

(No Model.)

W. J. YOUNG.
HEEL STIFFENER MACHINE.

No. 350,907.

Patented Oct. 12, 1886.

Fig. 1.

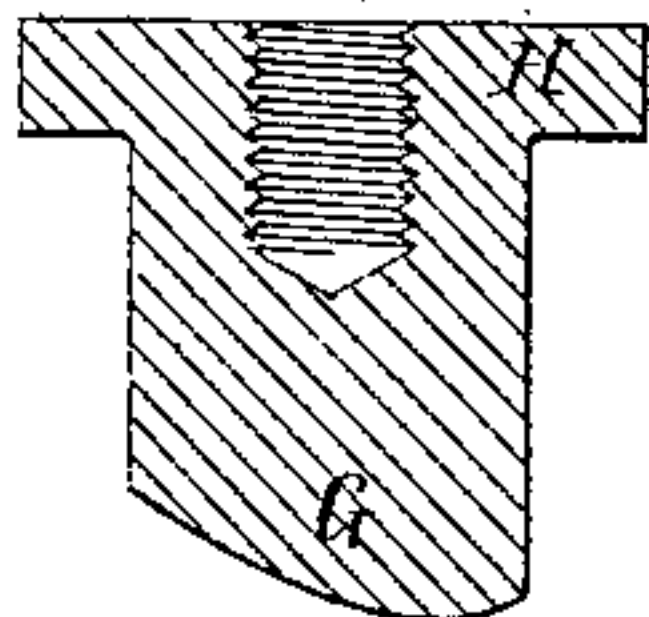


Fig. 2.

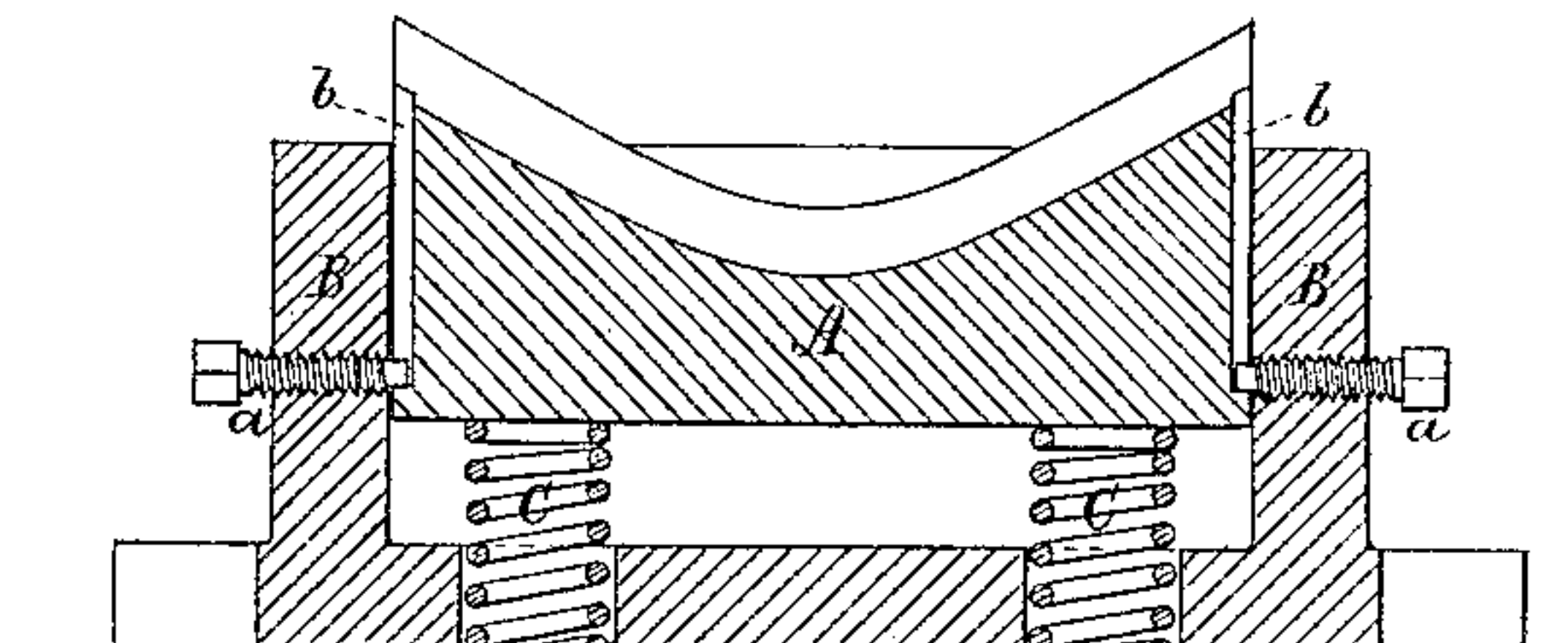
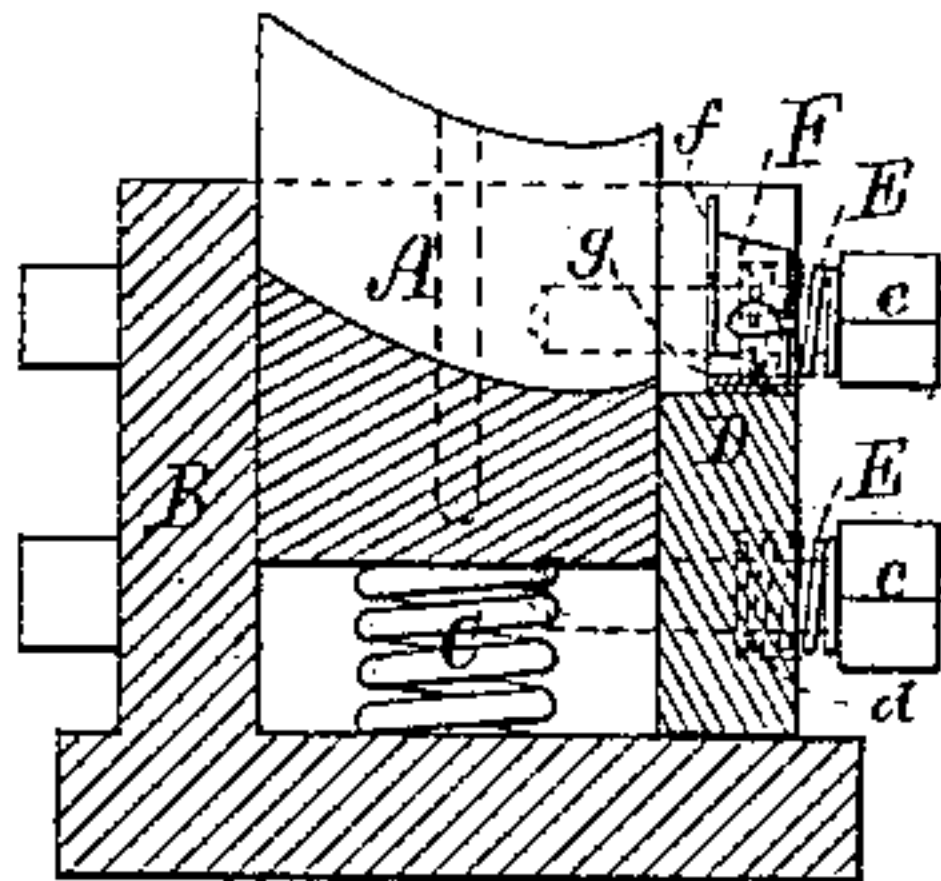
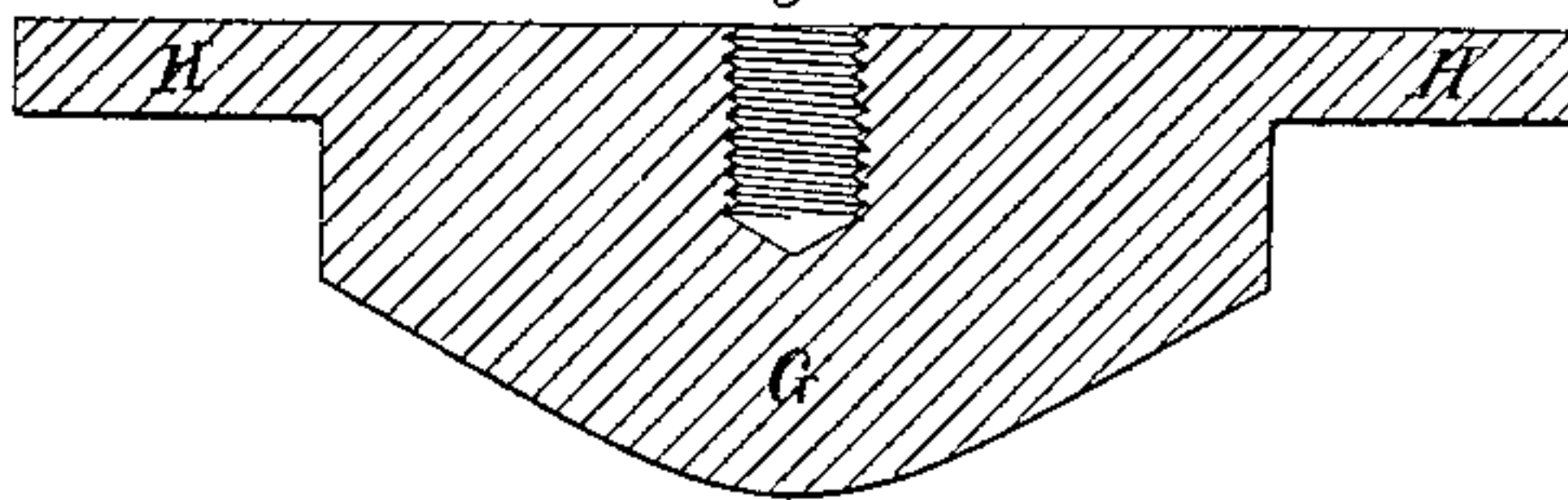


Fig. 3.

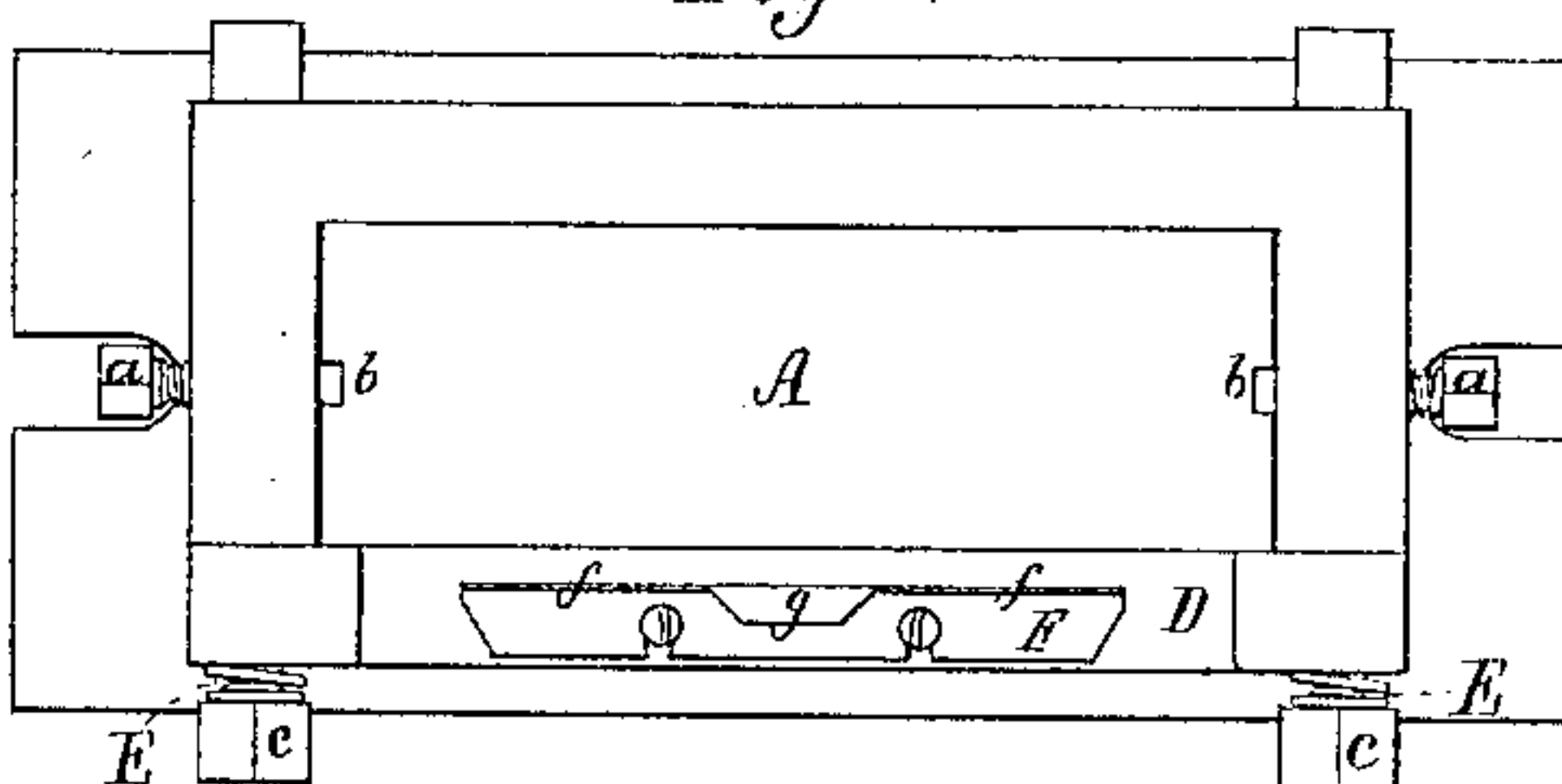


Fig. 6.

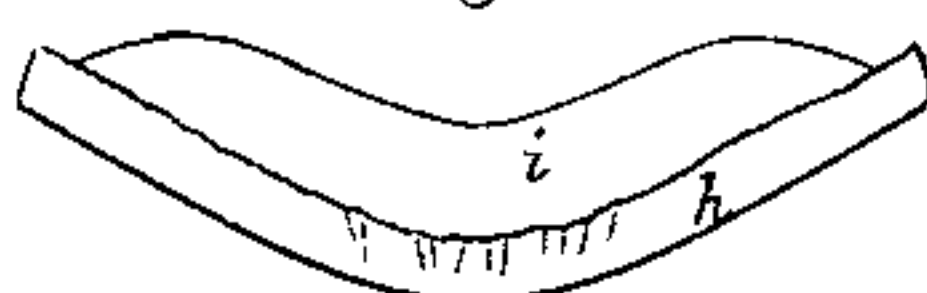


Fig. 7.

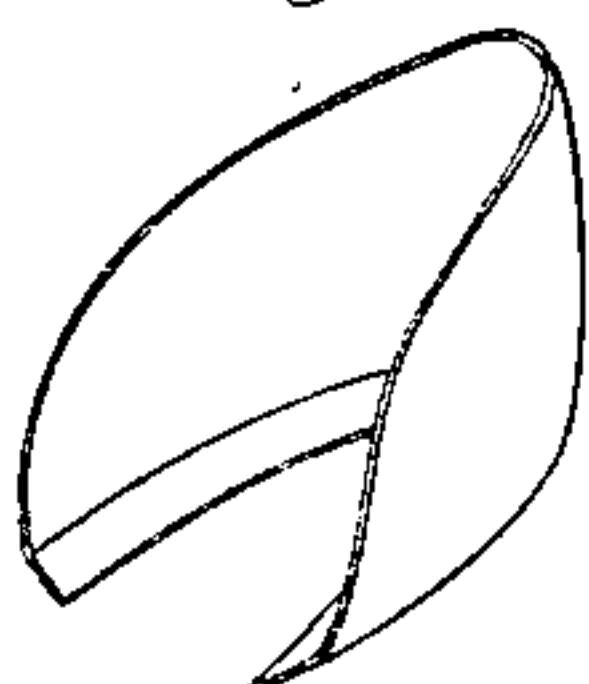


Fig. 5.

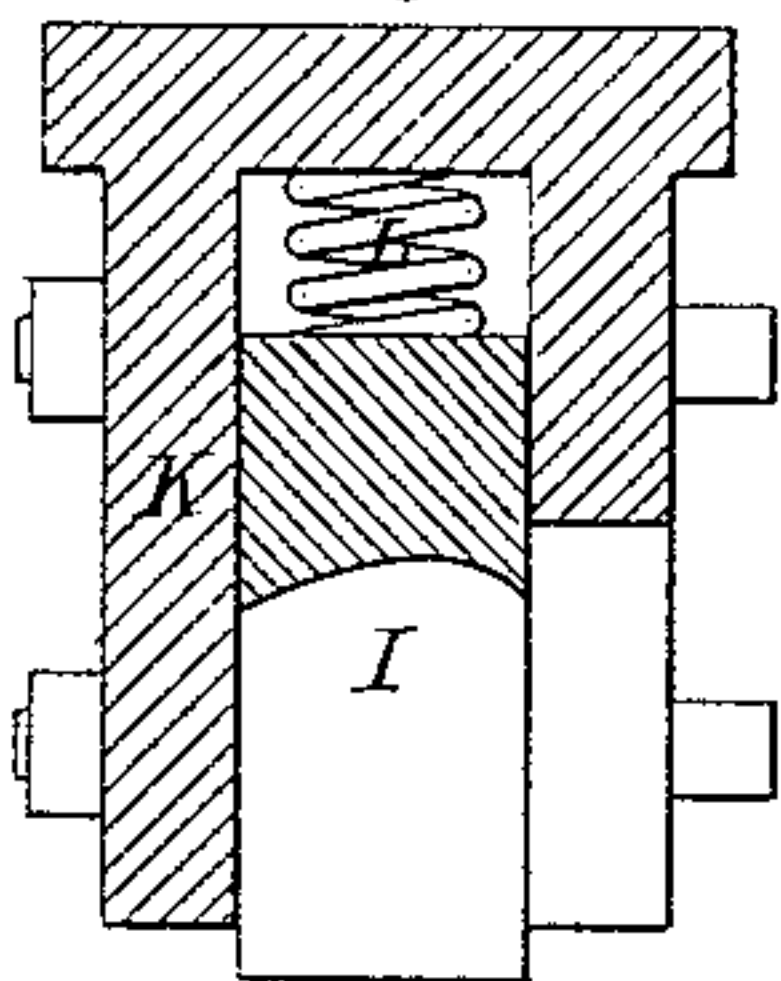
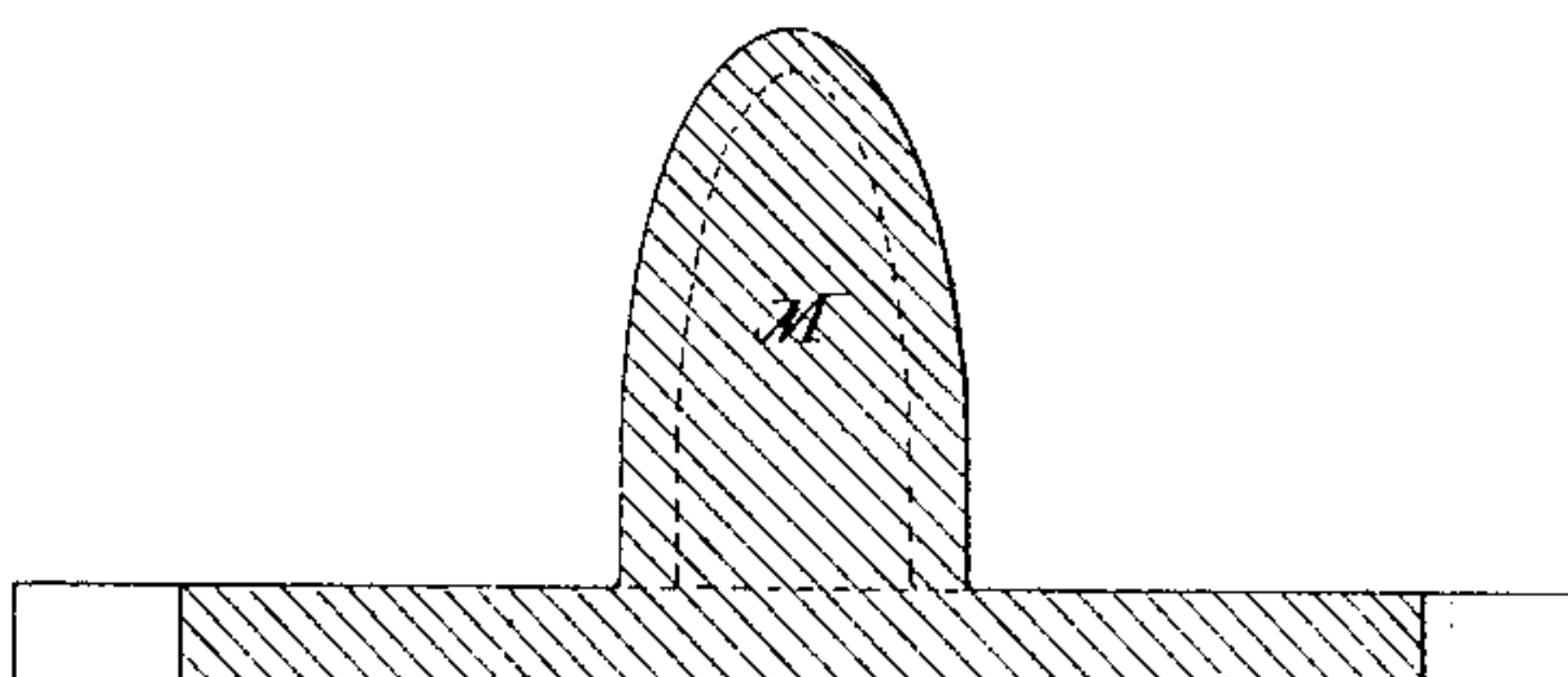
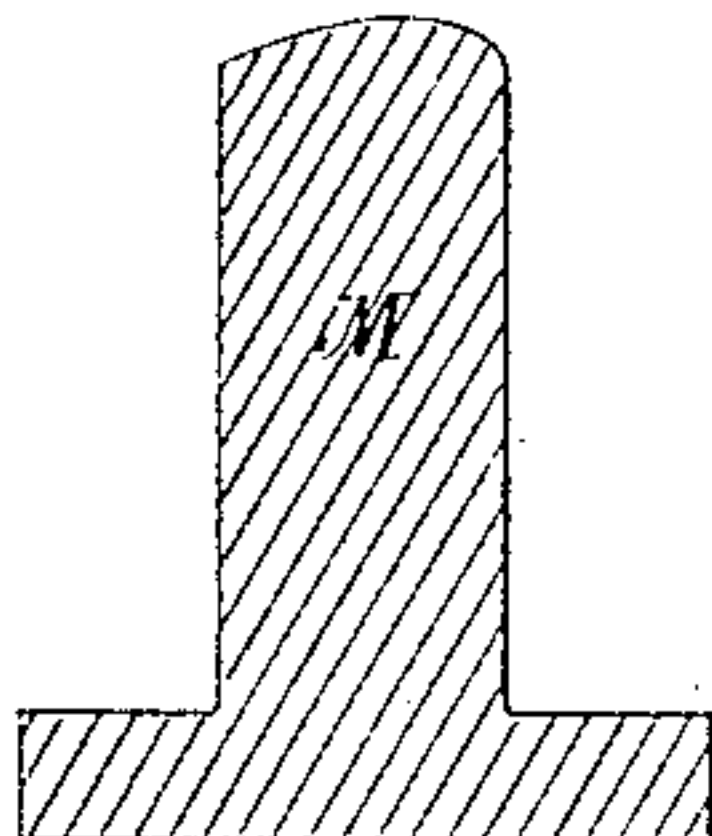
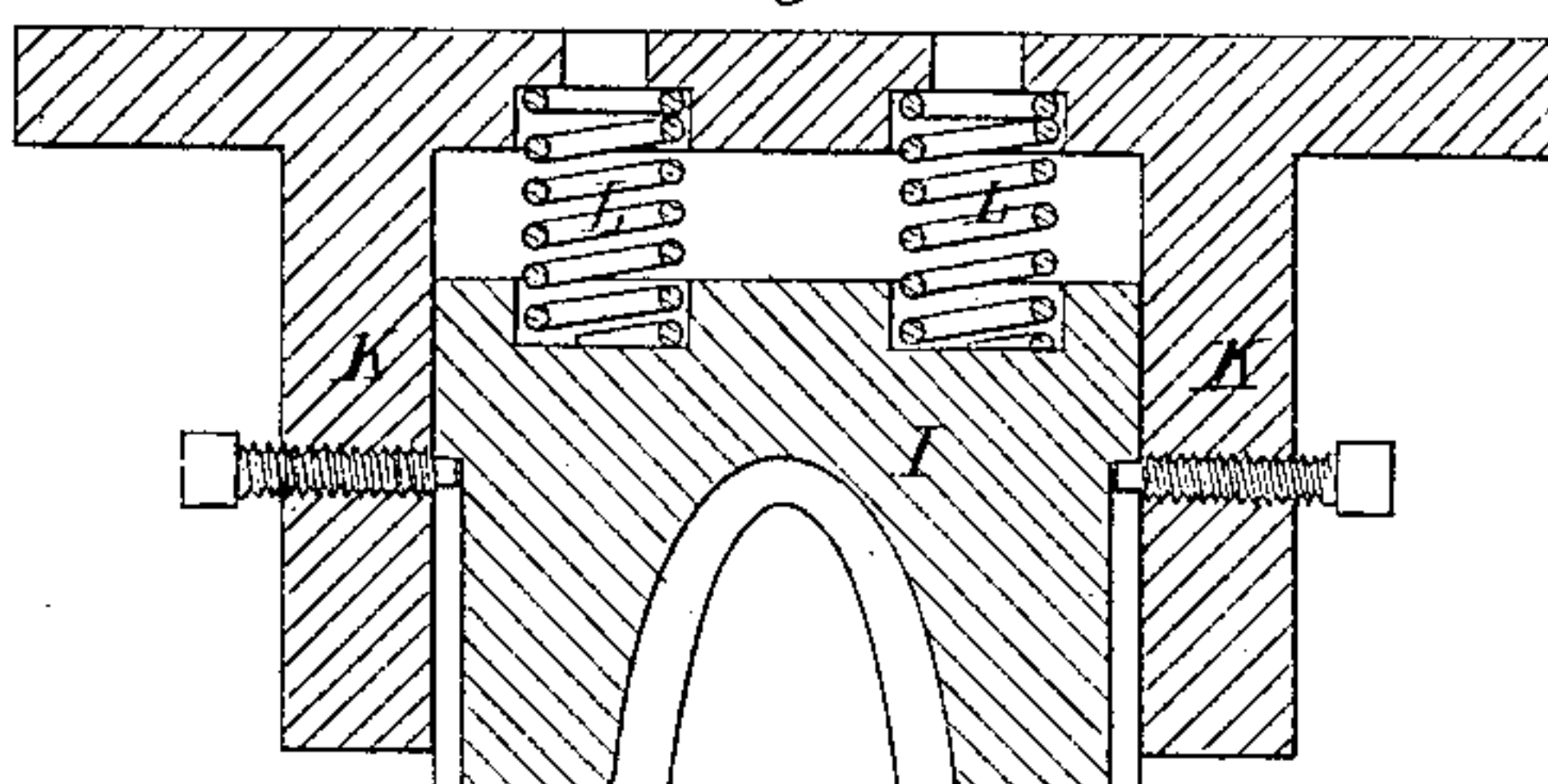


Fig. 4.



Witnesses:
S. N. Piper.
R. B. Torrey

Inventor:
William J. Young.
by R. H. Sedy atty

UNITED STATES PATENT OFFICE.

WILLIAM JOHNSON YOUNG, OF LYNN, MASSACHUSETTS, ASSIGNOR, BY
MESNE ASSIGNMENTS, TO WILLIAM J. YOUNG AND ELMER W. SAMP-
SON, OF SAME PLACE.

HEEL-STIFFENER MACHINE.

SPECIFICATION forming part of Letters Patent No. 350,907, dated October 12, 1886.

Application filed July 19, 1886. Serial No. 208,356. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JOHNSON YOUNG, of Lynn, in the county of Essex, of the Commonwealth of Massachusetts, have in-
5 vented a new and useful Improvement in Mechanism for Forming Shoe or Boot Heel Stiffeners; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of
10 which—

Figure 1 is a transverse and median section, and Fig. 2 a longitudinal and median section, of what is hereinafter termed the "preliminary machine." Fig. 3 is a top view of the
15 concave die and its carrier, constituting parts of such preliminary machine. Fig. 4 is a longitudinal and median section, and Fig. 5 a transverse and median section, of the finisher or auxiliary machine used in connection with
20 the preliminary machine in making or forming a shoe-heel stiffener. Fig. 6 is a perspective view of a stiffener as formed by the preliminary machine, and Fig. 7 is a perspective view of it as completed by the finisher.

25 The nature of my invention is defined in the claim hereinafter presented.

My improvement in manufacturing or forming a heel-stiffener requires it to be partially shaped in and by the preliminary machine,
30 and to be completed by the auxiliary machine or finisher.

The preliminary machine constituting my invention or improvement consists not only of a female die, A, a supporting-frame, B, there-
35 for, springs C C for the said die to rest on, a lip-turner, D, springs E to such lip-turner, and a gage, F, the latter being applied to the upper edge of the lip-turner, but of a male or convex die, G, projecting downward from a
40 plate or carrier, H. The female die is concave, both lengthwise and widthwise of it, the male die being correspondingly convex in length and width. The female die slides vertically within its supporting-frame, and rests
45 upon the spiral springs C, arranged within such frame, the die being held from rising too high by means of screws *a a*, that screw through the ends of the frame and extend into grooves *b*, formed in the ends of the die. On

the die reaching its proper altitude to receive 50
a blank the lower ends of the grooves will butt against the screws. The lip-turner D is a plate, concave on its upper edge and held to the frame B by screws *c*, that go through the
55 said plate and screw into the frame, there being on the shanks of the screws and in chambers *d* in the plate D spiral springs E, to force the plate toward the female die and allow such plate to move away from such die. Fixed on
60 the top of the lip-turner is the gage F, which is a strip of metal bent like a bow, and provided with two flanges, *f*, extending up from it at its inner edge, and having a space, *g*, between their inner ends.

In partially forming a shoe-stiffener by the 65
preliminary machine, the blank—whether it be of leather or leather-board, and which in form approximates that of the segment of a circle—is laid on the top of the female die and
70 that of the lip-turner, the straight edge or chord of the blank being against the flanges of the gage. By the finger of the attendant extended between the said flanges and upon the blank the latter may be kept in place
75 until the male die may have descended upon it. Having thus placed the blank in the machine, the male die is to be forced downward, so as to crowd the blank into the female die, and bend such blank upward between the lip-
80 turner and the male die, such lip-turner yielding in the meantime, so as to admit of the part of the blank that projected over such lip-turner to be bent upward relatively to the rest of the blank, and to be crimped more or
85 less while the male die may be depressing the female die, and with it bending the blank both widthwise and lengthwise. On removal of the blank from the said preliminary machine such blank will be formed essentially as represented in Fig. 6, the lower part, *h*, of it be-
90 ing flanged or bent to an obtuse angle, with portion *i* above such lower part.

The finisher (shown in Figs. 4 and 5) consists of a female die, I, its supporting frame or box K, springs L, and a male die, M, all being ar-
95 ranged as represented. The female die is concave widthwise and lengthwise, while the male die is correspondingly convex, the female die

resting on the spiral springs L, extending from the bottom of the box K.

In using the finisher the blank partially bent or reduced to shape by the preliminary machine is laid and pressed upon the male die, after which the female die is to be forced downward upon the blank, so as with the male die to further bend and finish it.

I claim—

10 The counter-machine herein described for

partially shaping a shoe-stiffener, such machine consisting of the female die, its supporting springs and frame, the lip-turner and its springs, the gage, and the male die, all being arranged and to operate essentially as represented. 15

WILLIAM JOHNSON YOUNG.

Witnesses:

R. H. EDDY,

R. B. TORREY.