

June 29, 1926.

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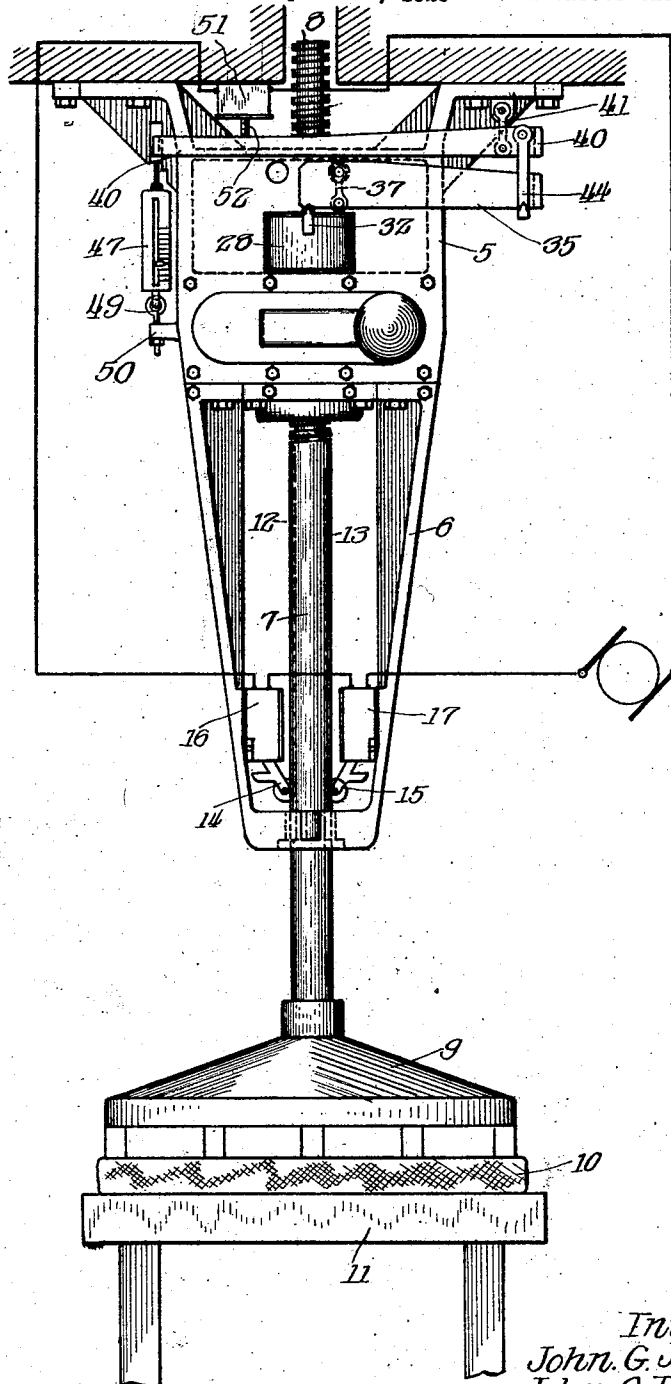
J. G. JORDAN ET AL

UPHOLSTERING PRESS

Filed April 17, 1925

2 Sheets-Sheet 1

Fig. 1.



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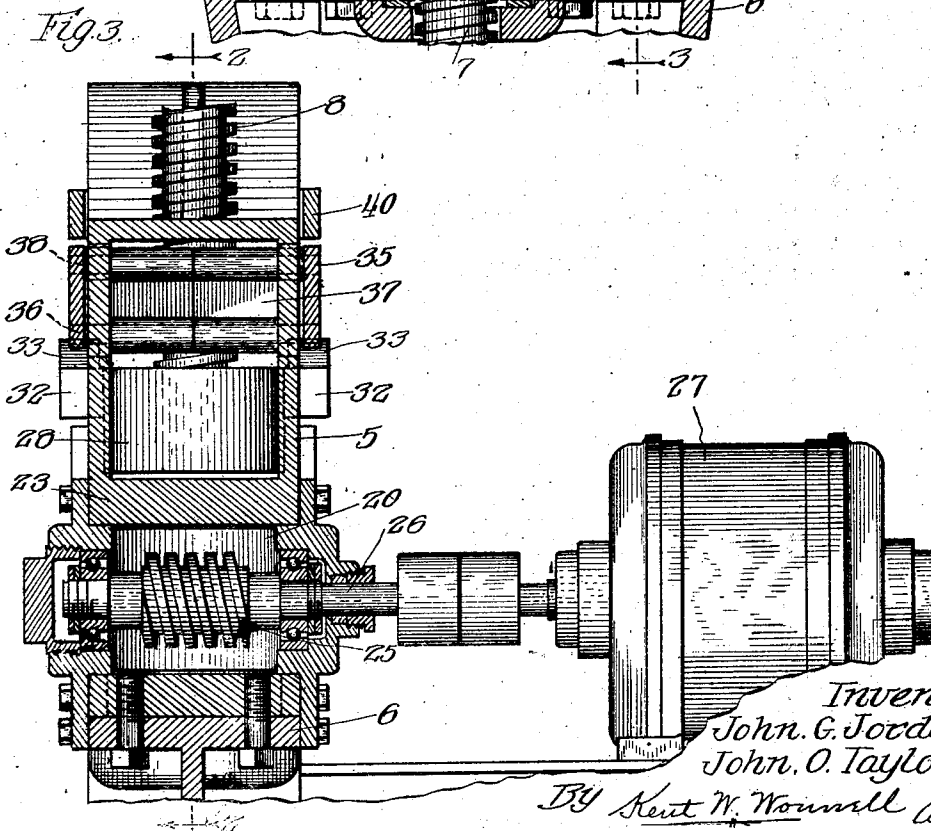
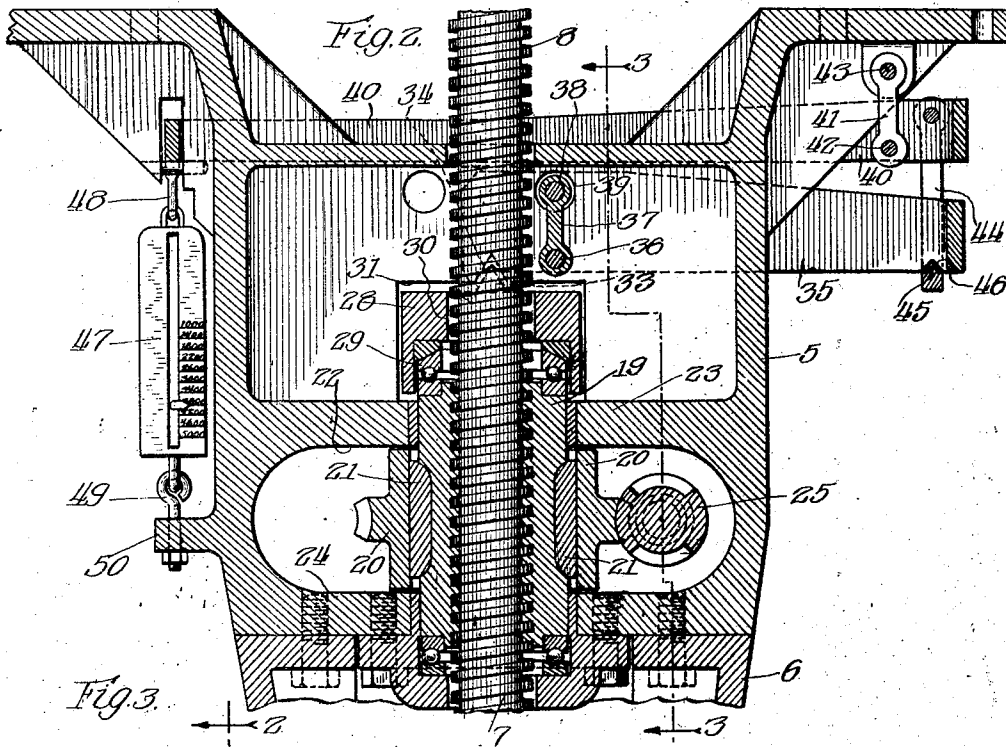
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

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UPHOLSTERING PRESS.

Application filed April 17, 1925. Serial No. 23,746.

This invention relates to a motor driven upholstering press with weighing mechanism in connection therewith for determining the amount of pressure which is applied, and the principal object is therefore to produce a device of this kind. Further objects of the invention are; to provide an improved motor drive for an upholstering press; to provide a compound, and therefore a compact weighing scale; to provide means for automatically controlling the driving motor; and in general, to produce the construction herein shown and described.

In the accompanying drawings, Fig. 1 is a side elevation of a press constructed in accordance with the principles of this invention; Fig. 2 is a sectional view of the driving and weighing mechanism as taken on the line 2—2 of Fig. 3; and Fig. 3 is a section taken on the line 3—3 of Fig. 2.

In making certain types of upholstered furniture or in making similar upholstered parts in quantity it is desirable not only that sufficient pressure be applied to the part which is upholstered, but also that this pressure be substantially uniform, in order to make the upholstered parts of uniform quality. The present invention is designed and intended not only for applying the power by means of a motor, but also by providing a weighing attachment, it insures that the same or a substantially uniform pressure may be applied to similar or all of the upholstered pieces.

In carrying out this invention a depending or ceiling support 5 has a depending yoke 6 attached thereto in which the shaft 7 is movable. The upper end of the shaft is provided with a threaded portion 8, and attached to the lower end which projects beyond the yoke is an upholstering head 9 shown in a diagrammatic or informal way as applied to a piece 10 to be upholstered supported by an upholstering bench or table 11. In the opposite edges of the shaft are milled grooves 12 and 13 attached to be engaged by the roller contact arms 14 and 15 of the down and up limit switches 16 and 17 for controlling the shaft driving motor.

Surrounding the shaft is an internally threaded sleeve 19 which engages the

threaded portion of the shaft. Surrounding the sleeve is a worm gear 20 attached for driving the sleeve by means of keys 21, and the worm gear is confined in a transverse recess 22 in the supporting member 5 formed by upper and lower partitions 23 and 24 through which the sleeve 19 has a limited vertical movement, the worm 20 being confined by the partitions against such movement and the keys 21 sliding in the gear 20 to permit the said movement of the sleeve 19. Meshing with the worm gear 20 is a driving pinion 25 mounted on a shaft 26 which is driven by an electric motor 27.

At the upper end of the sleeve 19 is a thrust member 28 separated from the sleeve by a ball bearing 29, the shaft 7 extending loosely through an opening 30 in the thrust member so that the shaft and the sleeve member 19 can be rotated without rotating the thrust member 28. In the sides of the supporting member 5 opposite the thrust member 28 are openings 31 through which project extensions 32 thereof, the upper portions of which have angular extensions 33 for engaging corresponding notches 34 of the scale beams 35 pivoted on a bearing pin 36 in the supporting member 5, by means of a pivoting member 37 and a bearing pin 38 which extends through openings 39 in the opposite walls of the supporting member 5, the bearing pin 38 engaging directly with the scale beams 35, and the opening 39 permitting a limited movement of the bearing pin 38 therein. Another double scale beam 40 is mounted by means of a pivoting member 41 and pivot pins 42 and 43 to move oppositely to the beams 35 and connected thereto by means of a link 44 pivoted to the shorter arm of the scale beams 40 and having bevel edges 45 engaging with corresponding notches 46 in the longer arm of the beams 35. To the longer arm of the beams 40 a graduated spring balance 47 is connected by means of a hook 48, the other end of the balance being attached by an eye bolt 49 with a projection 50 from the support 5.

If desired, an adjustable contact switch 51 may be provided adjacent one of the beams 40, as shown in Fig. 1, with a con-

tact arm 52 adjustable to engage the beam at different positions thereof so that if desired the switches may be set for engagement at any predetermined pressure, the engagement of the switch serving to cut the motor circuit and stop the motor. The purpose of this is to determine the pressure which shall be applied to any particular upholstered piece, and after the desired pressure is attained automatically to cut off the motor. The limit switches 16 and 17 are likewise provided as safety switches in preventing the continued operation of the motor when either limit of travel of the shaft 7 is reached. These switches 16 and 17 together with the contact switch 51 may all be connected in series with the motor so that operation of any one of them will stop the motor.

In operation an article 10 to be upholstered is applied to the table 11, the motor 27 is started in the pressure applying direction, and as soon as the head 9 is suitably engaged in applying pressure, the sleeve 19 tends to rise or back up on the threaded portion 8 of the shaft 7. This action causes the thrust member 28 to bear upon the beams 35 and the beams 40 conveying the pressure to the graduated scale 47. If the contact switch 51 is set for any particular pressure it will be actuated to cut off the motor when that pressure is reached, but if this switch is not so set, the motor will continue until any desired pressure is recorded by the scales 47, whereupon the motor may be stopped by manual operation of a stop switch. If it should happen that the motor is left running in either direction, the limit switches 16 and 17 will prevent the movement of the shaft beyond a predetermined limit in either direction.

We claim:—

1. In a press of the class described, a movable shaft, means to move the shaft in applying the pressure thereof, a thrust member in connection with said means and weighing means engaged by the thrust member when the shaft is applying its pressure.
2. In a press of the class described, a threaded shaft, means including a sleeve for moving the shaft to apply the pressure thereon, a thrust member carried by the sleeve, and weighing means engaged by the thrust member to indicate the pressure applied by the shaft.
3. In a press of the class described, a longitudinally movable shaft, a sleeve threaded on the shaft, means for rotating the sleeve to move the shaft longitudinally and also permitting a movement of the sleeve with the shaft, and weighing means including a thrust member carried by the sleeve and a scale beam engaged by the thrust member for transmitting the pressure of the shaft.
4. In a press of the class described, a longitudinally movable shaft threaded at one end and having a pressure head at the other, a housing in which the threaded end of the shaft is movable, a sleeve threaded on the shaft, means to rotate the sleeve with respect to the shaft to move the latter longitudinally and to permit a limited endwise movement of the sleeve on the shaft when the pressure is applied, a thrust member engaging one end of the sleeve and having opposite bearing projections, a double scale beam pivotally mounted in the housing and having one end engaging the projections, and a scale to measure the thrust of the shaft in connection with said beam.
5. A press of the class described having a longitudinally movable threaded shaft with a head at one end, a housing in which the shaft is movable provided with a recess transverse to the shaft, a sleeve threaded on the shaft and capable of longitudinal movement therewith in one direction, a worm gear surrounding the sleeve in the said recess having a keyed connection with the sleeve for permitting a sliding movement of the sleeve with respect thereto, and weighing means engaged by the sleeve when it is moved longitudinally with the shaft in applying the pressure thereof to measure the pressure applied by the shaft.
6. In an upholstering press, a threaded pressure applying shaft, a housing in which it is movable, a worm gear confined against movement longitudinally of the shaft, a sleeve threaded on the shaft having a sliding drive connection with the worm gear, the sleeve being adapted to move longitudinally in applying the pressure of the shaft, and a non-rotatable pressure head at one end of the sleeve having a connected scale beam attachment for measuring the pressure of the shaft.
7. In a press of the class described, a longitudinally movable shaft, a sleeve threaded on the shaft, driving means for rotating the sleeve to move the shaft endwise and permitting a limited movement of the sleeve with the shaft, a non-rotating pressure head carried by the sleeve having opposite projections, compound scale beams engaged by the opposite projections, and a scale engaged by the beams to show the pressure applied by the shaft.
8. In a press of the class described, a longitudinally movable shaft, motor driven mechanism for moving the shaft longitudinally in applying the pressure, a non-rotatable thrust member, carried by said mechanism, scale beams engaged and operated thereby, a switch operated at a predetermined pressure by one of the scale beams to control the motor.
9. In a motor driven press, a longitudinal-

ly movable shaft, means operated by the motor for moving the shaft longitudinally, a non-rotatable pressure head carried by the operating means for applying the pressure of the shaft, weighing beams engaged and operated by the pressure head, a scale in connection with the beams for measuring the pressure applied by the shaft, and an adjustable switch adapted to be engaged by one of the beams at any predetermined pressure for controlling the motor when the predetermined pressure is applied by the shaft. 10

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