A. WALRATH & E. D. BRONSON.

BROOM-MACHINE.

No. 184,935. Patented Nov. 28, 1876.

Fig. 1.

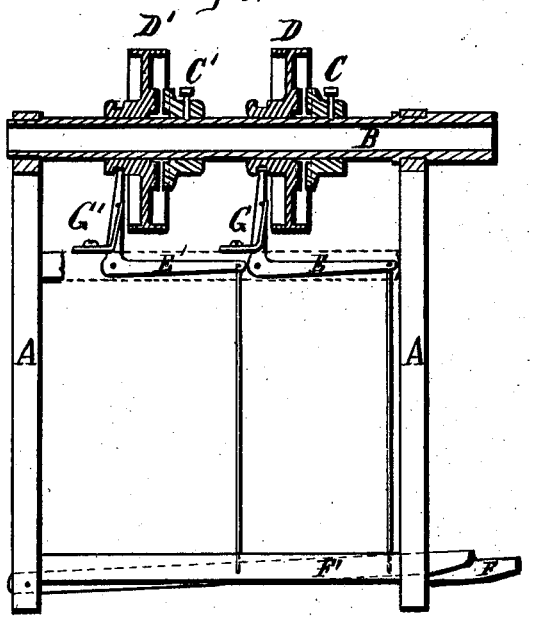


Fig. 2.

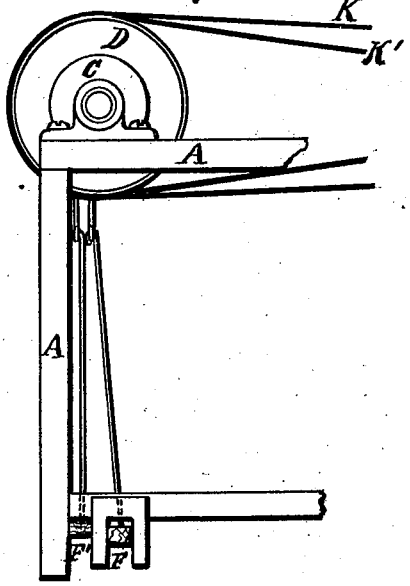


Fig. 3.

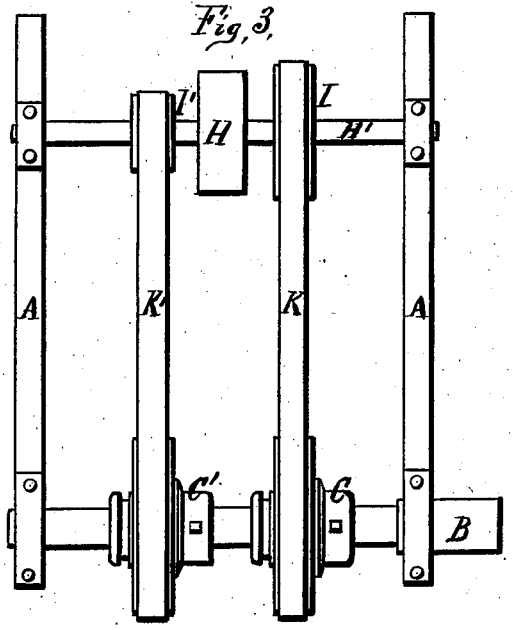
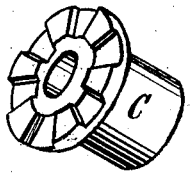


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

ALPHONSO WALRATH, OF FORT PLAIN, AND EDWARD D. BRONSON, OF AMSTERDAM, NEW YORK.

IMPROVEMENT IN BROOM-MACHINES.

Specification forming part of Letters Patent No. **184,935**, dated November 28, 1876; application filed September 9, 1876.

To all whom it may concern:

Be it known that we, ALPHONSO WALRATH, of Fort Plain, and EDWARD D. BRONSON, of Amsterdam, both in Montgomery county, New York, have invented Improvements in Broom-Machines, of which the following is a specification:

The nature of this invention consists in the mode of giving proper rotary motion to the mandrel or broom-handle holder during the winding of the corn on it, and of stopping the same when desired, by the means substantially as hereinafter more fully described.

In the accompanying drawing, Figure 1 is a cross-section of the improved part of the machine, taken longitudinally through the center of the mandrel. Fig. 2 is a side elevation of the improved part of the machine. Fig. 3 is a plan thereof; and Fig. 4 is a perspective view of the clutches.

A represents the frame of the machine. B is the hollow mandrel for holding the broom-handle when the corn is being wound on it. C is a clutch on the mandrel B, having on its face teeth (as seen in Fig. 4) for clutching or interlocking with corresponding teeth on the adjacent side of the pulley D. D is a loose pulley on the mandrel B, having on the side next the clutch C teeth similar to those on the face of C.

The clutch C is made fast to the mandrel B, but the pulley D is loose, and C is pressed against D and made to interlock with it by means of the lever E, (one arm of which runs in a groove around the hub of D,) through the treadle F, and they are made to separate and to keep apart by the spring G pressing against the lever E when there is no pressure on F.

H is the driving-pulley, with its shaft H′, and motion is given to the mandrel B by means of the pulley I and belt K. On the mandrel B is another clutch, C′, and pulley D′, governed in the same way by the lever E′ and treadle F′ and spring G′, and the pulley D′ is driven by pulley I′ on the driving-shaft H′ and belt K′.

All these parts marked are the same as those first described, except I′, which is of less diameter than I, and all perform the same operation, except that I′, being of less diameter than I, turns the mandrel slower than I; and there may be one or more other series of clutches, pulleys, levers, treadles, and springs, all similar except in the diameters of the driving or driven pulleys.

The mode of operation is as follows: The broom-handle to be wound with corn is placed in the mandrel B, the binding wire or cord is attached to such handle, and the corn placed on the handle, all in the usual way. The operator starts the winding by pressing down treadle F with his foot, which will cause the lever E to press the pulley D against the face of the clutch C, when the teeth on C and D will interlock, and the motion which the pulley D receives from the driving-pulley I is given to the clutch C, and consequently to the mandrel B, so long as the operator keeps his foot pressing on the treadle F. When the winding is complete, or it is desired for any reason to stop the winding, the operator raises his foot from the treadle F, when the spring G, pressing outwardly against the inside of the lever E, throws pulley and clutch out of gear and the mandrel B stops. By pressing the foot on treadle F mandrel B is instantly set in motion again. When it is desired to change the speed of the winding, the operator presses his foot on treadle F′ instead of F, when the pulley D′ will interlock with clutch C′, and as the driving-pulley I′

is of less diameter than the driving-pulley I the speed of the mandrel B will be diminished in proportion.

Thus, with a series of clutches, with the driving or driven pulleys of varying diameters, any speed may be given to the mandrel that may be driven.

Instead of using a treadle as represented, the arm of the levers E and E′ may be extended down, so as to be operated directly by the foot.

We claim—

The shafts B H′, provided with pulleys D, D′, I, I′, and H, and clutches C C′, in combination with the bands K K′, and levers E E′, substantially as and for the purposes set forth.

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