

E. B. STIMPSON.

Machine for Embossing the Uppers of Boots and Shoes.

No. 168,804.

Patented Oct. 11, 1875.

Fig. 1.

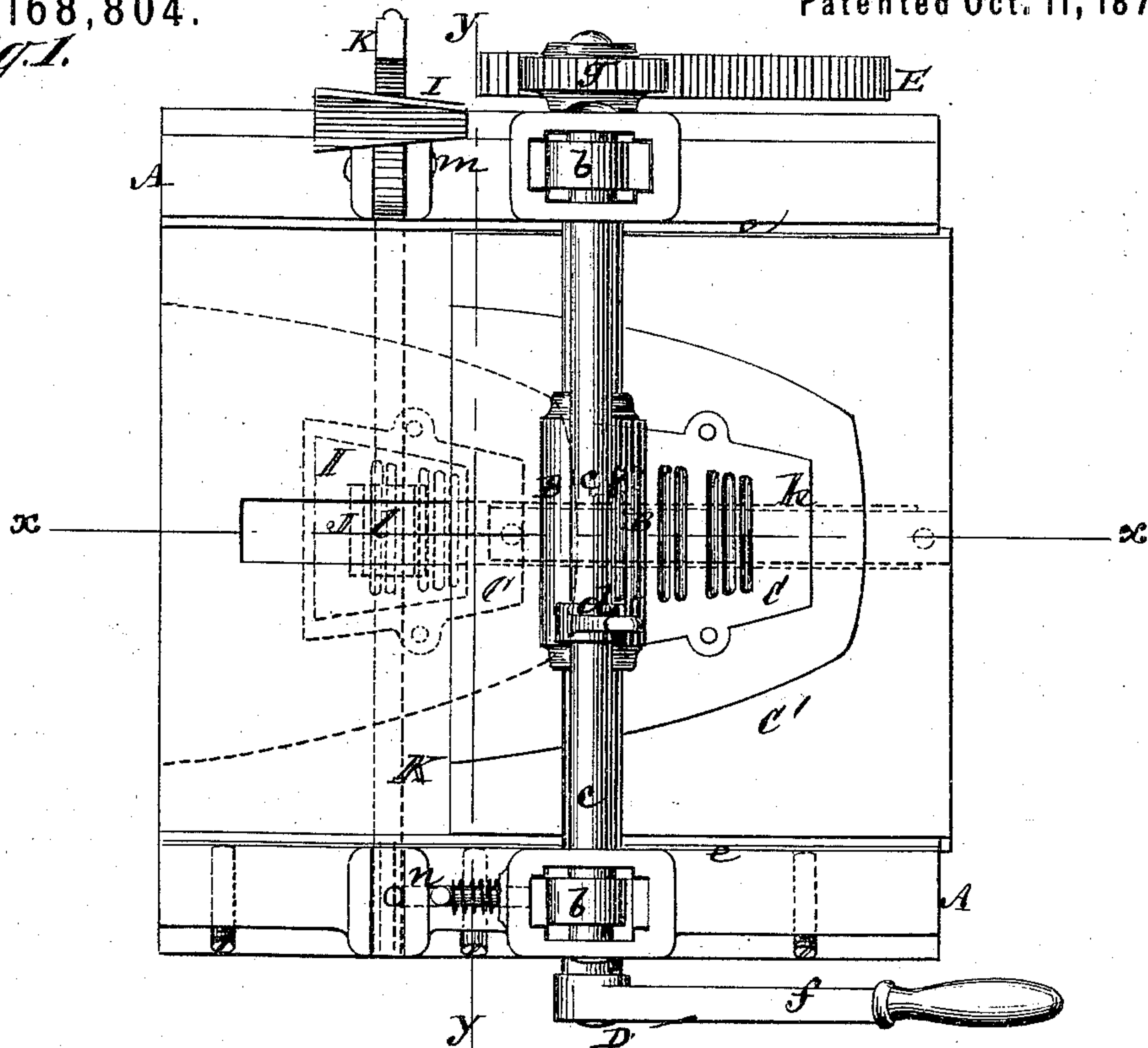
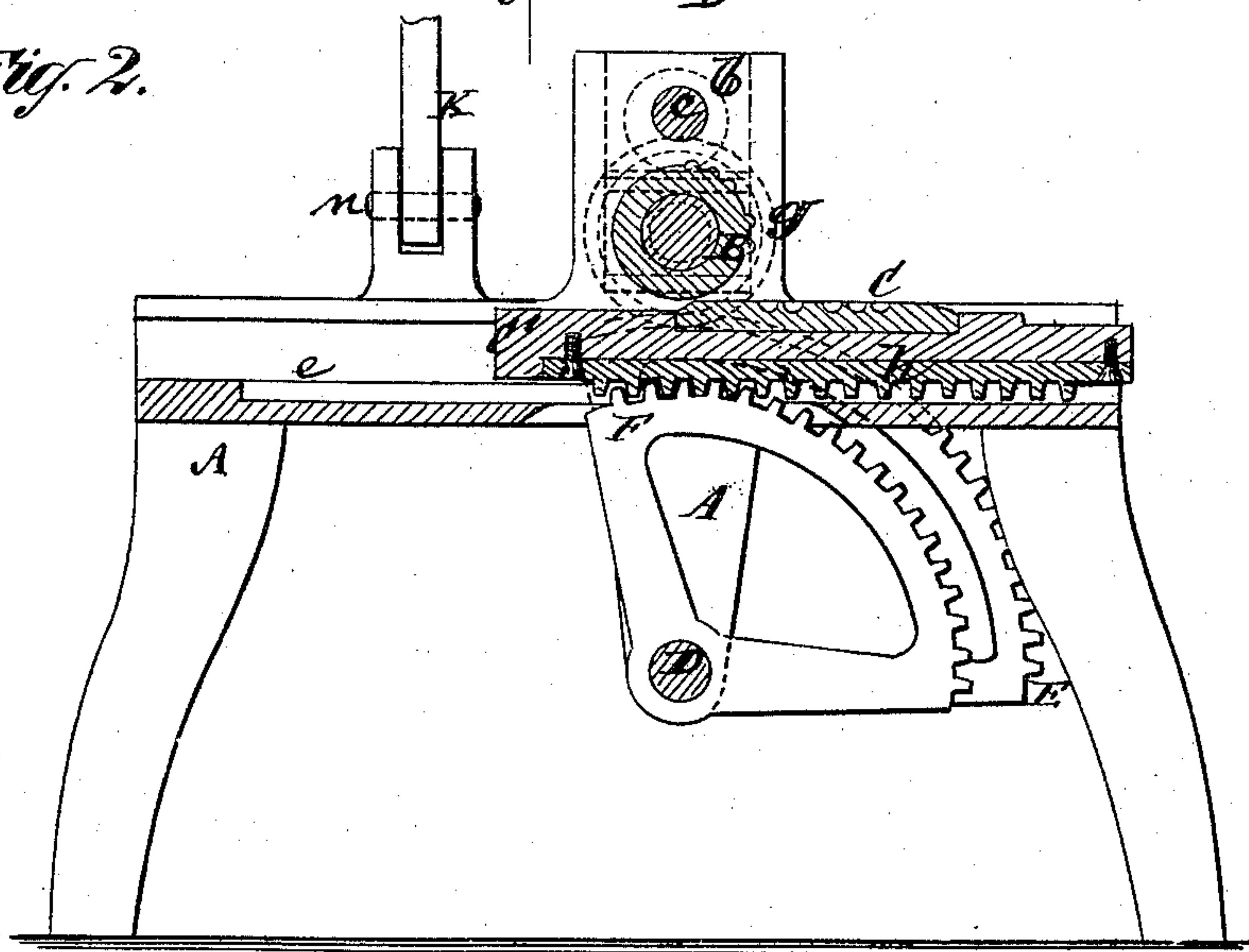


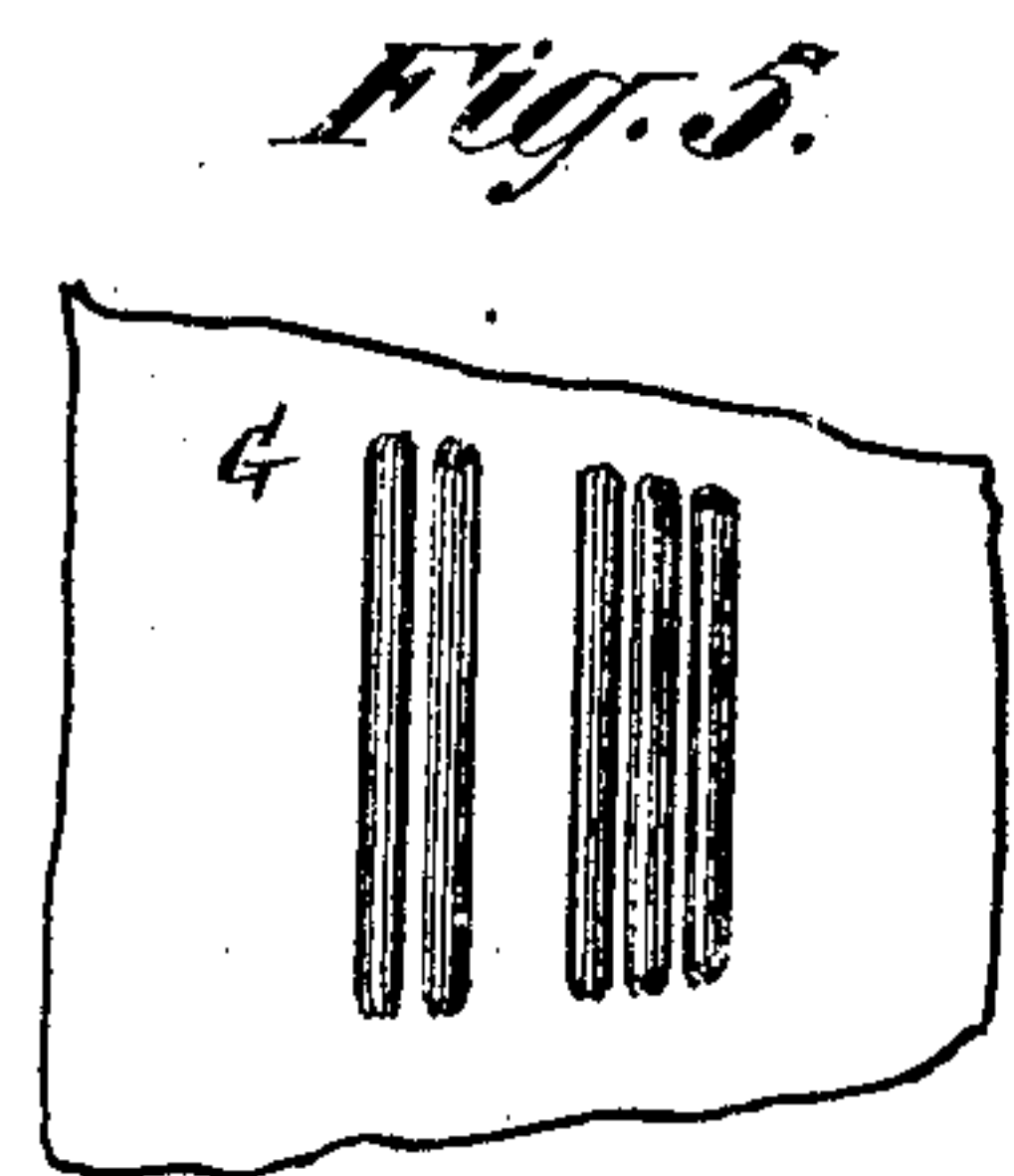
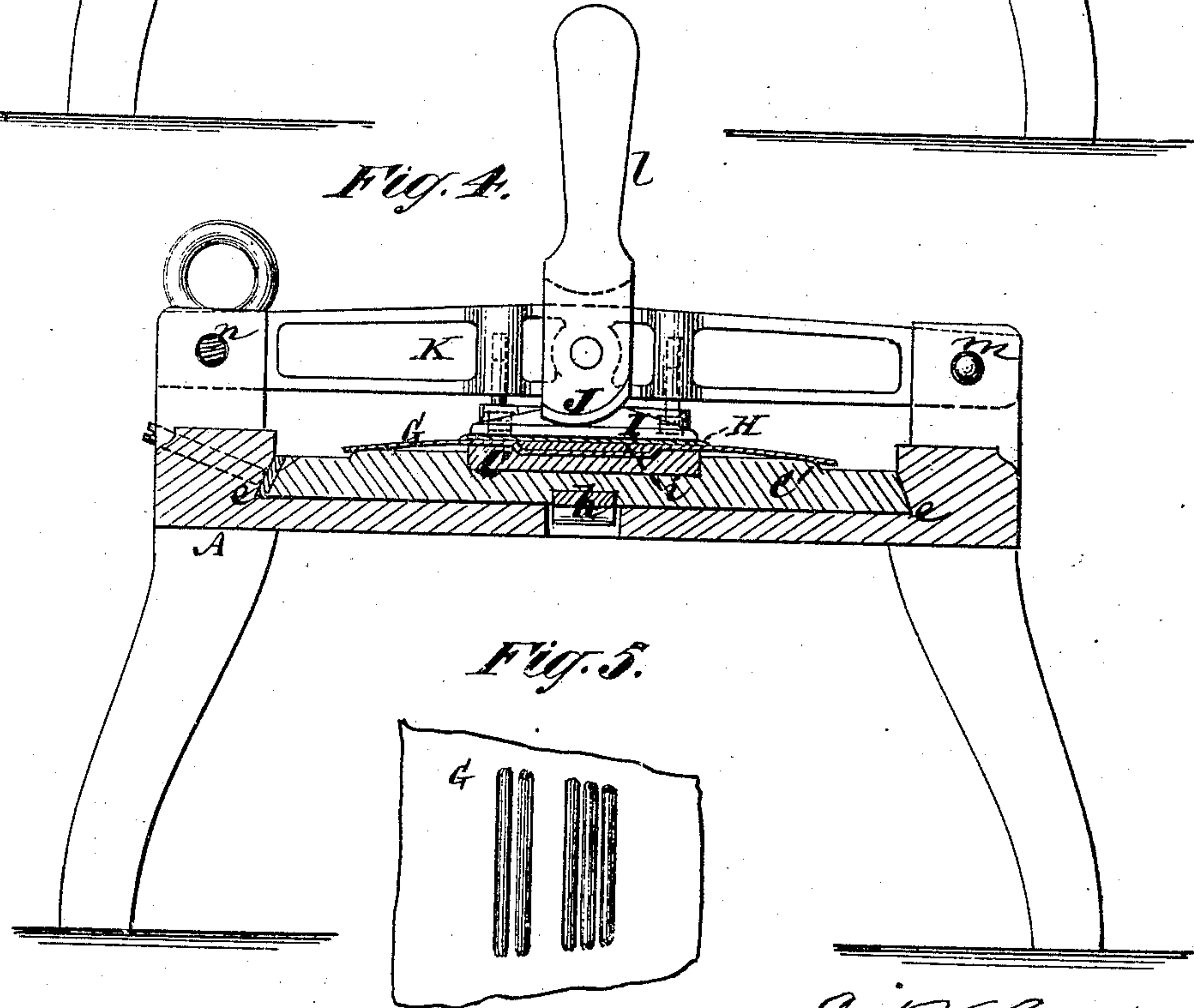
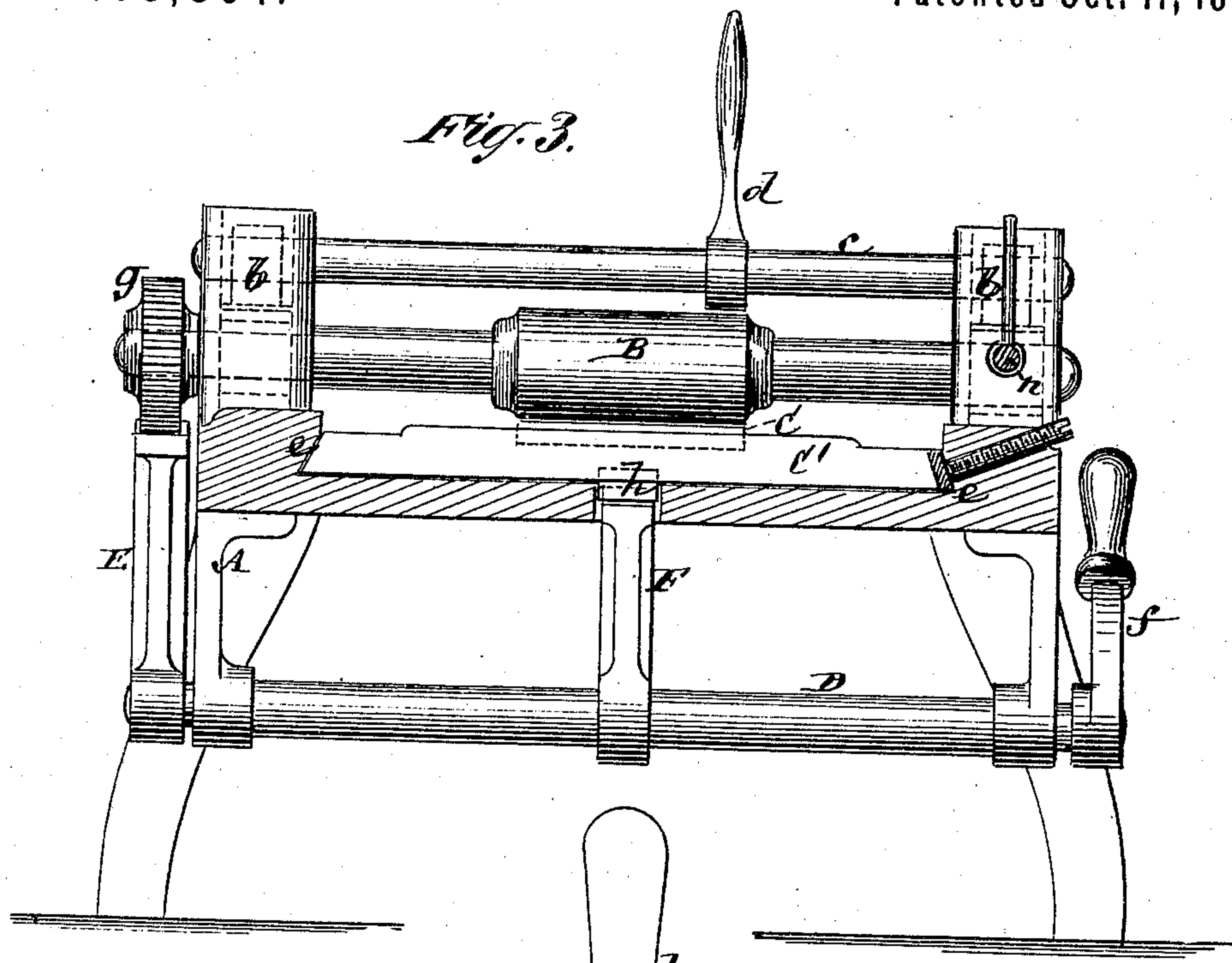
Fig. 2.



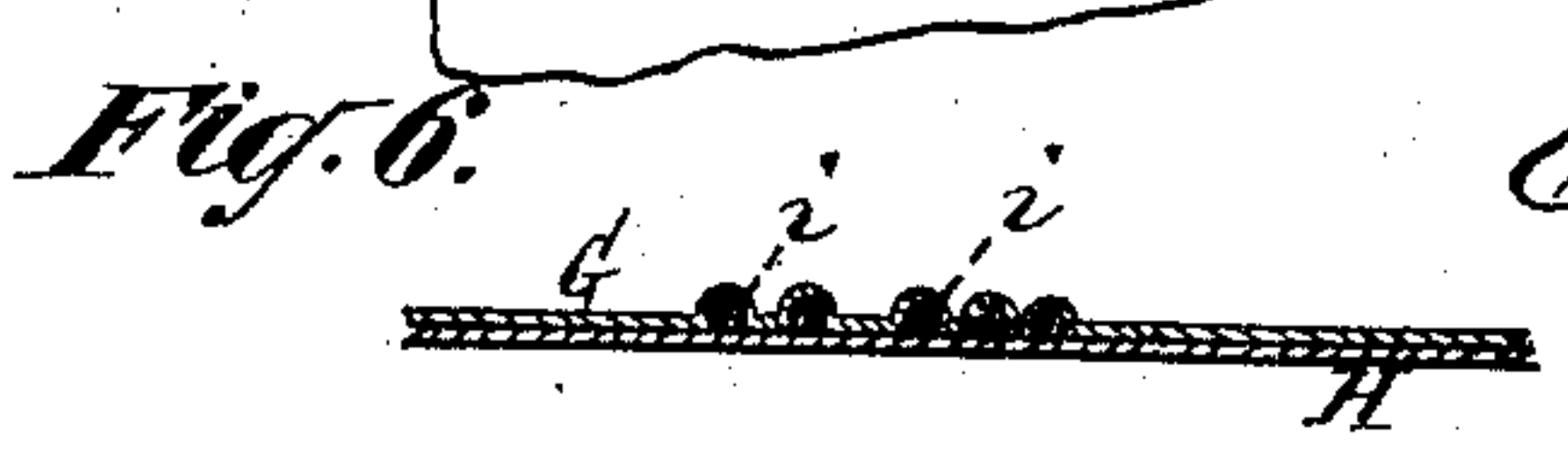
Witnesses
John Becker
and
Bert Hargney

E. B. Stimpson
by his Attorneys
Brown & Allen

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Witnesses
John Becker
Fred Wagner



E. B. Stimpson
Cyhis Atorney
Brown & Allen

UNITED STATES PATENT OFFICE

EDWIN B. STIMPSON, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR EMBOSSING THE UPPERS OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. **168,804**, dated October 11, 1875; application filed August 2, 1875.

To all whom it may concern:

Be it known that I, EDWIN B. STIMPSON, of the city, county, and State of New York, have invented certain new and useful Improvements in Machines for Embossing the Fronts or Uppers of Boots and Shoes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification.

This invention relates to machines for creasing or embossing the fronts or uppers of boots and shoes, and for the insertion of cords in the creased or embossed portions of the uppers. Heretofore said creasing or embossing, which serves the double purpose of ornamentation and of preventing the uppers from cracking, has usually been done by means of flat male and female dies, and the male die has been constructed with a marginal bearing to prevent it from cutting the leather. Such marginal bearing, which comes down upon the leather outside of the embossed portion, restricts the leather from stretching sufficiently to produce the embossing, and thereby causes the leather to crack. This invention consists in a combination of a roller male die and a flat or bed female die for creasing or embossing the leather, both receiving a positive motion in a corresponding direction as regards their contiguous surfaces, and serving to produce the necessary creasing or embossing of the upper without restricting the stretch of or draft upon the leather during the process of embossing, as the upper, which is placed upon the bed, passes under the roller-die, and whereby the creased or embossed upper is left flat, or in a suitable condition to receive the cords within its embossed ridges or portions. The invention also consists in certain means for pressing the cords, which are used to prevent the embossed ridges from flattening out into said ridges.

Figure 1 represents a plan of a machine constructed in accordance with my invention; Fig. 2, a vertical section of the same on the line *x x*; and Figs. 3 and 4, vertical sections thereof on the line *y y*, but looking in opposite directions, and with the parts in different working positions. Fig. 5 is a top view of an embossed and corded upper; and Fig. 6, a sec-

tion of the same, taken transversely through the embossed and corded ridges.

A is the frame of the machine, which may be of any suitable construction. B is the male roller-die, which is formed with any desired number and arrangement of ridges along its outer surface, according to the embossing to be produced. This male roller-die is arranged horizontally above a reciprocating flat or bed die, C, and has its ends supported in vertically-adjustable boxes, which may be forced down by eccentrics *b* at either end of a cross-shaft, *c*, to adapt the machine to different thicknesses of leather, said cross-shaft being provided with a handle, *d*, for the purpose of turning it and its attached eccentrics. The flat or bed die C, which is the female one, and has grooves in it corresponding with the ridges in the roller male die, is carried by a horizontally-reciprocating bed-plate, C', that slides in ways *e*. D is a lower cross-shaft, capable of being vibrated by a handle, *f*, and carrying on the one end of it a toothed sector, E, which gears with a pinion, *g*, on the corresponding end of the male roller-die B, for the purpose of turning or working the latter. The cross-shaft D is also fitted with an intermediate toothed sector, F, which gears with a rack, *h*, on the sliding bed-plate C', for the purposes of reciprocating or passing the die C under and away from the roller-die alternately. By these means the male roller-die and the female bed-die are made to move in concert, and in the same direction as regards their contiguous surfaces, and said dies are so arranged in relation with each other that the ridges on the one and the grooves in the other match as the bed-die C passes under the roller-die.

To crease or emboss the leather or upper G, the same is laid upon the female flat or bed die C, and the latter, by the means hereinbefore described, passed under the male roller-die B, which is simultaneously rotated or turned, and afterward a reverse movement given to the dies B C. This creases or embosses the leather without binding on it or restricting its capacity to draw on the stock for the embossing, and the embossing or corrugations may have increased prominence given them.

As it is necessary to insert the cords *i* with-

in the ridges of the upper G as quickly as possible after the impression has been produced, to prevent the embossing from shrinking or losing its form, said upper, so soon as it is passed back by the reciprocating female-die, has the cords *i* introduced within it, as, for instance, by a prepared material or backing, H, having the cords or ridges *i* formed on it, and said material smeared with any suitable adhesive material and laid on the leather or upper G, and so that its cords *i* enter within the grooves or hollow ridges of the upper. Pressure is then brought to bear upon the corded upper to produce the necessary union of the embossed leather upper and corded lining or backing, irrespective, however, of any after-stitching of the two together. This imbedding of the cords or of the corded material in the leather upper G is produced by means of a clamp or pressing plate, I, brought down by a pivoted cam or eccentric, J, through a handle, *l*, after the cords or corded material has been adjusted on and in the leather upper on the bed-die C. Said cam or eccentric I is carried by a cross beam or lever, K, pivoted at its one end, *m*, and fastened, when down, by a spring-catch, *n*, or other suitable fasten-

ing. This beam or lever is thrown up or back, as shown by full lines in Fig. 1, when the creasing or embossing of the leather is being done; but by the cord-embedding devices being associated with the embossing devices, and so that the cords may be inserted before the embossed ridges have time to lose their form as produced by the impression, a considerable advantage is obtained.

I claim—

1. The combination of the male roller-die B with the female reciprocating flat or bed die C, substantially as shown and described, and for the purpose herein set forth.

2. The combination of the toothed sectors E and F, the shaft D, the pinion *g*, the rack *h*, the male roller-die B, and the female bed-die C, essentially as specified.

3. The combination of the pressing-plate I, the cam J, and the adjustable cross beam or lever K with the reciprocating bed-die C, substantially as herein set forth.

EDWIN B. STIMPSON.

Witnesses:

FRED. HAYNES,
FERD. TUSCH.