F. B. HARPER.

PRESS.

APPLICATION FILED NOV. 28, 1919.

1,387,395.

Patented Aug. 9, 1921.

2 SHEETS—SHEET 1.

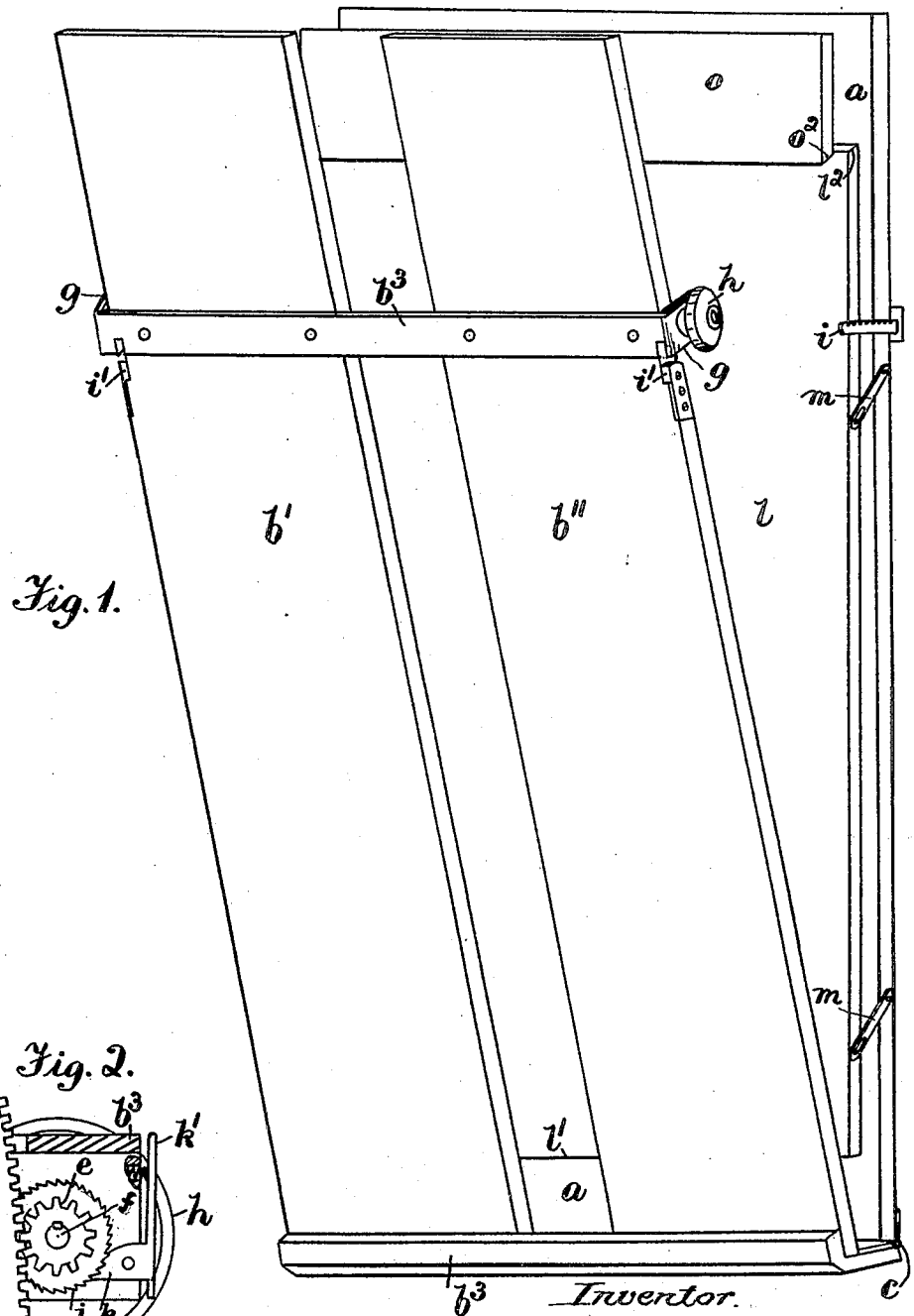


Fig. 1.

Fig. 2.

Inventor.

Francis Bruerton Harper.

By J. Walter Fowler

Atty.

F. B. HARPER.

PRESS.

APPLICATION FILED NOV. 28, 1919.

1,387,395.

Patented Aug. 9, 1921.

2 SHEETS—SHEET 2.

Fig. 3.

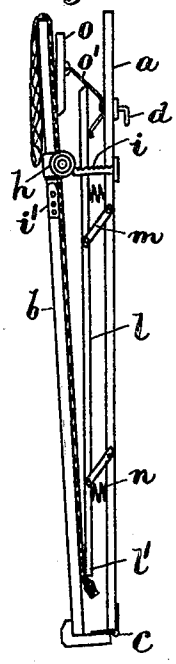


Fig. 4.

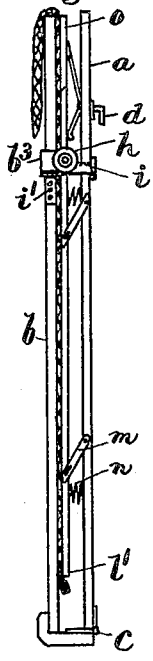


Fig. 6.

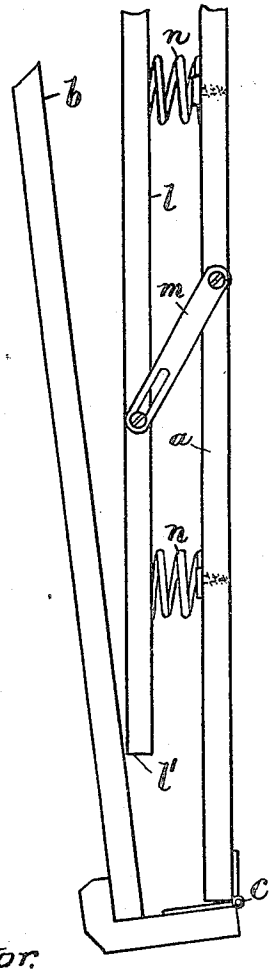
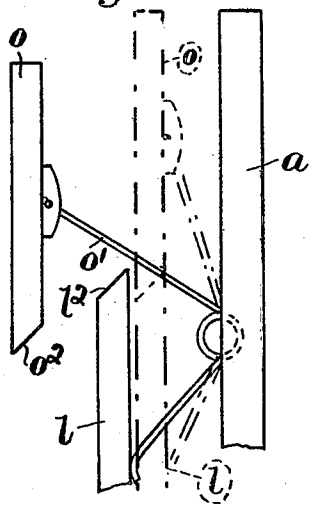


Fig. 5.



Inventor:

Francis Bruerton Harper.

By T. Walter Fowler.

Atty.

UNITED STATES PATENT OFFICE.

FRANCIS BRUERTON HARPER, OF LONDON, ENGLAND.

PRESS.

1,387,395. Specification of Letters Patent. Patented Aug. 9, 1921.

Application filed November 28, 1919. Serial No. 341,053.

To all whom it may concern:

Be it known that I, FRANCIS BRUERTON HARPER, a subject of the King of England, residing at London, England, have invented certain new and useful Improvements in Presses, of which the following is a specification.

This invention relates to presses for trousers, neckties and other garments and articles of textile material.

My invention has for its object the provision of a press which is efficient in action, rapid and simple in operation, and adapted to receive one or more pairs of trousers or other articles and to accommodate the pressure surfaces to the varying thickness of material so as to exercise a uniform pressure over the surfaces.

It has also for its object the construction of a press which may be stored in an upright position as for instance suspended from a wall or door, and may be operated without removal from such position, in order to reduce the time required for the operation. The upright position enables the press to be used in a confined space, as for instance in a ship's cabin or inside a wardrobe, and also minimizes the deposit of dust upon the garment while retained in the press.

My invention consists in the construction and combination of the parts and is hereafter more fully described with reference to the accompanying drawings in which:—

Figure 1 is a perspective view of the press in an open position.

Fig. 2 is a detail of the operating gear.

Fig. 3 is a side elevation of the press in a partly closed position, showing a single garment in place.

Fig. 4 is a similar elevation of the press in a closed position.

Fig. 5 is an elevation on a larger scale, showing the upper end of the press.

Fig. 6 is a similar enlarged view of the lower end.

According to the present invention, the trousers press comprises two members *a b* such as oblong rigid boards, connected at one extremity for example by hinges *c* and arranged for use in an approximately upright position, so that the connected ends form the base of the device. One member *a* constitutes a back board which may be supported on a wall or door or in a suitable frame or the like, in a vertical position, and is fitted with means such as hooks *d* for this purpose at the upper end. The other member *b* is shown as comprising two panels *b' b''* connected together by metal straps or bridges b^3.

In the vertical position the second or outer board *b* is free to fall forward as shown in Fig. 1, on its connections *c*, but may be forced back when desired by suitable devices for holding the boards *a b* together. These devices are capable of a fine degree of adjustment, and strong enough to hold the boards together with resilient material placed between them upon which the requisite pressure may be brought to bear, and means for easy release are provided.

In the present construction such devices consist of pinions *e* mounted on spindles *f* running in suitable bearings *g* attached to the bridges b^3 upon the outer board *b*. On the spindles *f* are secured handles *h* adapted to be held firmly in the hand in the manner of a door knob. The pinions *e* engage with toothed curved racks *i* attached to the back or vertical board *a* and outstanding therefrom. As the boards are closed together these racks enter between the pinions *e* and wearing blocks *i'* upon the board *b*. The position of the spindle bearings *g* is preferably at the sides and toward the upper end of the outer board *b*, at a suitable height for the hands to grasp. The axis of each spindle is parallel to the surface of the outer board *b*, and horizontal, so that the handles *h* mounted on the spindles have their peripheries at right angles to the surface of the outer board. In this manner the two handles are most conveniently arranged for easy grasp with both hands simultaneously by a person standing facing the press.

Upon the spindles and by the side of and co-axially with the pinions *e*, fine toothed ratchet-wheels *j* are mounted with which suitable pawls *k* engage, normally allowing the pinions *e* to rotate in one direction only; these pawls may, however, be released by pressure upon their tails or extensions *k'* whereupon the pinions, spindles and handles are free to rotate in either direction.

The two boards *a b* are now capable of being opened or closed by the operator. Assuming the press to be open, that is to say, the front board *b* falling forward from the vertical back board *a* as seen in Fig. 1, the operator standing facing the boards grasps the two handles *h* one in each hand and lifts up the front board *b* until the pinions *e* engage with the outstanding racks on the back

board *a*. He then turns the pinions *e* by means of the handles *h* winding them along the racks *i* until the outer and back boards *b a* are firmly held together with such pressure as may be desired.

The pawls *k* are suitably arranged preferably with three teeth engaged in the same number of teeth on the ratchet-wheel as shown in Fig. 2, in such a manner that pressure on an extension *k'* of the pawls lifts its teeth free of the teeth on the ratchet wheels *j*. While the releasing pressure is exerted, the ratchet wheels, pinions and handles are free to rotate, consequently, the outer board *b* can be lowered from the upright board *a*.

Between the two rigid boards *a b* I employ a third board *l* one surface of which is preferably quite smooth. This board is attached to one of the boards by means of links *m*, so that it is free to move in a direction to and from the board *a*. Springs *n* are interposed between the third board *l* and the board *a* to which it is attached, in such wise that the third board *l* constitutes a resilient surface, offering a suitable resistance over its whole area to any pressure tending to force it in a direction toward the board *a*.

The intermediate board *l* may be comparatively flexible to allow it to yield to any local intensity of pressure, the necessary support being given by the springs *n* between this board and the one to which it is attached. The springs *n* being rigidly secured at their ends to the two boards *l* and *a* guide these boards in their relative movement so that there is no longitudinal displacement but only a perpendicular movement. One end of each link *m* is slotted as shown in Fig. 6, to allow for the varying obliquity of the links.

The intermediate board *l* is preferably shorter than the two outer rigid boards *a b*, and its lower end *l'* is arranged to grip the ends of the trousers as the free outer board is closed toward the back board, (see Figs. 3 and 6) so that an initial grip is obtained which allows the garment to be stretched by pulling the other end of the latter. The stretching action is preferably produced by means of a stretching device, consisting of a cross-piece *o* connected to the back board *a* toward its upper end and adapted to be brought into line with the intermediate board by the pressure exerted when the press is closed, in such a way that the garment is gripped between the cross-piece and the outer board (see Fig. 3) and the closing of the press causes this gripped portion to be pulled longitudinally so as to stretch the garment.

The cross-piece *o* is connected to the back board on either side by springs *o'* which maintain it in advance of the intermediate board. Upon contact with the garment the cross-piece is forced back against the spring action and is gradually brought into the plane of the intermediate board so that its stretching action is completed before the pressure of the boards bears upon the entire length of the trousers. The adjacent edges of the intermediate board and cross-piece are suitably beveled at l^2 and o^2 to permit them to fit together and provide a continuous surface in the closed position (see Fig. 4 and dotted lines in Fig. 5).

It will be understood that the invention is not limited to presses for trousers but may be applied to means for pressing or stretching and pressing other garments and articles of textile material.

Various modifications may be made in the construction of my improved press without departing from the spirit of my invention as disclosed in the appended claims.

What I claim is:—

1. A press, comprising a back-board, an outer board, said boards being connected together at one extremity, means for closing said boards one toward the other, and an intermediate member located between said boards, said intermediate member being connected to one of said boards by yieldable means to regulate the pressure exerted by said boards.

2. A press, comprising a back-board, an outer board, a hinged connection between said boards at one extremity thereof, and means located toward the other extremity for closing said boards together, said means being automatically interengaged by a primary closing movement of the boards and retaining their engaged position until further operated.

3. A press, comprising a back board, an outer board, said boards being pivotally connected together at one extremity, and means for closing said boards together, said closing means comprising a toothed rack upon one board, a pinion upon the other board, said pinion adapted to engage said rack, means for operating said pinion, and a retaining ratchet device connected to said pinion.

4. A garment press comprising a backbord, an outer board, said boards being pivotally connected together at one extremity, means for closing said boards one toward the other, and an intermediate member, said member being located between said boards, and means compelling a longitudinal movement of said member whereby a stretching action takes place as the boards are closed upon a garment.

5. A press comprising a back-board, an outer board, a hinged connection between said boards at one extremity thereof, said outer board comprising two longitudinal panels, a bridge connecting the panels of said outer board toward the free extremity thereof, bearings attached to said bridge, spindles running in said bearings, handles

secured on said spindles, pinions mounted on said spindles, toothed curved racks attached to said back-board and outstanding therefrom, said racks engaging said pinions as said boards are closed toward one another, and ratchet means for retaining said pinions against backwad movement.

6. A press, comprising a back board, an outer board, said boards being hinged together at one extremity, means for closing said boards one toward the other, an intermediate member located between said boards, and yieldable means connecting said intermediate member to one of said boards, said yieldable means producing travel of said intermediate member away from said extremity as said boards are closed together.

7. A press, comprising a back board, an outer board, said boards being hinged together at one extremity, means for closing said boards one toward the other, an intermediate member located between said boards, yieldable means connecting said intermediate member to one of said boards, a cross piece located between said boards, and yieldable means for supporting said cross-piece upon one of said boards, said cross-piece being normally supported in advance of said intermediate member but brought into alinement therewith as said boards are closed one toward the other.

8. A press, comprising a back board, an outer board, said boards hinged together at one extremity, means for closing said boards one toward the other, an intermediate member located between said boards, a second member located between said boards, and normally out of alinement with said intermediate member, and means for supporting said intermediate and second members yieldably in position, said intermediate and second members being brought into alinement as said boards are closed one toward the other.

9. A press, comprising a back board, an outer board, said boards hinged together at one extremity, means for closing said boards one toward the other, and means for retaining said boards in relative position when closed, said retaining means comprising ratchet wheels and pawls, and said pawls having each a plurality of teeth simultaneously engaging said ratchet wheels.

10. A garment press, comprising a back board, an outer board, said boards being connected together at one extremity, means for closing said boards one toward the other, means for initially gripping one extremity of a garment inserted between said boards, and means for gripping the garment toward its other extremity as said boards are closed together.

11. A garment press, comprising a back board, an outer board, said boards being connected together at one extremity, means for closing said boards one toward the other, an intermediate board located between said boards and being of shorter length than either of said boards, yieldable means supporting said intermediate member away from said back board, the extremity of said intermediate member adjacent to the connection of said boards adapted to grip an extremity of a garment inserted between said outer board and intermediate member, and means for gripping and stretching the garment toward its other extremity as the boards are closed together.

12. A garment press, comprising a back board, an outer board, said boards being connected together at one extremity, means for closing said boards one toward the other, means for initially gripping one extremity of a garment inserted between said boards, and means for gripping the garment toward its other extremity, said last gripping means adapted to exert a longitudinal stretching action as said boards are closed together.

In testimony whereof I have affixed my signature in presence of two witnesses.

FRANCIS BRUERTON HARPER.

Witnesses:
VICTOR F. FEENY,
CYRIL J. FEENY.