

(No Model.)

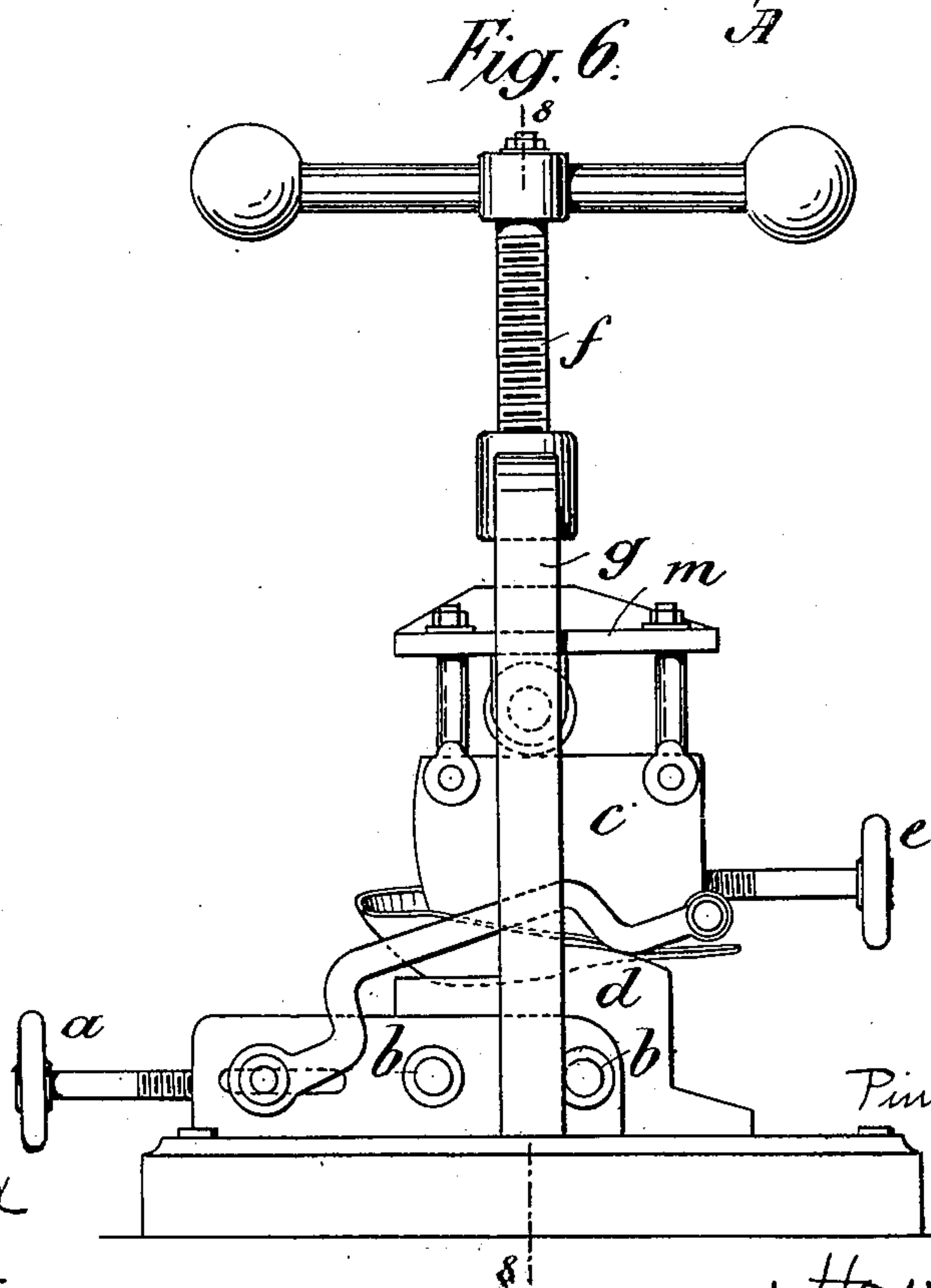
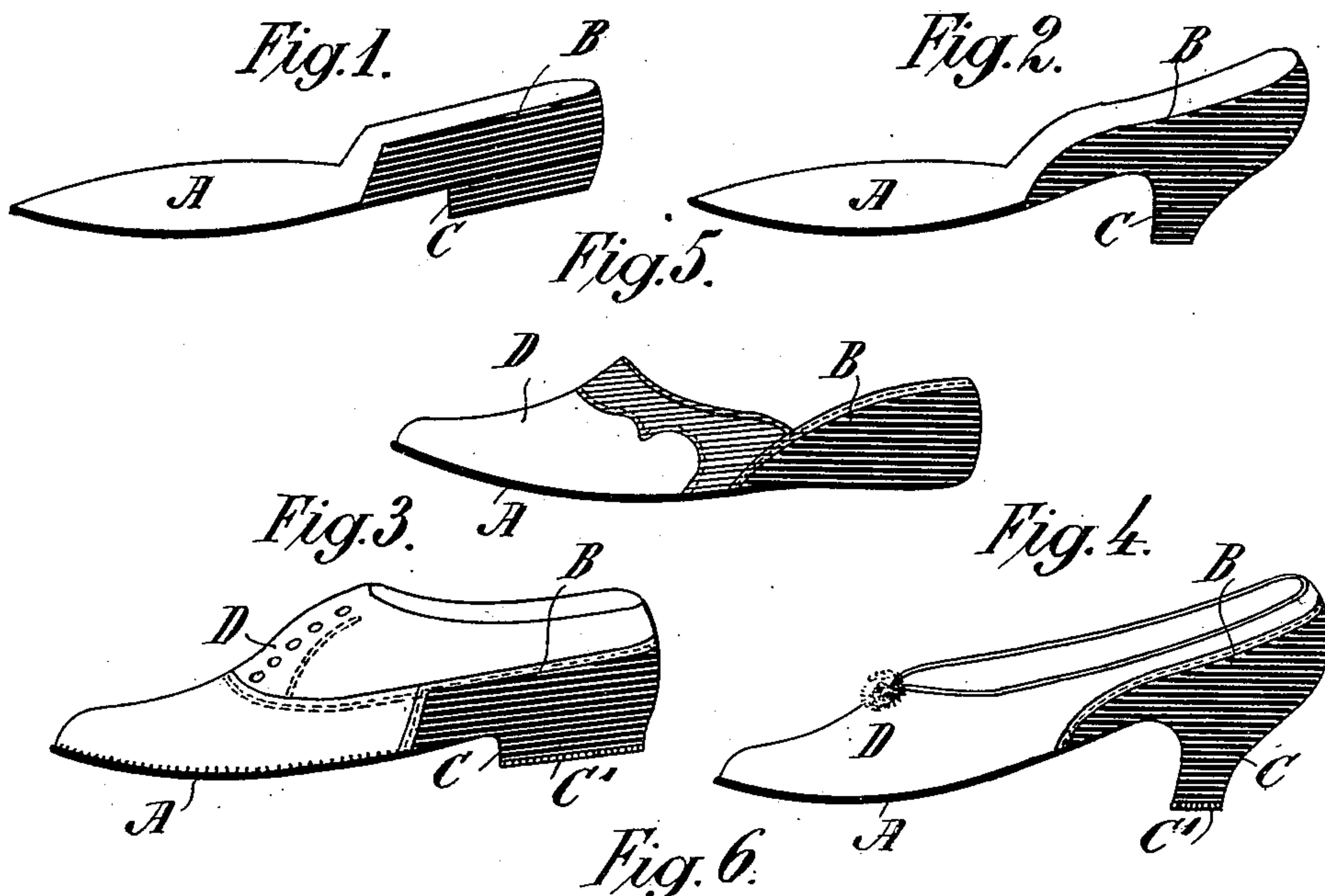
2 Sheets—Sheet 1.

P. I. MACHLIS.

APPARATUS FOR MAKING BOOTS OR SHOES.

No. 592,637.

Patented Oct. 26, 1897.



WITNESSES:

E. J. Griswold
A. C. Connor

INVENTOR:

Pinchus S. Machlis

BY HIS ATTORNEYS

Horner and Horner

(No. Model.)

2 Sheets—Sheet 2.

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Fig. 7.

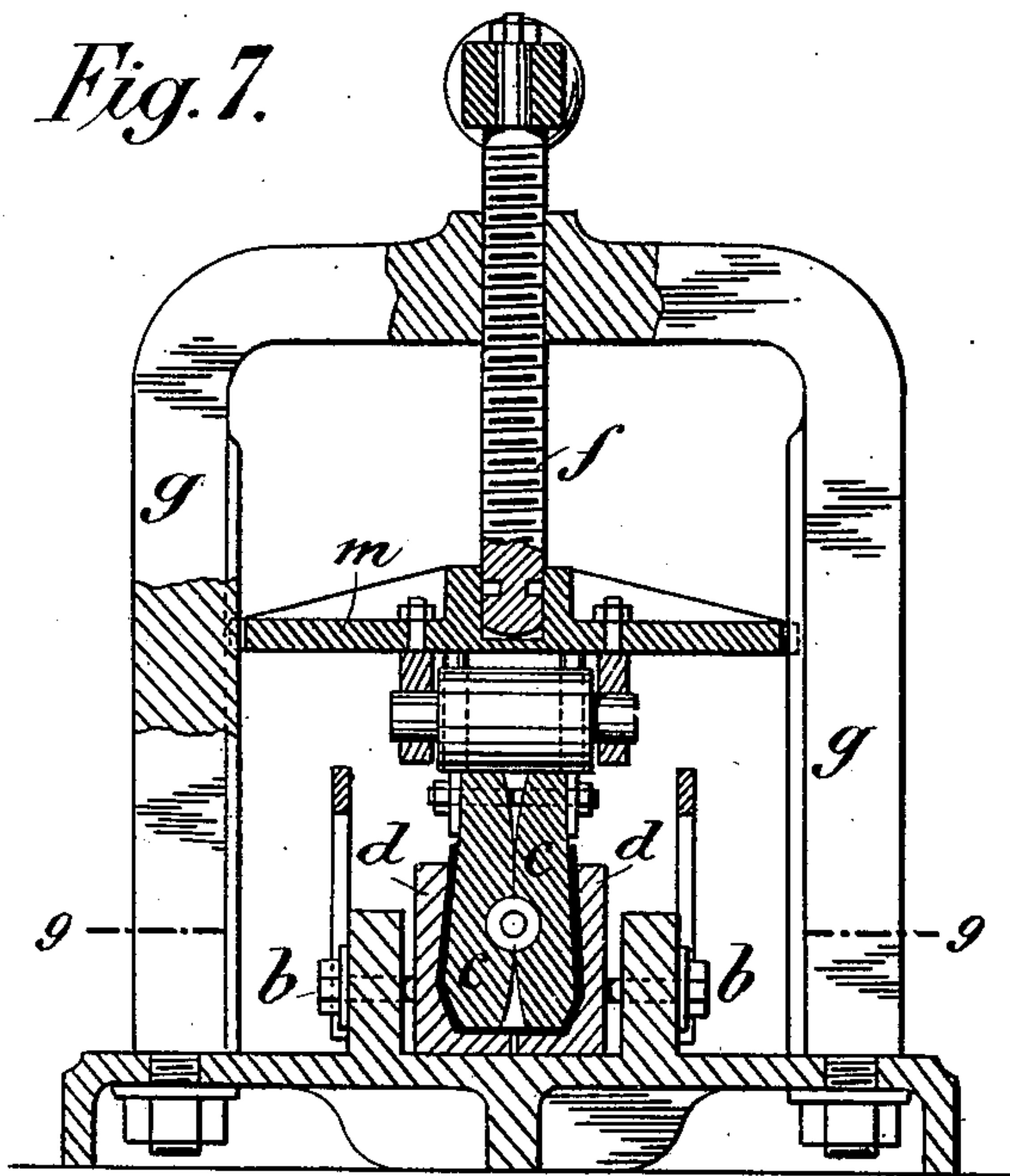


Fig. 9.

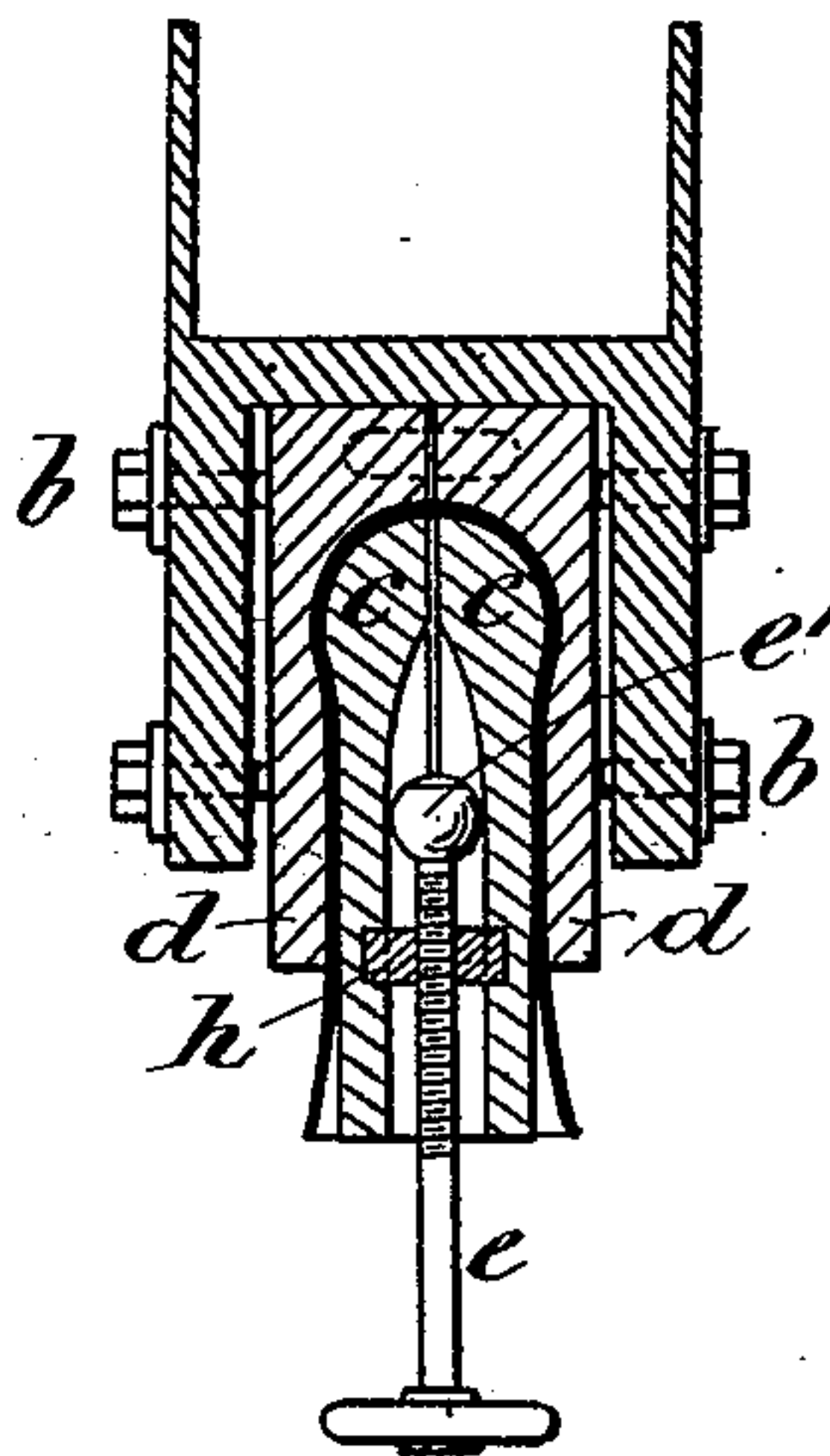
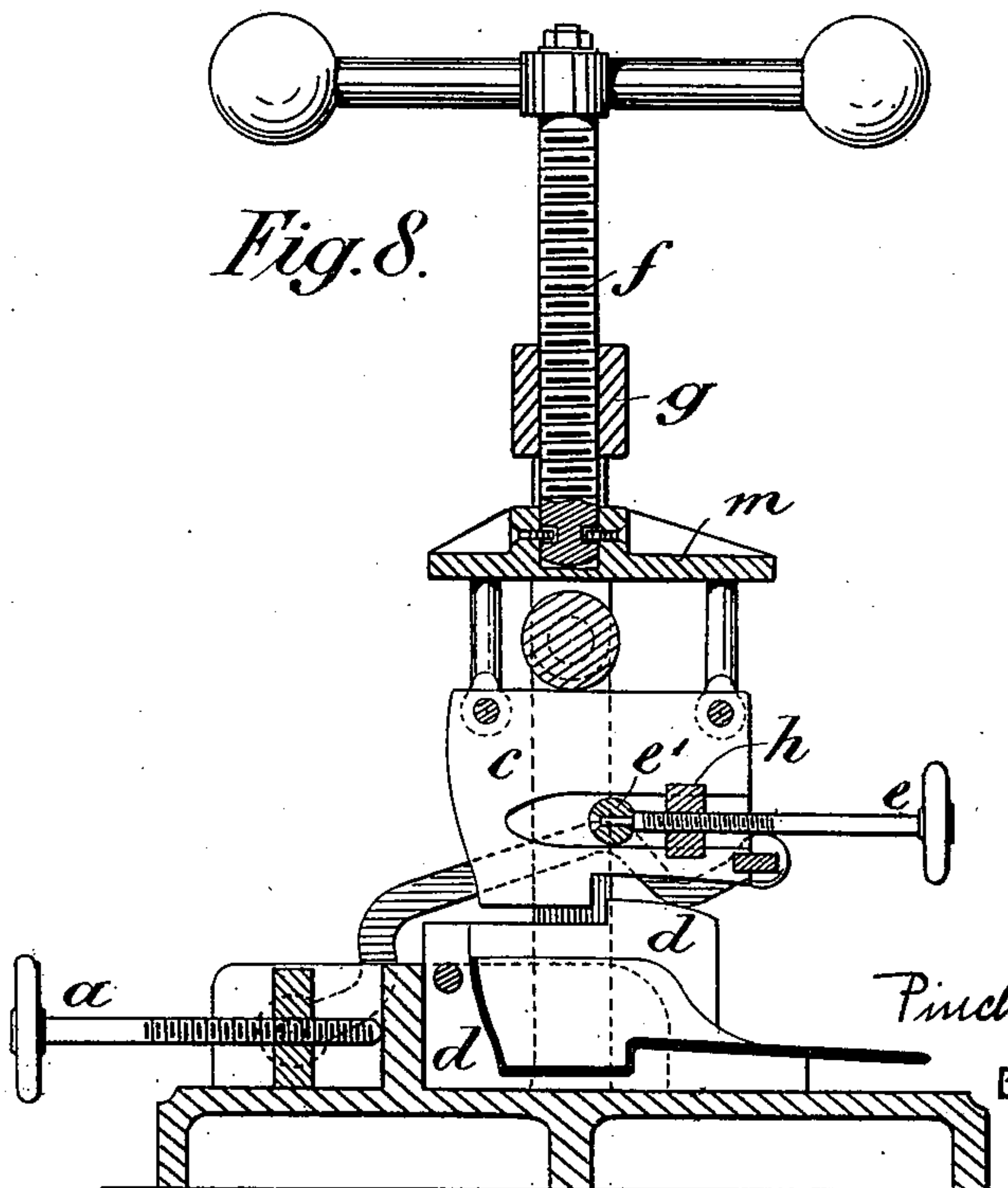


Fig. 8.



WITNESSES

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Howson and Howson

UNITED STATES PATENT OFFICE.

PINCHUS IZKOWITCH MACHLIS, OF KREMENTSCHUG, RUSSIA, ASSIGNOR TO
HERMAN HESSEN, OF SAME PLACE.

APPARATUS FOR MAKING BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 592,637, dated October 26, 1897.

Application filed December 12, 1896. Serial No. 615,475. (No model.)

To all whom it may concern:

Be it known that I, PINCHUS IZKOWITCH MACHLIS, tradesman, a subject of the Emperor of Russia, residing at Liubarski's house, Cherson Street, Krementschug, Empire of Russia, have invented certain new and useful Improvements in Apparatus for Making Boots or Shoes, of which the following is a specification.

10 This invention comprises an apparatus or press in which a piece of leather is so shaped as to form the sole, the shank, the quarter or counter, and, if desired, also the heel of a boot or shoe.

15 In the accompanying drawings, Figures 1 and 2 show two different forms of a sole A, with the quarter B and the heel portion C pressed out of one piece of leather by the apparatus of the present invention. Figs. 3 and 20 4 show each a complete shoe in which to the sole A and quarter B the upper D is sewed. The heel C may be strengthened by nailing or otherwise securing to it a piece C' of leather or other suitable material; also, the sole may 25 be strengthened by nailing or otherwise securing to it a piece of leather or other suitable material of suitable shape. Fig. 5 shows a shoe with sole and quarter made in one piece in accordance with the present invention, but 30 without a heel. Such shoes may be finished by securing to them an ordinary heel. Fig. 6 is a side elevation of the apparatus for pressing the sole and quarter and also the heel portion, as shown in Fig. 1, out of a single 35 piece of leather. Fig. 7 is a section on the line 7 7, Fig. 6. Fig. 8 is a section on the line 8 8, Fig. 7. Fig. 9 is a horizontal section through the upper die of the apparatus.

40 The apparatus consists of a press-plate *m*, actuated by a screw *f* or other suitable mechanism and supported by a suitable frame *g*. The upper die *c c* is attached to the under side of the press-plate *m*, while the bottom plate of the frame carries the counter-die *d d*, 45 which may be adjusted to the proper position by the adjusting-screws *a b b*.

50 The size and shape of the bottom or counter die *d d*, as also of the upper die *c c*, correspond to the size and shape of the article to be produced; but as the quarter has to be larger at

the bottom than at its upper edge to nicely fit the foot the upper die consists of two parts or halves which bear against each other with convex surfaces and are adapted to move along a bolt secured to the press-plate *m*, as 55 shown in Fig. 7. These two parts embrace a nut *h*, through which the screw *e* passes. This screw is provided at its outer end with a handle or hand-wheel and at its inner end with an antifriction ball *e'*, entering into wedge- 60 shaped or rearwardly-tapering grooves provided opposite each other at the inner convex surfaces of the two halves *c c* of the upper die below the normal line of contact of such halves. By screwing in the screw *e* the two 65 halves of the upper die are thus forced apart at the bottom, and while their adjacent convex surfaces roll upon each other, so that the bottom portions of the said halves assume a position corresponding to the desired shape 70 of the article to be produced, the top portions of such halves approach each other, sliding along the bolt, by which they are connected to the press-plate *m*, as shown in Fig. 7.

75 The piece of leather to be worked upon after being cut to shape is soaked for thirty minutes, more or less, in cold water and is then placed upon the bottom or counter die *d d*. The upper die is then forced down until it has fully entered the bottom die. Then the two 80 halves of the upper die are forced apart at the bottom by screwing in the screw *e*, whereby the piece of leather is caused to assume the desired shape. The screw is then screwed out again and the upper die is raised out of 85 the counter-die, whereupon the pressed piece of leather forming the sole, the quarter, and, if desired, also the heel portion in one piece can be taken out. To this piece the upper and the strengthening pieces for the sole and the 90 heel may be secured in any ordinary manner. If the piece is provided with a heel portion, as indicated in Figs. 1 and 2, this heel portion is filled out with a plug of wood or with some other appropriate mass or material, where- 95 upon the boot or shoe may be finished in any desired manner; also, a separate insole may be secured to the pressed piece of leather.

Boots and shoes in which the sole, the quarter, and, if desired, also the heel are formed 100

integrally of a single piece of leather, as here-
inbefore described, are very light and solid
and may be manufactured at a low cost.

I claim—

5 In a press for forming the sole, with or with-
out a heel-recess, and the quarter of a boot or
shoe out of a single piece of leather, the com-
bination of a bottom or counter die, an upper
die adapted to enter into the bottom die,
10 means for raising and lowering the upper die,
such upper die being composed of two halves
bearing against each other and adapted to roll
the one upon the other with convex surfaces,
of a nut embraced by such halves, of a screw
15 engaging with such nut and entering into

wedge-shaped grooves provided opposite each
other in the adjacent convex surfaces of such
halves, the top portions of which are adapted
to slide along a bolt connecting them with
the press-plate and means for actuating the 20
screw operating the said halves of the upper
die, substantially as described.

In testimony whereof I have signed my
name to this specification in the presence of
two subscribing witnesses.

PINCHUS IZKOWITCH MACHLIS.

Witnesses:

ALEXANDRE ROFFOLOVICH,
S. M. FARBSTENG.