UNITED STATES PATENT OFFICE.

GEORGE F. NEWELL, OF BOSTON, MASSACHUSETTS.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 279,661, dated June 19, 1883.

Application filed April 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. NEWELL, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Wrenches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of a nut-wrench constructed in accordance with my invention, the two jaws being closed together. Fig. 2 is an elevation of the same, the movable jaw being in the position it occupies when first adjusted and brought up against the sides of a nut. Fig. 3 is a vertical longitudinal section representing the position of the movable jaw when tightened against the nut to securely grasp and remove the same, the wrench resting in an upright position. Fig. 4 is a vertical transverse section on the line *x x* of Fig. 3.

My present invention has special reference to that class of wrenches designed for use in removing and tightening nuts of carriage-axles, bolts, &c.; and it consists in a serrated arm provided with a stationary jaw and a longitudinal shouldered slot, a movable serrated jaw provided with a screw-threaded projection passing through said slot, and with a spring for pressing the movable jaw away from the stationary jaw, in combination with a device for drawing and clamping the movable jaw against the stationary jaw when adjusted upon the sides of the nut.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents a metal arm, bent in the form shown, being provided with a stationary jaw, *a*, at one end, and a handle, *b*, having a knob, *c*, at its other end. The portion *d* of the arm A intermediate of the handle and stationary jaw is of greater width, and has formed through it a rectangular slot, *e*, contracted near its bottom by a square shoulder, *h*, extending around it. Downwardly through this slot passes the screw-shank *i*, projecting from the under side of the turned-down rectangular portion *k* of the bottom of a movable jaw, *l*, said rectangular portion *k* being of the same width as the upper part of the slot, and serving as a guide to keep the movable jaw from lateral play when adjusted to and from the stationary jaw. The screw-shank *i* is turned smooth at its upper end, and is surrounded by a spiral spring, *m*, the upper end of which bears against the rectangular guide *k*, and the lower end of the spring resting on a washer, *n*, also surrounding the screw-shank *i*, the diameter of the washer being greater than the width of the contracted part of the slot to insure its retention therein. The lower portion of the screw-shank projects below the slot, and has turned thereover a thumb-nut, B, by which the movable jaw may be tightened or loosened, as required. The upper surface of the portion *d* of the arm is smooth from the foot of the stationary jaw to a point, *o*, near the opposite end of the slot, from which point to a point, *o'*, beyond said slot it is serrated, and the under side of the movable jaw is similarly provided with a smooth and a serrated portion. When the thumb-nut B is loosened the spring presses the movable jaw up, and thus keeps its lower smooth and serrated surfaces out of contact with the smooth and serrated surfaces of the arm beneath, thereby permitting the free traverse of the movable jaw to and from the stationary jaw. When a nut is to be tightened or removed the movable jaw is brought up against the two contiguous sides of the nut, in which position the serrated surface of the movable jaw engages with the serrated surface of the arm A and prevents the slipping of the movable jaw, the smooth surface of the movable jaw being slightly removed above the smooth surface of the arm, after which the clamping of the thumb-nut against the under side of the slotted portion of the arm causes the front of the under side or smooth portion of the movable jaw to be brought squarely down upon the corresponding smooth surface of the arm, and the inner sides of the jaw firmly grasp the contiguous sides of the nut, whereby the latter is turned on or off its seat, as desired. The under side of the front of the arm beneath the stationary jaw is provided with a square foot or rest, *p*, by which the wrench may be placed and supported in an upright position, as seen in Fig. 3, with the

(Model.) 2 Sheets—Sheet 1.

J. R. OLINGER.

LUNCH BOX.

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Fig. 1.

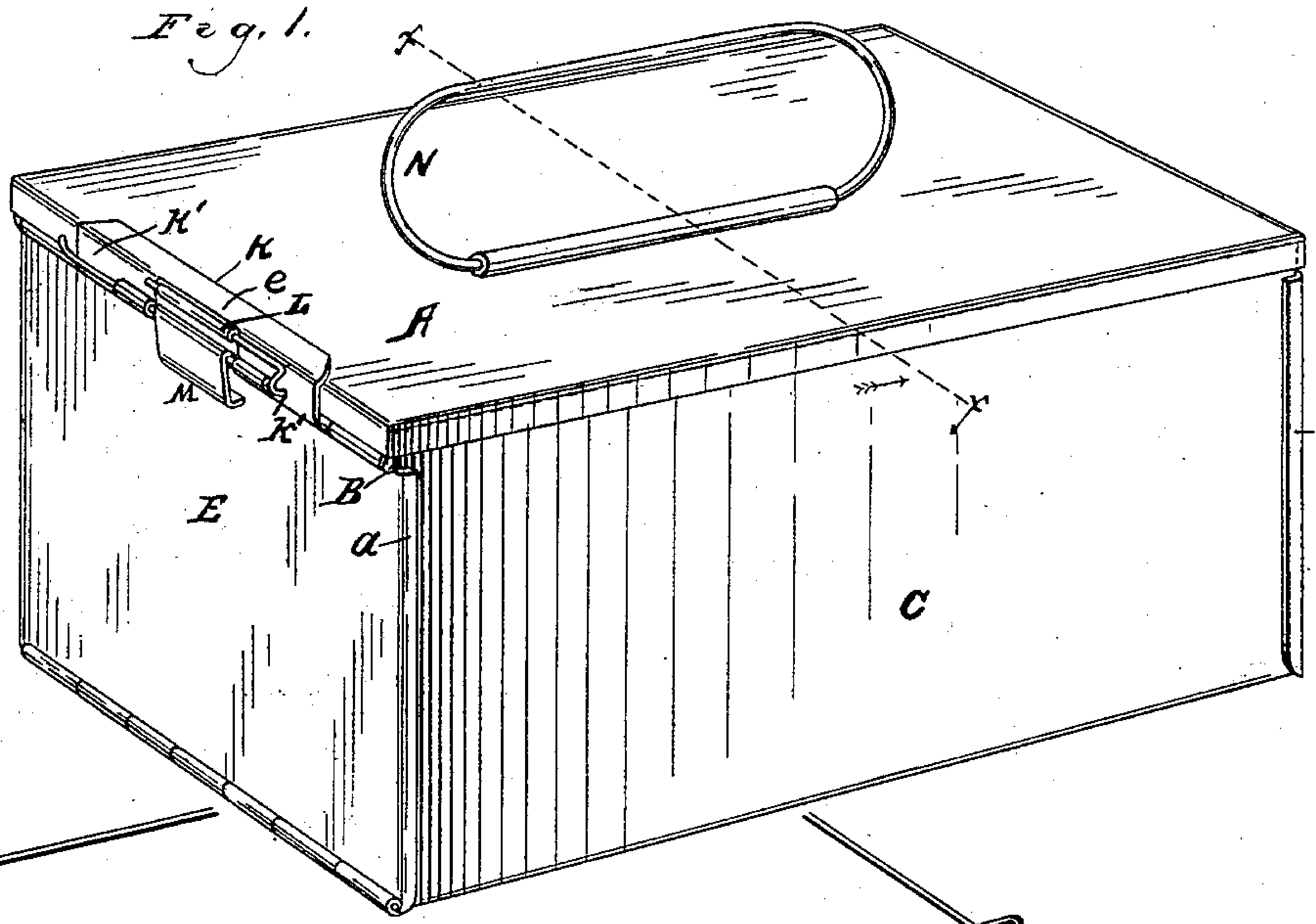


Fig. 2.

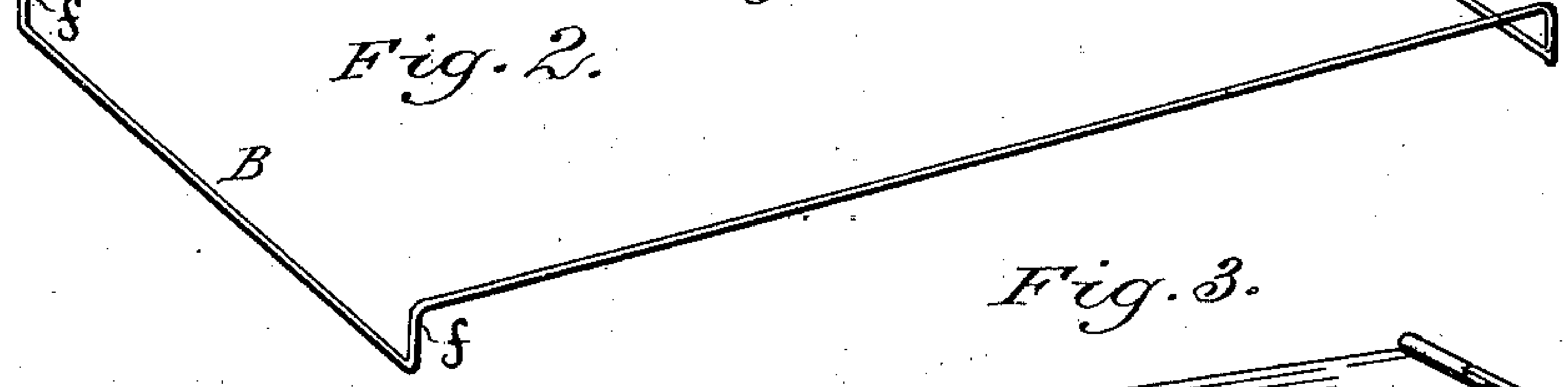


Fig. 3.

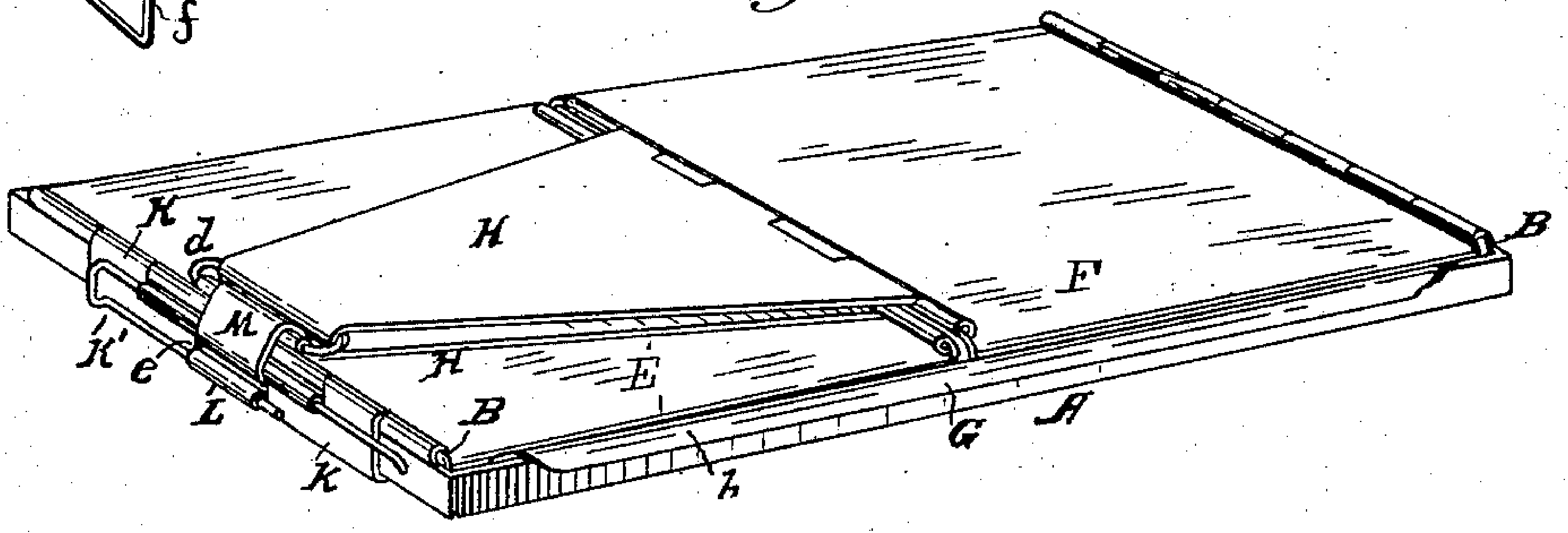
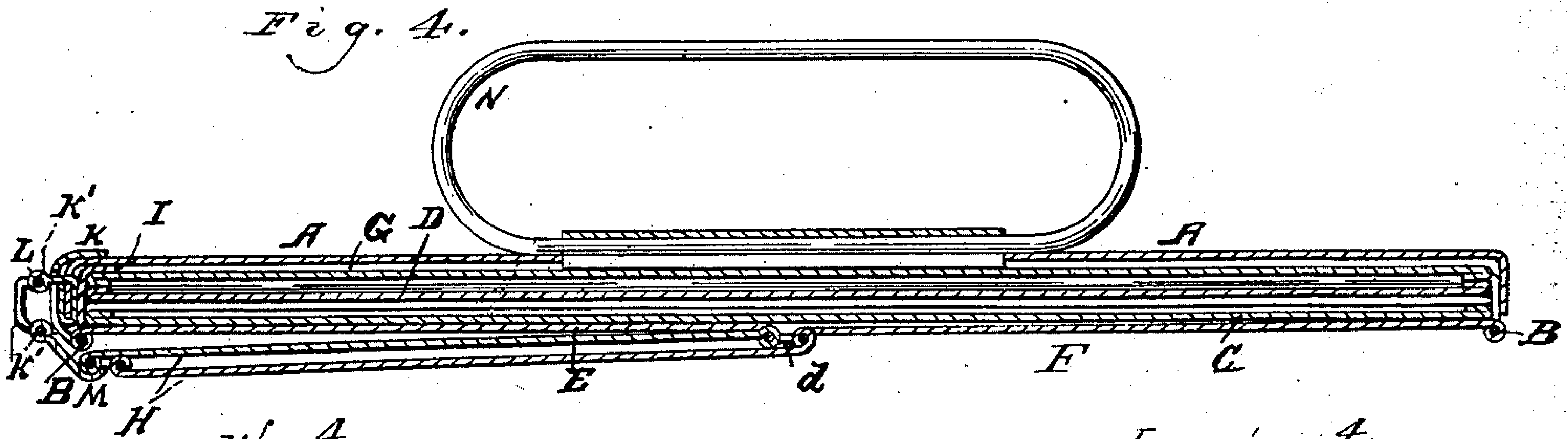


Fig. 4.



Witnesses.

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