

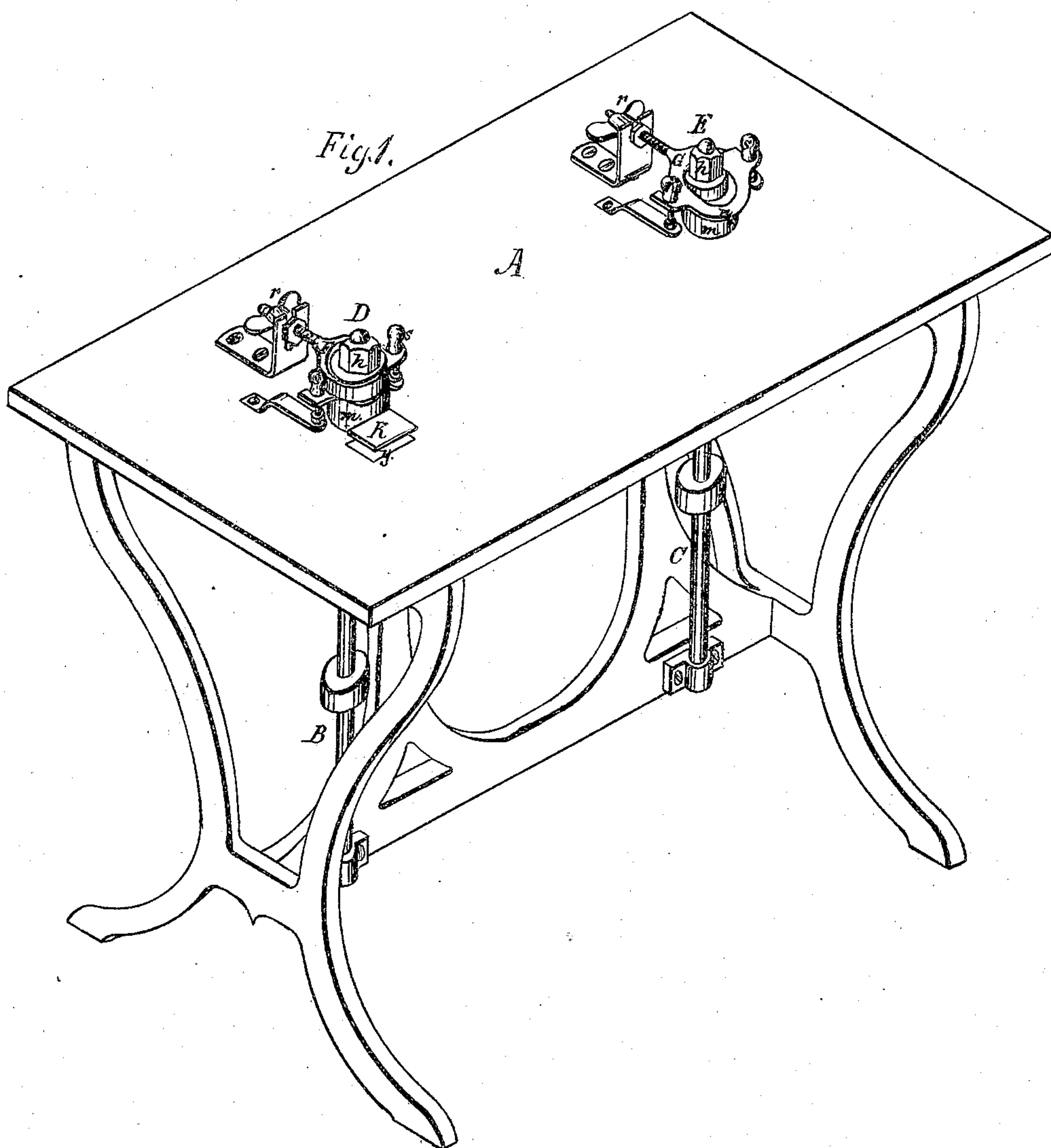
2. Sheets, Sheet. 1.

I. McLaughlin,

Sole Machine.

No. 113546.

Patented Apr. 11. 1871.



Witnesses.
C. H. Slicer
Chas. J. Wiener

Inventor
Daniel McLaughlin

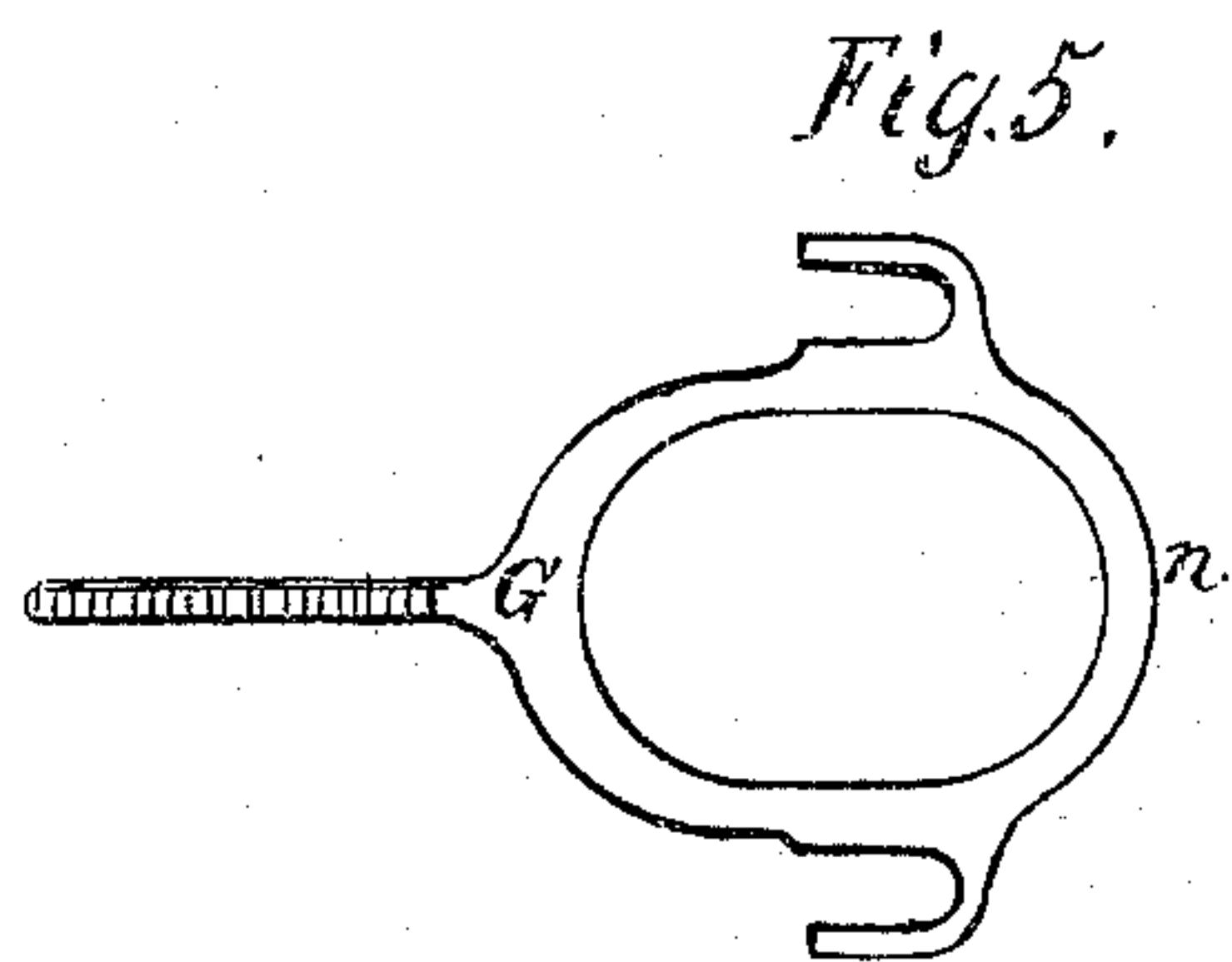
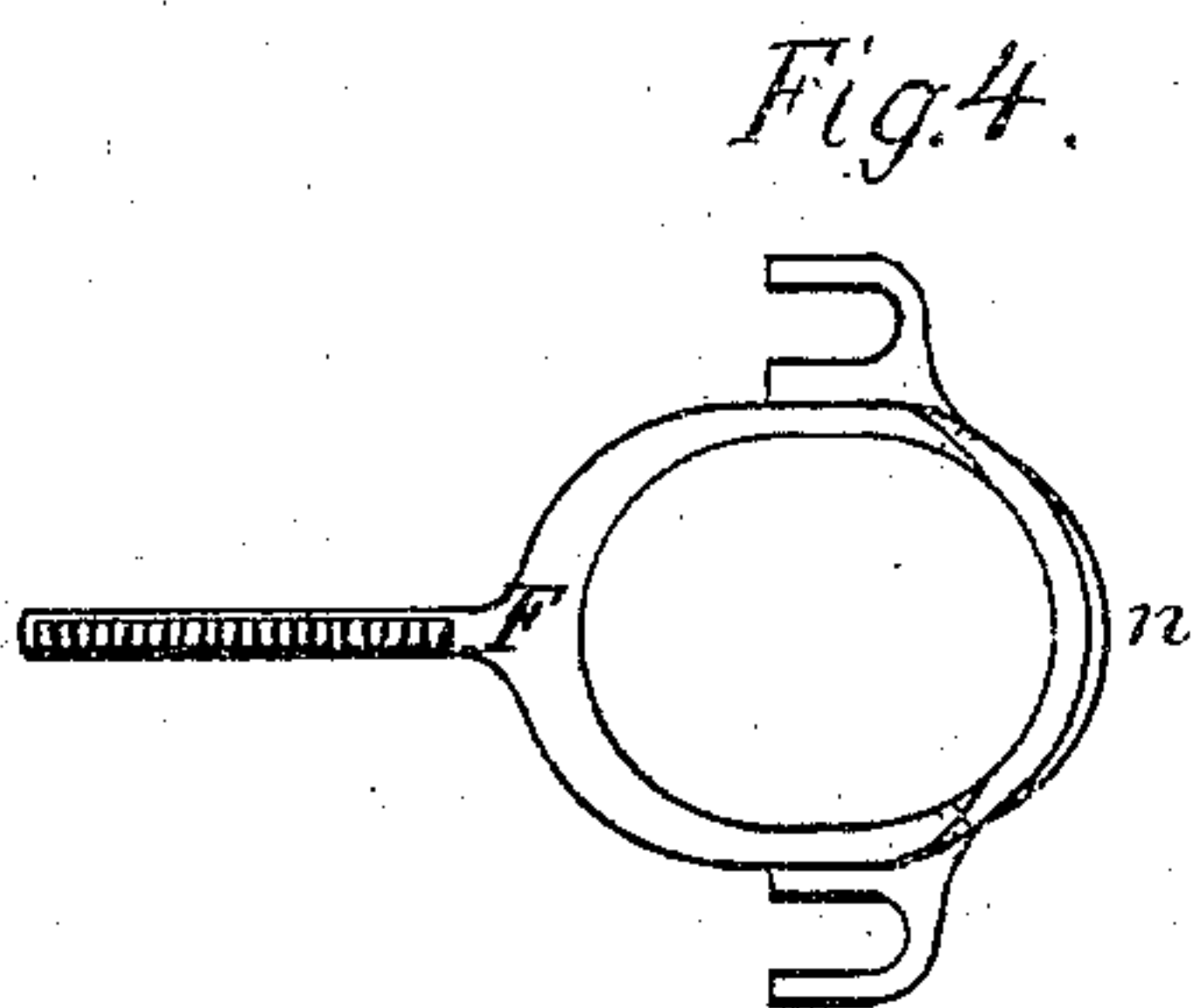
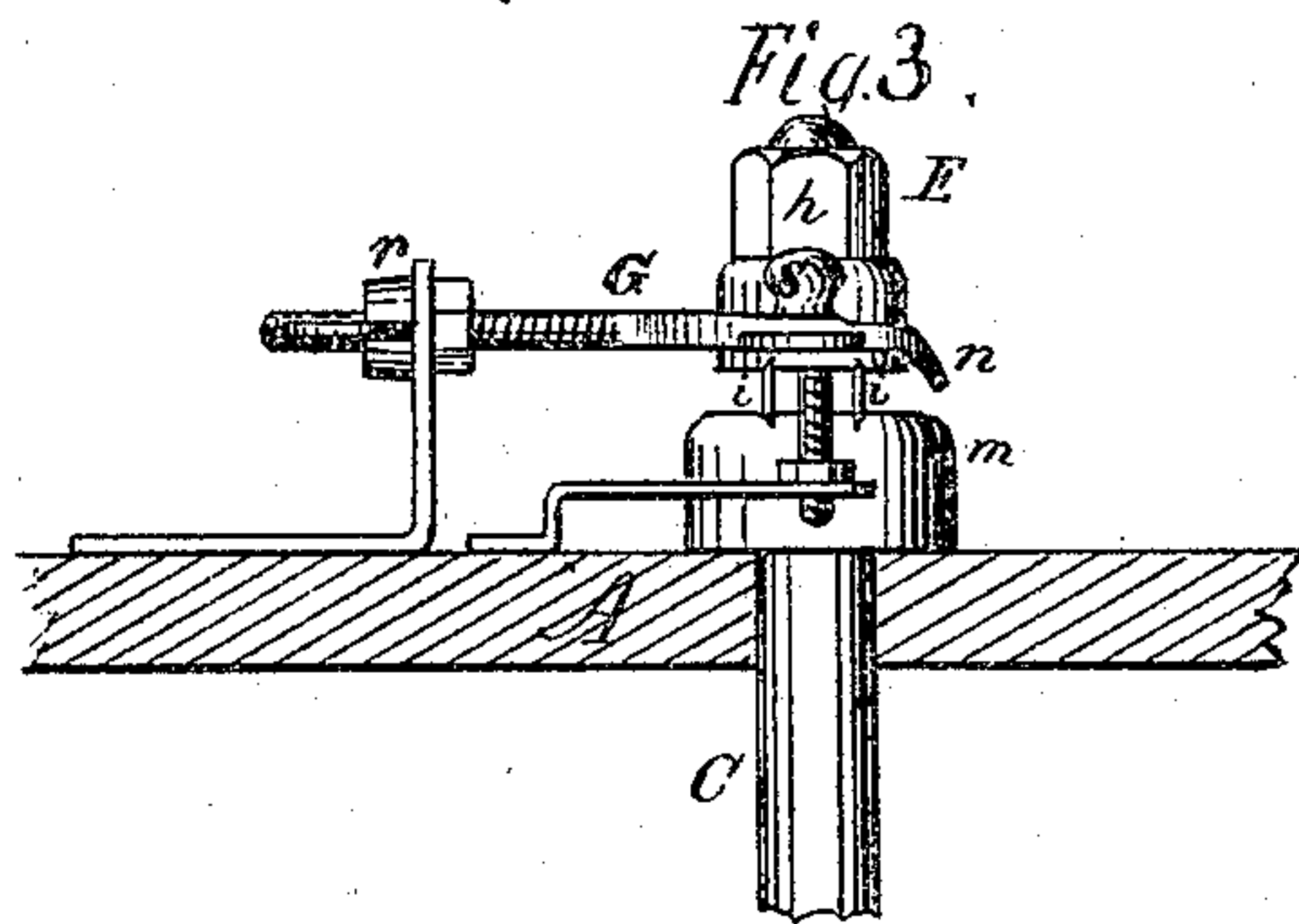
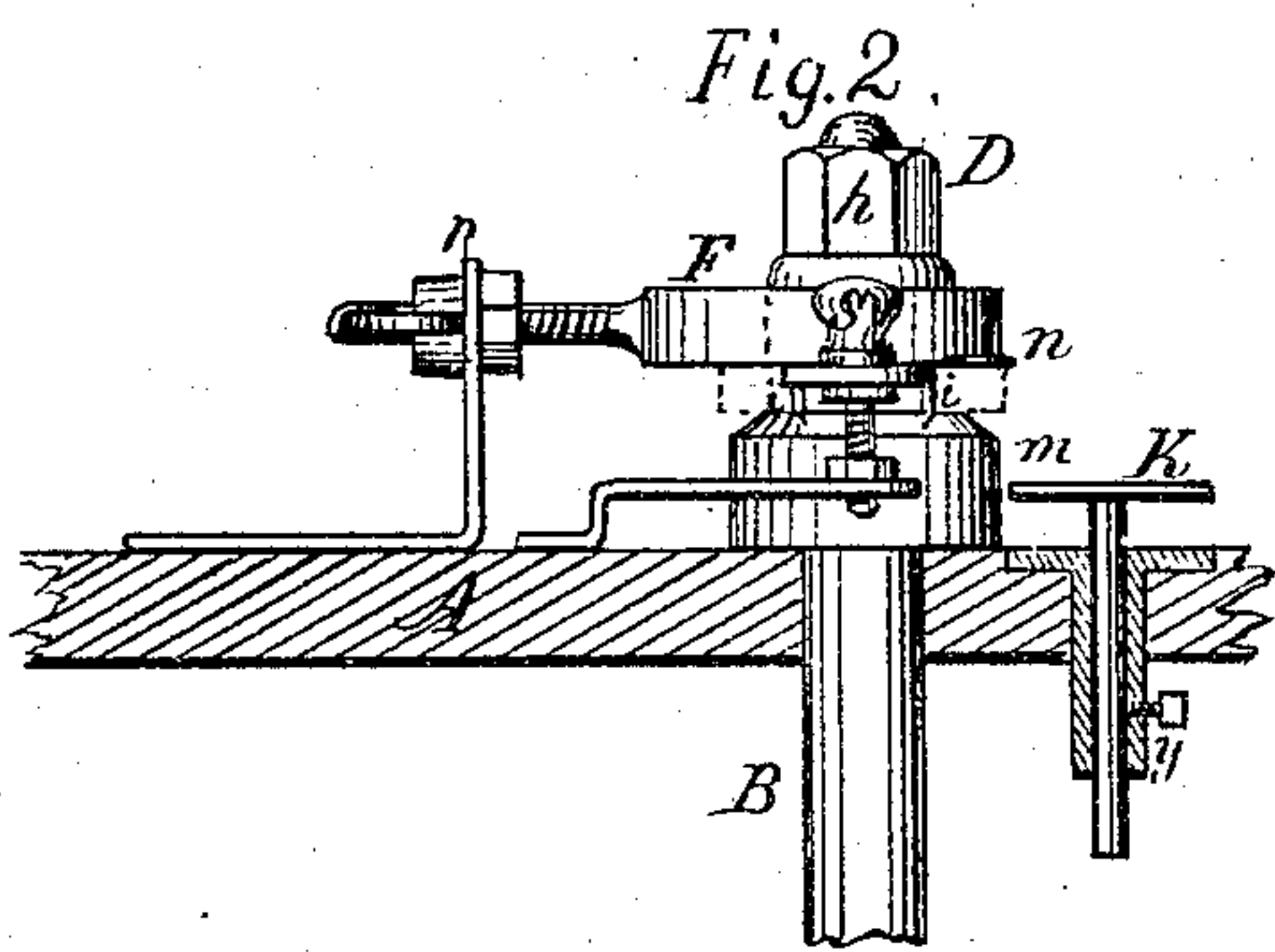
J. M. Laughlin,

2. Sheets. Sheet 2.

Sole Machine.

No. 113,546.

Patented Apr. 11. 1871.



Witnesses.
Chas. H. Slicer,
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Inventor
Daniel M. Laughlin

UNITED STATES PATENT OFFICE.

DANIEL McLAUGHLIN, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN MACHINES FOR TRIMMING THE SOLES OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. 113,546, dated April 11, 1871.

To all whom it may concern:

Be it known that I, DANIEL McLAUGHLIN, of the city of Baltimore and State of Maryland, have invented a Machine for Trimming the Edges of Boot and Shoe Soles, of which the following is a specification, reference being had to the accompanying drawing.

The object of my invention is to facilitate, cheapen, and perform with greater accuracy than has been done heretofore the operation of trimming the edges of boot and shoe soles; and the invention consists, first, in arranging to a table or frame, suited to the purpose, two upright revolving spindles, the ends or heads of which revolve through the top of said table; (the ends or heads of these spindles are fitted with collars or rings, and between these collars or rings are held cutters or bits of any desirable conformation or size for the purpose of trimming the edges of boot and shoe soles;) second, in the arrangement of adjustable guards or guides for the purpose of regulating the cut of the cutters or bits, and to prevent the nicking or cutting of the boot or shoe upper or thread in the operation of trimming the edges of the sole; and, third, in an adjustable rest for raising or lowering the work to the cutters when the soles to be operated upon vary in thickness.

In the accompanying drawings, Figure 1, Sheet 1, is a perspective view of my machine complete; Figs. 2 and 3, Sheet 2, are details of the same; Figs. 4 and 5, Sheet 2, are top views of the guards or guides detached.

A, Fig. 1, Sheet 1, is a table of special construction, to the frame of which are arranged two upright revolving spindles, B and C, with their ends passing up through the top of the table. To the end of each of said spindles are attached cutters or cutting-heads D and E, for the purpose of trimming the edges of boot and shoe soles. These cutting-heads vary somewhat in their conformation, for the reason that cutting-head D is for the purpose of trimming the edge of the front sole or the sole proper, while cutting-head E is for the purpose of trimming that portion of the sole forming the shank of the boot or shoe.

The construction of cutting-heads D and E, and their arrangement to spindles B and C,

will be readily understood by reference to Figs. 2 and 3, Sheet 2, similar letters indicating the same parts in Fig. 1, Sheet 1. These cutting-heads consist of collars or rings fitted to the ends of spindles B and C, and between said collars or rings are fixed bits or cutters, *i i*. These collars and bits are secured to their place by nuts *h*. The variation in the conformation of these two cutting-heads is confined to their lower collar or base, the collar or base of cutting-head E having its upper edge more rounding than that of cutting-head D, as shown at *m*, Figs. 2 and 3. This variation in these cutting heads is for the reason hereinbefore mentioned. In every other respect their construction and arrangement are identical with each other.

F and G, Figs. 2 and 3, Sheet 2, are guards or guides encircling the cutting-heads, and are for the purpose of regulating the cut of the cutting-heads, and to prevent nicking or cutting of the boot or shoe upper or thread in the operation of trimming the edges of the soles. These guards or guides, it will be seen, are so constructed and arranged as to be readily adjustable, both horizontally and vertically; horizontally, by means of screw and set-nuts, as seen at *r*, and vertically by means of set-screws *s*. The adjustability of these guides or guards is of great importance, as it allows the same cutting-heads and guards to be used in trimming all sizes of boot or shoe soles.

Guards or guides F and G differ materially from each other at *n*, the point at which the sole to be trimmed is brought in contact with them. At this point guide or guard F has a lip or shoulder formed at right angles to its lower edge, while guard or guide G has no such lip or shoulder, but has its edge depressed or curved downward. This difference in the construction of the front of guide or guard G is made necessary owing to the great curvature of that portion of the sole forming the shank, and upon which this guide is intended to operate.

Arranged to table A, Fig. 1, Sheet 1, at or near the base of cutting-head D, is an adjustable rest or platform, K, upon which the bottom of the boot or shoe is rested while the

edge of the sole is being trimmed, and by means of its adjustability the work is raised or lowered to the cutters, as may be required where the soles to be operated upon vary in thickness. The device for adjusting this rest or platform is arranged beneath the top of the table. The stem or support of the platform, passing through a sleeve in the top of the table is held and regulated by a set-screw, as seen at *y*, Fig. 2, Sheet 2.

The rest or platform K is only used in connection with the cutting-head D in the operation of trimming the front sole. Its use is dispensed with in trimming the shank portion.

The construction of my machine for trimming the edges of boot and shoe soles is so simple, that the manner of operating it will readily present itself, and is as follows: By means of steam or other power, applied to its spindles, the cutting-heads are caused to rotate rapidly, say at the rate of thirty-five to thirty-six hundred revolutions per minute. The edge of the boot or shoe sole is then presented to

the cutting-heads, when the operation of trimming is quickly performed with accuracy of finish and safety to the boot or shoe upper, heretofore unknown in the work of trimming by hand-labor.

This machine, with the aid of a man and boy, will trim the edges of the soles of eight hundred pairs of boots or shoes per day, the work of nine or ten men when done by hand-labor.

I claim as my invention—

1. The revolving cutting-heads D and E, arranged with guides or guards F and G, substantially as and for the purpose herein set forth.

2. The revolving cutting-heads D and E, and guides or guards F and G, in combination with rest or platform K, substantially as and for the purpose herein described.

DANIEL McLAUGHLIN.

Witnesses:

C. H. SLICER,

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