

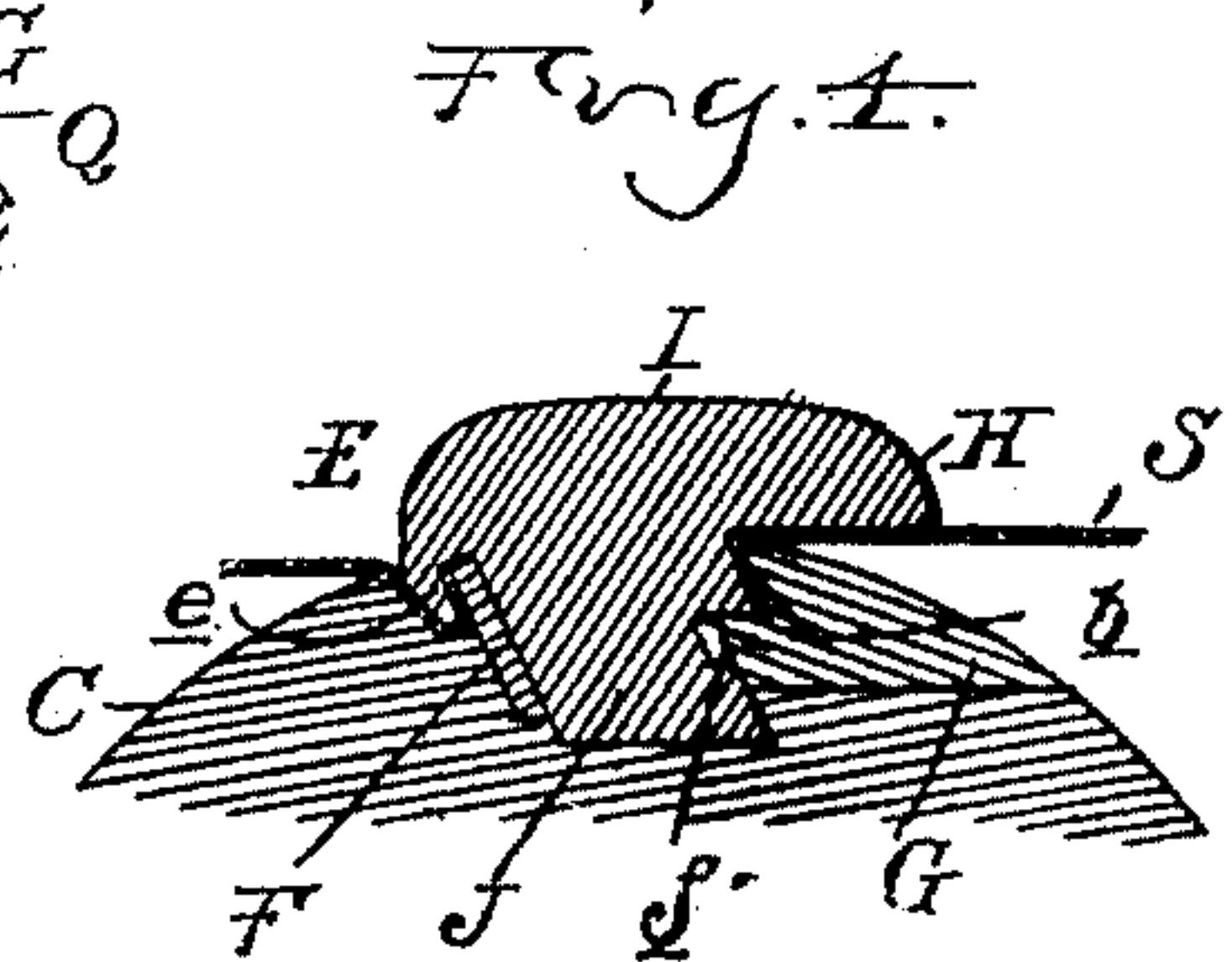
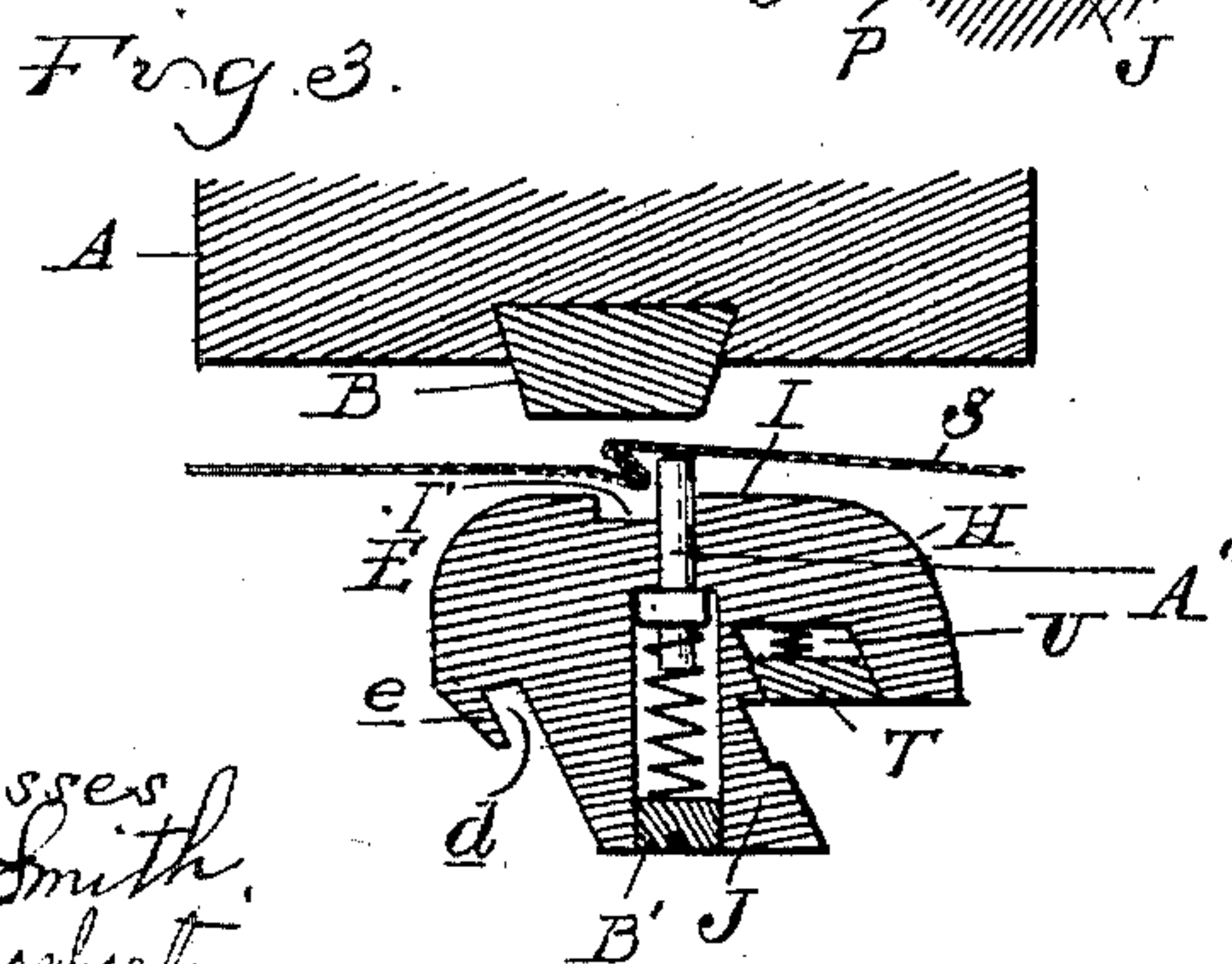
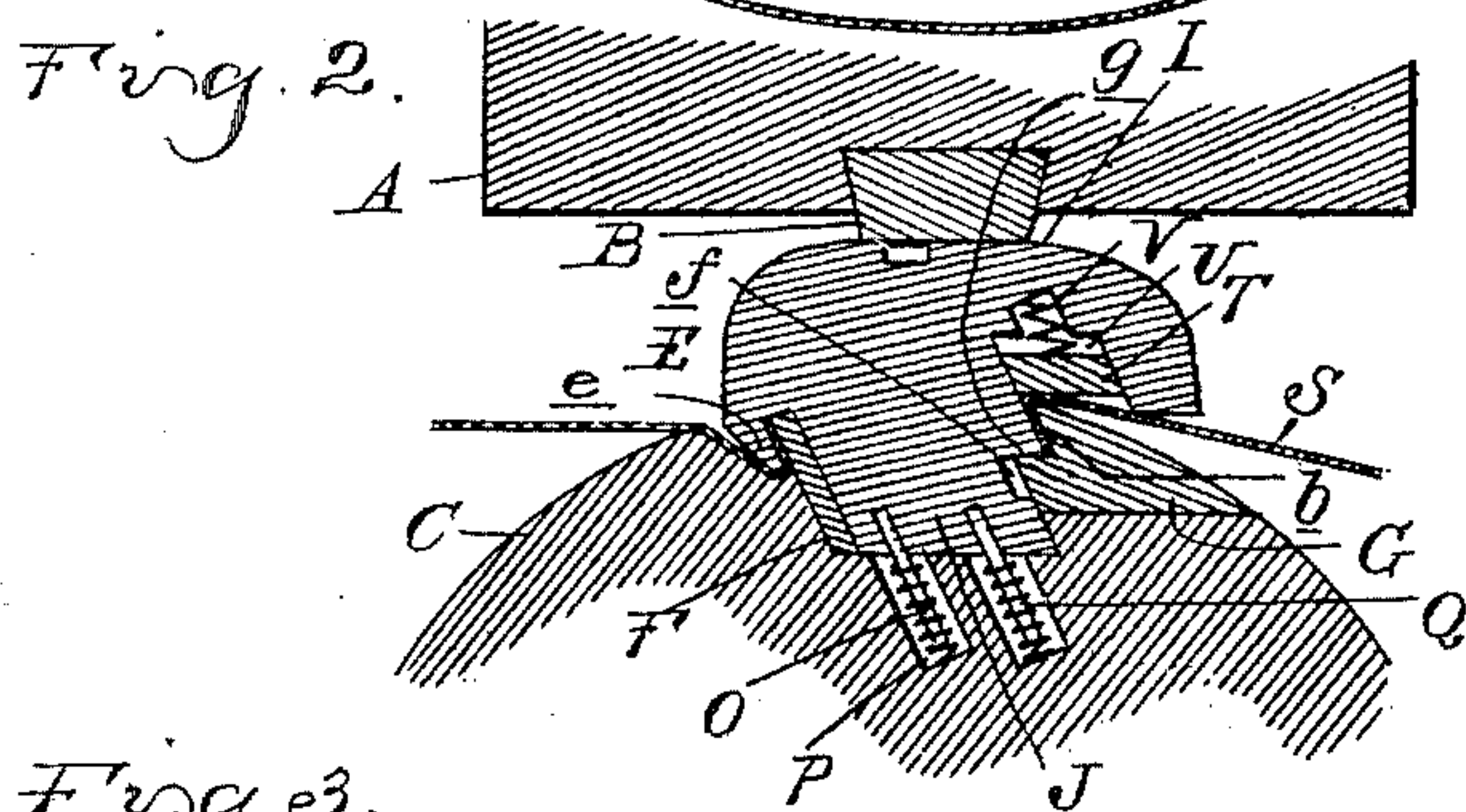
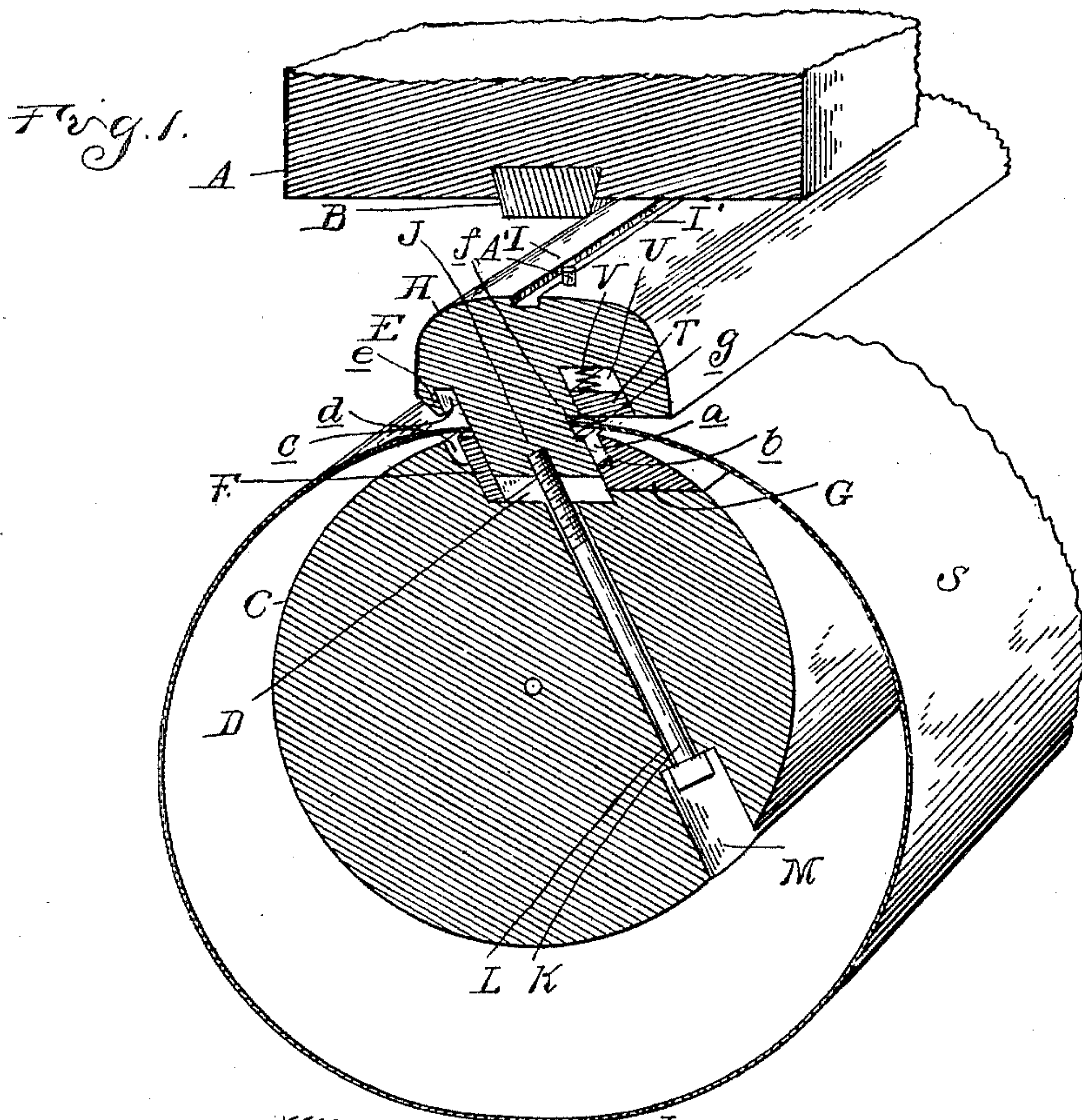
No. 641,999.

Patented Jan. 23, 1900.

C. PUDDFOOT.  
MACHINE FOR SEAMING SHEET METAL.

(Application filed June 19, 1899.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

CHARLES PUDDEFOOT, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF  
TO BENJAMIN BRISCOE, JR., OF SAME PLACE.

## MACHINE FOR SEAMING SHEET METAL.

SPECIFICATION forming part of Letters Patent No. 641,999, dated January 23, 1900.

Application filed June 19, 1899. Serial No. 721,097. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES PUDDEFOOT, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Machines for Seaming Sheet Metal, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The invention relates generally to machines for forming tin cans, and has particular reference to the mechanism employed for seaming the meeting edges of the sheet metal constituting the can-body.

15 The object of the invention is to so construct the machine of the type referred to that the meeting edges of the can-body may be turned over or crimped in such manner that the hooked ends after their engagement and  
20 before the final step of seaming is effected will lie substantially flat upon the anvil in readiness to be struck by the hammer.

A further object of my invention is to provide means whereby the crimping of the meeting ends of the metal may be effected without disturbing the body portion of the work.

25 With these objects in view my invention consists in an improved die-seaming machine and in the peculiar construction, combination, and arrangement of the various parts, as will be more fully hereinafter shown and described.

In the drawings, Figure 1 is a sectional perspective view of my improved machine. Fig. 35 2 is a sectional view thereof, illustrating the manner in which the meeting ends of the body are crimped. Fig. 3 is a sectional view showing the hooked ends in engagement and in readiness to be struck by the hammer. Fig. 40 4 is a sectional view of a modified construction.

The reference-letter A designates a pressure-block of usual construction provided with a hammer B, which is secured to the block centrally thereof in any approved manner. Beneath the pressure-block is arranged the work-support C, which is preferably in the form of a horn. This support is provided with a longitudinal recess D, and in the recess, intermediate the block and support, is arranged for reciprocation a die-carrier E.

The recess which constitutes a guide for the die-carrier is inclined at an acute angle to the vertical plane of movement of the pressure-block, as plainly shown.

55 More particularly the construction of the parts is as follows: Within the recess upon one side thereof is arranged a wear-plate F and upon the opposite side a die-block G. The die-block is recessed at *a*, forming a shoulder *b* thereon, which constitutes one of the lower dies. The wear-plate F on the opposite side of the recess constitutes a complementary lower die, and adjacent to said plate and formed within the support is a groove *c*, which receives one of the upper dies. The die-carrier is preferably T-shaped in configuration, comprising a head H, provided with a flat top I, preferably grooved at I', and a shank J of lesser cross-section than the head. 70 The head is arranged in a plane parallel with the pressure-block, and the shank portion of the carrier is at an acute angle to the head to permit of its engagement within the inclined recess. Upon one lateral extension of the head is a groove *d*, which is formed therein to form a shoulder *e* upon said head, which constitutes one of the upper dies and which is adapted to engage within the recess *c*. Upon the opposite side the head is recessed at *f*, forming the complementary upper die *g*. 80

The die-carrier is yieldingly supported within the longitudinal recess D in the following manner: Upon the lower portion of the carrier-shank and at various distances 85 are fixedly secured a series of pins K, which are adapted to extend within bores L, formed in the support or horn. The bores in turn are provided with counterbores M, adapted to receive heads which are arranged upon the ends of the pins. These heads constitute stops limiting the upward movement of the die-carrier, and means are provided in the form of springs, as hereinafter described, for holding the die-carrier partially out of the recess. The means referred to for yieldingly supporting the carrier comprise a series of springs, such as O, which are arranged within the bores P, formed within the horn, and pins Q, secured to the carrier, which extend 90 within the bores and encircled by the springs. 100

The operation of the machine is as follows:



A sheet of metal S, curved into circular form, as shown, is placed upon the holder or horn with the meeting edges between the cooperating dies. Upon the downward movement 5 of the pressure-block the dies are forced in contact with each other and a hook is formed upon each edge of the metal, as indicated in Fig. 2. The metal being removed from beneath the die-carrier, the hooked ends are engaged, the work is laid upon the flat top of 10 the carrier, which constitutes an anvil, and the final step of seaming is performed by the hammer.

From the description of the construction of 15 the machine it will be readily observed that by having the die-carrier reciprocated within the horn at an acute angle to the plane of movement of the pressure-block the hooks will be formed upon the meeting edges of the 20 metal in such manner that when they are secured to each other they will be in a plane nearly parallel to the plane of the anvil; also, the transverse portions of the T-shaped die-carrier hold the work upon the horn, so 25 as to prevent the body of the work being distorted or in any way moved from its engagement with the horn, as first placed thereon by the operator.

As an additional precaution of holding of 30 the work to the support, I have provided upon one side of the head of the carrier a spring-impelled block T, as shown in Figs. 1 and 2, said block being arranged in a recess U, formed in the under face of one of the transverse portions of the head and provided with 35 a spring V, which holds the block normally out of the recess. This construction is not essential, however, as in practice the parts may be of the construction as shown in Fig. 4 40 and the same results will be obtained.

In the formation of the seam the hooked meeting edges of the can-body are preferably arranged within the longitudinal slot formed in the top of the die-carrier, the seam being 45 in relation to said carrier, as shown in Fig. 3. The reference-letter A' designates spring-impelled pins arranged in sockets or bores B' within the carrier, the function of said pins being to automatically remove the seam from 50 the longitudinal slot.

What I claim as my invention is—

1. In a die-seaming machine, the combination of a pressure-block, a support provided with dies thereon, inclined guides carried by the support, said guides being arranged at 55 an acute angle to the plane of movement of the block and a reciprocating die-carrier intermediate the pressure block and support slidably engaging the guides.

2. In a die-seaming machine, the combination of a pressure-block, a horn provided with dies thereon and having formed therein a longitudinal recess inclined at an acute angle to the plane of movement of the block, a reciprocating die-carrier, intermediate the block 60 and horn, arranged within the recess, and cooperating dies upon said carrier.

3. In a die-seaming machine, the combination of a pressure-block, a horn having formed therein a longitudinal recess inclined at an acute angle to the plane of movement of the block, a reciprocating die-carrier substantially T-shaped in configuration, the head being arranged in proximity to and in a plane 65 parallel with the pressure-block and the depending shank being arranged at an angle to the head to engage the inclined recess, dies upon the horn, and cooperating dies upon the head of the reciprocating carrier, substantially as described. 70 80

4. In a die-seaming machine, the combination of a pressure-block, a horn having formed therein a longitudinal recess inclined at an acute angle to the plane of movement of the block, a reciprocating die-carrier substantially T-shaped in configuration, the head being arranged in proximity to and in a plane 85 parallel with the pressure-block and the depending shank being arranged at an angle to the head to engage the inclined recess, dies upon the horn, cooperating dies upon the head of the reciprocating carrier, and a spring-impelled block carried by the head, substantially as described. 90

In testimony whereof I affix my signature 95 in presence of two witnesses.

CHARLES PUDDFOOT.

Witnesses:

M. B. O'DOHERTY,  
H. C. SMITH.