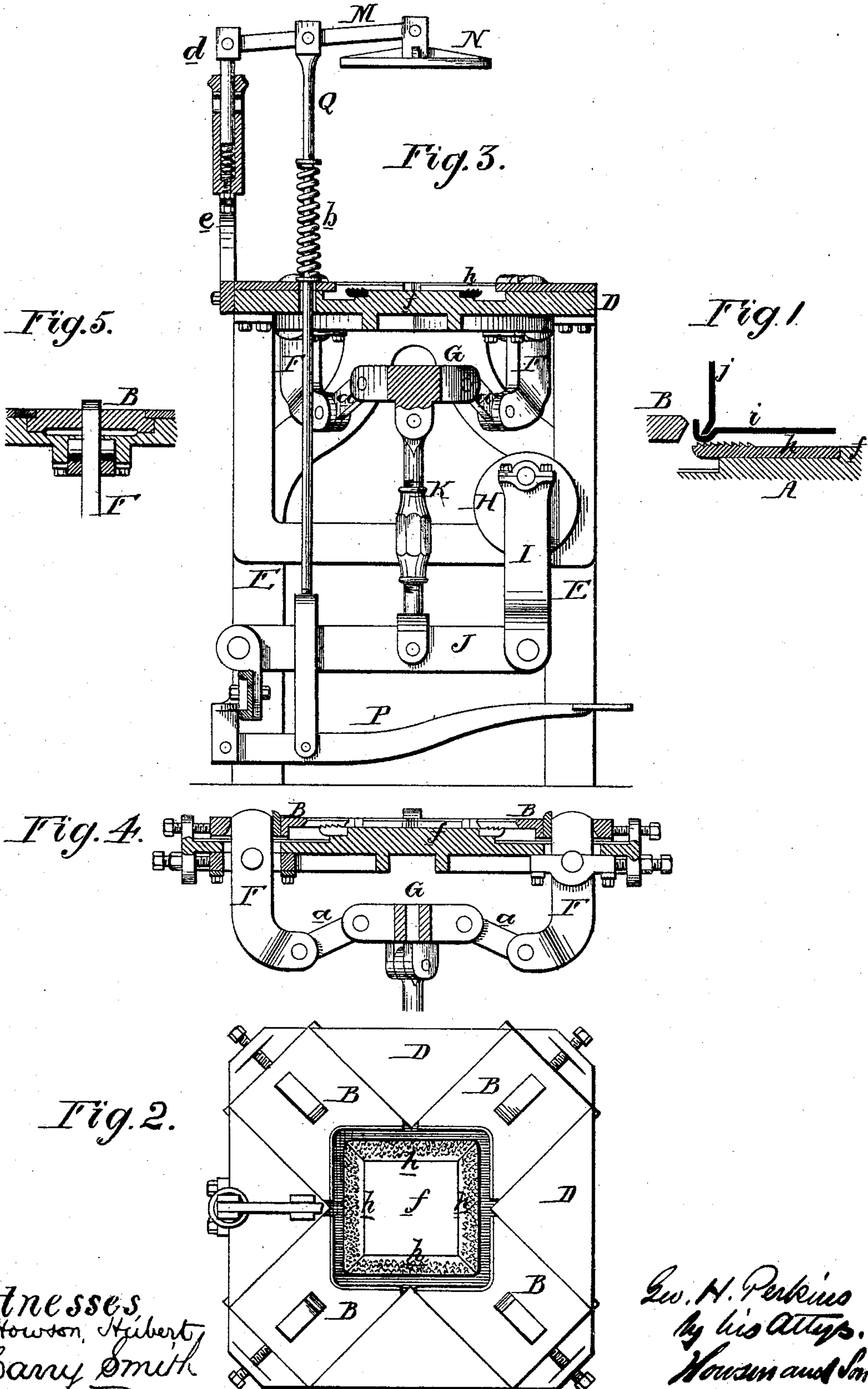


G. H. PERKINS.  
Seaming-Machines.

No. 146,946.

Patented Jan. 27, 1874.



Witnesses  
Howson, Hubert,  
Harry Smith

G. H. Perkins  
by his Atty.  
Howson and Son



# UNITED STATES PATENT OFFICE.

GEORGE H. PERKINS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND JOSEPH LE COMTE, OF NEW YORK CITY, AND ATLANTIC REFINING COMPANY, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN SEAMING-MACHINES.

Specification forming part of Letters Patent No. **146,946**, dated January 27, 1874; application filed December 17, 1873.

### CASE B.

*To all whom it may concern:*

Be it known that I, GEORGE H. PERKINS, of Philadelphia, Pennsylvania, have invented a Machine for Closing the Seams of Sheet-Metal Cans, of which the following is a specification:

The object of my invention is to close the top and bottom seams of quadrangular cans of sheet metal, by combining the roughened bed *f*, to which the sunken top or bottom of the can is pressed, with dies B, as shown in the detached sectional view, Figure 1, and plan view, Fig. 2, of the accompanying drawing. The machine in which my invention is incorporated is illustrated by the vertical section, Fig. 3; the plan view, Fig. 2; and the vertical section, Fig. 4, on the diagonal line 1 2, Fig. 2.

D is a table, supported on a suitable frame, E, and to horizontal guides on this table are adapted the four slides B. (Best observed in Fig. 2.) A slot in each slide (see detached view, Fig. 5) receives the short arm of a lever, F, hung to the table, as shown in Fig. 4; and the long arms of the four levers are connected by links *a* to a cross-head, G, to which a vertical reciprocating motion can be imparted, from a crank-wheel, H, on a driving-shaft, through the medium of the rod I, lever J, and rod K, or through any other analogous appliances, the starting and stopping of the driving-shaft being under the prompt control of the attendant. Above the table, and to the outer end of an arm, M, is suspended a plate, N, which can be depressed by means of a treadle, P, through a rod, Q, a spiral spring, *b*, tending to raise the rod, arm, and plate after the treadle has been released. The arm M is connected to a rod, *d*, which is arranged to slide in a socket formed in a standard, *e*, secured to the table D, this socket containing a spring, on which the end of the rod bears. In the center of the table D is a quadrangular projection or bed, *f*, and to this bed are secured hardened-steel plates *h*, (best observed in Figs. 1 and 2,) one plate at each four sides of the bed, the upper surface of the plates be-

ing roughened, like that of a fine file or rasp. Each sliding die B has two edges for acting on the seam of the can, one edge being at right angles to the other, so that each die, acting on two sides of the can, will close one-fourth, or nearly one-fourth, of the bottom seam.

In Fig. 1, *i* represents a portion of the sunken bottom plate or base of the can, having all its four edges bent to the form shown, for the reception of the sides, a portion of one of which is shown at *j*, Fig. 1.

In operating the machine, the base *i* of the can is placed on the roughened bed *f* of the table A, and adjusted to a position which the open sliding dies themselves determine. The sides of the can are then adjusted to the base, and the plate N is depressed by the treadle P onto the top of the can, which is thus held firmly to the roughened bed *f*. The operator, who, by suitable mechanism, has control of the driving-shaft, now starts the latter, so that the crank H will, through the rod I, lever J, and rod K, depress the cross-head G, and thus, through the four rods *a* and four levers, F, simultaneously move the four sliding dies toward the can, the seam of which is closed simultaneously on all four sides. It is essential that there should be no yielding of the base of the can during the operation of the sliding dies; otherwise there would be an imperfect compression of the seam.

I have found, in practice, that when no central mandrel or raised bed is used as a bearing for the inner shoulder of the sunken base *i*, the best medium for preventing such yielding to the pressure of the dies is the above-mentioned roughened surface, on which the bent edges of the base rest, and to which they are held by the pressure applied to the top of the can, the minute teeth on the bed, combined with this pressure, resisting all attempts of the dies to disturb any portion of the base of the can, excepting the edges, which they are designed to close against the sides.

I lay no claim to the within-described mechanism for operating the sliding dies, which may be actuated by devices other than those

shown; nor do I restrict myself to the use of sliding dies, as they may be pivoted, or otherwise arranged; nor to notched or roughened steel plates as a medium for retaining the base of the can, as other roughened surfaces—those of vulcanized emery-blocks, for instance—may be substituted for the steel plates; but

I claim as my invention—

The roughened bed *f* and dies B, combined

and operating substantially in the manner described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE H. PERKINS.

Witnesses:

WM. A. STEEL,

HARRY SMITH.