

T. HARPER.
TYPE FOR PRINTING LAMP SHADES.

No. 453,771.

Patented June 9, 1891.

Fig 1

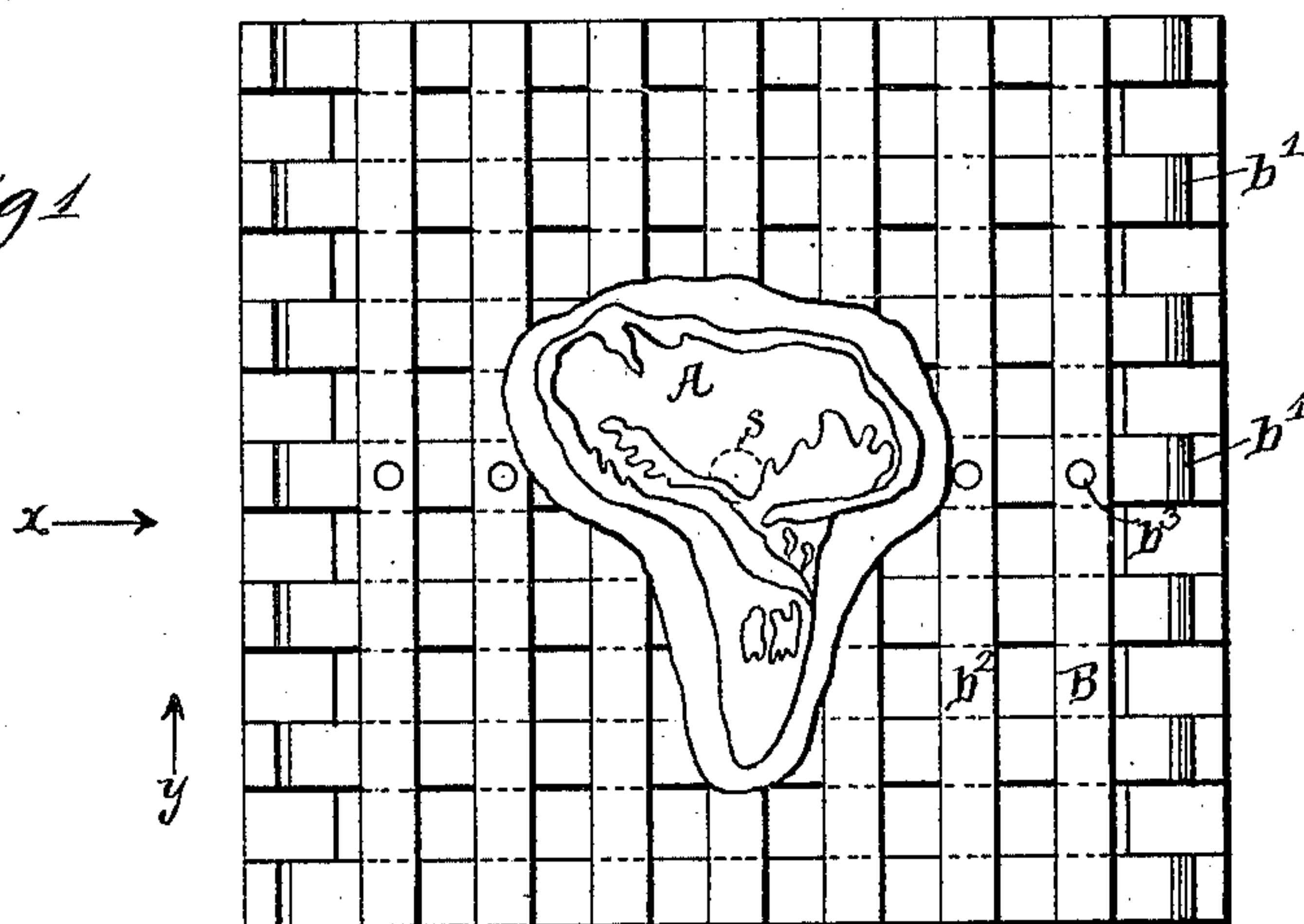


Fig 2

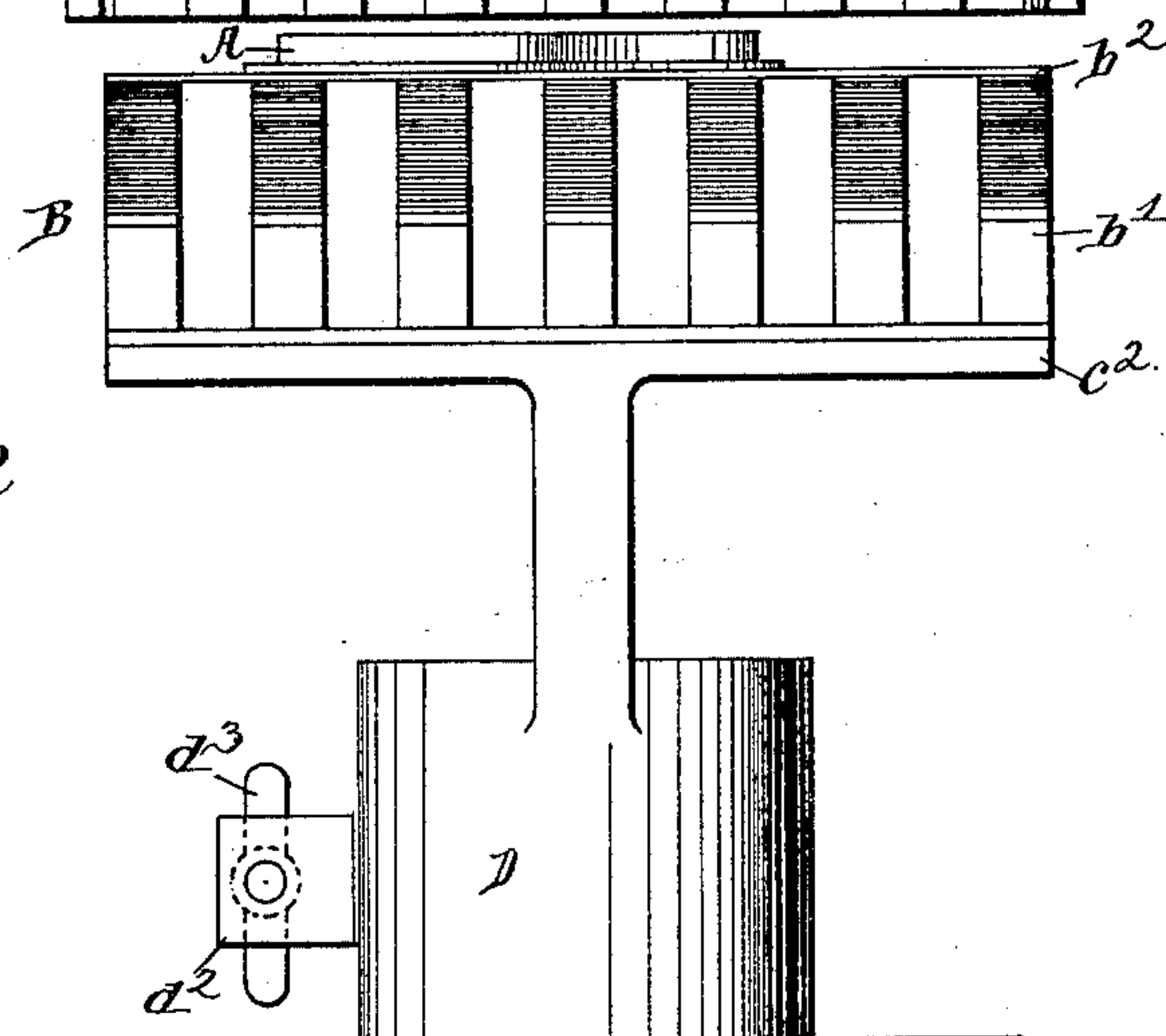
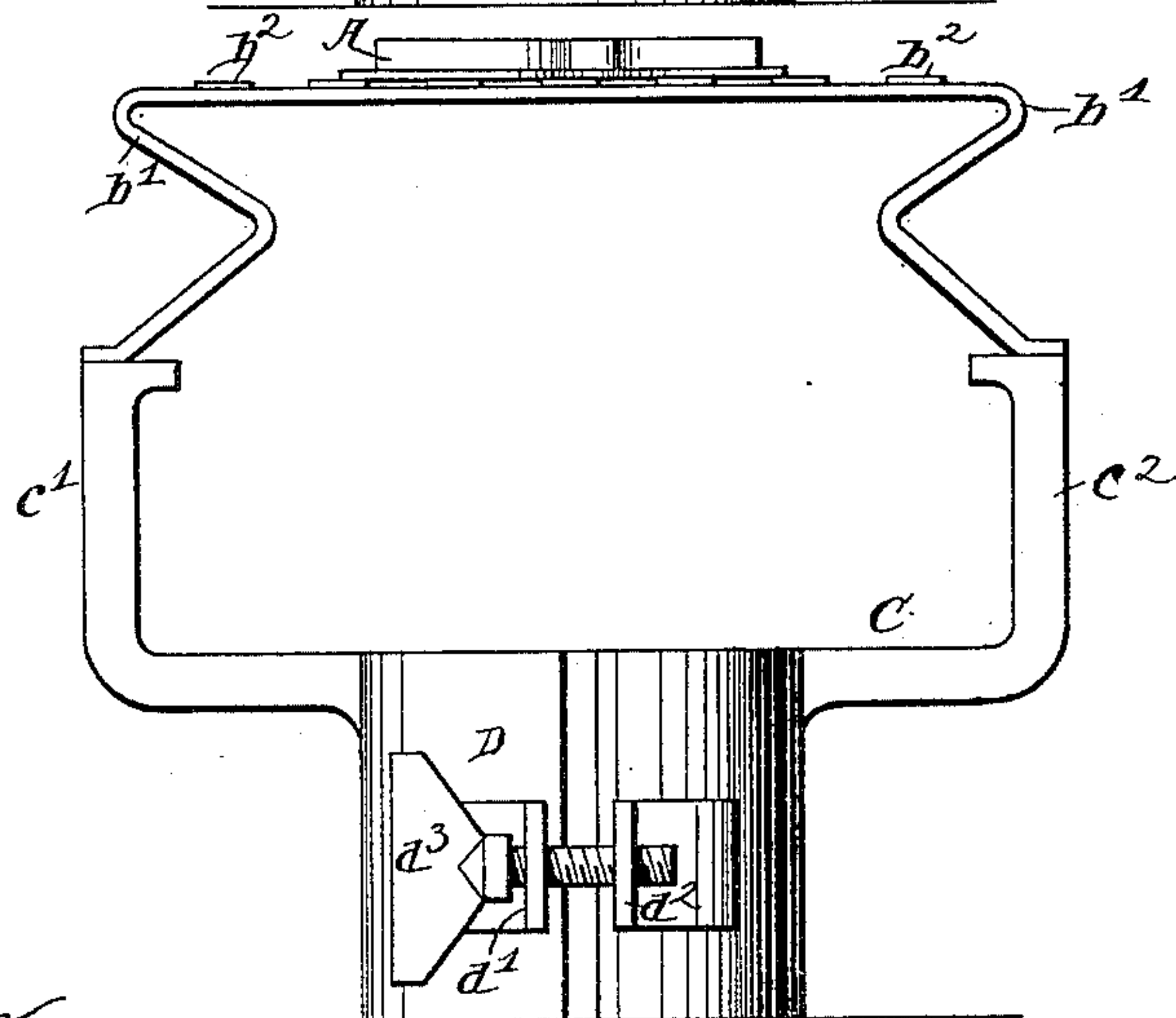


Fig 3



Witnesses
C. R. Ingerson
Wm. M. Cluff

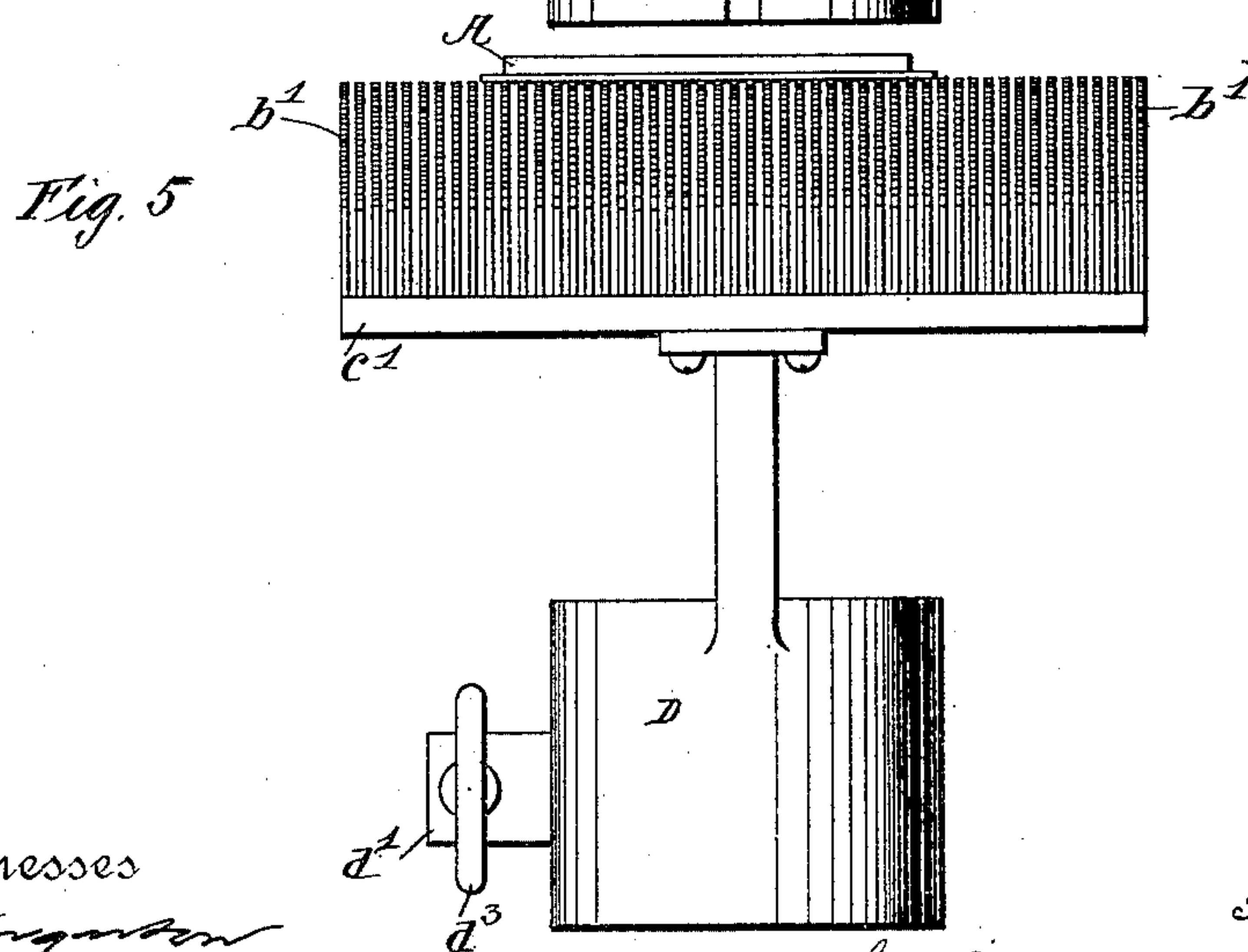
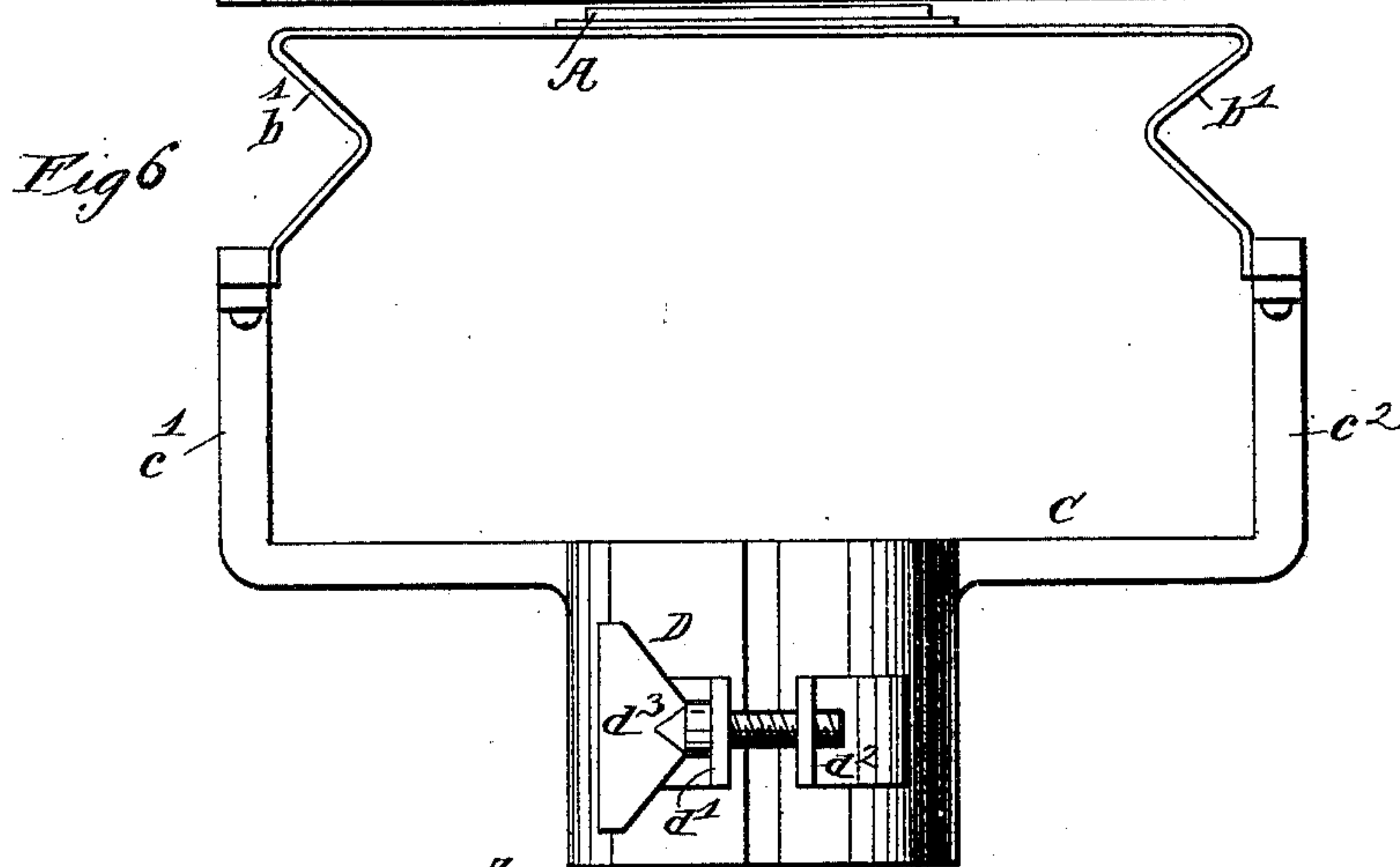
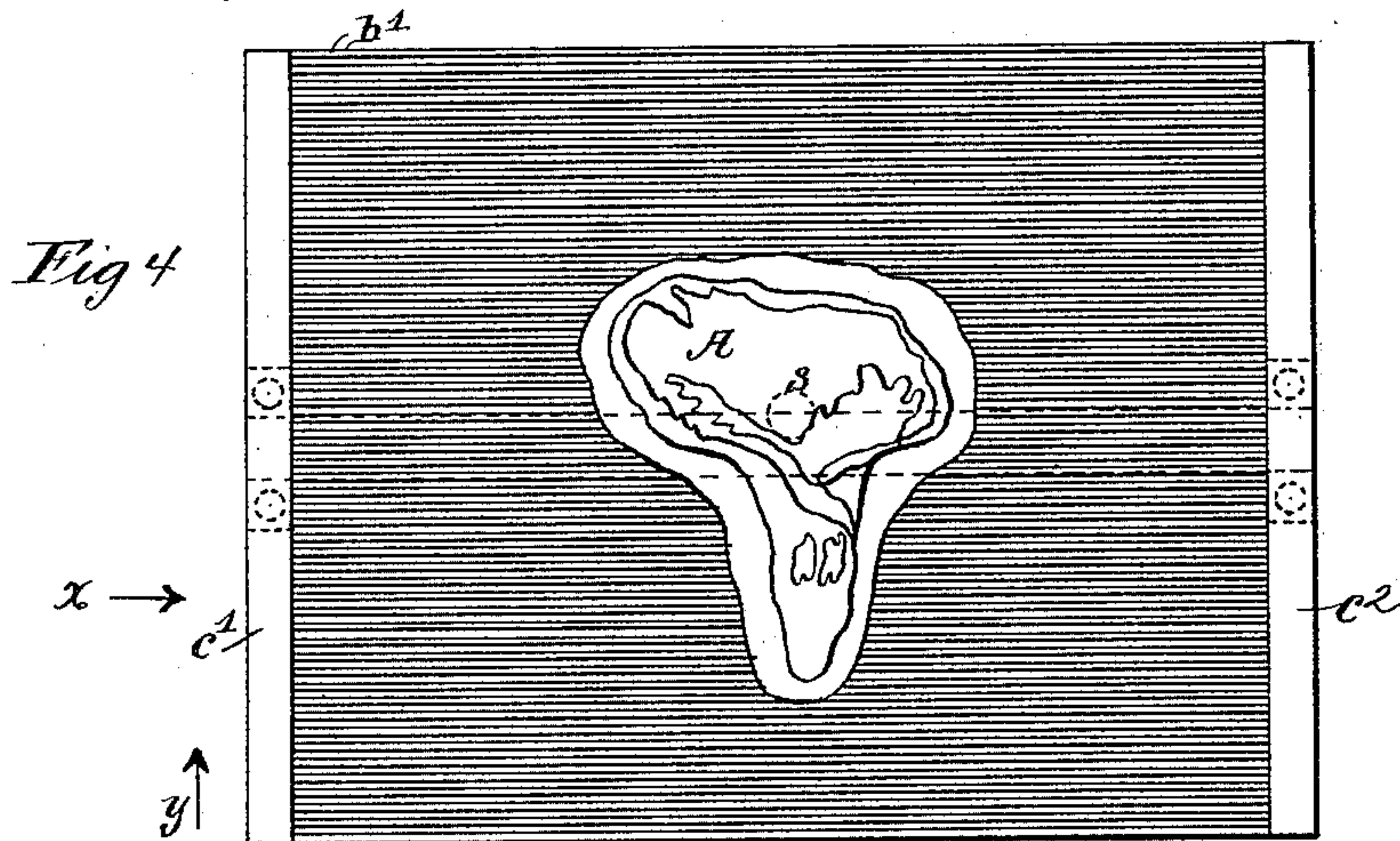
By his Attorney

Inventor
Thomas Harper
Edwin H. Brown

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Witnesses
Chas. Ferguson
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By his Attorney

Inventor
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UNITED STATES PATENT OFFICE.

THOMAS HARPER, OF WESTCHESTER, ASSIGNOR TO JOHN HARPER, OF
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TYPE FOR PRINTING LAMP-SHADES.

SPECIFICATION forming part of Letters Patent No. 453,771, dated June 9, 1891.

Application filed August 20, 1890. Serial No. 362,497. (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
5 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 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 a claim.

In the accompanying drawings, Figure 1 is a face view of a type embodying my improvement. Fig. 2 is a side view thereof, looking
20 in the direction indicated by the arrow x , which is marked adjacent to Fig. 1. Fig. 3 is a side view looking in the direction indicated by the arrow y , which is marked adjacent to Fig. 1. Fig. 4 is a front view of a type of modified construction. Fig. 5 is a side
25 view looking in the direction indicated by the arrow x , which is marked adjacent to Fig. 4. Fig. 6 is a side view looking in the direction indicated by the arrow y , which is marked
30 adjacent to Fig. 4.

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

I will first describe that example of my improvement which is illustrated by Figs. 1, 2,
35 and 3.

A designates a printing-surface consisting of a sheet of rubber, rubber cloth, or like flexible material, cut to represent any desired article.

40 B designates a support comprising a number of strips of spring metal b' , arranged at short distances apart, so as to be parallel to each other, and having the end portions bent downward and inward and then downward
45 and outward. The extremities of these strips are fastened by solder or otherwise to rails c' c^2 , forming part of a holder C. The support B also comprises a number of strips of spring metal b^2 , which cross the strips b' at right
50 angles and are arranged at short distances apart parallel to each other. The strips b^2

are fastened midway between their ends to the center strip b' . While they may be fastened in any desired manner, I prefer to fasten them in place by riveting. I desire it to be
55 understood that the strips b' are entirely disconnected from each other, that the strips b^2 are entirely disconnected from each other, and that the strips b^2 are unconnected with any of the strips b' , saving only the center
60 strip of that series.

Owing to the described construction of the support B, it is free to bend in all directions to conform to the convexity of a lamp-shade or similar article. The printing-surface is
65 not connected throughout its extent to the support B, but preferably is only connected thereto at its center. It may be fastened by cement, as s , to the center strip b^2 . When so connected, it and the support B can together
70 adapt themselves to convex surfaces.

The resilience of the support B will keep it flat during inking and yet allow it to yield, as may be necessary, in printing.

The holder C is provided with a socket D, 75 having a longitudinal opening at one side, so as to be capable of expansion and contraction. Adjacent to the opening this socket is provided with lugs d' d^2 . A screw passing through the lug d' and engaging with a tapped
80 hole in the lug d^2 affords provision for tightening the socket. The socket is intended to fit an arm in a printing-press.

In Figs. 4, 5, and 6 I have illustrated a very similar construction, substantially the only
85 difference being that the strips b^2 of Figs. 1, 2, and 3 are entirely omitted, and instead of the flat strips b' round strips or wires b' are used. These wires are bent longitudinally just like the strips b' in Figs. 1, 2, and 3, and are
90 at the ends soldered to the rails c' c^2 of the holder C. The printing-surface A is attached at its center by cement, as at s , or by any other means to one or more of the wires.

The type last described, like the one represented in Figs. 1, 2, and 3, will present a flat
95 surface for inking and can yield in printing to conform to a convex surface.

In each example of the improvement the surface of the support B is much larger than
100 the printing-surface A. The particular printing-surface represented is a small one. The

support needs to be as large as the largest printing-surface which it is desired to employ in order that one printing-surface may be detached and another attached in its place.

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

1. A type having a flexible printing-surface and a support therefor, consisting of a number of strips which are of themselves resilient, substantially as specified.

10 2. A type having a flexible printing-surface and a support therefor, consisting of a number of parallel strips which are of themselves resilient, substantially as specified.

15 3. A type having a flexible printing-surface and a support therefor, consisting of a number of strips which are of themselves resilient,

bent inward and outward at their extremities, substantially as specified.

4. A type having a flexible printing-surface 20 and a support therefor, consisting of a series of parallel strips fastened at the ends and a second series of strips extending at right angles to the first series and fastened at the middle to one of the first series of strips, substantially as specified. 25

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. EDMUNDS.