Dec. 15, 1931. E. DAVIS 1,837,018

PRESSURE ADJUSTING MEANS FOR GARMENT AND LAUNDRY PRESSES

Filed May 7, 1929

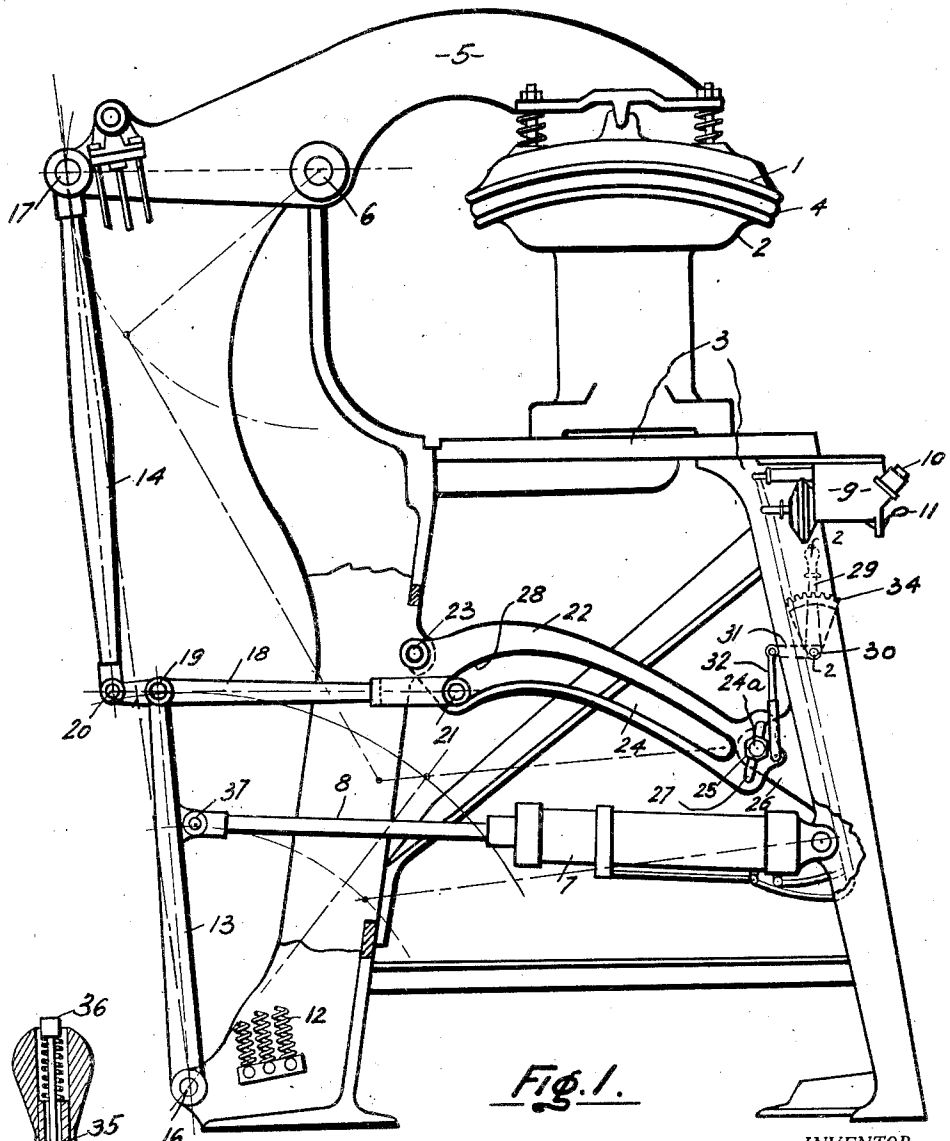



Fig. 1.

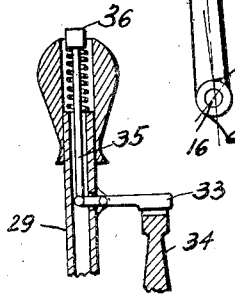



Fig. 2.

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# UNITED STATES PATENT OFFICE

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## PRESSURE ADJUSTING MEANS FOR GARMENT AND LAUNDRY PRESSES

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This invention has for its object, a particularly simple and efficient means for adjusting or maintaining a uniform pressure between the pressing element of garment and laundry presses by compensating for permanent depressing or settling of the pad on one or both of said elements.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawing, in which like characters designate corresponding parts in all the views.

Figure 1 is a side elevation of a machine embodying my invention.

Figure 2 is an enlarged sectional detail view on line 2—2, Figure 1.

This invention comprises generally, a lever element connecting two parts or links of the actuating mechanism of a pressing machine and forming the joint between said parts and adjustable cam means for actuating said lever element during the closing of the press to vary the relation of the links.

The invention is here illustrated as applied to a conventional pressing machine comprising cooperating pressing elements, one of which is movable toward and from the other, as a head 1 movable toward and from a buck 2. The buck is mounted in any suitable manner on the frame 3 of the machine and is provided with a compressible pad 4. The pad gradually settles or permanently compresses under continued use and the settling of the pad causes the pressure to vary.

The head 1 is usually carried by a yoke or frame lever 5 pivoted between its ends at 6 to the frame, and the head is actuated by mechanism connected to the rear arm of the yoke lever 5.

The actuating mechanism comprises a prime mover and motion transmitting means between the prime mover and the yoke lever or the rear arm thereof.

The prime mover is, in the illustrated embodiment of the invention, a motor including a cylinder 7 having a piston therein, and a piston rod 8 connected to the motion transmitting part which is connected to the rear arm of the yoke lever.

The flow of motive fluid, as air, to and from the cylinder 7 is controlled by any suitable valve means located in a housing 9 and operated by manuals, as push button 10, and release lever 11. The piston is single acting and the press is opened, when the pressure in the cylinder is released, by countersprings 12.

The motion transmitting parts operated by the piston rod 8 include links 13 and 14 which are pivoted respectively at 16 to the base of the frame and at 17 to the rear arm of the yoke lever 5. The links 13 and 14 are connected together by a lever element 18 which actuates said links relatively to each other to compensate for compression of the padding.

The lever element 18 is pivoted at 19 and 20 respectively to the adjacent ends of the links 13 and 14. The lever element 18 is in effect, a two arm lever fulcrumed between its ends at 19 on the end of the link 13. The arm of the lever between the links, that is, between the points 19 and 20 is comparatively short. The long arm of the lever has a follower 21 coacting with a normally stationary adjustable cam 22. The cam 22 is here illustrated as pivoted at 23 at one end. The cam is formed with a slot 24 for receiving the follower.

The cam extends forwardly and rearwardly of the machine and is pivoted at its rear end. The lever element 18 also extends forwardly and rearwardly. The cam is held in its adjusted position by a clamping member as a bolt 24ª and nut 25, the bolt extending through a lug 26 on the frame and through an arc shaped slot 27 concentric with the pivot 23 of the cam. When the nut is loose, the cam can be shifted into any one of a number of angular positions and thus vary the incline of the active portion 28 of the cam slot relatively to the lever 18. The cam 22 is here shown as shiftable by a hand lever 29 pivoted at 30 to the frame and having an angular arm 31 connected by a link 32 to the front end of the cam.

The lever 29 is held in its shifted position by a spring pressed latch 33 coacting with a

stationary rack 34. The latch is operated by a spring pressed rod 35 connected to the latch, the rod 35 extending lengthwise of the handle of the lever 29 and having a button 36 at its upper end. The piston rod 8 is connected to one of the toggle links 13 and 14, it being here shown as pivoted at 37 to the link 13. The parts are normally in the position indicated by broken lines.

As the press closes, the lever 18 approaches a right angular relation with respect to the links 13 and 14 as these links 13 and 14 straighten, the lever 18 being guided in its movement by the cam slot 24. As the toggle approaches straightened position, the follower 21 engages the lift portion 28 and thus moves the lever about the fulcrum point 19, boosting the link 14. The amount of boosting action is varied to suit conditions by loosening the nut 25 and shifting the cam by operating the lever 29 to any desired position and again tightening the nut 25.

Shifting of the lever 29 forwardly to elevate the front end of the cam 22, effects a minimum boosting action, and rearwardly, a maximum boosting action, by decreasing or diminishing the incline of the portion 28 of the slot relatively to the lever 18.

What I claim is:

1. In a pressing machine, cooperating pressing elements, one of which is movable toward and from the other, means for actuating the movable element including driving mechanism and two movable parts with a lever element pivoted at spaced apart points to said parts for transferring the movement of one to the other, and means for shifting said lever element relative to the motion transmitting parts during the closing of the press.

2. In a pressing machine, cooperating pressing elements, one of which is movable toward and from the other, means for actuating the movable element including two movable parts and a lever element pivoted at spaced apart points to said parts for transferring the movement of one to the other, and cam means coacting with one end of the lever element for shifting said lever element during the closing of the press.

3. In a pressing machine, cooperating pressing elements, one of which is movable toward and from the other, means for actuating the movable element including two movable parts and a lever element pivoted at spaced apart points to said parts for transferring the movement of one to the other, and normally stationary cam means for shifting said lever element with respect to the motion transmitting parts during the closing of the press.

4. In a pressing machine, cooperating pressing elements, one of which is movable toward and from the other, means for actuating the movable element including two motion transmitting parts and a lever element connecting said parts to transfer the movement of one to the other, normally stationary cam means for shifting said lever element during the closing of the press, and means for shifting the cam means to vary the amount of movement imparted thereby to the lever element.

5. In a pressing machine, cooperating pressing elements, one of which is movable toward and from the other, means for actuating the movable element comprising two toggle links, a lever pivoted at spaced apart points to adjacent ends of the links and serving as the joint of the toggle, and actuator and means connecting said actuator to one of the links, and means for moving the lever relatively to the links during the closing of the press.

6. In a pressing machine, cooperating pressing elements, one of which is movable toward and from the other, means for actuating the movable element comprising two toggle links, a lever pivoted at spaced apart points to adjacent ends of the links and serving as the joint of the toggle, an actuator connected to one of the links and means for moving the lever relatively to the links during the closing of the press, said lever being arranged at an angle to both links and movable into a position in which it approaches a right angle to each link as the toggle straightens.

7. In a garment or laundry pressing machine in combination cooperative pressing elements, one of which is movable toward and from the other; means for actuating the movable element including two toggle links; a lever pivoted at spaced apart points to adjacent ends of the links and serving as the joint of the toggle; an actuator connected to one of the links; a normally stationary cam; a cam follower connected to the lever movable along the cam to shift the lever relative to the links; and means for shifting the cam.

8. In a pressing machine, cooperating pressing elements, one of which is movable toward and from the other, means for actuating the movable element comprising two toggle links, a lever pivoted at spaced apart points to adjacent ends of the links and serving as the joint of the toggle, an actuator connected to one of the links, a normally stationary cam, the lever having a follower movable along the cam, and means for shifting the cam to vary the relation thereof to the lever and hence vary the amount of movement of the lever relatively to the links.

9. In a pressing machine, cooperating pressing elements, one of which is movable toward and from the other, means for actuating the movable element comprising two toggle links, a lever pivoted at spaced apart points to adjacent ends of the links and serving as the joint of the toggle, an actuator connected to one of the links, said lever being ar-

ranged at an angle to both links and movable into a position in which it approaches a right angle to each link as the toggle straightens, a normally stationary cam, the lever having a follower movable along the cam, the cam being shiftable to vary the relation thereof to the lever.

10. In a pressing machine, cooperating pressing elements, one of which is movable toward and from the other, means for actuating the movable element including two motion transmitting parts and a lever element connecting said parts to transfer the movement of one to the other, and a normally stationary pivoted cam, the lever element having a follower coacting with the cam, the cam being adjustable about its pivot and means for holding the cam in its adjusted position.

In testimony whereof, I have hereunto signed my name, at Syracuse, in the county of Onondaga, and State of New York, this 3rd day of May, 1929.

ERNEST DAVIS.