(No Model.)

G. W. VOELKER.

CLOTH PRESSING MACHINE.

No. 445,723. Patented Feb. 3, 1891.

Fig. 2.

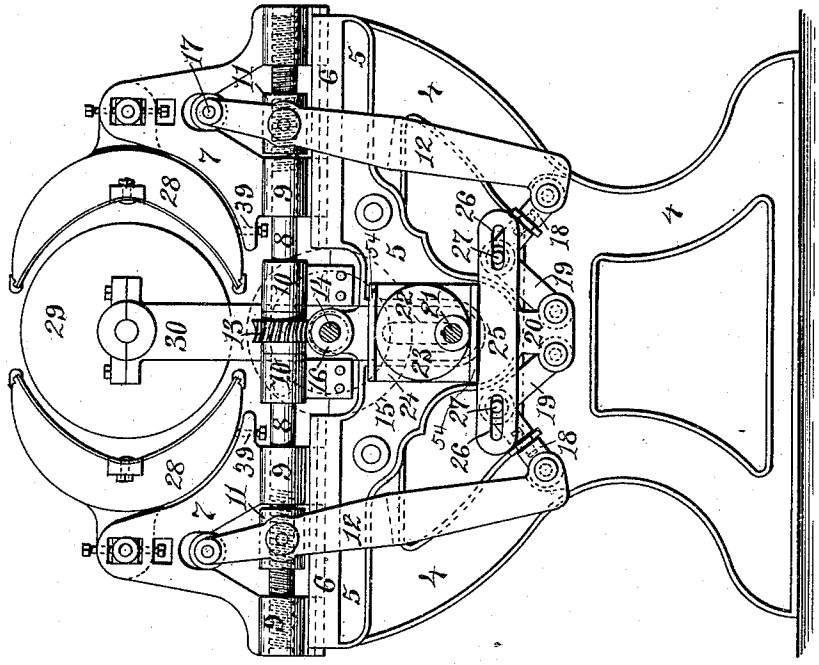
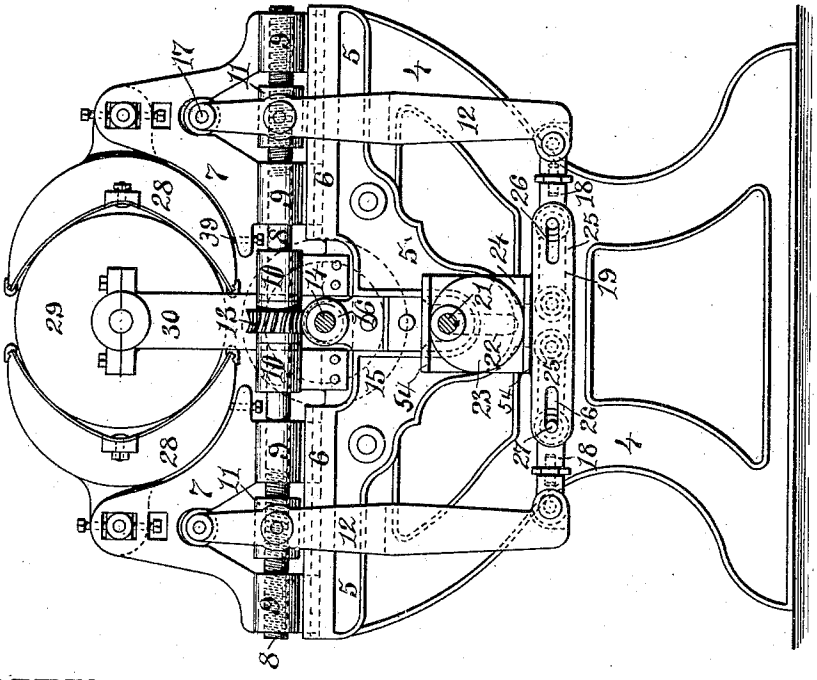


Fig. 1.



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GEORGE W. VOELKER, OF WOONSOCKET, RHODE ISLAND.

CLOTH-PRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 445,723, dated February 3, 1891.

Application filed July 1, 1890. Serial No. 357,463. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. VOELKER, of Woonsocket, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Cloth-Pressing Machines; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improvement in the construction and mechanism for operating the blocks of cloth-pressing machines; and it consists in the peculiar and novel construction of the block-supports and the operating mechanism, as will be more fully set forth hereinafter.

The object of the invention is to secure a more perfect adjustment of the presser-blocks, so as to give to them a quick movement in opening and closing and to secure great pressure between the blocks and the cylinder.

Figure 1 is an end view of my improved cloth-pressing machine, showing the parts in the position occupied when the blocks are pressed against the cylinder. Fig. 2 is an end view of the same, showing the cloth-presser blocks drawn away from the cylinder.

In the drawings, the number 4 indicates the frame or standard on which the machine is supported, and the number 5 a transverse frame provided at each end with the ways 6 6, in which the presser-block carriages 7 are supported. These carriages are provided near their supports with the bosses 9, through which extends the screw-threaded shaft 8, secured in the central bearings 10 10.

Between the two bosses 9 of each of the carriages 7 and supported on the screw-shaft 8 are placed the nuts 11, and on these nuts levers 12 are pivotally secured, so that the nuts 11 form the fulcrums for the levers 12. In the center of the screw-threaded shaft 8, between the bearings 10 10, is secured to the shaft 8 the worm-gear 13, and through the center of the machine extends the shaft 14, provided with the worms 16, which engage with the worm-gears 13. To the end of the shaft 14, outside of the frame 4, a hand-wheel 15 is secured, as is indicated in broken lines. Such a hand-wheel may be secured at each end of the shaft 14, so that the shaft 14 and the worms 16, secured to the shaft, may be turned from either end of the machine.

In a cloth-pressing machine two or more frames 5, each provided with two carriages 7, and a screw-shaft 8, having the fulcrum-nuts 11, may be used, all operated simultaneously by the turning of the shaft 14, each of the worms 16 engaging with the respective worm-gear 13 and turning the screw-shafts 8. The threads of the screws on the shaft 8 are inclined at each end in opposite directions, so that by turning the shaft 8 in one direction the fulcrum-nuts 11 on opposite ends are moved outward and when turning in the opposite direction they are moved inward. Therefore by turning the shaft 14 all the fulcrums will be moved outward or inward simultaneously and exactly the same distance. The short ends of the levers 12 are connected with the slides 17, which move in ways formed in the carriages 7, and the lower longer ends of the levers 12 are connected with the links 18, and these links are pivotally connected with the links 19, the opposite ends of which are pivoted on the bracket 20, forming part of the frame 5.

Extending through the machine, parallel with the shaft 16, is the shaft 21, journaled in bearings formed in the frame 5, and provided at the outer ends with the lever 22, (shown in broken lines,) and on this shaft 21 a cam 23 is secured for each frame 5 and set of levers 12. The cam 23 turns in the slide 24, to the lower end of which the cross-bar 25 is secured, so that the turning of the shaft 21 will turn the cams 23, which, bearing at the upper and the lower parts of the slide 24, against projecting bearings 54, will in turning raise or lower the slide 24 and bar 25. The bar 25 is provided with slots 26, in which pins 27, forming the pivotal connections of the links 18 with the links 19 will slide outward when the slide 24 and 25 are depressed or inward when the same are raised. The links 19 18 form toggle-jointed levers exerting a constantly-increasing pressure on the long arm of the levers 12, which with multiplied force moves the carriages 7 inward.

The numbers 28 indicate the presser-blocks, which are pivotally secured to the upper parts of the carriages 7, and are adjusted by

the screws 39 in the projecting ends of the carriages 7 and forming adjustable bearings for the blocks 28. The cylinder 29 is supported on the extensions 30 of the standards 4.

As my present invention refers only to the construction of the supports for the presser-blocks and the mechanism for operating the same, I will confine myself, in describing the operation of the machine, solely to these parts. In a cloth-pressing machine it is essential that the exact pressure required to finish the cloth be exerted each time the machine is closed after the cloth is inserted. As cloth differs in thickness as well as in texture, it is essential that the pressure can be regulated, and when the desired pressure is once ascertained the same pressure be exerted on all the cloth of the same quality. To this end I secure two separate and independent adjustments. The revolution of the cams 24 exerts a determined and fixed motion and pressure on the presser-blocks 28 through the toggle-jointed levers or links 18 and 19 and the levers 12, and by moving the fulcrum-nuts 11 outward or inward the presser-blocks can be adjusted with reference to the cylinder 29 and the cloth so as to enable the lever mechanism to exert a definite and fixed pressure on the cloth through the presser-blocks, which pressure, when once adjusted, will be the same at each closing of the machine until the adjustment of the fulcrum is changed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a cloth-pressing machine, the combination, with the cylinder 29, the presser-blocks 28, and the standards 4, of the frames 5, provided with ways, the carriages 7, supporting the presser-blocks and having capacity for adjustment to and from the cylinder, the screw-shaft 8, the fulcrum-nut 11, adapted to adjust the fulcrum, the levers 12, and mechanism for operating the levers constructed to press the cloth between the cylinder and presser-blocks, as described.

2. In a cloth-pressing machine, the combination, with the cylinder and the presser-blocks and the levers for operating the presser-blocks, of the fulcrums and provisions for the adjustment thereof constructed to adjust the pressure exerted by the levers, as described.

3. The combination, in a cloth-pressing machine, with the cylinder and the presser-blocks, of the carriages 7, having the presser-blocks pivotally secured thereto, the adjusting-screws 39, ways on which the carriages are supported, and mechanism, substantially as described, for operating the presser-blocks, as described.

4. The combination, with the carriages 7, mounted in slides and having the presser-blocks secured thereto, of the screw-shaft 8, the fulcrum-nuts 11, the shaft 14, the worm 16, the worm-gear 13, the levers 12, connected with the carriages, the toggle-jointed levers, the cam 24, the slide 23, and the slotted bar 25, as described.

In witness whereof I have hereunto set my hand.

GEO. W. VOELKER.

Witnesses:
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