(No Model.)

F. WISWELL.

MECHANISM FOR OPERATING COFFEE MILLS.

No. 428,709. Patented May 27, 1890.

Fig. 1.

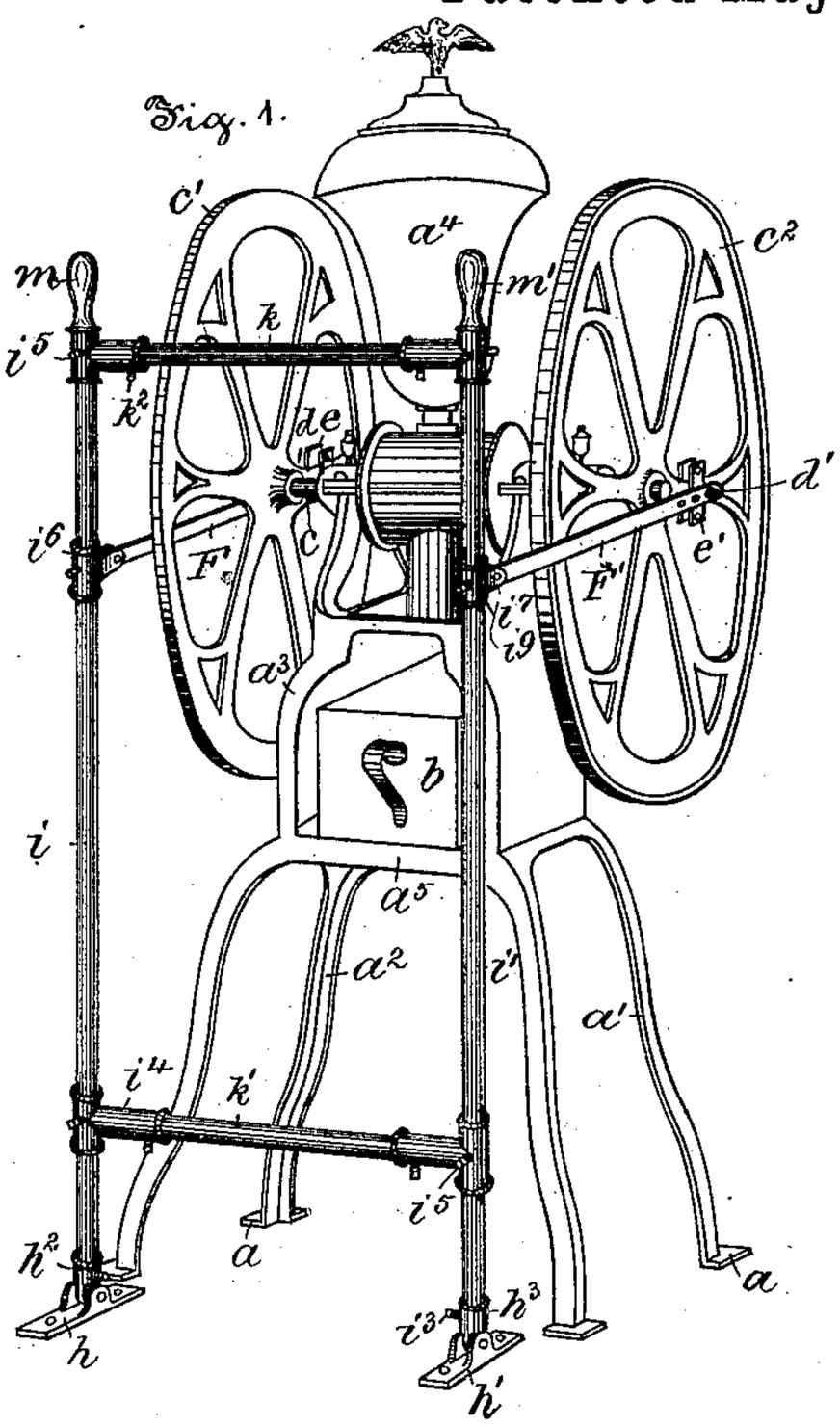


Fig. 2.

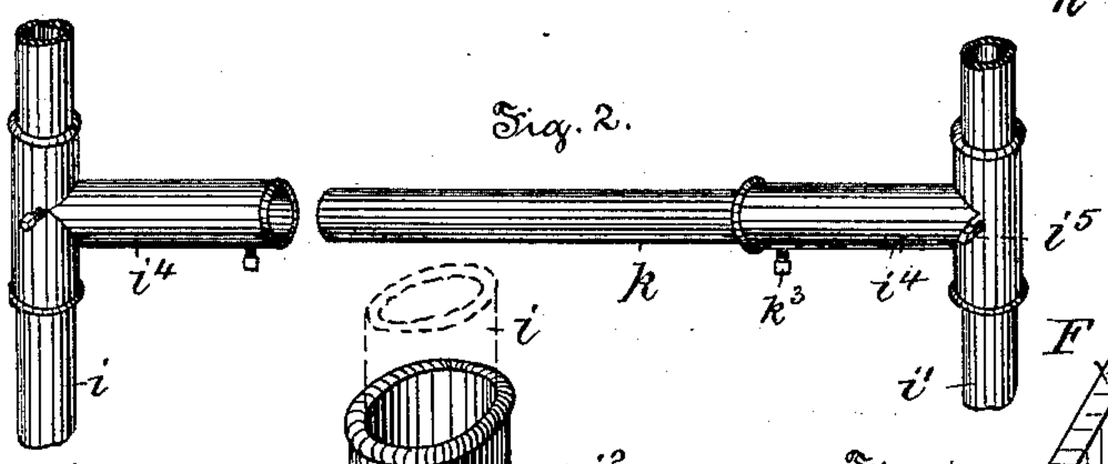


Fig. 3.

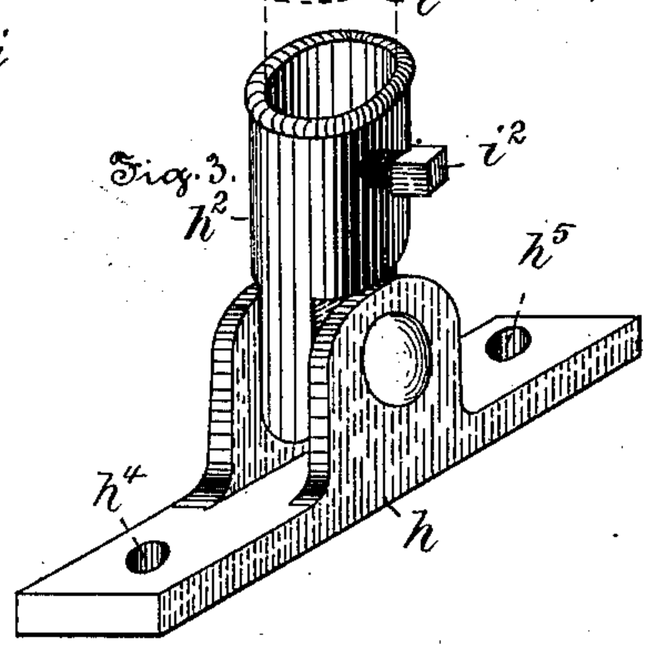


Fig. 4.

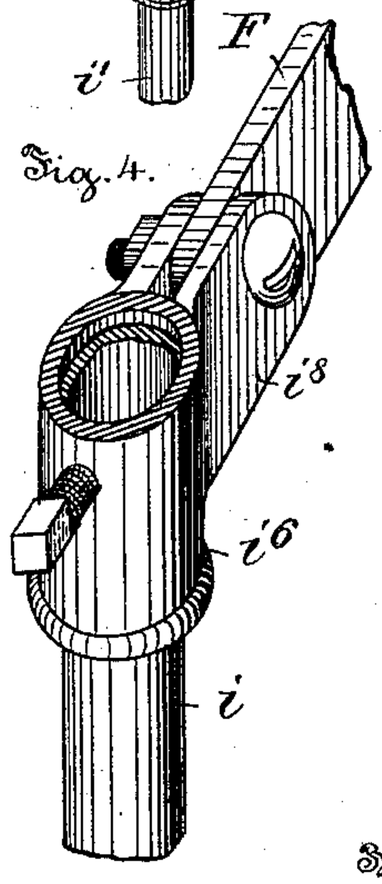
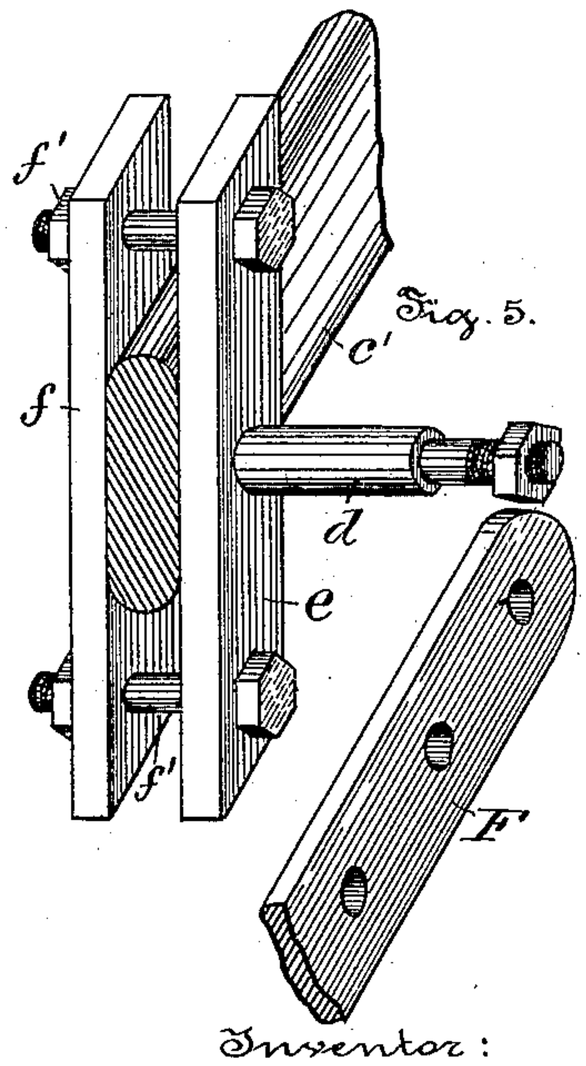


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANCIS WISWELL, OF PHILADELPHIA, PENNSYLVANIA.

MECHANISM FOR OPERATING COFFEE-MILLS.

SPECIFICATION forming part of Letters Patent No. 428,709, dated May 27, 1890.

Application filed January 27, 1890. Serial No. 338,223. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS WISWELL, a citizen of the United States, residing at Philadelphia, (Wissinoming,) in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Mechanism for Operating Coffee-Mills, of which the following is a specification.

My invention relates to mechanism for operating coffee-mills, and especially to the construction and arrangement of details or parts thereof.

Heretofore coffee-mills provided with fly-wheels have been actuated by means of connecting-rods pivotally connected with the fly-wheels thereof and to frames supported in trunnions adapted to be secured to the floor, but such frames have been applicable only to a particular size of coffee-mill, due to the fact that the parts constituting the frames were rigidly secured to one another. Moreover, the connecting-rods were pivoted to crank-pins inserted into apertures formed in the spokes or arms of the fly-wheels; but the removal of the material incident to the insertion of the crank-pins not only required time but also weakened the spokes or arms and rendered them liable to be easily broken or otherwise injured.

The principal objects of my invention are, first, to provide a strong and durable mechanism for operating coffee-mills and of a type susceptible of adjustment for adapting the same to coffee-mills of various sizes or forms; second, to provide convenient means for securing the connecting-rods to the fly-wheels of the coffee-mill without injuring or weakening the spokes or arms of the wheel, and, third, to provide a frame which is adjustable and adapted to the different heights of operators, as hereinafter more fully described.

The nature and particular features of my invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, and in which—

Figure 1 is a perspective view of my improved mechanism for operating coffee-mills, and shown in application thereto. Fig. 2 is a perspective view of one of the horizontal yokes, showing the mode of securing the same to the standards. Fig. 3 is a perspective view of one of the trunnions with a cap journaled therein and showing in dotted lines a portion of a standard secured in the cap. Fig. 4 is a perspective view of a portion of a standard and a connecting-rod pivotally held in the projecting wings of a collar mounted thereon, and said collar being held in position on said standard by means of an adjusting-screw; and Fig. 5 is a perspective view of a portion of one of the connecting-rods and one of the spokes or arms of a fly-wheel, showing the means for securing the crank-pin thereto.

In the drawings, the lugs a, legs a' and a^2, and braces a^3 constitute the frame-work of the coffee-mill. Between the fly-wheels is a flaring receptacle a^4 for the reception of the coffee. The grinding mechanism is located beneath this flaring receptacle, but has not been illustrated in detail in the drawings, as the same forms no particular part of my present invention. A box or tray b, located between the braces a^3 and beneath the grinding mechanism, is supported on a shelf or platform a^5, which is secured to or formed integral with said legs and braces, and this box or tray forms a receptacle for the ground coffee. The horizontal shaft c, provided with the fly-wheels c' and c^2, revolves in suitable bearings formed in the braces a^3, and is adapted to actuate the grinding mechanism of the coffee-mill.

d and d' are crank-pins secured to or formed integral with the plates e and e'. The crank-pin d is clamped to place on one side of one of the spokes or arms of the fly-wheel c' by means of the fish-plate f, located upon the opposite side thereof and secured to the plate e by bolts f', as is illustrated in Fig. 5, and the opposite crank-pin d' is clamped to place on one of the spokes or arms of the fly-wheel c^2 in a similar manner. It may be remarked that this mode of attaching the crank-pins to the respective fly-wheels is exceedingly simple and may be readily carried into effect by means of a wrench. The caps h^2 and h^3 are pivotally secured to the trunnions h and h', as illustrated in Fig. 3, and are adapted to be secured to the floor by means of screws inserted through the openings h^4 and h^5 of the base-plate of said trunnions. These caps h^2

and h^3 are arranged so as to readily permit of the insertion of the tubular standards i and i' and of being held in position therein by means of set-screws i^2 i^3.

i^4, Fig. 2, are T-shaped unions fitted to and held on the standards i and i' by means of set-screws i^5. These T-shaped unions are adapted to permit of the reception of horizontal tubular yokes k and k', which are held in position therein by means of set-screws k^2 and k^3.

i^6 and i^7 are collars fitted onto the standards i and i', and provided with projecting wings or bearings i^8 and i^9. The set-screws provided in the respective parts hold the frame together in the manner shown in Fig. 1.

F and F′ are connecting-rods provided with apertures at one of the extremities thereof and with a series of apertures, Fig. 5, at the other of their extremities. These respective connecting-rods F and F′ are pivotally connected with the bearings or projecting wings i^8 and i^9, and with the crank-pins d and d'.

m and m' are handles suitably fitted into the upper extremities of the standards i and i' for operating the same.

In use, the various parts of the mechanism may be adjusted for application to a coffee-mill of any commercial size by loosening the set-screws and shifting the standards i and i' nearer together or farther apart and by raising or lowering the collars i^6 and i^7, so as to adjust the wings or bearings i^8 and i^9 with relation to the shaft c. Moreover, the connecting-rods F and F′ may be adjusted with reference to the crank-pins d and d' through the series of holes formed in the forward extremital portions of the rods F and F′.

It will be observed that the mechanism may be readily taken apart for shipment or for other purposes by simply loosening the respective set-screws and the parts detached so packed for shipment as to occupy comparatively little space.

The mode of operating a coffee-mill by means of my improved mechanism is as follows: The operator grasps either one or both of the handles m and m' or the upper yoke k, and by an easy movement of the arms and shoulders oscillates the frame journaled to the trunnions h and h' backward and forward. Of course the yoke k may be raised or lowered on the standards i and i' by means of the set-screws to suit the size or convenience of the operator. The reciprocating motion imparted to the standards i and i' is transformed into a rotary motion, which is communicated to the fly-wheels c' and c^2, mounted on the shaft c, by means of the connecting-rods F and F′, and thereby actuating the grinding mechanism of the coffee-mill.

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

1. The combination, in a mechanism for operating coffee-mills, of tubular standards, T-unions adjustably mounted thereon, tubular yokes fitted into said T-unions, and means to permit of the adjustment of said standards and yokes, substantially as and for the purposes set forth.

2. The combination, with a shaft and two fly-wheels mounted thereon, of plates provided with crank-pins, connecting-rods pivoted to said crank-pins, and tubular standards provided with yokes mounted in unions adjustably supported on said standards, the latter pivotally supported in trunnions, and said standards in pivotal connection with said connecting-rods, substantially as described.

3. The combination, with two tubular standards supported in caps journaled to trunnions, collars adjustably mounted on said standards, connecting-rods pivotally attached thereto, T-unions adjustably mounted on said standards, and yokes held in said unions, of a shaft provided with two fly-wheels, two plates bolted to one of the arms or spokes of said wheels, and crank-pins secured to one of said plates and adapted to permit of said connecting-rods being readily attached thereto, substantially as and for the purposes set forth.

In witness whereof I have hereunto set my signature in the presence of two subscribing witnesses.

FRANCIS WISWELL.

Witnesses:
GEO. W. REED,
RICHARD C. MAXWELL.