

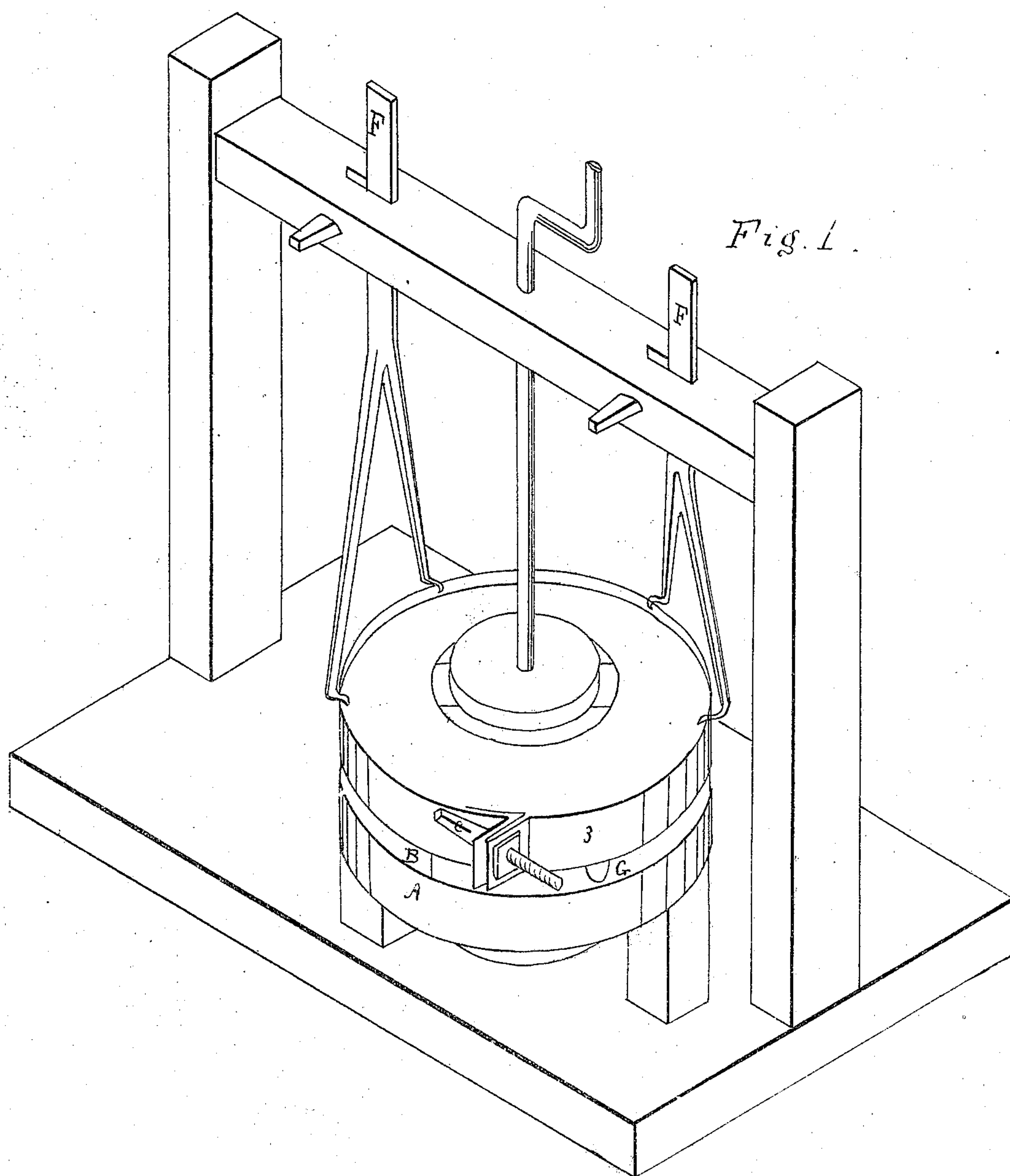
Sheet 1-3 Sheets.

R. Fish.

Blocking & Stretching Hats.

N<sup>o</sup> 3790

Patented Oct. 12, 1844.

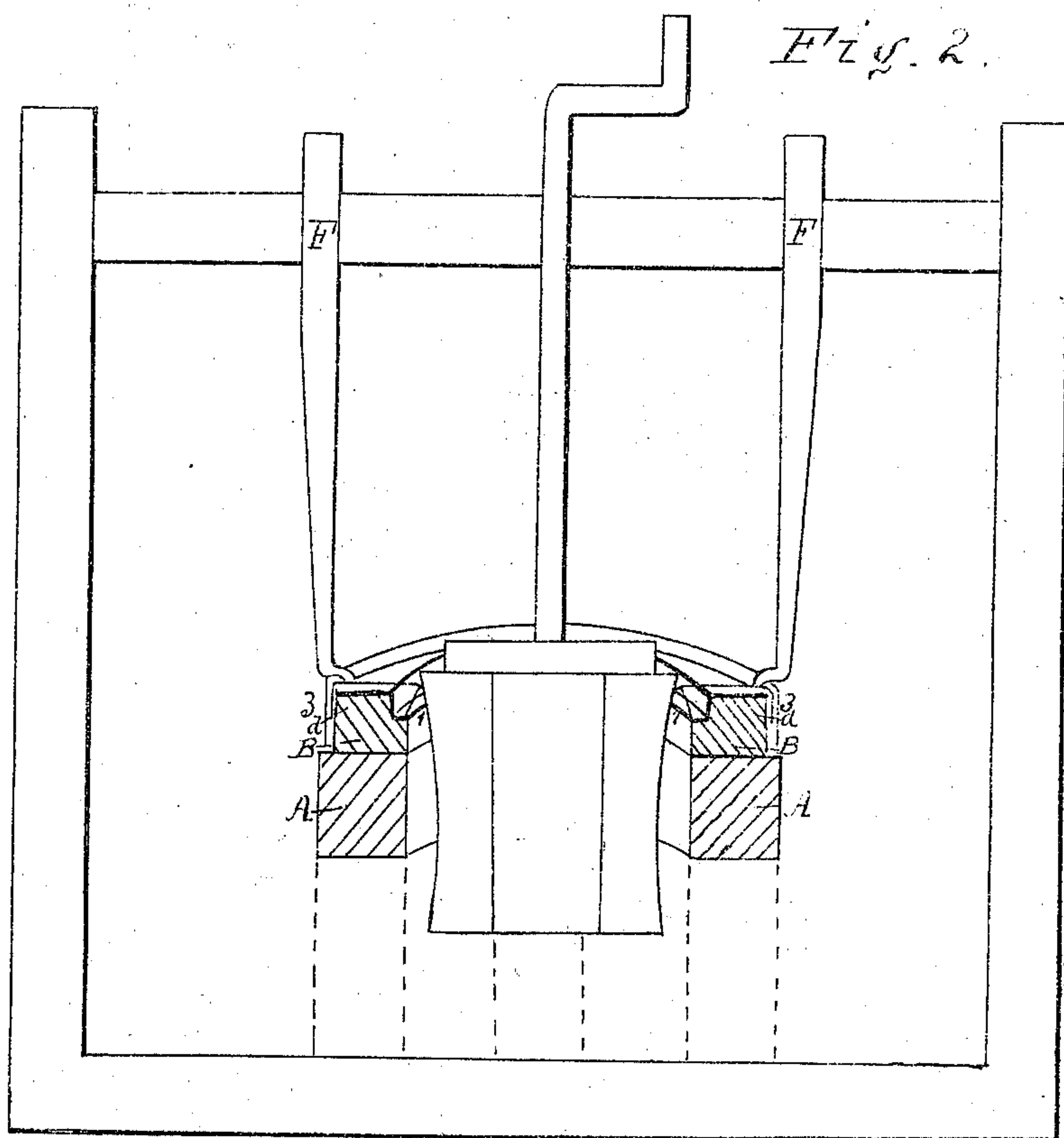
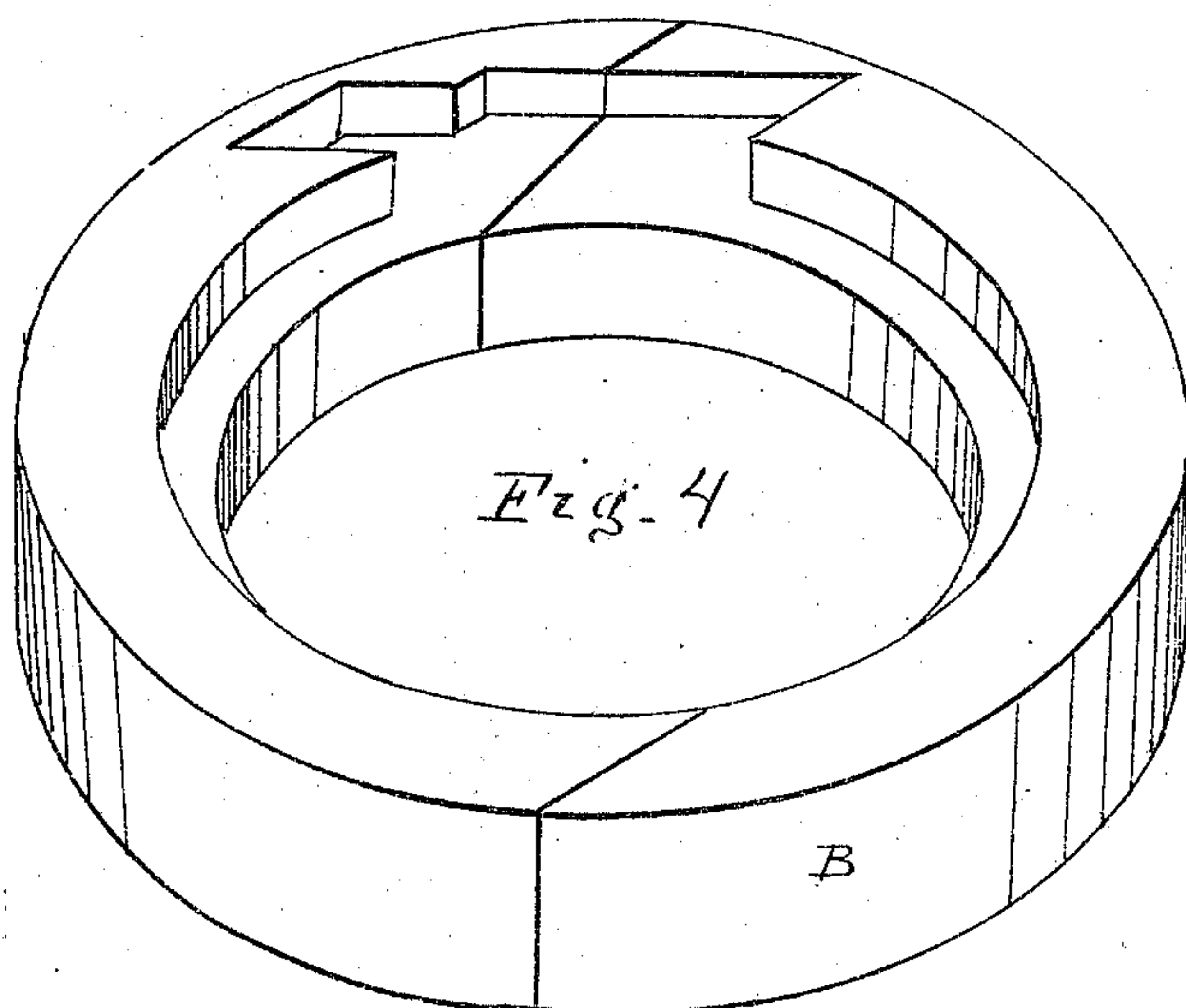


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Sheet 3-3 Sheets.

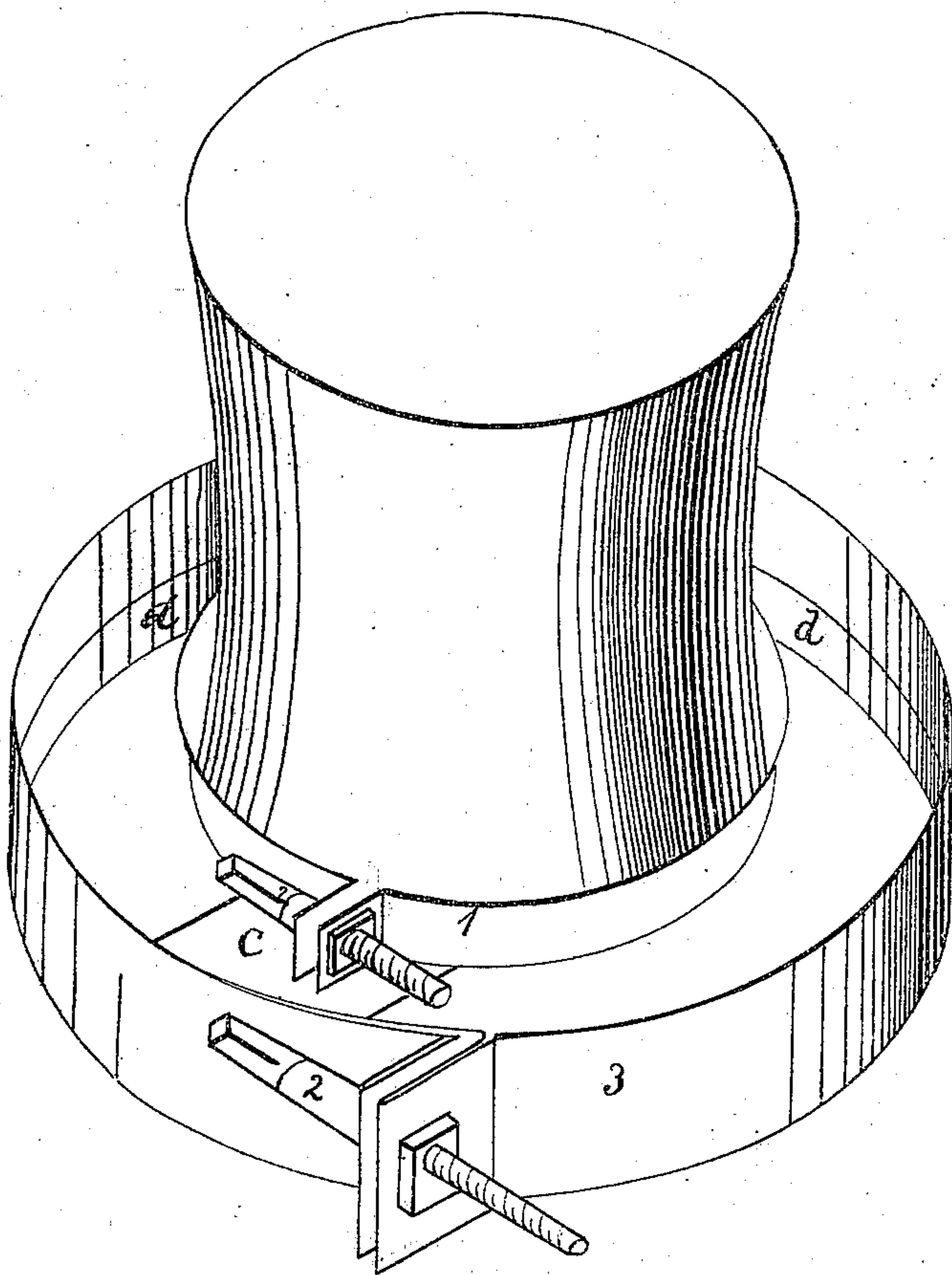
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Fig. 3.





# UNITED STATES PATENT OFFICE.

RANDAL FISH, OF NEW YORK, N. Y.

MACHINERY FOR FORMING, &c., HATS OF LEATHER, SKINS, AND OTHER MATERIALS.

Specification of Letters Patent No. 3,790, dated October 12, 1844.

*To all whom it may concern:*

Be it known that I, RANDAL FISH, of the city of New York, in the State of New York, have invented a new and improved mode of making hats and caps of leather, skins, or other fabrics by stretching them into shape while wet and retaining them there till dry by means of machinery; and I do hereby declare that the following is a full and exact description thereof.

In the accompanying drawings which make a part of this specification, Figure 1, is a perspective view of the entire machine; Fig. 2, a longitudinal section to show the arrangement of the parts; Fig. 3, an enlarged view of the hat removed from the machine after having been formed, with all the hoops and bands on prepared for applying the sizing, and Fig. 4, a separate view of the bed piece on the same scale, to represent the groove and recesses for receiving the spring clamp band and screw.

A represents a machine consisting of a floor, two upright posts, a horizontal beam with a vertical screw passing through the center,—directly under which is a bench raised by three posts of sufficient height to admit a hat to pass through a hole cut for the purpose in the center of the bench.

B, is a movable bed piece having a hole through it of sufficient size to give free passage to the hat block as it carries the skin or fabric with it in the formation of the hat. This hole is made a little oval to correspond with the oval shape of the hat block. The upper surface of the bed piece is made a little dishing to correspond with the curve shape of the block. The surface of the bed piece is larger by a half inch or more than is required for the brim of the hat, as in all cases the brim will need trimming in order to get an even edge. The bed piece should be made of plank about two inches thick. Around the upper and inner edge of the bed piece, there is a groove cut about half an inch in width and three fourths of an inch in depth for the spring clamp band No. 1. About one tenth of the circumference of this groove is enlarged to accommodate the tightening screw No. 2, also to accommodate the flanges of the spring clamp band, through which said screw passes, by means of which the band is made to hold the skin or fabric firmly to the block until

it is removed. There is also a horizontal hole G or slot passing from the periphery of the bed piece to the enlargement of the groove, for the purpose of applying the key to the tightening screw.

A conical form is given to the spring clamp bands to enlarge the circumference of the lower edge of the band so that it may rest on the flange or bottom or the groove in the bed piece, and also to prevent it from bearing upon the hat except at the upper edge, that varnish &c. may be applied as nearly as possible to the whole surface of the hat while the fastenings remain. This band is made of iron, steel or other metal with a flange at each end about three fourths of an inch in width and one fourth in thickness at the lower edge, diminishing in thickness from the lower, to the upper edge to less than one eighth of an inch, so that the least possible surface of the band shall come in contact with the hat. This thickness at the lower edge is given for the purpose of giving it strength, and also to enlarge its circumference. This band is curved to conform to the curve and shape of the block and is intended to form the angle to the brim, and rim, or body of the hat by holding the skin or fabric loosely around the block until the block is pressed down to the full depth of the body of the hat, where by means of the tightening screw it is made to hug the block closely, as before described. There is also a groove made on the surface or periphery of the bed piece half an inch in depth, and one eighth of an inch in width for a hoop over which the skin or fabric is drawn. This hoop marked *d* in the drawing may be made of iron or other metal, the size and shape corresponding with the groove last described.

No. 3, is an open band made of thin sheet iron or brass with flanges at the ends and is loosened or tightened in the same manner as band No. 1, by means of a screw No. 2. This band No. 3, is applied to the outer surface or periphery of the bed piece and hoop and over the skin or fabric for the hat to confine the skin or fabric between the hoop and band with sufficient firmness to stretch and hold in shape the brim, at the same time yielding just enough to let the skin or fabric pass over the hoop, and down with the block, until the hat is completely



formed; and then by turning the tightening screw a little more, the band holds the brim of the hat in its place till it is dry.

5 C, is a small plate of brass or other metal sufficiently large to cover the flanges of the spring clamp band and space between the flanges, to complete the circle around the hat and aid in confining the skin or fabric to the block with equal firmness as that of  
10 the other parts of the spring clamp band. The inner edge of this plate is curved to conform to the circle of the spring clamp band and block, having also a flange turned down about one fourth of an inch to hold  
15 it in its proper position when placed over the band.

F F, are two rests or band holders, being properly adjusted by screws in the cross beam upon band No. 3 to prevent it from  
20 rising while the hat is being pressed into shape.

Having thus fully described the nature of the machinery used by me for forming hats and caps of leather, skins, or other  
25 fabric, and shown the manner in which the

same operates—I do hereby declare that I do not claim either of the parts taken individually; but

What I do claim as my invention, and desire to secure by Letters Patent, is— 30

1. Making the spring clamp band conical, that the hat may be sized while the band is on; and I also claim this band provided with a screw, or other adjustable clamp in combination with the bed provided with a  
35 groove in which the band lies, and from which it can be withdrawn with the hat while clamped around it, as described.

2. I also claim the combination of the hoop with the adjustable band for clamp- 40 ing the brim of the hat to hold it while under the operation of the machine, and after it has been removed, to admit of sizing, which could not be effected with clamp plates.

RANDAL FISH.

Witnesses:

W. THOMPSON,  
JETHRO HATCH.