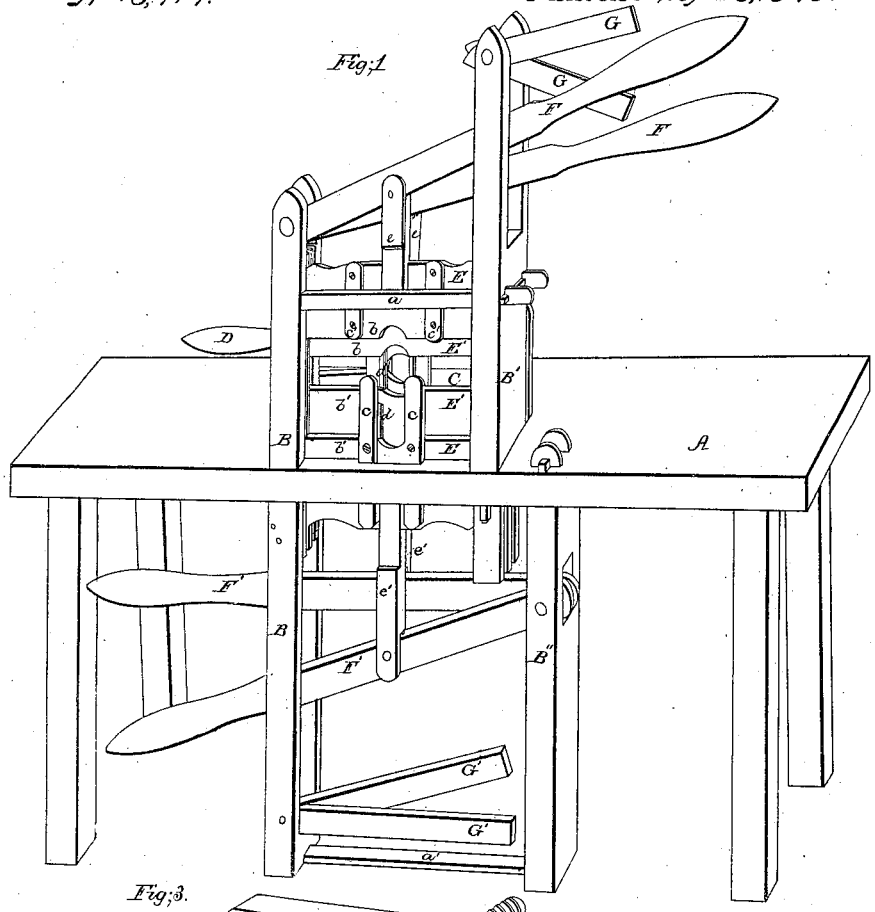
J. Thomas.

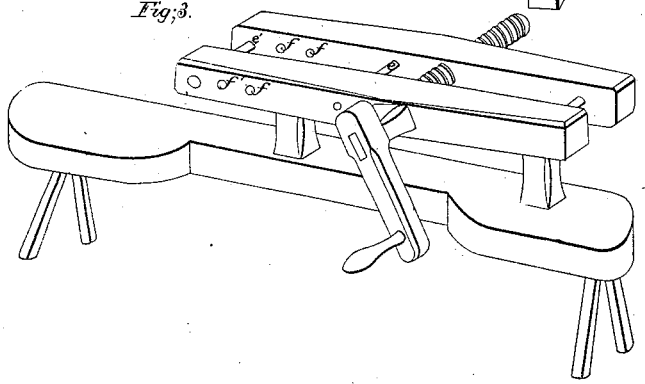
Broom Machine.

No. 6,717. Patented Sept. 18, 1849.

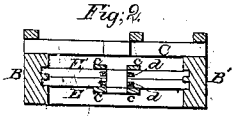
Fig; 1



Fig; 3.



Fig; 4.



UNITED STATES PATENT OFFICE.

JAMES THOMAS, OF WEST CHESTER, PENNSYLVANIA.

MACHINE FOR MAKING BROOMS.

Specification of Letters Patent No. 6,717, dated September 18, 1849.

To all whom it may concern:

Be it known that I, JAMES THOMAS, of West Chester, in the county of Chester and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Manufacturing Brooms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings of the same, making part of this specification, in which—

Figure 1 represents a perspective view of the broom press; Fig. 2, a horizontal section at the line *x x* of Fig. 1, and Fig. 3 a perspective view of a vise or bench for fastening and finishing the broom.

My invention consists of three separate sets of grips or lever presses, which act independently of each other, and by which the handle is firmly supported, and the brush pressed and securely held upon the handle during the operation of winding the wire which binds the brush to the handle.

In the drawing A is the bench or frame supported on legs, to which the other portions of the machine are secured. To this bench is attached a frame composed of the uprights B, B′, B″, united by cross ties *a a′*. To the back of the uprights B, B′ above the frame A is attached a plank (*c*) having a notch in its upper edge, and above and corresponding with this plank is a lever grip D hinged at one extremity to the upright B′ and having its opposite extremity formed into a handle moving in a guide. The lower edge of this grip is notched to correspond with the notch of the plank and between these two the handle of the broom is securely held. The uprights B B′ have their opposite faces grooved to receive the sliding grips or presses E E′. Each of these is composed of two jaws parting at the center of the broom handle the upper *b* ascending, the lower *b′* descending. In the adjacent edges of these jaws notches are cut corresponding with the notches of the handle grip. To each lower jaw *b′* a guide *c* projecting above its notched edge is attached on each side of the notch, and to the upper jaw *b* corresponding guides *c′* are attached, between which the guides *c* of the lower jaw *b′* pass in bringing the jaws together. A guide pin *d* projecting above the edge of the lower jaw is also attached to it on each side of the notch, and these guide pins are received in recesses in the corresponding edge of the upper jaw. The set of jaws E′ correspond with the set E. To raise or lower these sliding jaws each is connected with a lever; the upper jaws *b* by the rods *e* with the levers F and the lower jaws *b′* by the rod *e′* with the levers F′. The upper levers F are hinged at one extremity to the upright B and are guided in a vertical direction by working in a recess cut in the opposite upright B′. The lower levers F′ are hinged and guided below their respective jaws in a similar manner. To hold each lever in its position during the binding of the brush a separate stop is applied to each—those of the upper levers are each formed of a bar G hinged at its upper extremity to the upright B′ above the levers, and act upon their upper edges. The lower levers are furnished with similar stops G′ acting on their lower edges.

The drawing represents arrangements for but one broom, but the sliding jaws may be lengthened and any number of notches may be formed in their edges, each furnished with its appropriate guides and guide pins.

To use this press, elevate the upper levers and depress the lower ones, then grip the handle in its notch by the handle lever D. The brush being now arranged on the broom handle the upper and lower sliding jaws are brought toward each other by their respective levers, care being taken to inclose all the brush between the guides and guide pins, and sufficient power is applied to the levers to press the brush firmly upon the handle; the levers are then secured in their position by bringing the stops G, G′ upon their edges, and the binding of the brush is commenced by winding the wire close to the outer jaws. When sufficient wire has been wound to secure the brush at this point, the stops are removed from the outer jaws, which are withdrawn by their respective levers and the binding is completed by winding additional wire around the brush close to the inner set of jaws, these last and the handle grip are then removed and the broom withdrawn.

To flatten and finish the broom I make use of a vise bench (Fig. 3) between the jaws of which it is secured. In order to prevent the edges of the broom from spreading beyond their proper position, I employ two pins *e*, *e′*, running transversely across the jaws of the vise, the one of these *e* is fixed,

and the other e' can be moved to the holes f, f so as to adapt itself to brooms of different dimensions.

The advantage which results from the use of two or more sets of jaws over a single set, will appear on examining the modes in which the wire is wound in the two cases. When but a single set of jaws is employed the wire must be wound from them outward over those portions of the brush which have not been compressed; but where more than a single set of jaws are used the brush is first secured by a few coils of wire close to the outer jaws and these being then removed, and the brush being prevented from rising by the first coils of wire, the binding is completed by winding the wire inward over the compressed portions of the brush, which method must insure the production of a much firmer and neater broom than can be made by a single set of grips.

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

The use of two or more sets of jaws (E, E′) made and arranged substantially in the manner and for the purpose herein set forth, for compressing the broom brush and holding it on the broom handle during the process of wiring the broom.

JAMES THOMAS.

Witnesses:
JOHN G. HAINES,
PASCHALL WOODWARD.