

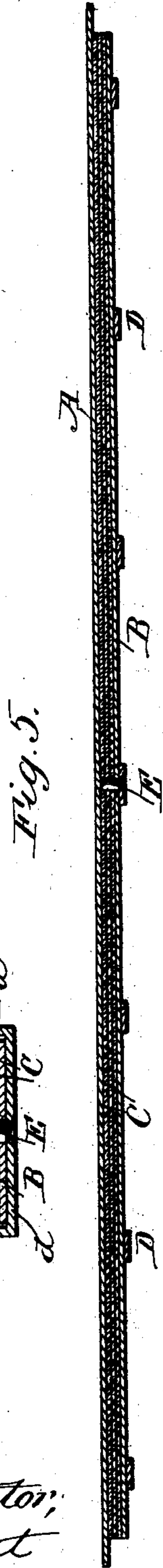
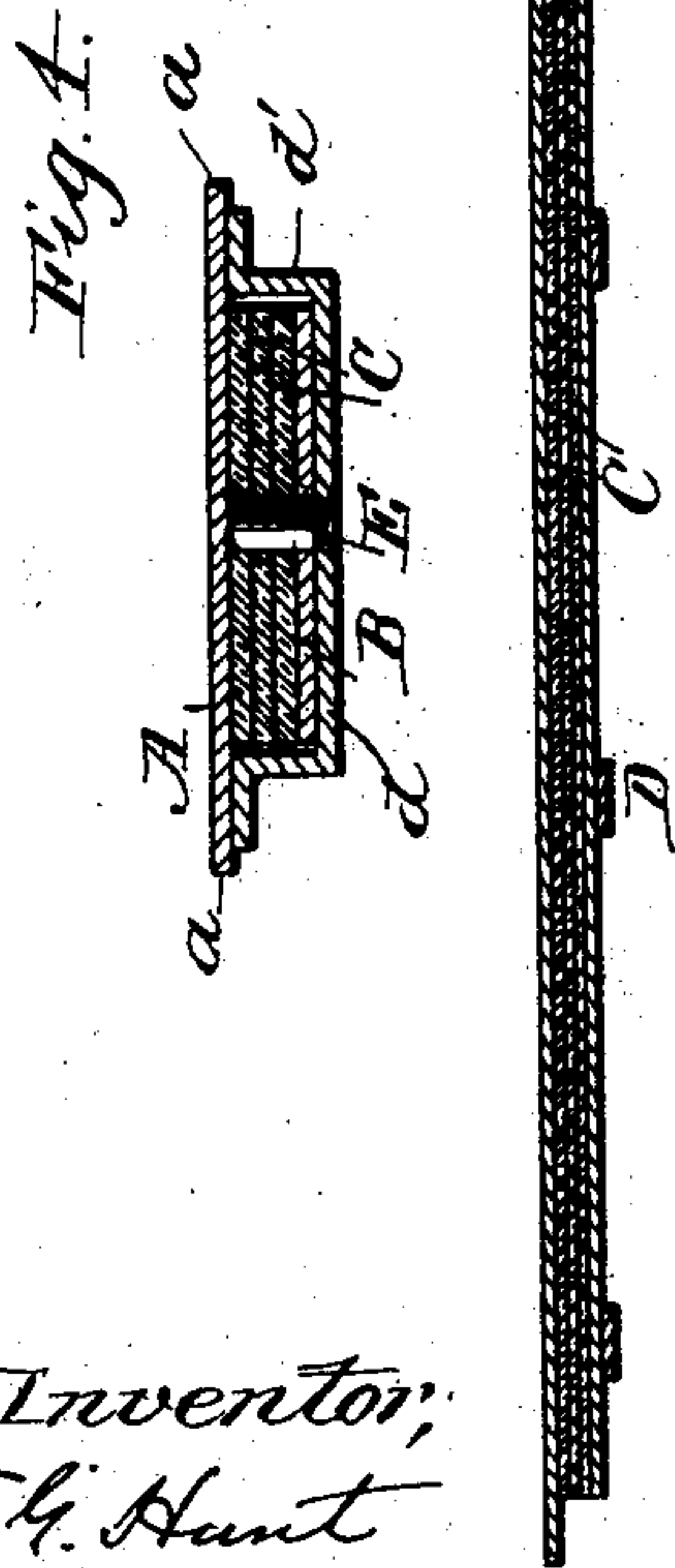
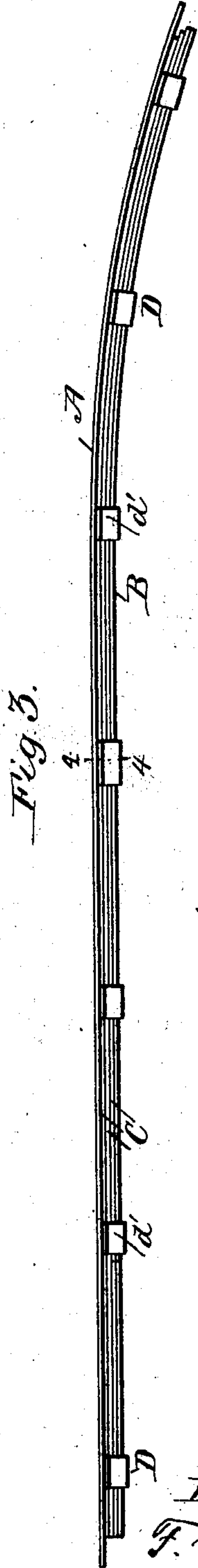
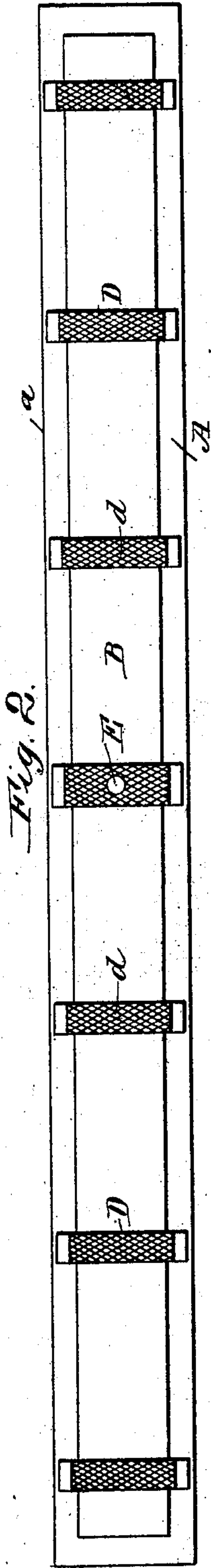
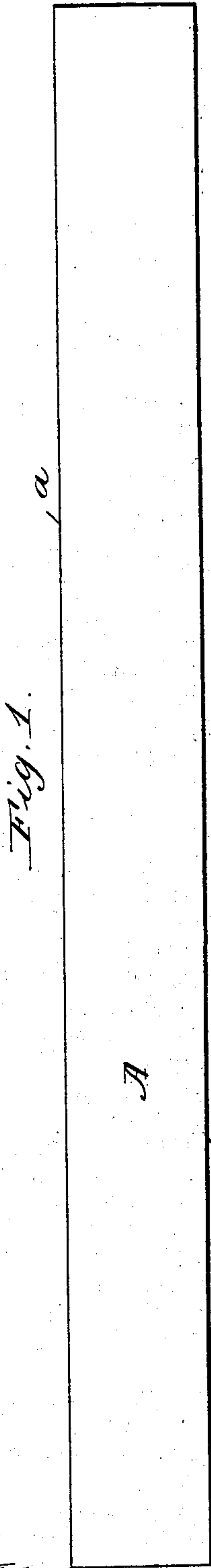
No. 694,061.

Patented Feb. 25, 1902.

F. G. HUNT.
FLEXIBLE RULER.

(Application filed Nov. 18, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

FRANK G. HUNT, OF BUFFALO, NEW YORK.

FLEXIBLE RULER.

SPECIFICATION forming part of Letters Patent No. 694,061, dated February 25, 1902.

Application filed November 13, 1901. Serial No. 82,106. (No model.)

To all whom it may concern:

Be it known that I, FRANK G. HUNT, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Flexible Rulers, of which the following is a specification.

This invention relates to a flexible ruler adapted especially for use in ruling straight lines on curved surfaces—such, for instance, as the leaves of heavy ledgers or similar books, which when the books are opened curve more or less at the back or hinge.

The object of the invention is to produce an exceedingly desirable ruler for this purpose which is very flexible, so as to readily adapt itself to the surface to be ruled, has the necessary thickness to raise the ruling edge thereof sufficiently above the surface to be ruled to prevent blotting the same when ruling with ink, and which is exceedingly simple, enabling it to be produced at the minimum cost.

In the accompanying drawings, Figure 1 is a plan view of a flexible ruler embodying the invention. Fig. 2 is a bottom plan view thereof. Fig. 3 is a side elevation showing one end of the ruler curved or bent. Fig. 4 is an enlarged transverse section on the line 4 4, Fig. 3. Fig. 5 is a longitudinal section of the ruler.

Like letters of reference refer to like parts in the several figures.

A represents a flat elongated top plate or strip of suitable flexible material, such as thin sheet-steel, which is very flexible and resilient. The opposite longitudinal edges *a* of this top plate are preferably parallel and constitute the ruling or guiding edges. The upper surface of the plate is perfectly smooth or plain.

B represents a bottom plate or strip of suitable material, preferably, like the top plate, of sheet-steel. This bottom plate is narrower than the top plate and is arranged centrally beneath the same, so that the side edges of the top plate overhang the edges of the bottom plate and prevent the ruling-pen from contacting with the bottom plate, and so avoid the possibility of getting ink on the latter and blotting or soiling the surface being ruled. In order to raise the top plate the de-

sired distance above the surface to be ruled, the top and bottom plates are spaced apart by a strip or strips C of suitable material interposed between the same. Preferably a plurality of strips of blotting-paper are employed which absorb any ink that may adhere to the bottom of the edges of the top plate and prevent the same from finding its way to the bottom plate B. The separate spacing-strips give the ruler greater flexibility than a single strip, as the strips are permitted to curve independently and slide longitudinally relative to each other when the ruler is curved or bent.

The bottom plate B and the spacing-strips C are secured to the top plate A and are prevented from moving laterally or sidewise thereon, but are permitted to move longitudinally by means of straps or loops D. These straps or loops are arranged at intervals along the length of the ruler and extend transversely thereof. Each strap or loop has a horizontal flat bottom bar *d*, which passes beneath and supports the bottom plate B of the ruler, and upright side portions *d'*, which extend up at the side edges of the bottom plate and spacing-strips, the upper ends of the side portions being bent outwardly horizontally and secured to the under face of the top plate, as by solder. The loops or straps permit the free independent longitudinal movement of the bottom plate and spacing-strips relative to each other and the top plate, but always retain these several strips and plates in alinement. The under faces of the bottom bars *d* of the straps or loops are flat and constitute the supporting parts of the ruler, and in order to prevent the movement or slipping of the ruler on the surface being ruled the under faces of the straps or loops are roughened, as shown in Fig. 2 of the drawings.

E represents a securing rivet or device which passes down through holes in the bottom plate and spacing-strips and is secured to the horizontal bar of the central strap or loop D. The rivet secures the strips and plates together and being located centrally of the ruler does not interfere with the free independent movement of the end portions of the several strips, and consequently does not impair the flexibility of the ruler.

A ruler constructed as above described does not have any projections or protuberances, such as securing rivets or parts for the several strips and plates, breaking the evenness 5 of the upper face of the top strip; but the latter presents an absolutely even, smooth, or plain upper surface, so that a person in using the ruler can run the fingers of the hand along this surface to steady the ruling- 10 pen. This is a great advantage in a ruler of this character.

I claim as my invention—

The combination of a top flexible ruling-plate having a plain upper face, a flexible 15 plate of less width than the upper plate arranged longitudinally beneath the same, a

flexible spacing means arranged between the top and bottom plates, and a plurality of holding-straps secured at their ends to the under face of the top plate and having side 20 portions extending down at the sides of the spacing means and bottom plate and having bottom portions connecting said side portions and extending transversely beneath the bottom plate, said straps constituting bearing 25 parts for the ruler, substantially as set forth.

Witness my hand this 4th day of November, 1901.

FRANK G. HUNT.

Witnesses:

JNO. J. BONNER,

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