No. 879,858. PATENTED FEB. 25, 1908.

J. ECKERSLEY.

MEANS FOR LOCKING CARDING ENGINE CYLINDER DOORS.

APPLICATION FILED MAY 16, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

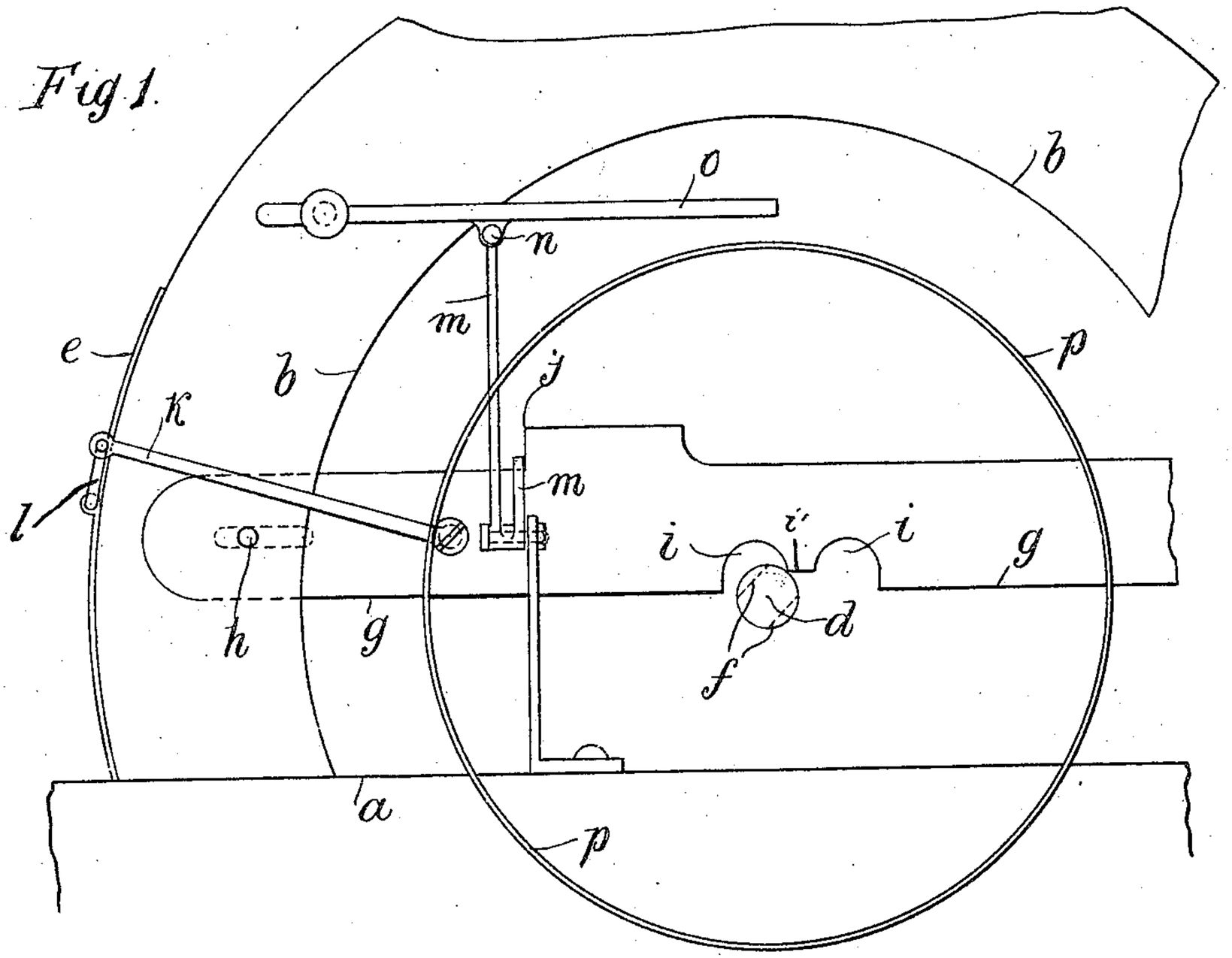
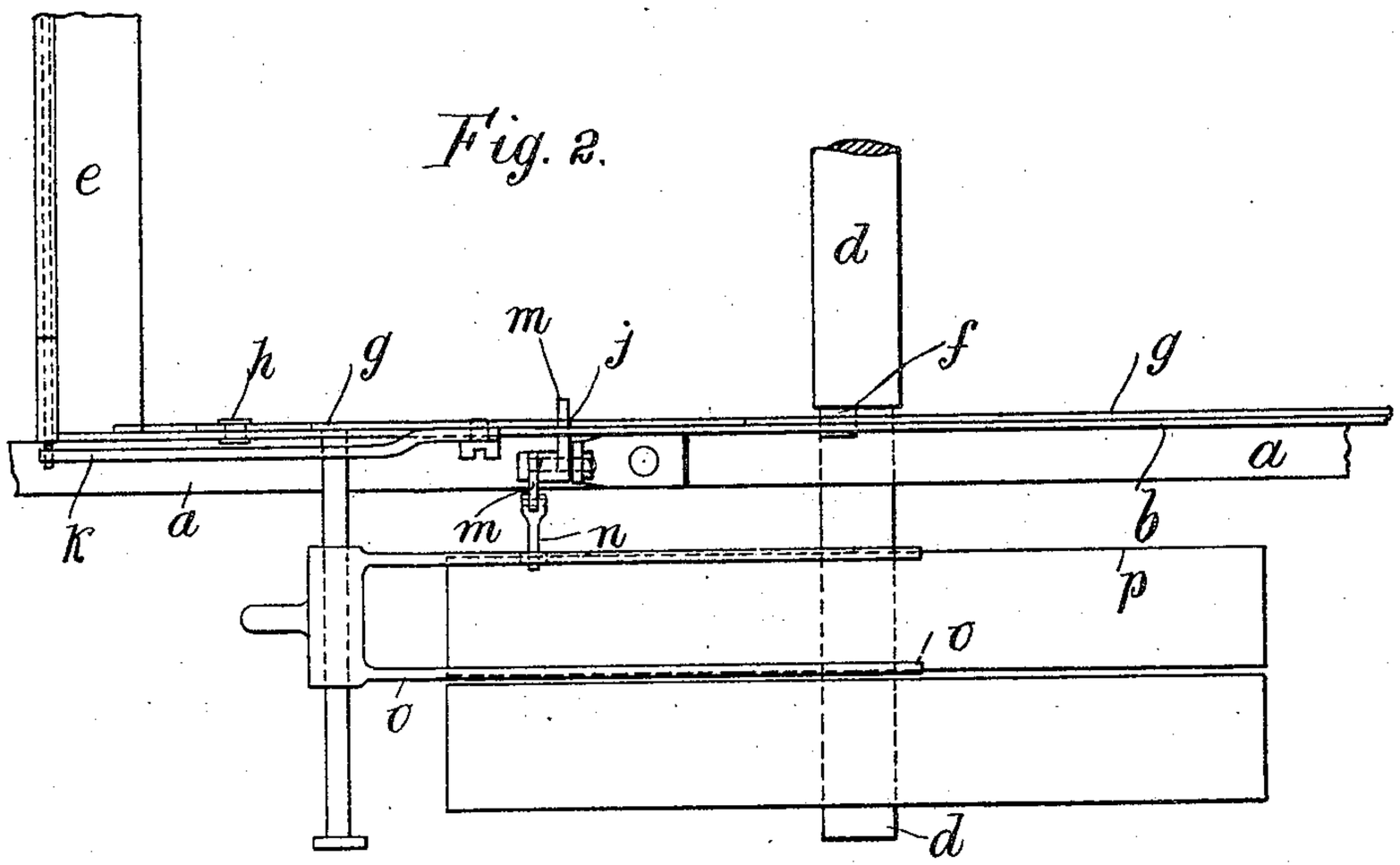


Fig. 2.



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2 SHEETS—SHEET 2.

Fig 3.

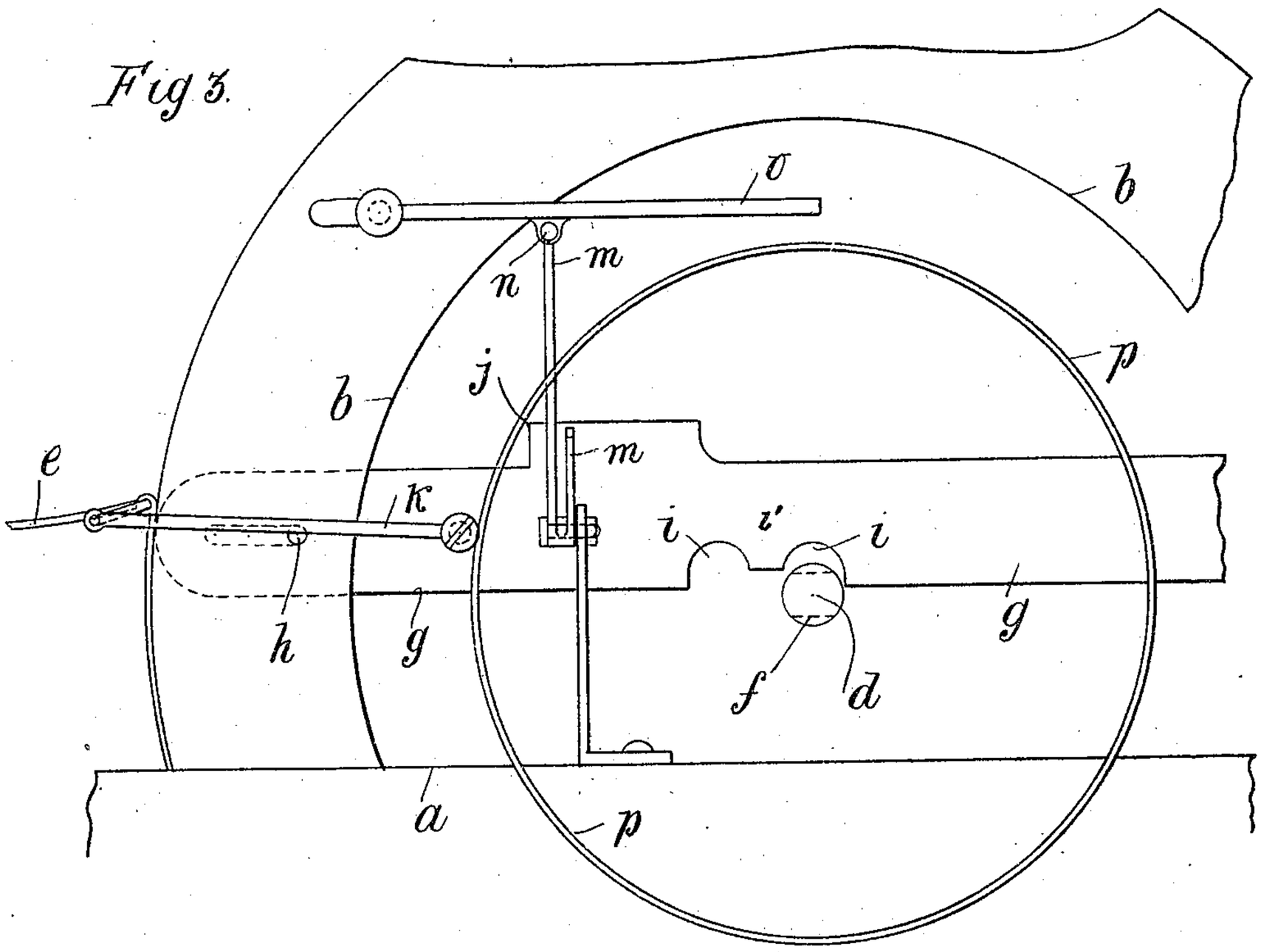
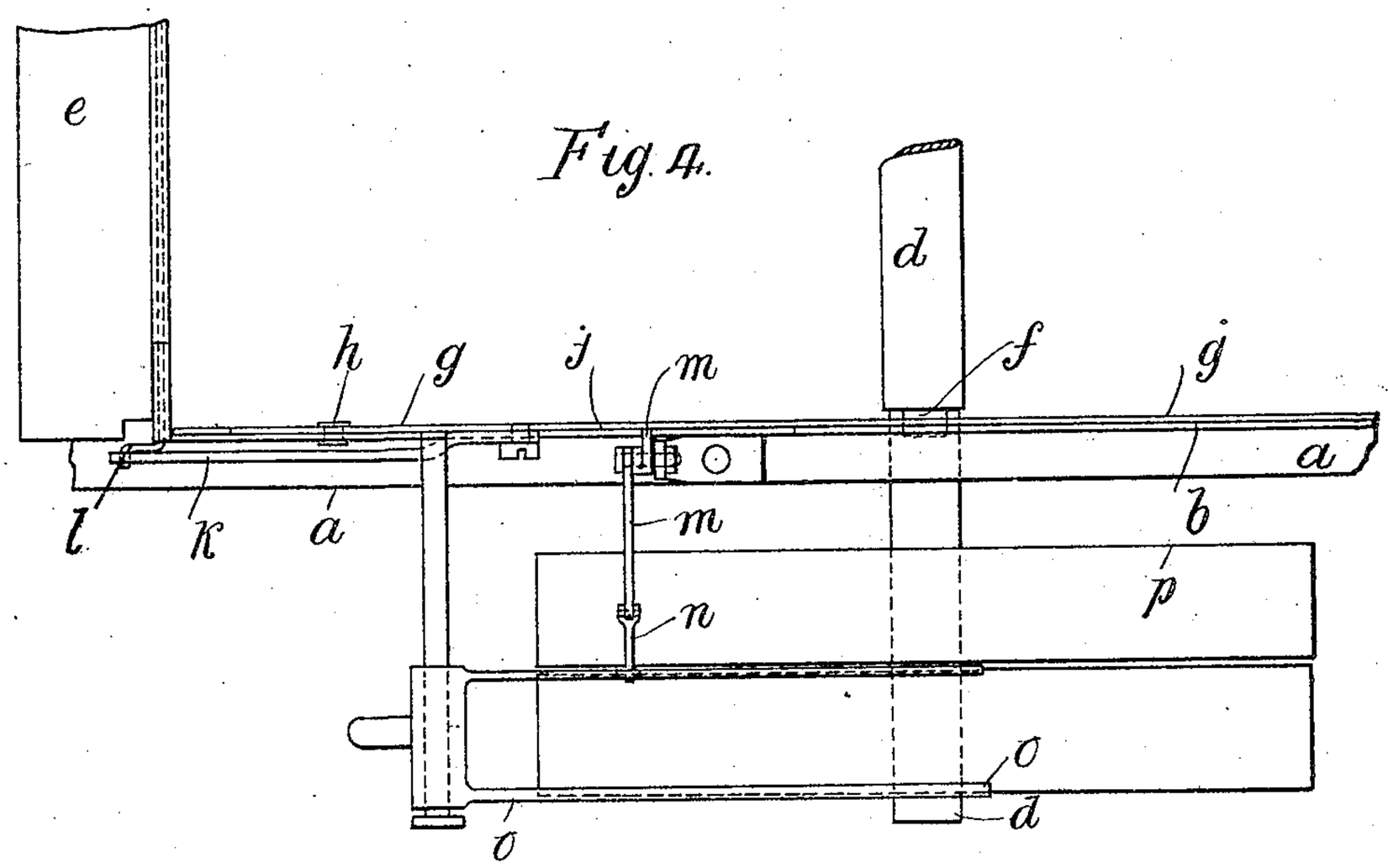


Fig. 4.



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MEANS FOR LOCKING CARDING-ENGINE-CYLINDER DOORS.

No. 879,858. Specification of Letters Patent. Patented Feb. 25, 1908.

Application filed May 16, 1907. Serial No. 373,934.

To all whom it may concern:

Be it known that I, JOHN ECKERSLEY, of 66 Wolseley road, Preston, in the county of Lancaster, England, engineer, have invented an Improved Means for Locking Carding-Engine-Cylinder Doors.

The object of this invention is to provide means for locking or securing the covers of doors of the front casing of carding engine cylinders so that the cover cannot be opened while the cylinder is in motion and further, that the driving belt cannot be moved from the loose pulley to the fast pulley unless the cover is closed.

In carrying my invention into effect I employ a notched bar which extends from one side of the engine bend to the other and is fitted so that it can be moved endwise and, in conjunction with the bar I cut say two flat faces opposite one another, upon the shaft of the main cylinder; the notch in the bar is of peculiar form and lies over the flattened portion of the shaft.

To the hinged portion of the cover of the front casing is secured a short crank or the end of the hinge pin may be extended to form a crank which projects slightly beyond the outside of the bend and this crank pin is connected by a rod to the bar. The strap fork has attached to it a lever connected to a pivoted elbow lever the free end of which, when the main cylinder is in motion, projects over the sliding bar and forms a lock to prevent the bar being moved and the cover opened.

In the accompanying sheets of drawings—Figure 1 is a side elevation of part of a carding engine to which my improvements are applied and Fig. 2 is a plan of the same. Figs. 3 and 4 are similar views to Figs. 1 and 2 with the parts in a different position.

In the drawings,—*a* designates part of the frame of the carding engine; *b* the bend or side frame; *d* the shaft of the main cylinder, which is not shown; *e* the hinged portion of the cylinder cover; *f* two flats upon the shaft *d*; *g* a thin flat metal bar slotted near each end; *h*, *h*, studs secured to the bend upon which the bar is free to be moved endwise; *i* a special shaped notch in the lower edge of the bar *g*, which forms a projection *i'*, *j* a projection or stop upon the upper edge of *g*; *k* a rod or lever; *l* a crank formed with the hinged pin of the cylinder cover *e* to which the end of the rod *k* is pivoted; *m* a pivoted elbow lever; *n* an arm; *o* the strap fork connected by the arm *n* to the elbow lever *m*; and *p* the driving pulleys.

In Figs. 1 and 2,—the strap fork *o* is shown upon the fast pulley *p*, *i. e.* the pulley nearest to the main cylinder of the carding engine, the cylinder cover *e* being closed and locked by the projecting end of the elbow lever *m* which lies over and in front of the projection *j* upon the bar *g*.

When it is desired to open the cover *e* the strap fork must be moved to bring the driving belt on to the loose pulley and this action will withdraw, by the arm *n*, the free end of the elbow lever *m* from the projection *j* on the bar *g* but, before the cover *e* can be opened it is necessary for the main cylinder to come to a dead stop; the main cylinder is then moved by hand into one of two positions to bring either flat upon the shaft into a horizontal position, see Figs. 3 and 4. When this has been done the cover can be opened as the horizontal flat portion which connects the two curved portions of the notch in the bar can then pass freely over the upper flat on the cylinder shaft and as the bar *g* is drawn back by the opening movement of the cover *e*, a portion of the bar *g* will be brought in front of the end of the lever *m* and so effectually prevent the strap fork from being shifted on to the fast pulley so long as the cover *e* is open. The closing of the cover *e* will slide the bar *g* away from *m* and allow the belt to be shifted from the loose to the fast pulley and the engine to be started.

In place of cutting two flats upon the shaft *d* a single flat might be employed and it might in some cases be convenient to secure a split or solid collar with flats upon the shaft in place of cutting flats upon the shaft. The pivoted lever *m* and arm *n* might be dispensed with and a suitably bent lever secured to the strap fork employed in their place.

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

In a carding engine, a belt and fast and loose pulleys, a cylinder cover, a crank thereon, a cylinder shaft having flats thereon,

a notched sliding bar connected to the crank and having a projection in the notch, a strap fork and a lever actuated thereby for locking the cover when running and also to lock the strap fork with the belt on the loose pulley when the cover is open.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN ECKERSLEY.

Witnesses:
HENRY BERNICRELLI BARLOW,
HERBERT ROWLAND ABBEY.