

No. 629,546.

Patented July 25, 1899.

T. L. CARBONE.

APPARATUS FOR SHAPING LIDS OF SHEET METAL BOXES.

(Application filed Oct. 22, 1898.)

(No Model.)

3 Sheets—Sheet 1.

FIG. 1.

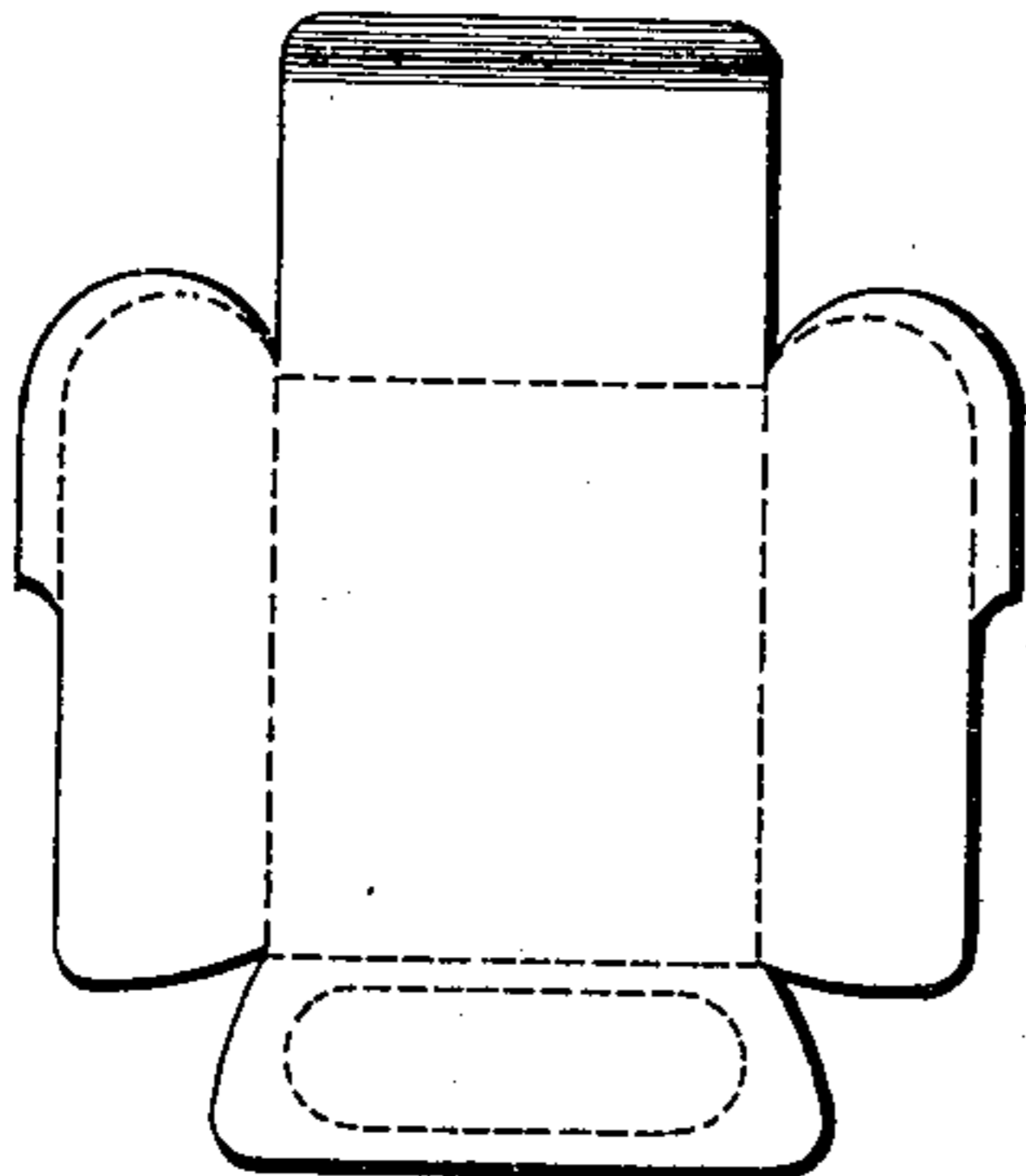


FIG. 2.

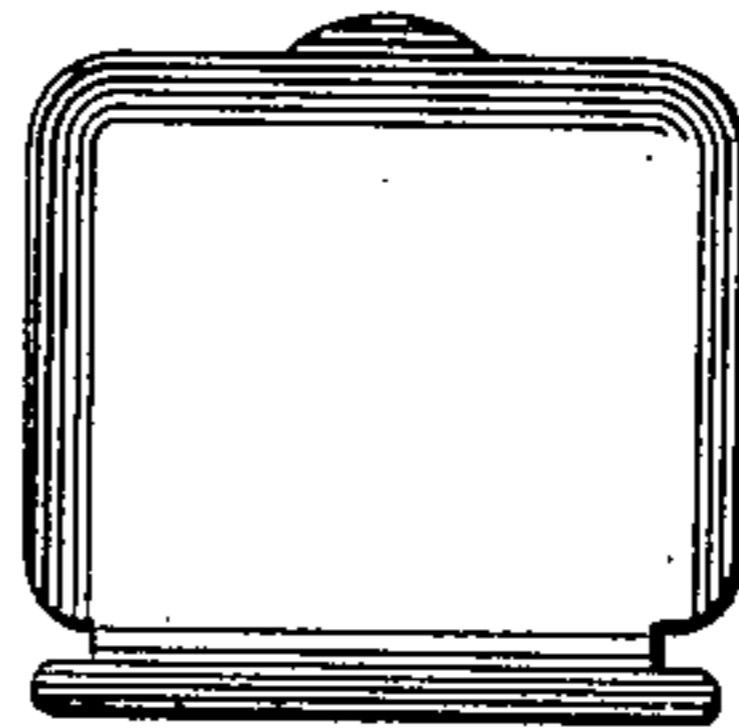


FIG. 5.

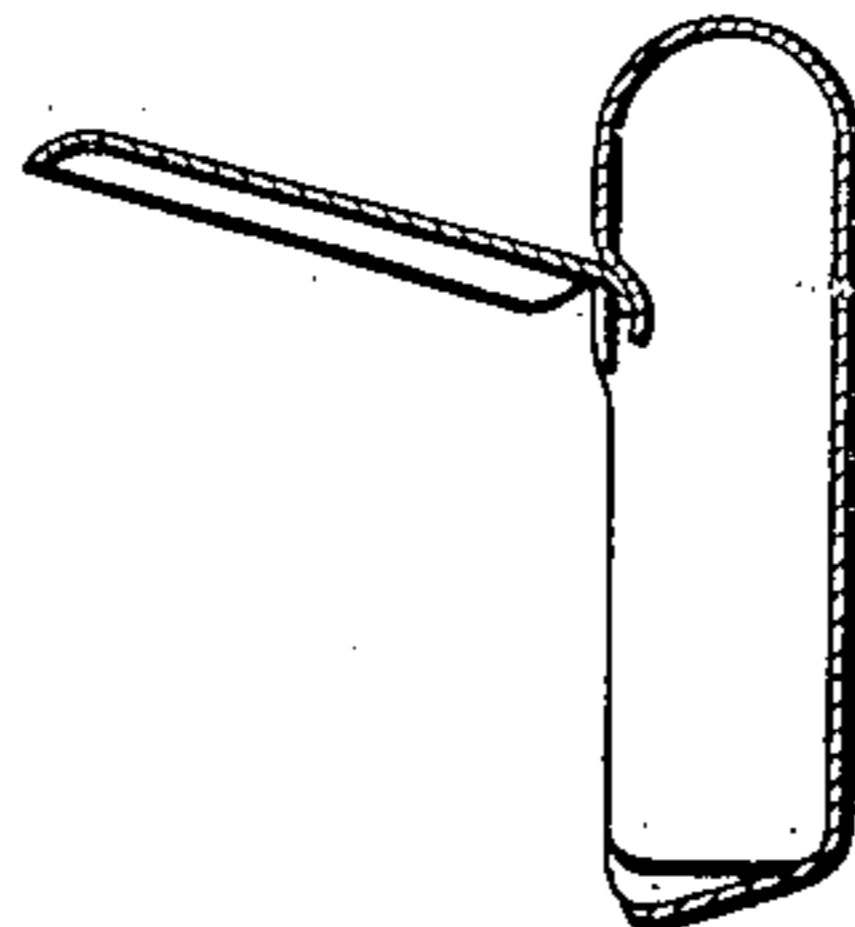


FIG. 3.

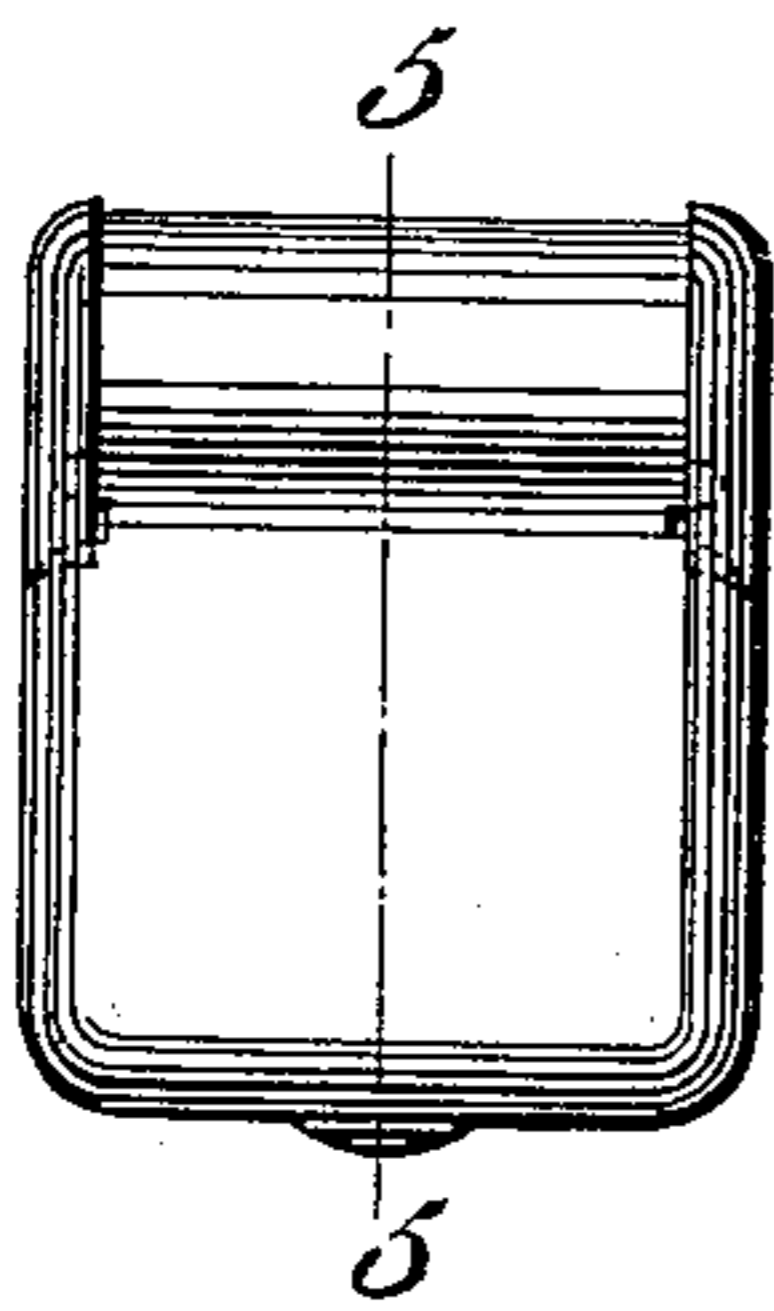


FIG. 6.



FIG. 7.

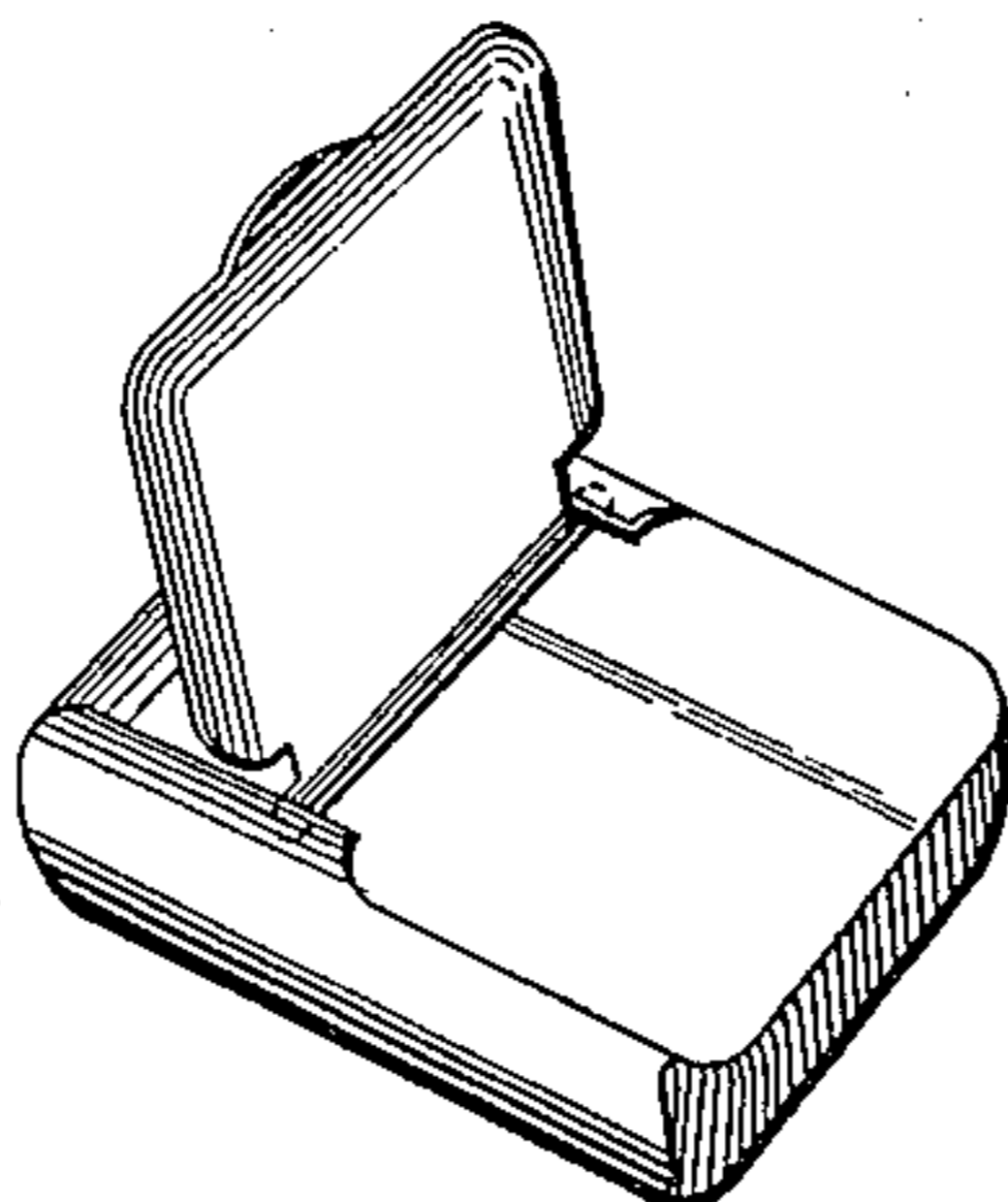
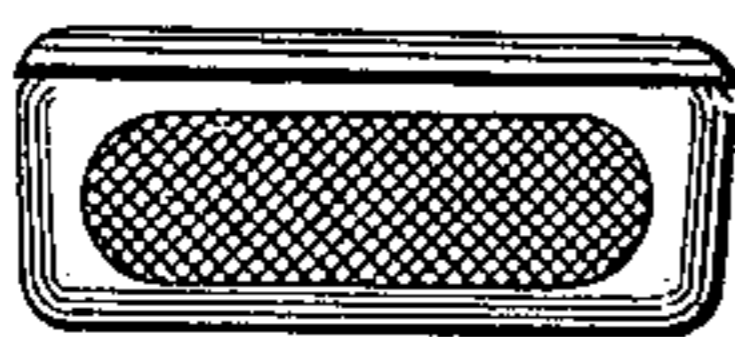


FIG. 4.



Witnesses

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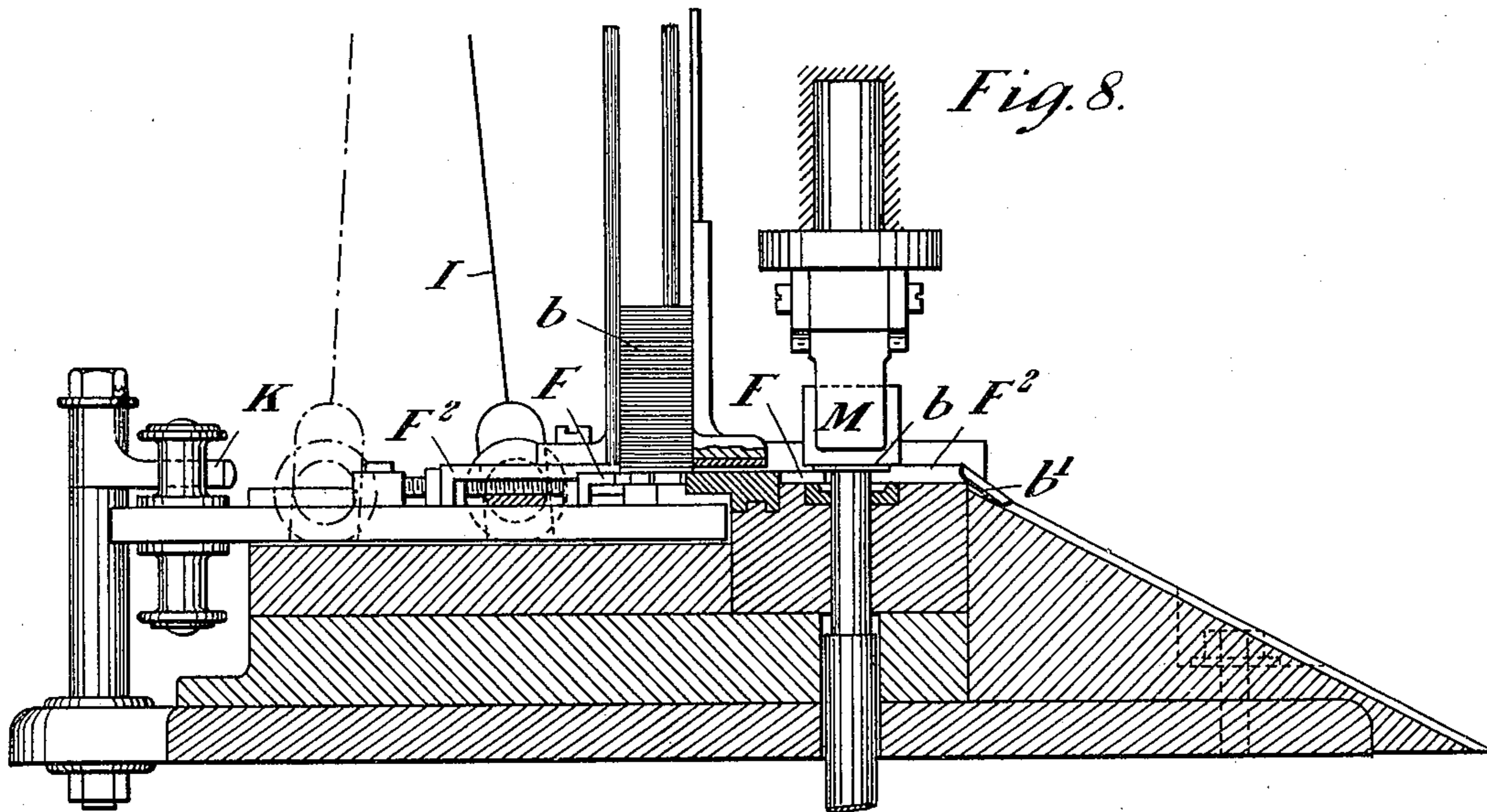
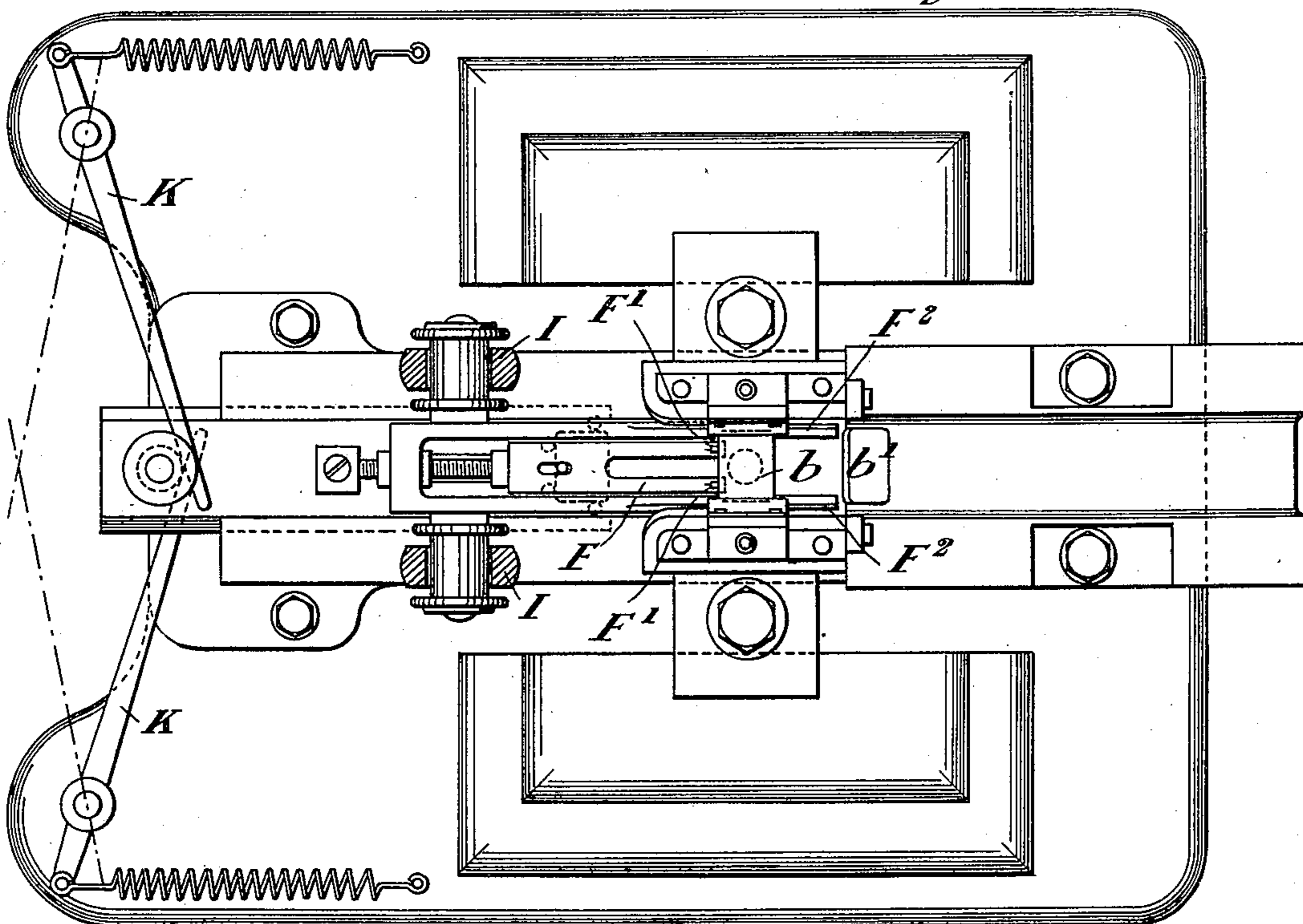


Fig. 10.



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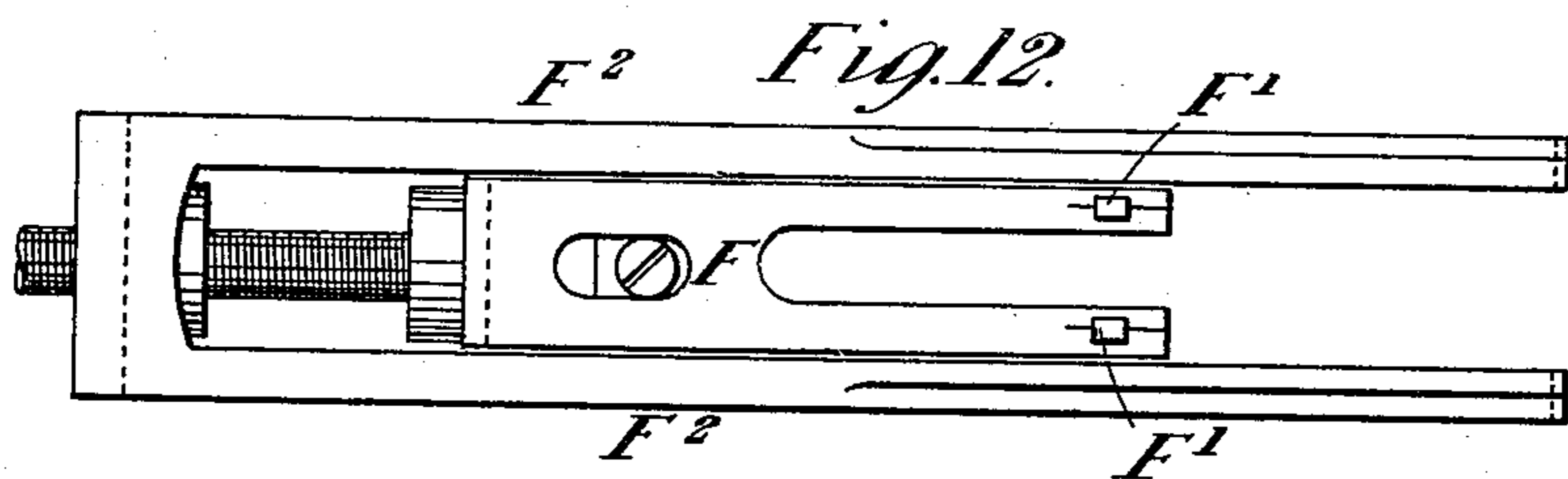
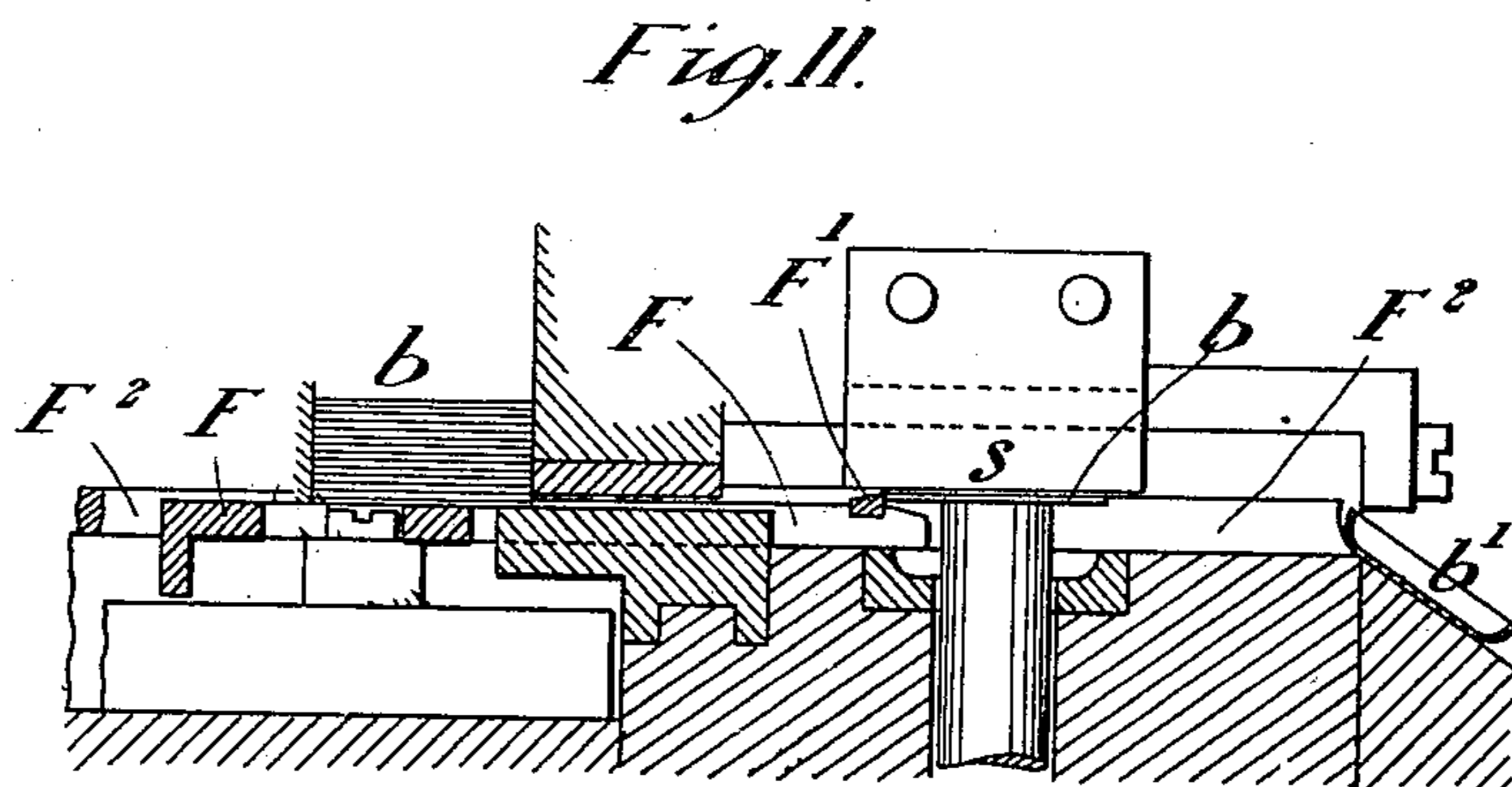
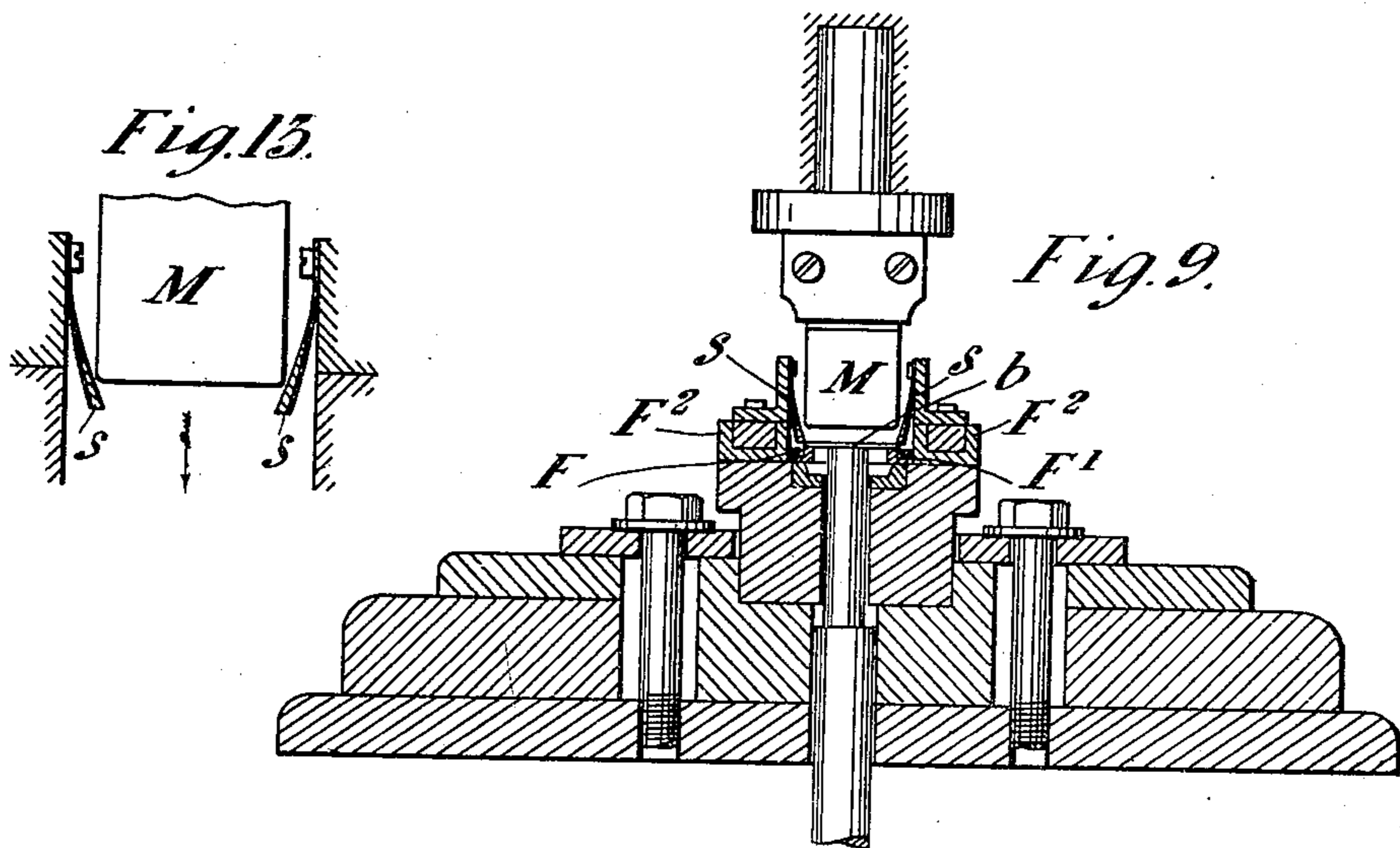
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(Application filed Oct. 22, 1898.)

(No Model.)

3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR SHAPING LIDS OF SHEET-METAL BOXES.

SPECIFICATION forming part of Letters Patent No. 629,546, dated July 25, 1899.

Original application filed April 16, 1898. Serial No. 677,860. Divided and this application filed October 22, 1898. Serial No. 694,319. (No model.)

To all whom it may concern:

Be it known that I, TITO L. CARBONE, a citizen of Italy, residing at No. 343 Calle Sarandi, Montevideo, in the Republic of Uruguay, have invented certain new and useful Apparatus for Shaping Lids of Sheet-Metal Boxes, (for which I have obtained patents in the following countries, viz: Austria, dated June 18, 1898, No. 3,324/48; Belgium, dated April 7, 1898, No. 134,876; Cape of Good Hope, dated April 22, 1898, No. 1,549; France, dated April 7, 1898, No. 276,777, and Italy, dated June 20, 1898, Vol. XCVI, No. 13, and have made applications for patents in the following countries, viz: Brazil, dated August 4, 1898; Canada, dated April 18, 1898; Germany, dated April 9, 1898; Great Britain, dated April 7, 1898, No. 8,353; Hungary, dated April 13, 1898; New South Wales, dated May 3, 1898; New Zealand, dated May 12, 1898; Norway, dated April 12, 1898; Queensland, dated May 5, 1898; Russia, dated March 31, 1898; South Australia, dated May 3, 1898; Spain, dated April 13, 1898; Sweden, dated April 9, 1898; Switzerland, dated April 9, 1898, and Victoria, dated May 2, 1898;) of which the following is a specification.

In an application for patent dated April 16, 1898, Serial No. 677,860, of which the present application is a division, I have described apparatus for making sheet-metal boxes. My present invention relates to apparatus for shaping the lids for these boxes, as I shall describe, referring to the accompanying drawings. In order that the formation of these lids and their connection to the bodies of the boxes may be more clearly understood, I show in Figures 1 to 7, inclusive, the construction and connection of both bodies and lids.

Fig. 1 is a plan view of the piece of material which forms the box-body. Fig. 2 is a plan view of the lid, looking at its under side. Fig. 3 is a plan view, and Fig. 4 is a front view, of the completed box with the lid closed. Fig. 5 is a sectional view taken on the line 5-5, Fig. 3, showing the box-lid open. Fig. 6 is a side view showing the box-lid closed. Fig. 7 is a perspective view of the box with the lid open. Fig. 8 is a detail longitudinal central sectional view of the apparatus for

shaping the lids. Fig. 9 is a transverse sectional view of the same, the plane of section being through the lid-dishing punch and the die. Fig. 10 is a sectional plan view of the apparatus. Fig. 11 is a detail longitudinal sectional view, on an enlarged scale, of parts of the apparatus. Fig. 12 is a detail plan view of the feed-slide, and Fig. 13 is a detail sectional view to more clearly show the punch and the lid-holding springs.

In the drawings I have not thought it necessary to show the mechanism at the upper part of the punching-press, as it is substantially the same as that shown in Fig. 8 of the drawings annexed to the specification of the apparatus for shaping the bodies of the boxes and applying the lids to them.

The letter M indicates a punch which is reciprocated vertically in the usual manner or by any proper devices. The letters I indicate vertical vibrating levers terminating at their lower ends in forks which engage pins on a slide-plate having side arms F^2 . The levers may be vibrated by any suitable means, so that they will make a stroke for each stroke of the punch. (See dotted lines, Fig. 8.) The feed-slide F is arranged between the two side arms F^2 of the slide-plate above mentioned, and the feed-slide is made adjustable longitudinally between said side arms F^2 , as by a screw. (Best seen in Fig. 12.) On this slide F there is a pair of backwardly-sloped projections F' , which as they pass under the pile of blank-plates b , previously cut to the required shape of the lid, move the lowest of these plates forward under the punch M, which descends while the slide F is retracted by a pair of spring-levers K. The punch M presses the blank b into the die below, giving it the required dished form b' of the lid, and as the punch M rises a pair of springs s hold the lid b' down, and at the next advance of the feed-slide F the two side bars F^2 push the dished lid b' onto an incline, down which it slides to a suitable receptacle, from which a pile of the dished lids is taken to the apparatus for forming the box-bodies, to which their lids are connected as described in the specification above referred to.

Having thus described the nature of this in-

vention and the best means I know of carrying the same into practical effect, I claim—

5 A box-lid-shaping apparatus consisting of an adjustable, reciprocating feed-slide F for advancing the lid-blanks, a vertically-reciprocatory lid-dishing punch M, a die in which the lid-blanks are dished by the punch, and a pair of laterally-yielding springs s pendent within the die for holding the dished lid down

as the lid-dishing punch rises, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

TITO L. CARBONE.

Witnesses:

C. H. DAY,

HENRY HASPER.