G. A. KIMBER.

PRESSING MACHINE.

APPLICATION FILED MAY 13, 1909.

991,518.

Patented May 9, 1911.

2 SHEETS—SHEET 1.

Fig. 1

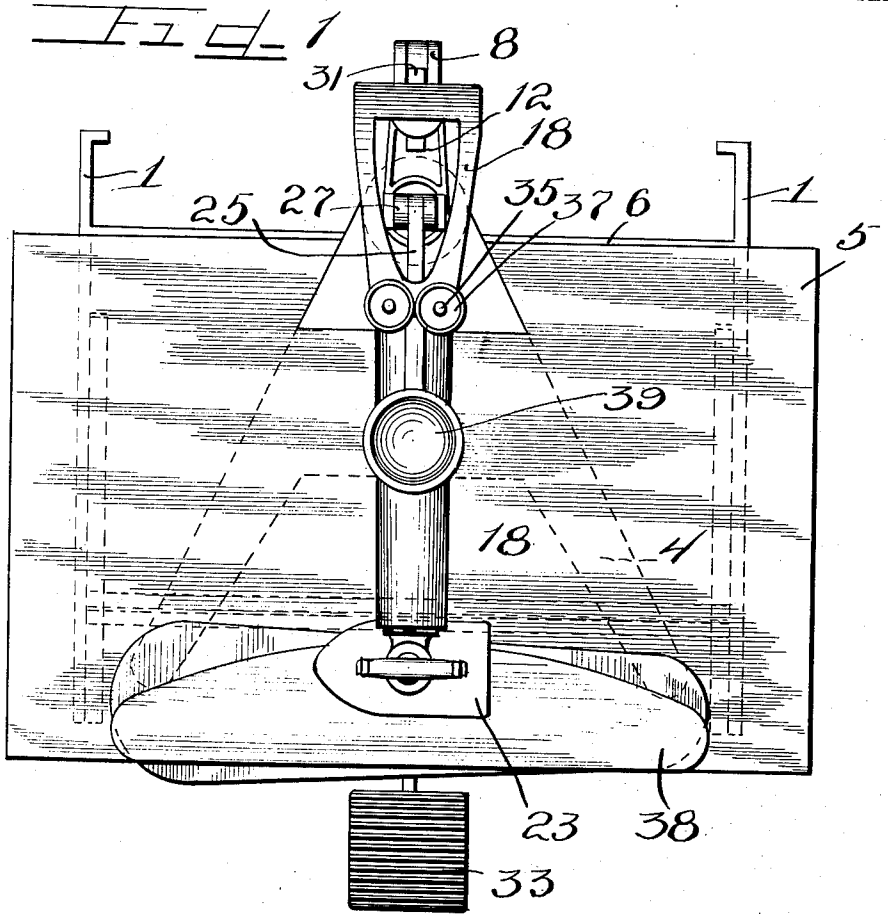
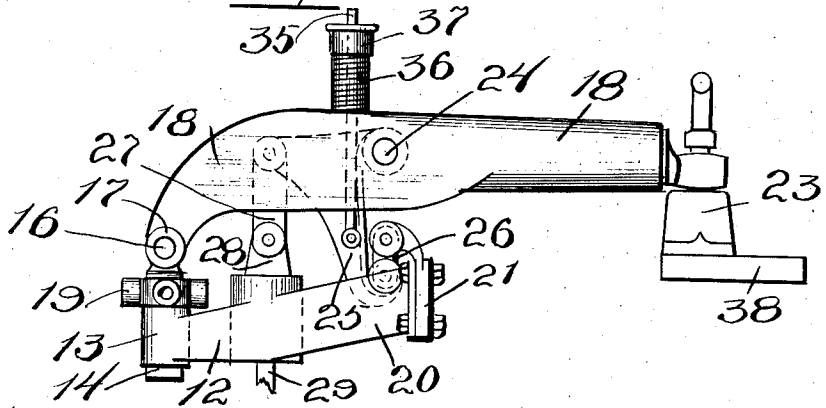


Fig. 3



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2

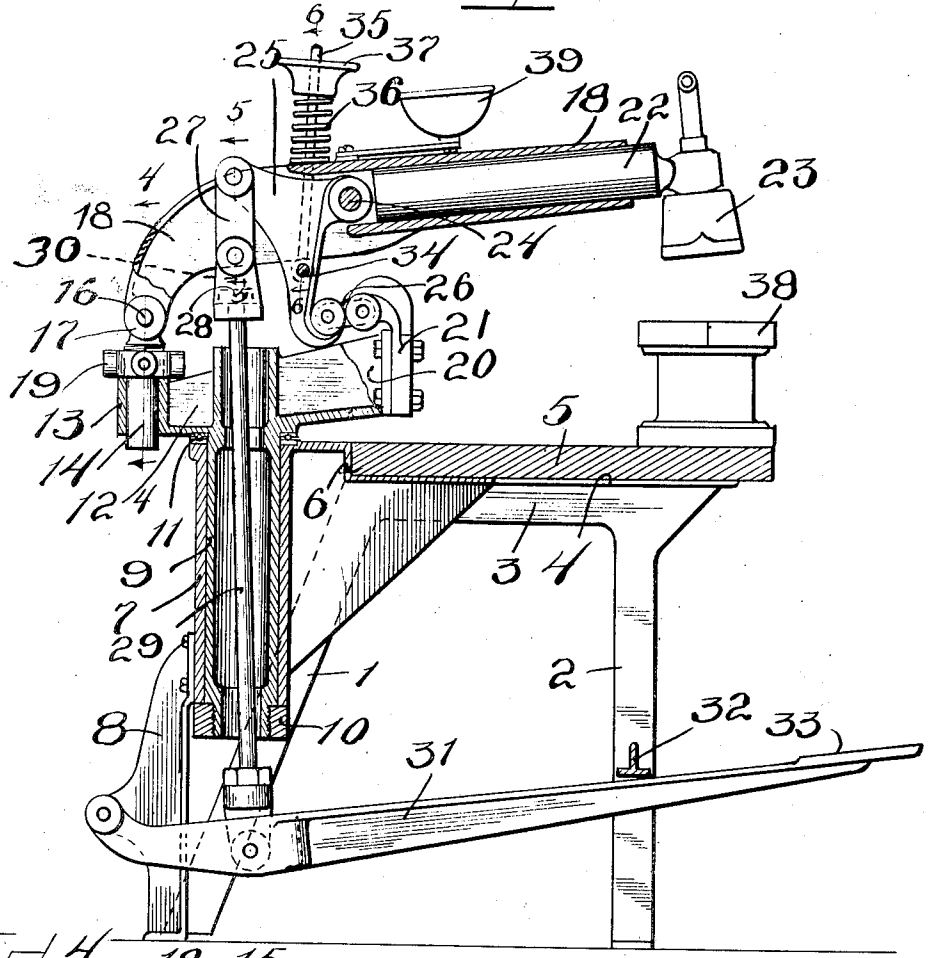


Fig. 4

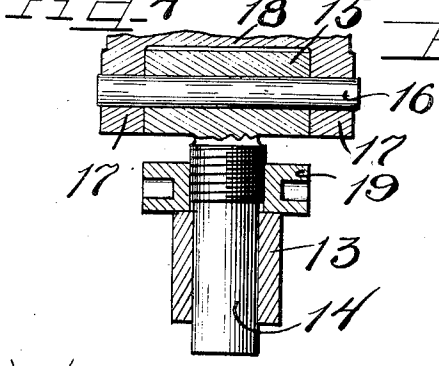


Fig. 5

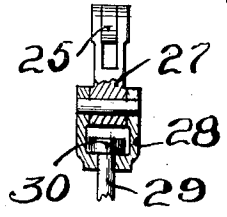
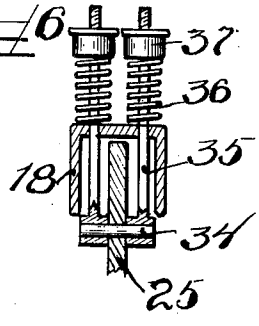


Fig. 6



Witnesses

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UNITED STATES PATENT OFFICE.

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PRESSING-MACHINE.

991,518. Specification of Letters Patent. Patented May 9, 1911.

Application filed May 13, 1909. Serial No. 495,665.

To all whom it may concern:

Be it known that I, GEORGE A. KIMBER, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pressing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numbers of reference marked thereon, which form a part of this specification.

This invention relates more particularly to that class of pressing machines sometimes used in large tailoring establishments for pressing garments.

The object of this invention is to afford a balanced construction whereby the iron is normally supported above the board to afford a large clearance for the handling or manipulation of the work, but which permits the application of the iron at any point within its range of movement with maximum efficiency.

It is also an object of the invention to afford a construction permitting wide range of movement of the iron both longitudinally of the board and transversely thereof with the iron at all times supported to conform to the surface to be pressed.

It is also an object of the invention to afford a construction in which the iron is moved rapidly and with slight application of power into engagement with the work after which the final maximum pressure is applied with slight travel but enormous increase in pressure.

It is an object of the invention also to afford mechanism insuring instantaneous release from the article being pressed and to permit regulation of pressure with the greatest nicety to meet the requirements of the work to be accomplished.

The invention consists in the matters hereinafter described and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 is a top plan view of a machine embodying my invention. Fig. 2 is a central vertical section thereof illustrating the position the parts assume when the iron is supported in elevated position. Fig. 3 is a fragmentary side elevation illustrating the position of parts at the moment of maximum pressure. Fig. 4 is an enlarged section on line 4—4 of Fig. 2, illustrating the means for adjusting pressure and travel of the iron. Fig. 5 is a section on line 5—5 of Fig. 2. Fig. 6 is a section on line 6—6 of Fig. 2, with the springs in elevation.

As shown in the drawings: A suitable under frame of cast metal or any suitable construction is provided embracing in the construction shown rear legs 1, and front legs 2, and horizontal rails 3, connecting said front and rear legs. Arranged between the pairs of legs is a triangular frame embracing arms 4, which extend from near the middle of the back of the table forwardly to near the front legs thereof and to which and the rails is firmly secured the table top 5, by means of screws, bolts, or other suitable means. As shown also, said frame is connected with the rear legs of the table frame proper by means of a rail 6, in the construction shown integrally united with said legs, and serving to bind all parts of the frame rigidly together. Extending downwardly from said triangular frame 4, at its rear is a sleeve 7, integral therewith if desired, and rigidly bolted on the rear side of said sleeve is a fifth leg 8. Rotatably journaled in said sleeve is a tubular shaft 9, provided with a retaining nut 10, which bears against the lower end of the sleeve and at its upper end flanged peripherally and supported upon ball or other anti-friction bearings 11, interposed between the same, and the upper end of said sleeve to permit easy rotation of said shaft in said sleeve. Extending rearwardly from said sleeve is an arm 12, provided at its rear end with a vertical sleeve 13, in which is slidably engaged a slip shaft 14, which at its upper end is provided with a transversely apertured knuckle 15, adapted to receive therethrough the pintle 16, which extends through said knuckle and the lateral lugs 17, at the rear end of the lever 18, upon which the iron is carried. As shown, said slip shaft 14, is threaded at its upper end and secured thereon is a spanner or any suitable nut 19, whereby said slip shaft may be adjusted vertically in the sleeve therefor.

Extending forwardly from the upper end of the sleeve 7, above the roller bearing therefor, is a bracket 20, on the forward end of which is secured an upwardly and rearwardly directed bracket 21.

The lever 18, extends upwardly and forwardly toward the front edge of the table

and for the major portion of its length from the front end thereof is tubular, as shown in Fig. 2, to receive therein the cylindric arm 22, on which the iron 23, is rotatably supported, as shown in Figs. 1 and 2. Extending through said lever at the rear end of said tubular portion thereof, and as shown, slightly at the rear of the middle of said lever, is a pivot pin 24, on which is journaled a bell crank 25, one arm of which extends downwardly to a point adjacent the rearwardly curved end of the bracket 21, and is movably connected therewith by means of a short link 26, the other arm of said bell crank lever is directed rearwardly and pivotally engaged thereon is a link 27, on the lower end of which is pivotally engaged a short coupling 28. Through the bottom of said coupling extends a connecting rod 29, provided with a flat head 30, within said coupling whereby a slight rotational movement of the coupling is possible with respect to said connecting rod. Said rod extends downwardly through the tubular shaft 9, and at its lower end is connected with a foot lever 31, which is fulcrumed on the leg 8, and extends forwardly beneath the horizontal frame bar 32, and is provided at its outer end with an enlarged foot plate 33, which projects sufficiently beyond the edge of the table to enable the operator to apply his weight thereto.

Extending through the downwardly extending arm of the bell crank slightly at the rear of a line drawn from the pivot pin 24, to the pivotal engagement of the link 26, with said arm, is a pin 34, and pivotally engaged on said pin are upwardly extending rods 35, one on each side of said bell crank and which extend through the lever 18, and are each provided with a strong spiral spring 36, the compression of which is adjusted by means of nuts 37, threaded on the upper ends of said rods.

Supported at the front edge of the table and centrally, is the ironing board or buck 38, which, of course, may be of any desired or usual construction and is supported at a height for the most convenient application of the iron thereto. Supported on said lever 18, conveniently within reach of the operator is a cup or bowl 39, which may contain any of the accessories used by the operator or water for sprinkling, if desired.

The operation is as follows: Having adjusted the slip shaft suitably, the weight of the operator when applied to the foot lever 31, draws the rearwardly directed arm of the bell crank 25, downwardly, and, of course, owing to the tension of the springs 36, also draws the lever 18, downwardly therewith, the lower end of the bell crank swinging on the link 26, to a point below the rearwardly directed upper end bracket 21, this movement continuing with slight resistance until the iron is brought into engagement with the material upon the board 38. At this point the lower ends of the tension rods 35, are brought more nearly into vertical alinement with the pivot pin 24. The iron now resting upon the material, the link and the pivot bearing on the bell crank therefor swings under the pivot bearing therefor on the bracket 21, affording a powerful knuckle or toggle and when pressed by the bell crank to the position shown in Fig. 3, enormously increases the pressure exerted by the iron upon the board. When pressure on the lever 31, is released, the springs 36, under maximum compression, act to swing the bell crank upwardly on the pivot pin 24, inasmuch as the tension rods 35, are connected out of vertical alinement with the pivot pin 24, and the lower end of the bell crank with the result of instantly swinging the iron upwardly to the position shown in Fig. 2.

Owing to the construction described any portion of the board may be conveniently reached by the iron and the iron may be adjusted outwardly or inwardly in the tubular end of the lever 18, inasmuch as the cylindric arm 22, slides freely in the sleeved end of said lever. Inasmuch as a ball bearing is provided to support the tubular shaft on the sleeve 7, it follows that the iron may be swung from end to end of the board with the utmost ease, and, owing to the construction described, may be brought into engagement with the material at any point on the board with very slight pressure and then by means of the bell crank before described the pressure may be enormously increased to the maximum efficiency required.

Obviously the machine may be adjusted for any thickness of material, inasmuch as the limit of downward movement possible for the iron may readily be regulated by the adjustment of the slip shaft 14, in its bearing. Should the nut 19, be set up to slightly elevate the slip shaft the iron is then adjusted for thinner material. Should the slip shaft be lowered slightly in its bearing by the opposite rotation of said nut the maximum downward limit of travel of the iron is decreased. Obviously the utmost ease of adjustment is thus afforded to suit the machine for the requirements of its use.

Of course, I am aware that numerous details of the construction may be varied. I have therefore shown but one of many possible embodiments of my invention. I do not, however, purpose limiting this application for patent otherwise than necessitated by the prior art as the exact embodiment of the machine to permit wide clearance when out of operation, rapid movement of the iron with a slight expenditure of power to engage the material and then enormous increase of pressure after such engagement

may be effected in numerous ways without departing from the principles of my invention.

I claim as my invention:

In a pressing machine a table, a tubular rotatable shaft, a support rotatable with the shaft, pressing mechanism supported by said rotatable support above the table, means for adjusting the same to vary the pressure, a foot lever beneath the table and a rod connected therewith and extending through the tubular shaft and having a swivel connection with the pressing mechanism.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

GEORGE ALFRED KIMBER.

Witnesses:

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