

(No Model.)

2 Sheets—Sheet 1.

J. M. GREIST.

RUFFLING ATTACHMENT FOR SEWING MACHINES.

No. 504,875.

Patented Sept. 12, 1893.

Fig. 1.

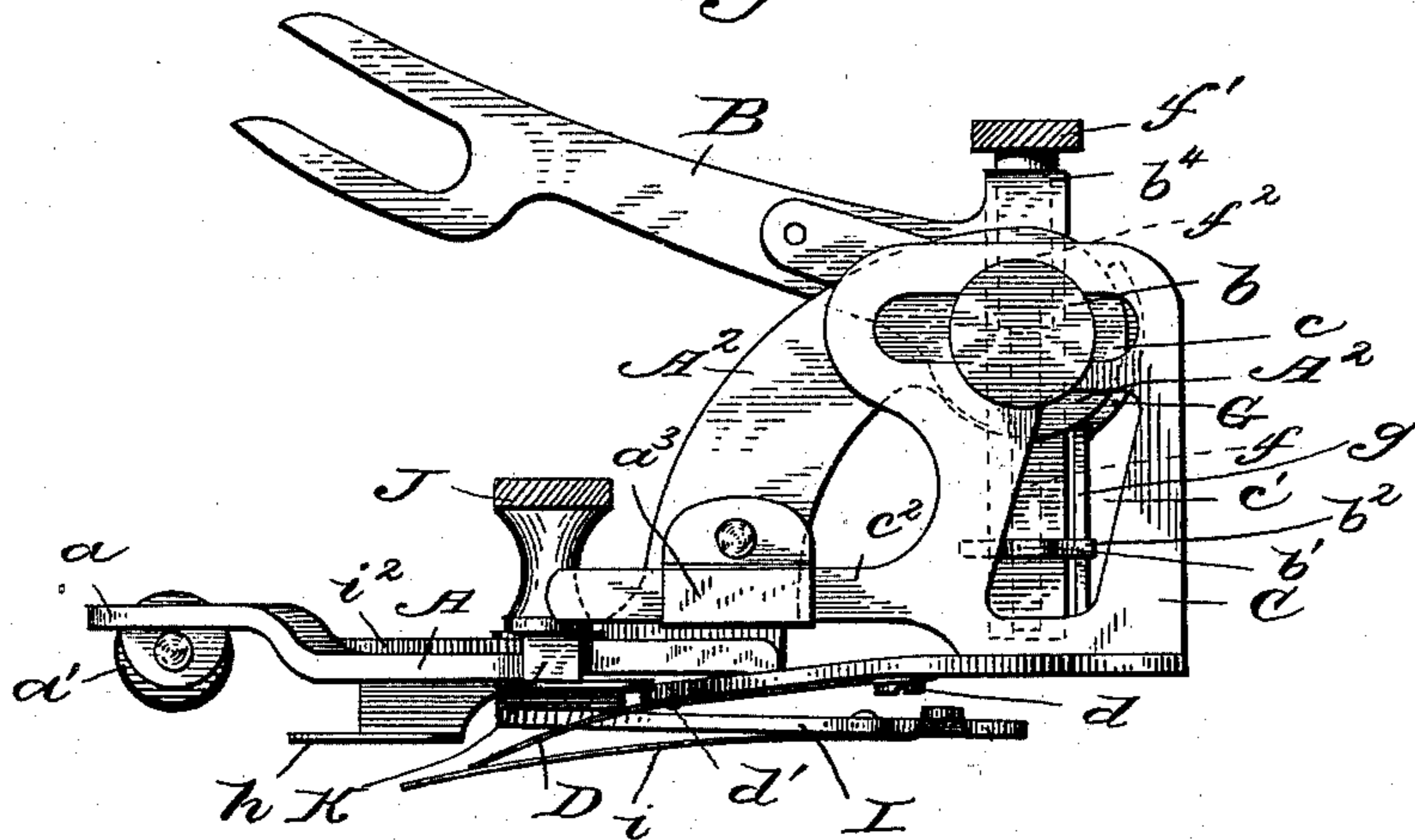


Fig. 2.

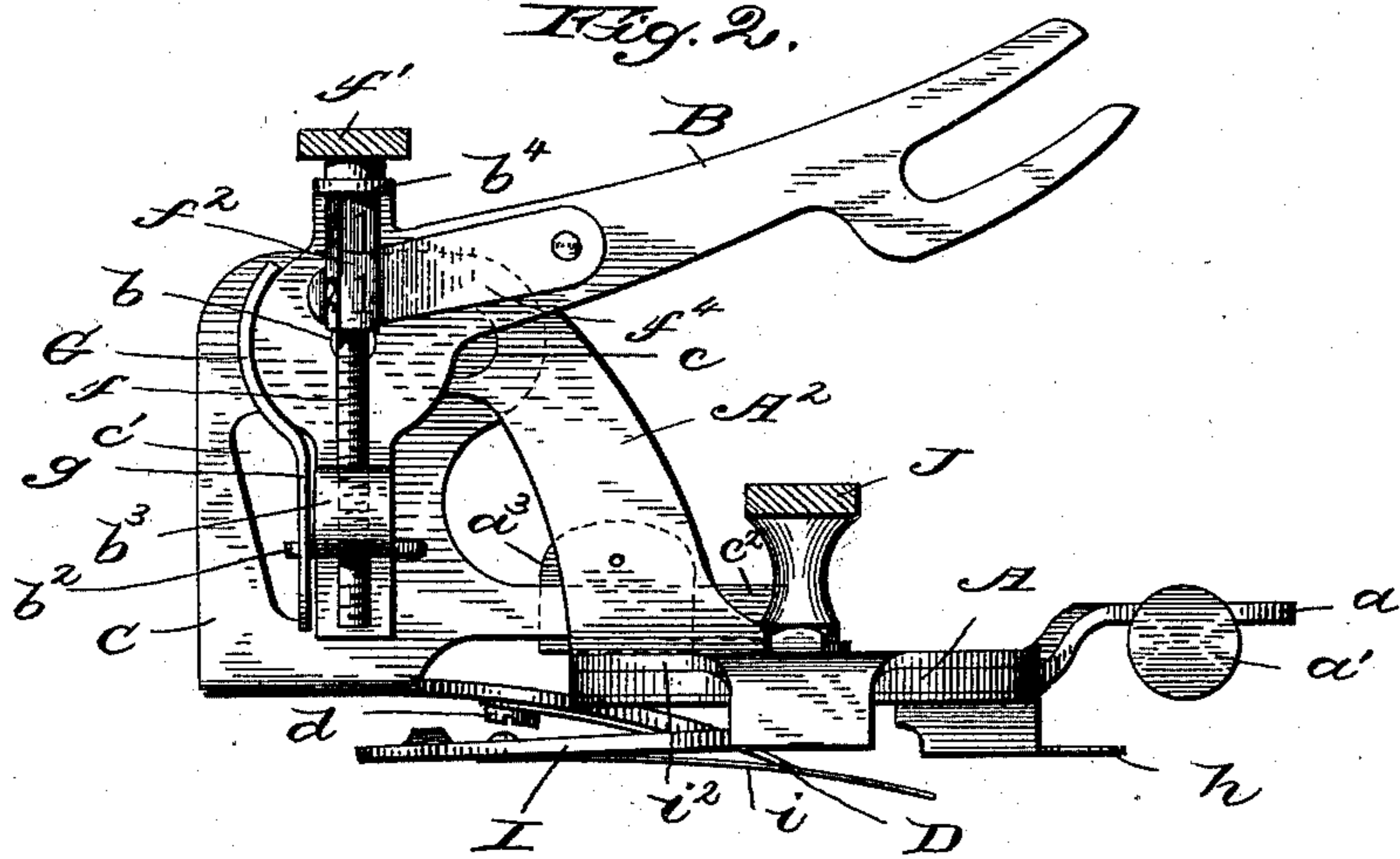
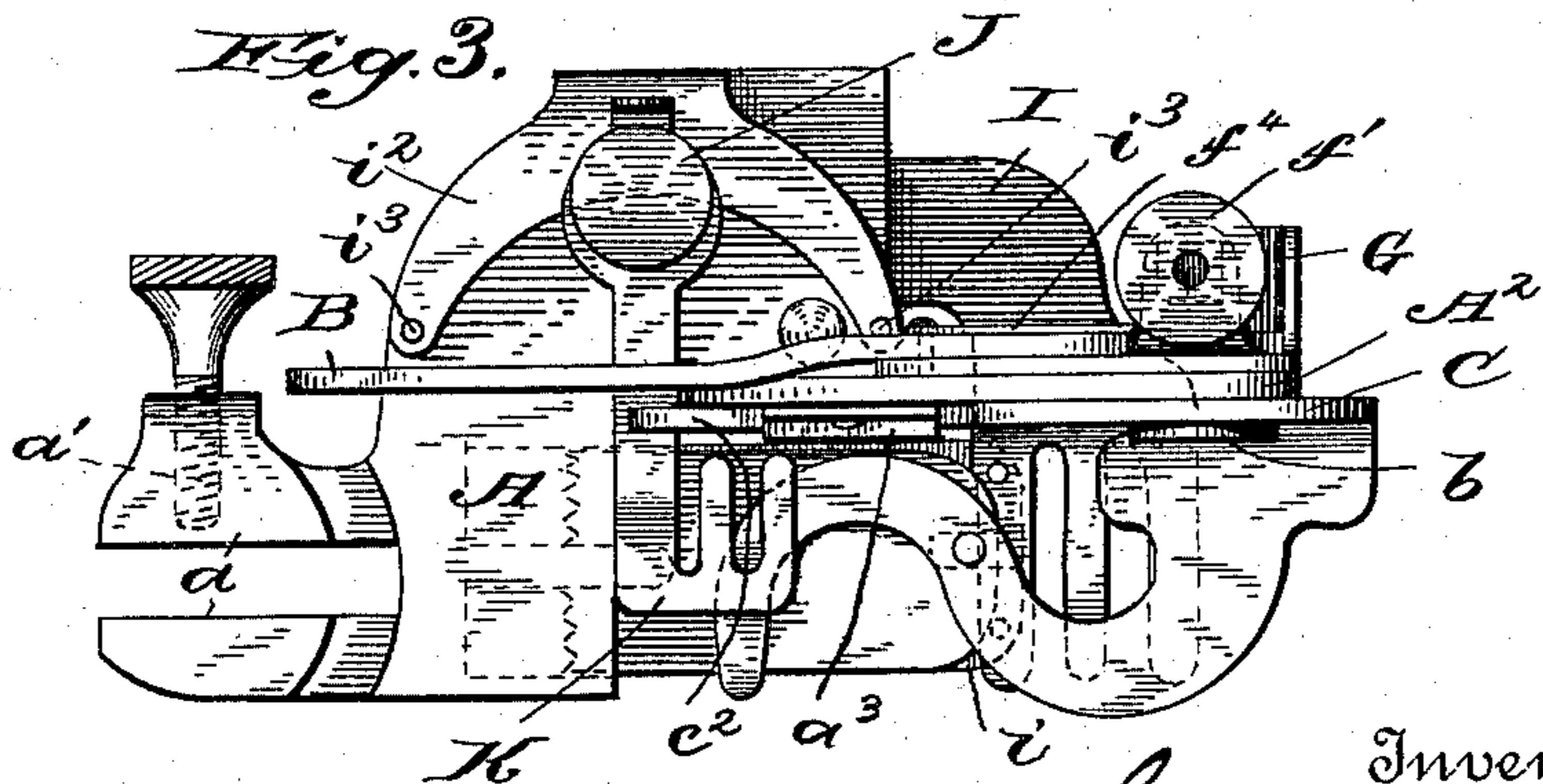


Fig. 3.



Witnesses

*H. C. Chapman*  
*C. M. Sweeney*

Inventor:

*John M. Greist*  
by *Maxwell, Calver & Maudslayi*  
his Attorneys

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Fig. 4.

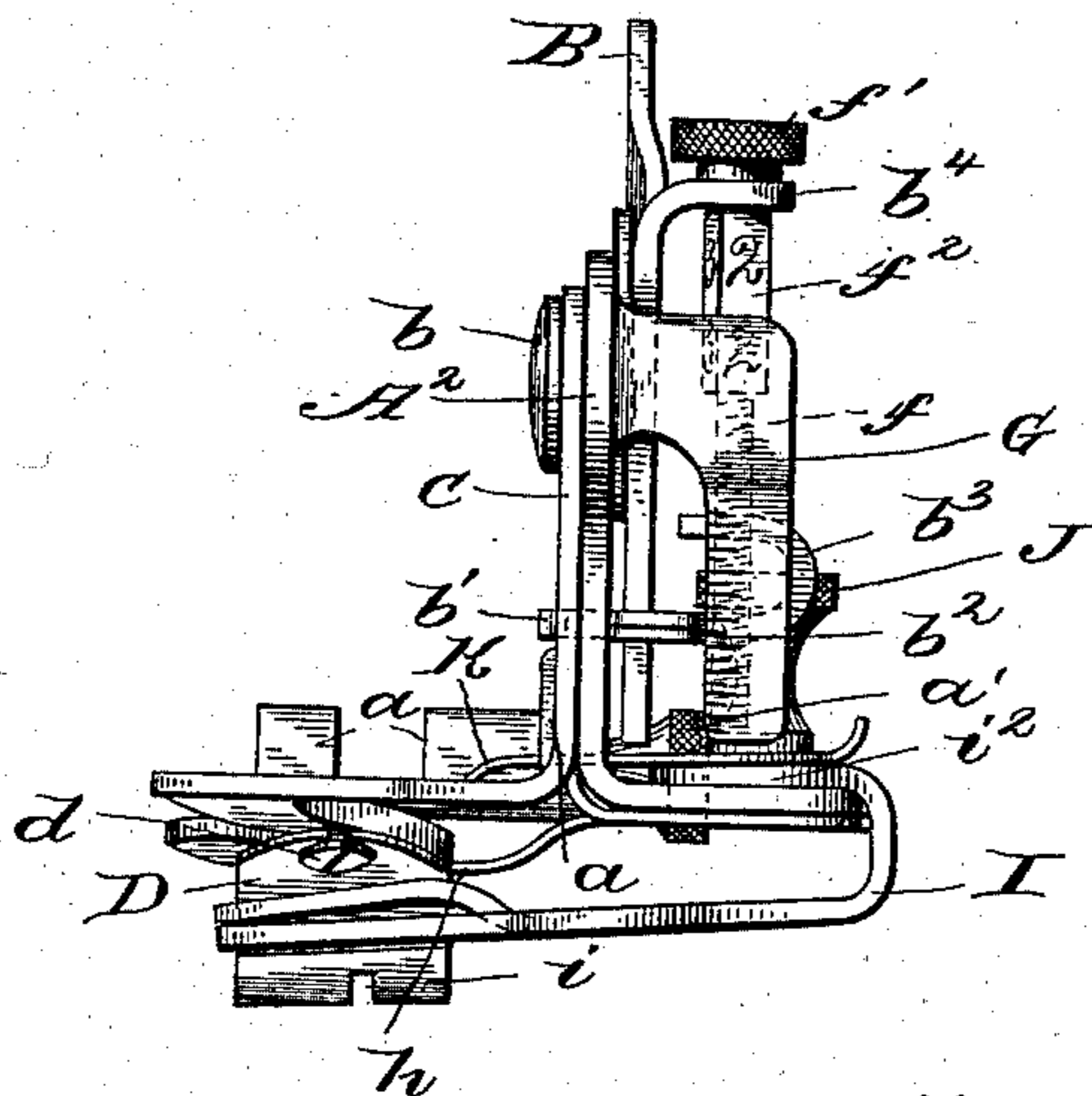


Fig. 5.

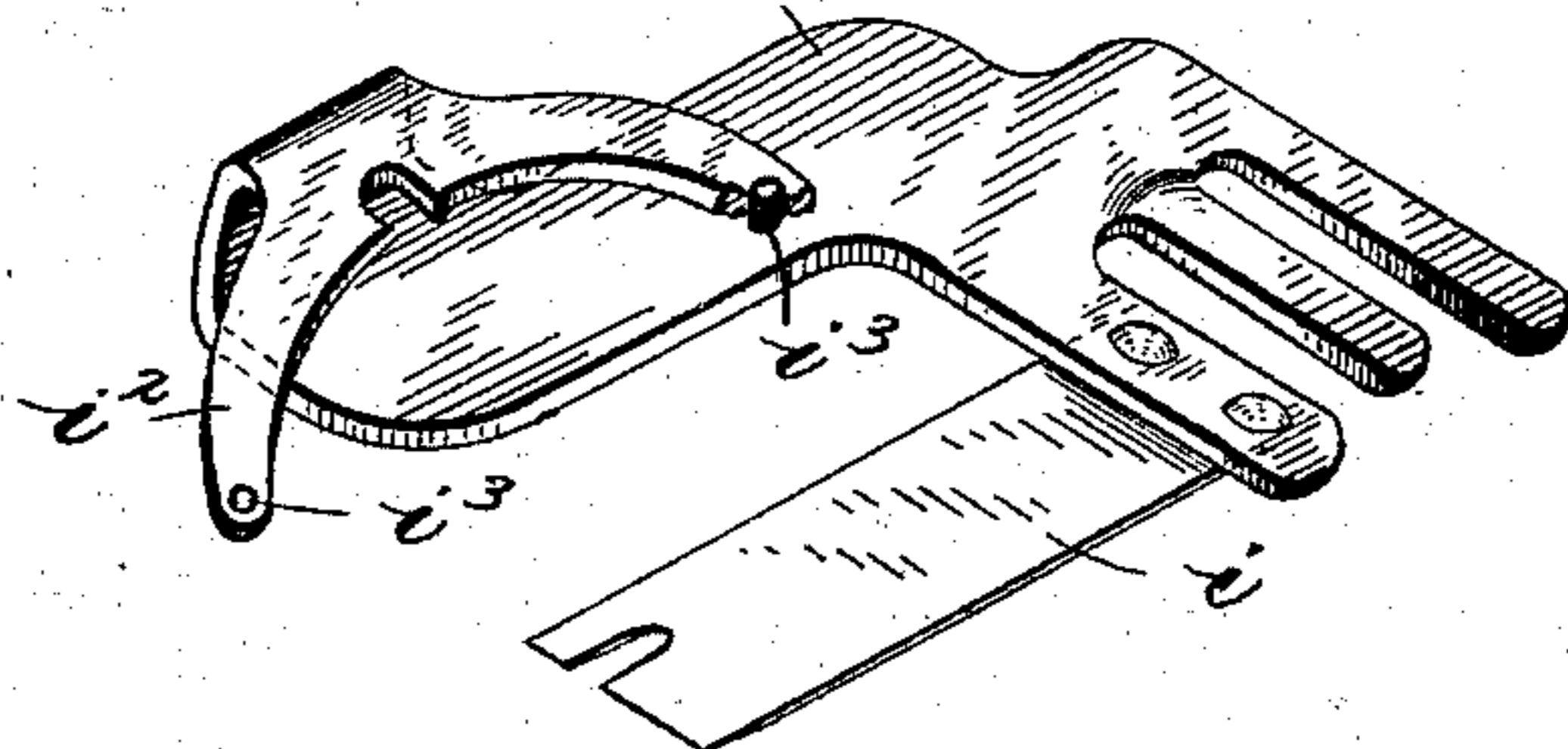
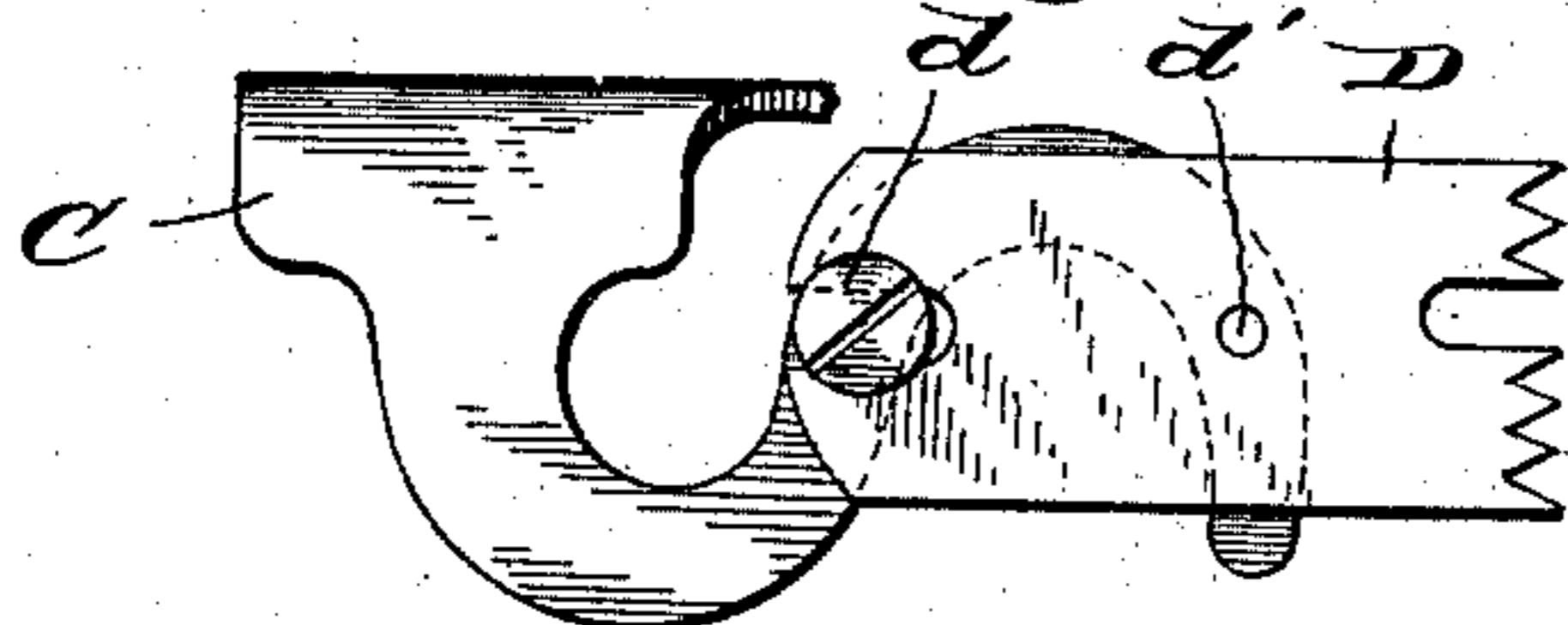


Fig. 6.



Witnesses

*W. H. Sweeney*  
W. H. Sweeney

Inventor:

*John M. Greist*  
by *Harold C. Randall*  
his Attorneys

# UNITED STATES PATENT OFFICE.

JOHN M. GREIST, OF NEW HAVEN, CONNECTICUT.

## RUFFLING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 504,875, dated September 12, 1893.

Application filed December 14, 1892. Serial No. 455,182. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN M. GREIST, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Sewing-Machine Rufflers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to that class of sewing machine rufflers in which the ruffling blade is operated from a bell-crank-lever receiving movement from the needle bar of the sewing machine, and my invention has for its object to provide a ruffler, of the class referred to, which is simple in construction, so that it may be cheaply manufactured, which provides for a very delicate adjustment of the movements of the ruffling blade, and in which the ruffling blade is detachably secured to its operating slide so that when worn it may be replaced by a new ruffling blade.

In the drawings, Figures 1 and 2 are opposite side views of my improved ruffler, and Figs. 3 and 4 are plan and rear end views, respectively, of the same. Fig. 5 is a detail perspective view of the removable separator-blade and the part by which it is carried, and Fig. 6 is a bottom view of the ruffling blade and its carrier, to show the means of attachment of the former to the latter.

A denotes the frame or supporting plate of the ruffler provided with a bifurcated bracket  $a$  adapted to embrace a presser foot with oppositely-arranged grooves in its shank formed for the reception of the arms of the said bifurcated bracket, the said plate A being secured to the presser foot by a set screw  $a'$  passing through an ear in one of the said arms of the said bifurcated bracket. The plate A is provided with an upwardly extending projection or standard  $A^2$  to the upper part of which is pivoted, by a pin  $b$ , the operating bell-crank lever B, the upper arm of which is forked to embrace a screw or projection on the needle bar of a sewing machine.

C is the ruffling blade carrier consisting, as herein shown, of a slide or sliding plate bent at right angles, one portion thereof being vertical and the other horizontal. The vertical portion of the said slide or sliding plate is provided with a slot  $c$  through which passes

the pivot-pin  $b$  of the bell-crank operating lever B, and also with a slot  $c'$  in which works a projection  $b'$  carried by the lower arm of the said operating bell-crank lever, said slide C being also provided with a guiding arm  $c^2$  which slides in a guideway formed by the plate  $a^3$  riveted to the said standard  $A^2$  and so bent as to embrace the said arm  $c^2$ .

D denotes the ruffling blade which is preferably removably attached to the lower or horizontal arm of the sliding carrier C by means of a small screw  $d$ , tapped in the said carrier, and a dowel pin  $d'$  suitably secured in said carrier and entering a hole formed for its reception in the said ruffling blade. It will be observed that the said screw and pin for securing the ruffling blade in place, by reason of their engagement with said blade at two separated points, hold the same strongly in place; and by merely taking out said screw the said blade may be quickly and easily removed to be replaced by another similar one, should it become so worn as to be unfit for use.

To provide for different movements of the ruffling blade the lug or projection  $b'$ , which fits loosely in the inclined slot  $c'$  in the sliding carrier C, is made vertically adjustable or toward and from the fulcrum of the operating lever by being formed on a small plate  $b^2$  provided with an opening through which the lower arm of the bell crank lever B passes; said plate being provided with a doubled portion  $b^3$  which forms two arms tapped for the passage of the threaded portion of the adjusting screw  $f$  provided at its upper end with a milled head  $f'$  by which it may be easily turned. The screw  $f$  is supported by a horizontal ear  $b^4$  formed on the operating bell-crank-lever B, and below the said ear the shank of said screw is provided with a polygonal portion  $f^2$  against which presses a light plate spring  $f^4$  attached to the said bell-crank lever B, said screw being free to turn in the said ear but being held from longitudinal movement by said head and the shoulder at the upper portion of the said polygonal portion of the said screw. The spring  $f^4$  presses lightly against the polygonal portion  $f^2$  of the screw but still with sufficient force to prevent accidental turning thereof, while the stress of the said spring is so light that when it is desired to turn the screw for the purpose of ad-

justing the lug  $b'$  in the slot  $c'$ , for the purpose of varying the throw of the ruffling blade, such adjusting movement is easily effected. By reason of the polygonal form of the part  $f^2$  of the screw it will be seen that the same provides several faces against which the said spring  $f^4$  may press, so that a very fine adjustment of the lug  $b'$  is secured, as the polygonal portion  $f^2$  (herein shown as being made square, and thus provided with four faces) provides means for holding the said screw in several different positions during a single turn thereof, so that adjustments of the movements of the ruffling blade may be secured with a greater degree of exactness than has heretofore been possible with the similar adjustments employed.

Attached to the bell-crank-lever B, to move therewith, is a plate G having a depending arm  $g$  which comes adjacent to the adjustable plate  $b^2$  carrying the lug  $b'$ , said depending arm being provided with a graduated scale to indicate the position of adjustment of said plate.

Attached to the lower side of the supporting plate A is a thin plate  $h$  which forms a false bottom for the presser foot of the machine to which the ruffler is to be attached, and between which part  $h$  and the part of the plate A immediately above it the presser foot will fit.

The separator-plate  $i$  is carried by an arm or bracket I having a securing portion or arm  $i^2$  consisting of two diverging parts or arms which are provided at or near their ends with dowel pins  $i^3$  to enter small holes formed for their reception in the upper surface of the plate A. By providing these dowel pins, separated from each other, the said plate I may be firmly secured in place by means of the set screw J tapped in the plate A and which engages the said arm  $i^2$  to secure the separator-plate carrying arm I in place. The said screw J also holds the strip guide K in place. When shirring is to be done the separator plate is removed by loosening the set screw J and removing the carrying-arm I, and in lieu thereof a separator attached to a shuttle-race covering-slide in a well known manner, is employed.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. In a sewing machine ruffler, the combination with a frame or supporting plate provided with means for attachment to a sewing machine and with a standard, of a bell crank lever pivoted to the upper part of the said standard and carrying on its lower arm a ver-

tically adjustable lug or projection, a sliding ruffling blade slide or carrier provided with an inclined slot in which said lug or projection works, and with a horizontal slot embracing the pivot pin of the said bell-crank lever, said carrier having also a guiding arm fitting in a suitable guide-way formed for the same on the said standard.

2. In a sewing machine ruffler, the combination with the frame or plate A provided at one end with a bifurcated bracket  $a$ , and at its other end with a standard  $A^2$ , of a bell-crank lever B pivoted by a pin  $b$  to the upper portion of said standard, and carrying on its lower arm a vertically adjustable plate or projection, the sliding ruffling blade carrier C formed with vertical and horizontal portions, the vertical portion thereof having the slots  $c$  and  $c'$  and the guiding arm  $c^2$ , the last named fitting in a guide-way formed on the said standard, and the horizontal portion of the said sliding carrier having attached thereto the ruffling blade D.

3. In a sewing machine ruffler, the combination with a suitable frame or support, and an operating lever pivoted thereto, of a ruffling blade and its carrier, an adjustable lug or projection carried by said operating lever and engaging said carrier, a screw for adjusting said lug or projection, said screw being provided with a polygonal portion and a head by which it may be turned, and a light spring bearing against the said polygonal portion of said screw for retaining the same in the different positions to which it may be adjusted, while permitting the said screw to be easily turned when desired.

4. In a sewing machine ruffler, the combination with the supporting plate and its standard, of a bell-crank-lever pivoted to said supporting plate, a ruffling blade and its carrier, an adjustable connection between said ruffling blade carrier and the said operating lever, said connection consisting of the plate  $b^2$  provided with a lug or projection working loosely in a slot in said carrier, the screw F supported on the said operating lever and having a threaded portion engaging a part of the said plate  $b^2$ , said screw having a head  $f'$  and a polygonal part  $f^2$ , and the light plate spring  $f^4$  carried by said bell-crank-lever and pressing against the said polygonal part of the said screw.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN M. GREIST.

Witnesses:

L. W. BEECHER,  
H. D. STANNARD.