGE MALLISON.

Witnesses:

CHAS. E. PANCOAST,

WM. J. ADAMS.