

# J. Taylor. Carding Mach.

N<sup>o</sup> 42,127.

Patented Mar. 29, 1864.

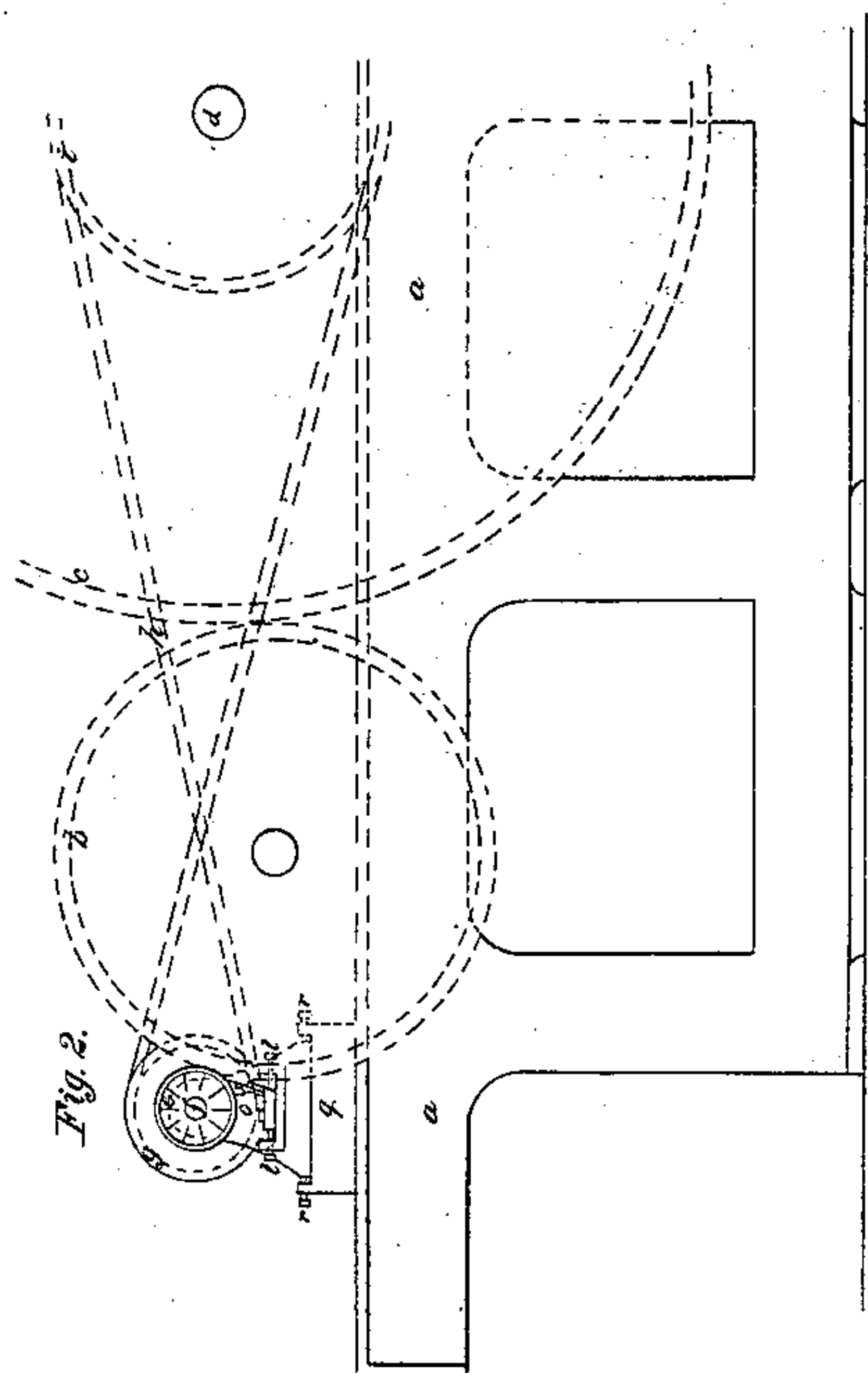


Fig. 1.

Witnesses,  
John Woodworth  
Esq. and Jacob Taylor

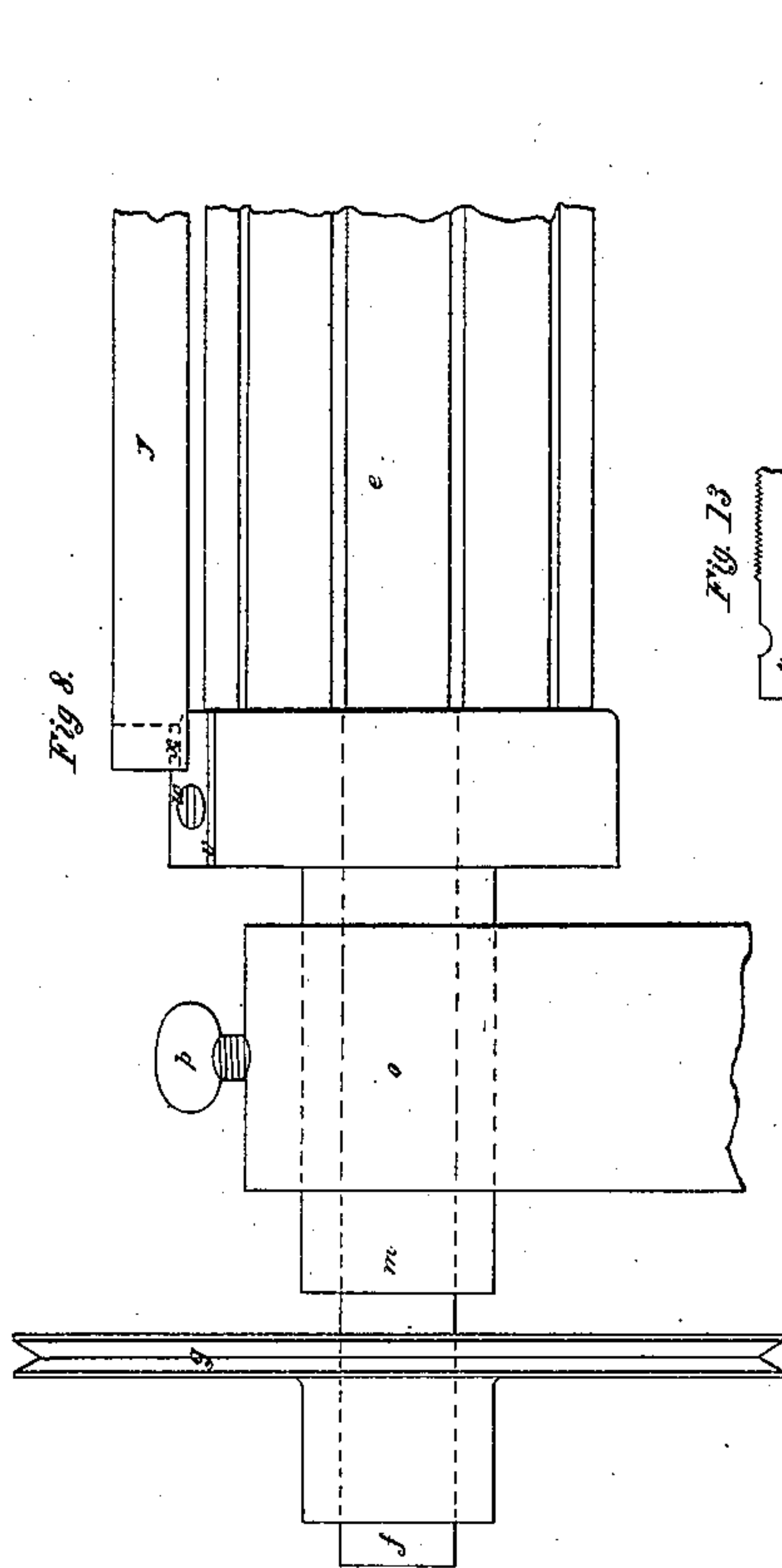


Fig. 2.

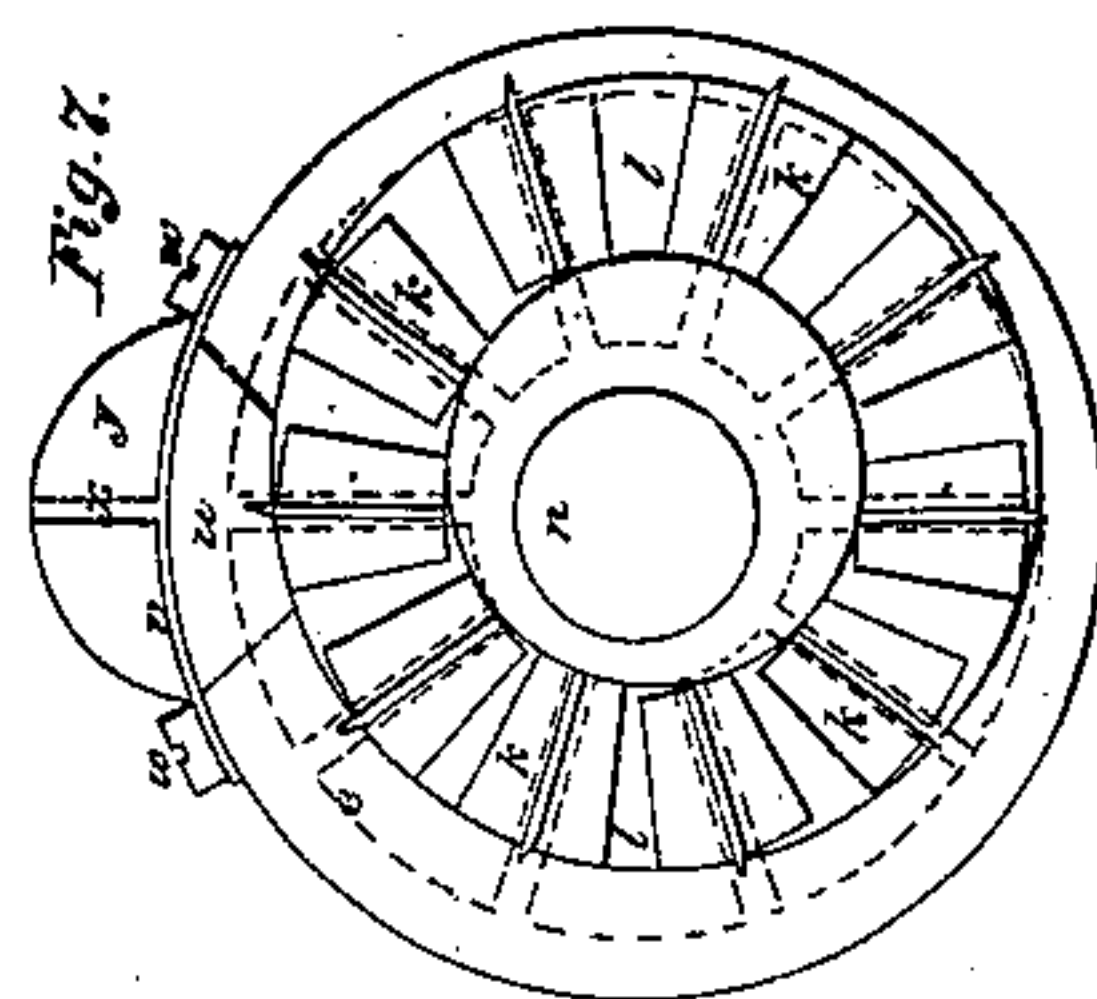


Fig. 3.

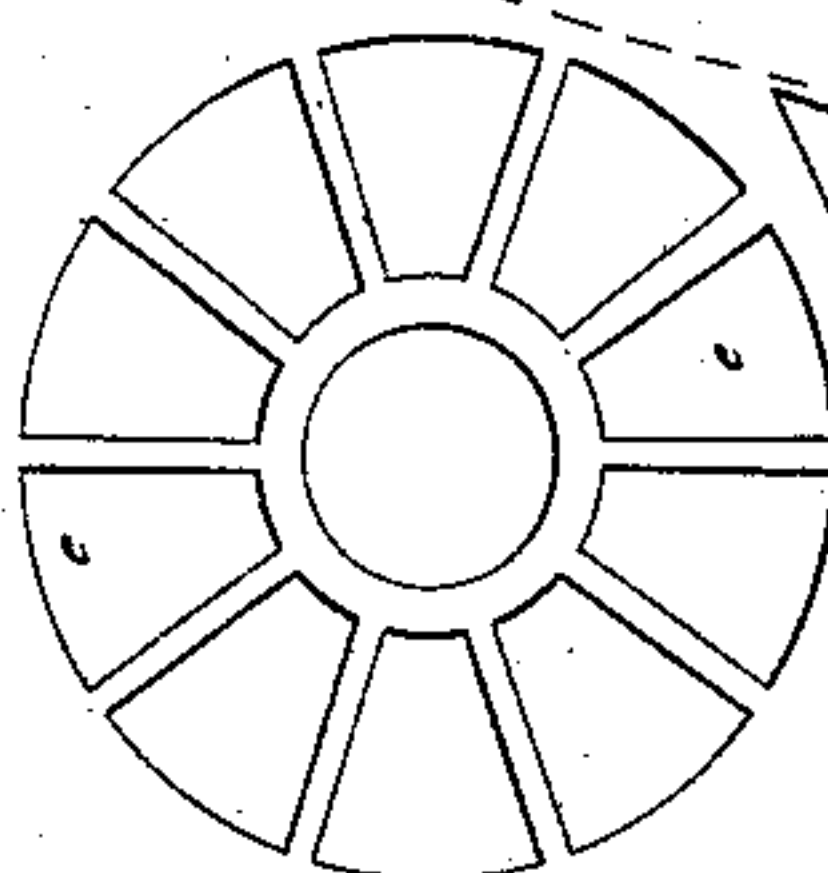


Fig. 4.

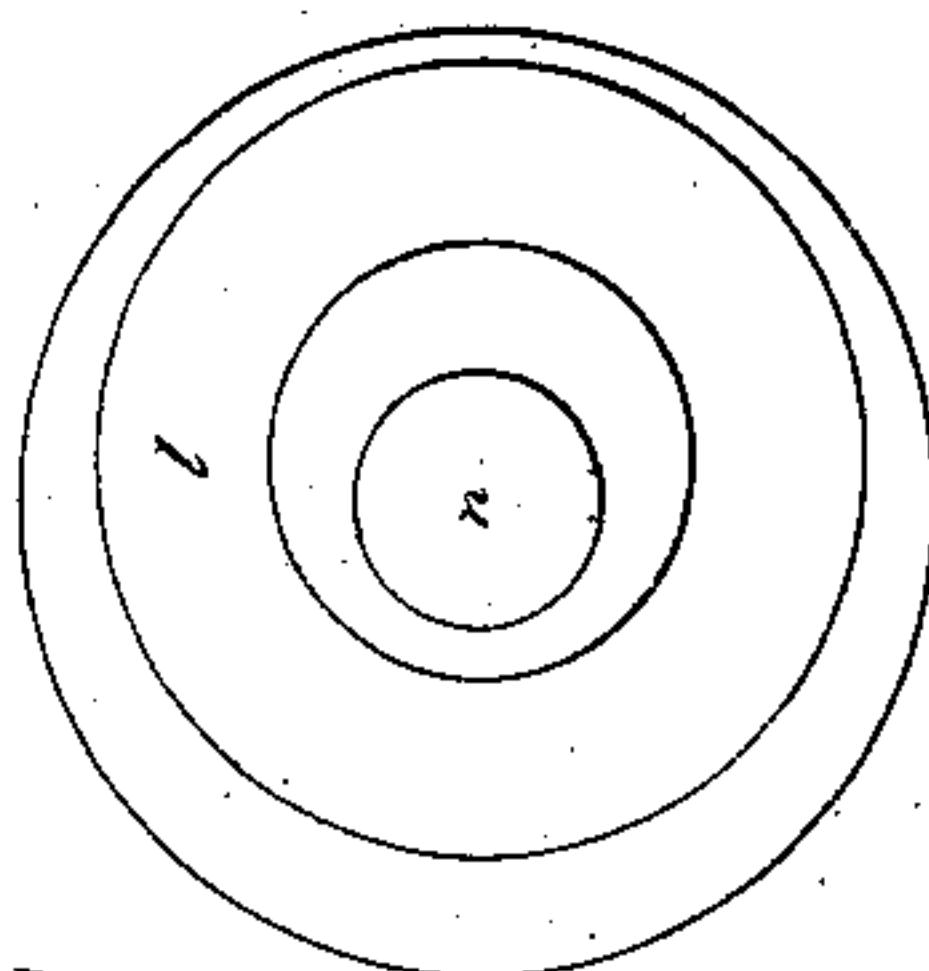


Fig. 5.

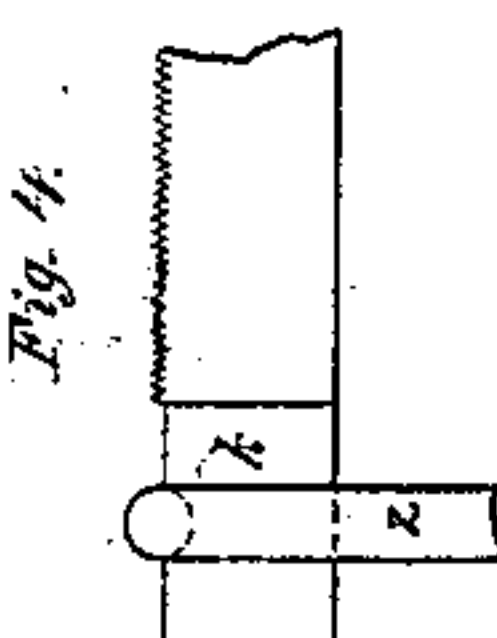


Fig. 6.

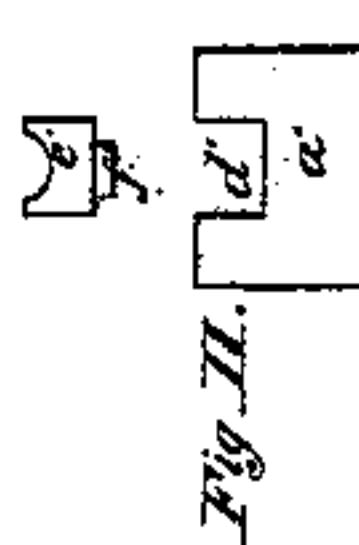


Fig. 7.



Fig. 8.



Fig. 9.

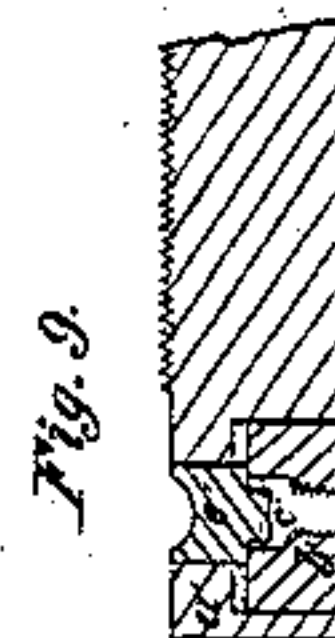


Fig. 10.



Fig. 11.



Fig. 12.



Fig. 13.



Fig. 14.



Fig. 15.



Fig. 16.



Fig. 17.



Fig. 18.



Fig. 19.



Fig. 20.



Fig. 21.



Fig. 22.



Fig. 23.



Fig. 24.



Fig. 25.



Fig. 26.



Fig. 27.



Fig. 28.



Fig. 29.



Fig. 30.



Fig. 31.



Fig. 32.



Fig. 33.



Fig. 34.



Fig. 35.



Fig. 36.



Fig. 37.



Fig. 38.



Fig. 39.



Fig. 40.



Fig. 41.



Fig. 42.



Fig. 43.



Fig. 44.



Fig. 45.



Fig. 46.



Fig. 47.



Fig. 48.



Fig. 49.



Fig. 50.



Fig. 51.



Fig. 52.



Fig. 53.



Fig. 54.



Fig. 55.



Fig. 56.



Fig. 57.



Fig. 58.



Fig. 59.



Fig. 60.



Fig. 61.



Fig. 62.



Fig. 63.



Fig. 64.



Fig. 65.



Fig. 66.



Fig. 67.



Fig. 68.



Fig. 69.



Fig. 70.



Fig. 71.



Fig. 72.



Fig. 73.



Fig. 74.



Fig. 75.



Fig. 76.



Fig. 77.



Fig. 78.



Fig. 79.



Fig. 80.



Fig. 81.



Fig. 82.



Fig. 83.



Fig. 84.



Fig. 85.



Fig. 86.



Fig. 87.



Fig. 88.



Fig. 89.



# UNITED STATES PATENT OFFICE.

JACOB TAYLOR, OF OLDHAM, COUNTY OF LANCASTER, ENGLAND.

IMPROVEMENT IN MACHINES FOR PREPARING COTTON, &c., FOR SPINNING.

Specification forming part of Letters Patent No. 42,127, dated March 29, 1864.

*To all whom it may concern:*

Be it known that I, JACOB TAYLOR, of Oldham, in the county of Lancaster and Kingdom of England, cotton spinner, have invented new and useful improvements in machinery or apparatus for preparing cotton or other fibrous materials to be spun; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon—that is to say—

This invention relates to the carding-engine; and it consists, first, in the arrangement of straight knives or combs having V-shaped teeth, which knives or combs at each end work loosely in a stationary eccentric slot, so that as they revolve they project one after the other beyond the periphery of the roller which contains them in order to strip the doffing-cylinder, and then recede one after the other in their slots or grooves, which receding has also a tendency to clean the combs or knives, so that no other device is necessary for that purpose.

Secondly, in the application of an angular or other shaped bar intervening between the fibrous material on the doffer and the revolving combs or knives. I apply the said bar for the purpose of consolidating the material on the doffing-cylinder and for preventing the combs from taking it off unequally.

Thirdly, in the application of adjustable stop pieces to each end of the loose combs for the purpose of allowing the said combs to be adjusted separately.

Fourthly, in the application of an elastic band or its equivalent for keeping the combs or knives in contact with the inner eccentrics.

This invention will be clearly understood by referring to the figures and letters on the accompanying sheet of drawings, in which—

Figures 1 and 2 are end and side elevations of part of a carding engine having my improvements attached. Figs. 3 and 4 are end and front elevations of one end of one of the knives or combs, and also the block in which it is fixed; Fig. 5, a transverse elevation of a roller having slots or grooves which contain the blades of the knives or combs; Fig. 6, a transverse elevation of one of the stationary eccentric slots which contains the blocks of the knives or combs and gives the to-and-fro

motion of the blades; Fig. 7, a transverse elevation of the eccentric slot with the blocks of the knives or combs within it; Fig. 8, a longitudinal elevation of one end of the roller which contains the blades of the knives or combs, of the bearing in which it works, of the pulley which gives it motion, and also one of the eccentric slots. Figs. 9 and 10 are views of one end of a knife or comb fitted to an adjustable block for filling up any slackness arising from the wear of the block in the eccentric slot, and Figs. 11, 12, and 13 are parts of the same. Figs. 1 and 2 are about one-sixth of their real dimensions, and the remaining figures are drawn about full size.

In Figs. 1 and 2 *a* represents part of the frame-work of the carding-engine; *b*, the doffing-cylinder; *c*, part of the card-cylinder, and *d* the shaft to which it is fixed. The blades of the knives or combs are placed in slots or grooves formed in the roller *e*, which is caused to revolve in front of the doffing-cylinder. The said roller is shown enlarged in Figs. 5 and 8. It has at each end a spindle, *f*, one of which carries the pulley *g*, Figs. 1, 2, and 8, connected by the strap or cord *h*, Fig. 2, with the pulley *i*, fixed to the card cylinder shaft *d* for the purpose of giving the roller *e* a revolving motion. The ends of the knives or combs are fixed to blocks *k*, Figs. 3, 4, and 7, which work loosely in stationary eccentric slots at each end of the roller as the roller and combs revolve. One of the eccentric slots is shown at *l*, Figs. 6 and 7. It is joined to a long boss, *m*, Figs. 1 and 8, having a hole, *n*, for the spindle *f* of the roller *e* to work in. The bosses *m* and holes *n* are concentric with the roller *e*, and each boss is fitted into the support *o*, Figs. 1, 2, and 8, and held fast by the screw *p*. The support *o* rests on blocks *q*, fixed to the frame-work *a*, and is adjusted by the screws *r*, so as to bring the roller *e* to its required distance from the doffing-cylinder *b*. Below the roller *e* there is a triangular bar, *s*, Figs. 1, 2, and 5, which is adjusted by the screws *t*, so that the top of it shall be nearly in contact with the doffing-cylinder *b*. This bar is for the purpose of consolidating the cotton on the doffing-cylinder, and for preventing the combs from taking it off unequally. The top part of the exterior of the eccentric slot has a movable piece, *u*, Fig. 7, which can be removed when desired in or-



der to take out one or more of the knives or combs, if necessary. The movable piece *u* is covered and kept in its place by a metal plate, *v*, fixed by screws *w* to the exterior of the slot, the said plate having a projection, *x*, for holding a guard or hand rail, *y*. The blocks at each end of the knives or combs are formed of such width that there may be spaces between them when placed in the eccentric slot in order to allow them to shift sidewise as the blades of the knives move to and fro in the grooves of the roller *e*, and, in order that these combined movements of the blocks and blades may be performed with steadiness, there is placed over the tops of the blocks an elastic band, *z*, Fig. 4, which presses against the larger circumference of the eccentric slot and prevents more movement than is actually necessary. The knives or combs are connected, when desired, to adjustable blocks for compensating the wear and insuring certainty in the to-and-fro movement of the blades. The body of the adjustable blocks is shown at *a'*, Figs. 9, 10, and 11. It has at the bottom a screwed hole, *b'*, for the purpose of holding a screw, *c'*, and at the top a mortise or recess, *d'*, into which is fitted the piece of metal *e'*, Figs. 9 and 12, having a projection, *f'*, at the bottom, which rests on the head of the screw. The end of the blade is cut out, as shown in Fig. 13, and then soldered or riveted to the piece *e'*, the projection *g'* being for the purpose of entering the notch of the screw and preventing its turning. The body of the block is grooved at the top and at both ends to receive the parts *h' k' l'* of the blade so that when those parts are placed within the grooves and the piece *e'* into the recess or mortise *d'*, the blade and block shall be held together, and as the projection *f'* rests on the head of the screw it is evident that if the screw is raised it will lift the piece *e'* and enable it to fill up any enlargement of the eccentric slot or wear of the block, and thereby cause the knives to move to and fro with certainty, there being at the same time an elastic band employed to prevent any unsteadiness.

The roller *e* in the figures contains ten

slots or grooves, but that number may be varied as desired, it being only necessary to arrange its speed and the parts in connection with it accordingly. The eccentric slots are so placed that each of the knives or combs shall be at its greatest projection when it has arrived in contact with the card of the doffing cylinder, after which it gradually recedes, and then gradually comes forward to the same position. Thus in this invention the doffing-knives or combs are placed in slots or grooves formed in a revolving roller, and their ends caused to work loosely in stationary eccentric slots, so that when revolving motion is given to the roller the knives or combs turn with it, and also project one after the other from the roller and enter the card of the doffing-cylinder, and then gradually recede into their slots or grooves, which operations produce a superior fleece or sliver and work with very little friction.

Having now described my invention, I desire it to be understood that I claim—

1. The arrangement and combination of straight, movable, adjustable knives or combs, having V-shaped teeth, with the blocks *k*, the roller *e*, and the eccentric seats *l*, substantially as and for the purpose set forth.
2. The combination of an angular or other shaped bar, *s*, with the doffer *b* and the revolving combs or knives, in the manner described, and for the purpose set forth.
3. The combination of adjustable stop-pieces *a'* and *e'*, with each end of the loose knives or combs, in the manner described, and for the purpose set forth.
4. The application of an elastic band or its equivalent, for the purposes and in the manner set forth.

Dated at Manchester this 17th day of June, 1862.

JACOB TAYLOR.

In presence of—

EDWARD JOSEPH HUGHES,  
JOHN BLOODWORTH,  
*Patent agents, both of 17 Cross street, Manchester.*