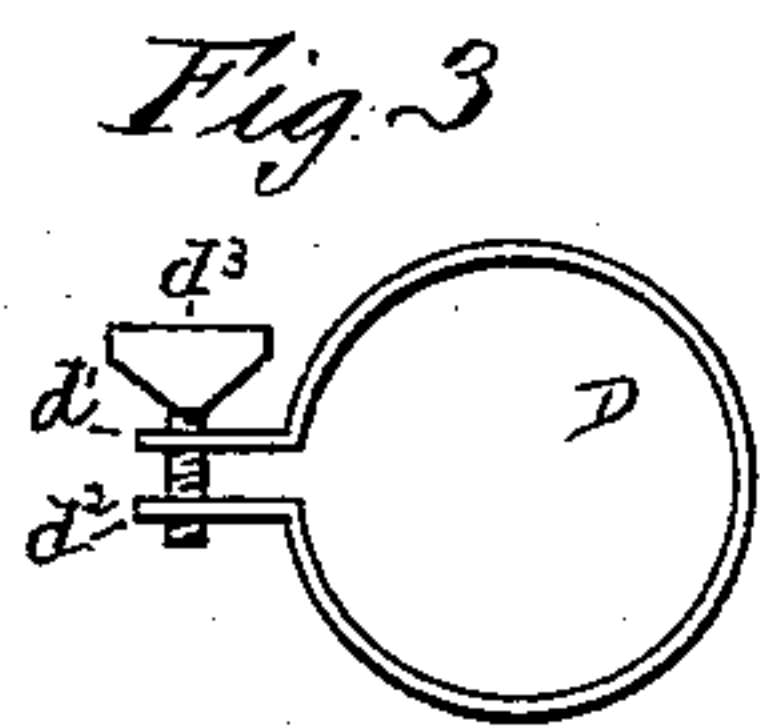
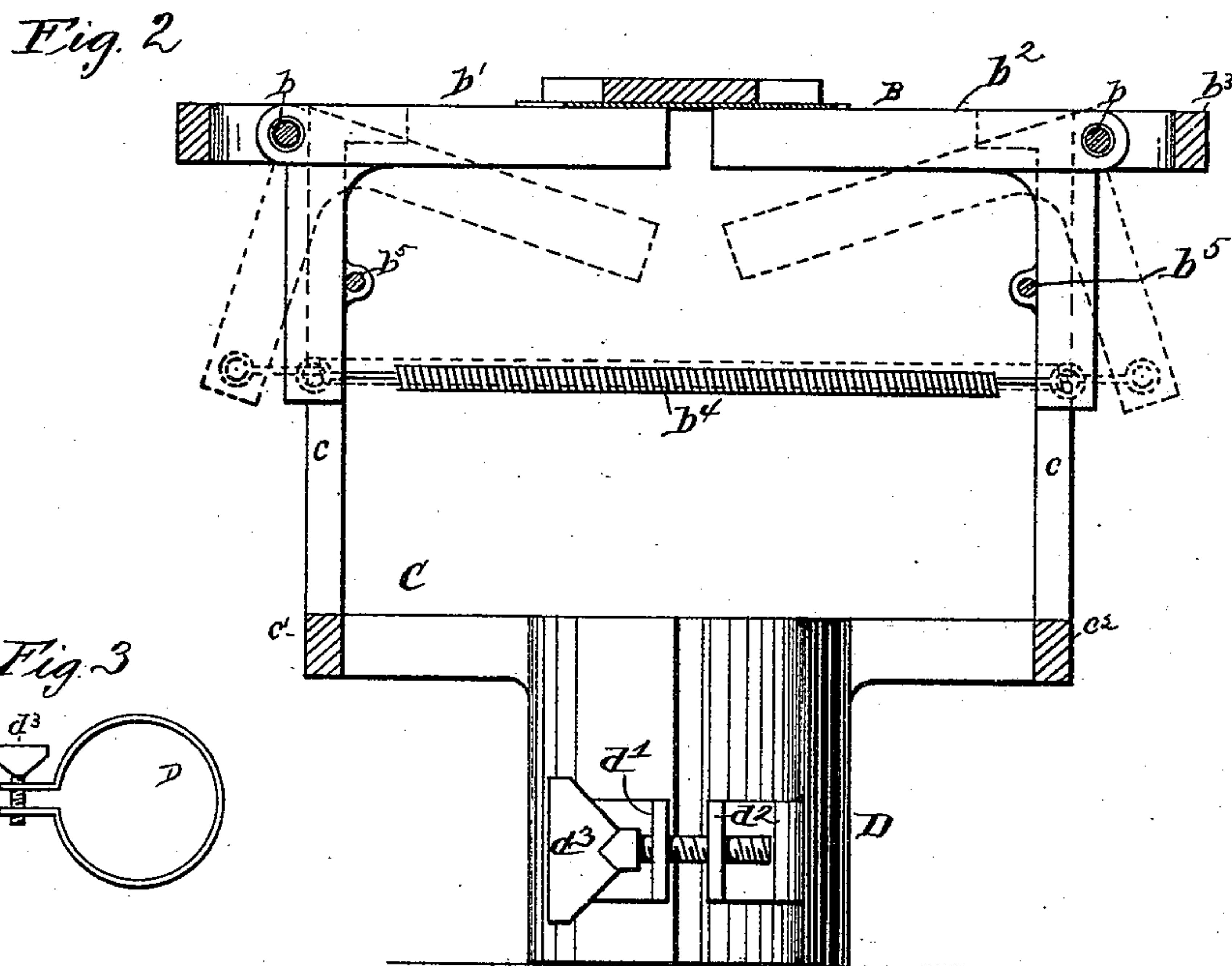
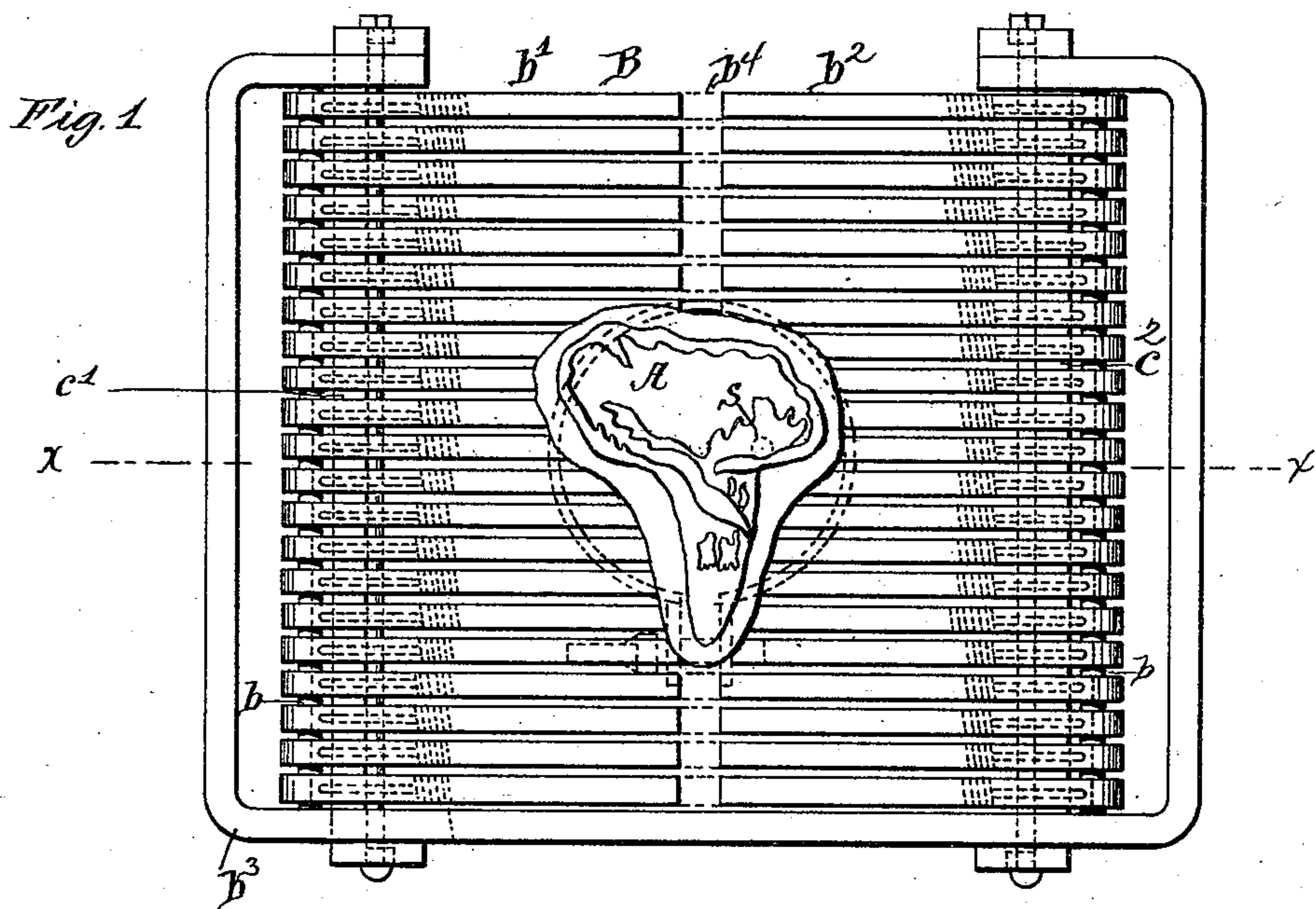


(No Model.)

T. HARPER.
TYPE FOR PRINTING LAMP SHADES.

No. 454,868.

Patented June 30, 1891.



Witnesses
C. R. Ferguson
Wm. Mc. Cliff.

Inventor
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By his Attorney
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UNITED STATES PATENT OFFICE.

THOMAS HARPER, OF WESTCHESTER, ASSIGNOR TO JOHN HARPER, OF
BROOKLYN, NEW YORK.

TYPE FOR PRINTING LAMP-SHADES.

SPECIFICATION forming part of Letters Patent No. 454,868, dated June 30, 1891.

Application filed August 20, 1890. Renewed May 25, 1891. Serial No. 393,941. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HARPER, a citizen of the United States, and a resident of Westchester, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Type for Printing Lamp-Shades and Analogous Articles, of which the following is a specification.

The object of my improvement is to provide a simple and inexpensive type which will present a substantially flat surface for inking, and will yield to adapt itself to the convexity of a lamp-shade or like article.

I will describe type embodying my improvement, and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a face view of a type embodying my improvement. Fig. 2 is a sectional side view taken principally at the plane of the dotted line xx , Fig. 1. Fig. 3 is an end view of a socket comprised in the same.

Similar letters of reference designate corresponding parts in all the figures.

A designates a printing-surface consisting of a piece of india-rubber, rubber cloth, or other suitable flexible material cut to a shape resembling some article or thing.

B designates a support for the printing-surface. It consists of a number of elbow or bell-crank levers b' b^2 , fulcrumed upon rods b , which are secured in a frame b^3 . The frame b^3 is secured to the upturned extremities c of two rails c' c^2 , forming part of a holder C. This holder C has a socket D, whereby the type may be fastened to a movable arm in a printing-press. This socket has a longitudinal opening, and adjacent to this opening is provided with two lugs d' d^2 . A screw d^3 , passing loosely through the lug d' and engaging with a tapped hole in the lug d^2 , serves to tighten the socket upon the arm to which it is applied.

The outer arms of the levers b' b^2 are intended to be normally in the same plane, and while they are in the same plane the printing-surface A will be flat and in condition to be properly inked. Springs b^4 are applied to the rearwardly-extending arms of the levers for

the purpose of maintaining the outer arms of the levers in the same plane under ordinary circumstances, and for returning them to such position after they shall have been deflected therefrom. As here shown, there is a lever b^2 immediately opposite each lever b' , and a spring b^4 , connecting the rearwardly-extending arm of each lever b^2 , and the corresponding arm of the opposite lever b' . Stop-pins b^5 may be used to prevent the springs b^4 from carrying the levers b' b^2 into such positions that their outer arms will project outwardly, so that these arms of the levers b^2 will be out of line with the corresponding arms of the levers b' .

The printing-surface will preferably be attached only to one of the levers—as, for instance, to the center lever b^2 . It may be attached thereto by cement, as at s . When only attached to one of the levers it will be free to slide over the others, and hence it and the levers can the better conform to convex surfaces.

It will be seen that the support B is much larger than the printing-surface A. This is to render the employment of larger printing-surfaces possible.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A type having a printing-surface, and a support therefor, consisting of a number of levers arranged in rear thereof, substantially as specified.

2. A type having a printing-surface, and a support therefor, consisting of a number of levers arranged in rear thereof and springs for adjusting the levers into position to hold the printing-surface flat, substantially as specified.

3. A type having a printing-surface, and a support therefor, consisting of a number of bell-crank or elbow levers b' b^2 and springs b^4 , connecting the levers b' b^2 in pairs, substantially as specified.

Signed at New York, in the county of New York and State of New York, this 12th day of May, A. D. 1890.

THOMAS HARPER.

Witnesses:

ANTHONY GREF,
S. O. EDMONDS.