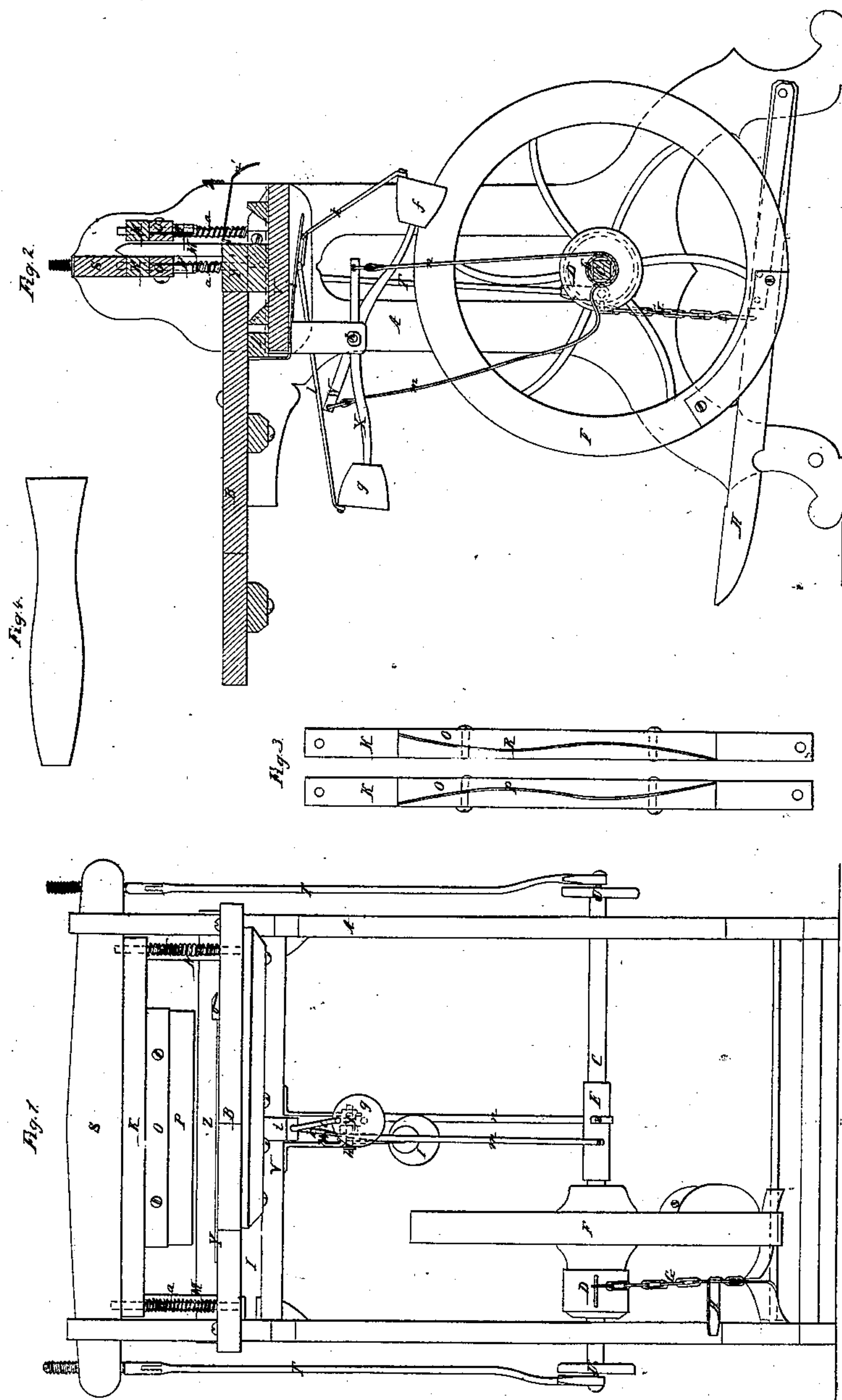


C. H. Griffin

Shoe-Sole Machine,

N^o 13,072.

Patented June 12, 1855.



UNITED STATES PATENT OFFICE.

CALEB H. GRIFFIN, OF LYNN, MASSACHUSETTS, ASSIGNOR TO C. H. GRIFFIN AND GEORGE W. OTIS.

MACHINE FOR CUTTING OUT BOOT AND SHOE SOLES.

Specification forming part of Letters Patent No. 13,072, dated June 12, 1855; Reissued January 25, 1864, No. 1,610.

To all whom it may concern:

Be it known that I, CALEB HENRY GRIFFIN, of Lynn, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Machinery for Cutting Out Boot or Shoe Soles from Leather; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1, denotes a front elevation of one of my improved sole cutting machines; Fig. 2, is a central, vertical, and longitudinal section of it, the same being taken a little to the right of the middle of the machine and for the purpose of clearly exhibiting the mechanism by which the reciprocating knife frame is operated. Fig. 3, is an underside view of the two knives, their holding stocks and the bars thereof, all of which will be hereinafter described.

In Figs. 1, and 2 of these drawings A, represents the main frame of the machine, such being provided with a table or platform B. Extended across the frame and sustained in suitable boxes is a driving shaft C, such shaft having two barrels or pulleys D and E, and a fly wheel F, fixed to it or arranged on it as seen in the drawings. To the periphery of the frame D, one end of a chain G is attached, the other end thereof being connected to a foot treadle or lever H.

Underneath the table or board, B, is a carriage or sliding frame I, which is applied to the table so as to be capable of being moved in a longitudinal direction. From each end of this carriage and up through a slot formed through the table two posts or standards, *a, a*, are made to rise and respectively to have springs coiled around them. Resting on these springs are two parallel bars K, K, which extend transversely across the machine as seen in Figs. 1, and 2, each being made to receive through it two of the rods *a, a*, and to slide freely thereon. Between the two bars K, K, and near each two adjacent ends of the same, such bars may be provided with guides or posts M, N, for maintaining them at proper distances apart, such posts being made to extend up from the carriage. Each of the bars, K, carries on its underside a cutter

stock, O, from which projects a curved knife P, or R, see Figs. 1, 2, 3, the two knives being formed and arranged with respect to each other as shown in the said figures. Directly above the knife bars K, K, the frame, A, is provided with a depresser bar S, which should be so applied to the said frame as to be capable of being freely moved up or down in a vertical plane. The said depresser bar is supported on and jointed to the upper ends of two connecting rods, T, T, whose lower ends are jointed to wrists or crank wheels, U, U, fixed on the outer ends of the driving shaft as seen in Fig. 1. When a reciprocating, rotary motion is imparted to the shaft, by means of the treadle, a reciprocating, vertical motion will be given to the depresser bar.

Below a cross bar, V, of the frame of the machine are two weighted levers, W, and X, which are arranged and provided with weights, *f, g*, and made to turn on a fulcrum *h*, as seen in Figs. 1, and 2. To the middle of a bent bar, *i*, attached to the frame, I, the ends of two straps or bands, *k, l*, are fastened, the other ends of such bands being respectively connected to the weights and the levers. Two other straps, *m, n*, are respectively attached to the shorter arms of the levers and at their lower ends such straps are fastened to the periphery or outer curved surface of the barrel, E, one strap being wound around the periphery while the other is unwound therefrom.

Below the two knives, the table is provided with a cutter block, Y, down upon which the cutting edges of the knives are brought alternately when cutting a strip of leather into soles. Parallel to the outer edges of the block, and at a proper distance from it is a stop bar Z, against which the leather is borne whenever it is moved forward underneath the cutters, the soles separated from it dropping down upon and being discharged from the machine by a curved apron or chute, *n'*, arranged as seen in Fig. 2.

In operating the machine the attendant places his foot on the treadle and sets it in movement up and down so as to impart to the driving shaft, a reciprocating rotary motion, he at the same time holding a strip of leather on the top surface of the table and against a guide bar, *o*, fixed thereon.

From time to time or as occasion may require he moves the said strip forward against the stop bar. The frame or carriage, I, will have an intermittent reciprocating motion imparted to it, which will carry each of the knife bars K, K in succession directly underneath the depresser bar which descending thereupon will force the knife bar and its knife downward toward the cutter block and so as to cause the knife to cut through the leather thereon.

Each knife is elevated from the leather by the springs on the rods that guide its bar K, or, K, downward.

By means of my machine, the strip of leather will be cut into sole blanks as seen in Fig. 4.

I am aware of the machine of Richard Richards patented on the sixteenth day of December, eighteen hundred and fifty-four, the two cutting knives of such machine having been applied to opposite sides of a revolving shaft—such shaft being partially revolved at suitable periods of time in order to bring alternately each cutting knife in succession into the required position for it to cut through the leather when depressed by the frame or mechanism by which it was made to act upon the same. I therefore do

not lay claim to any such method of applying and operating the knives, it being attended with an uncertainty of action, to which my improvement is not liable, but

What I do claim is—

1. The combination of the depresser bar with the reciprocating knife frame its two movable knives and their elevating springs or equivalent machinery, such being arranged and made to operate together substantially as specified.

2. I also claim the combination of mechanism for imparting to the knife frame its intermittent reciprocating movements as described, the said combination consisting of the two momentum levers, W, X, the barrel, E, on the driving shaft and the two sets of connecting straps, *k*; *l*; *m*; *n*; the same being applied to the carriage and shaft and made to operate substantially as herein before set forth.

In testimony whereof, I have hereunto set my signature this tenth day January A. D. 1854.

C. H. GRIFFIN

Witnesses:

R. H. EDDY,

E. P. HALE, Jr.