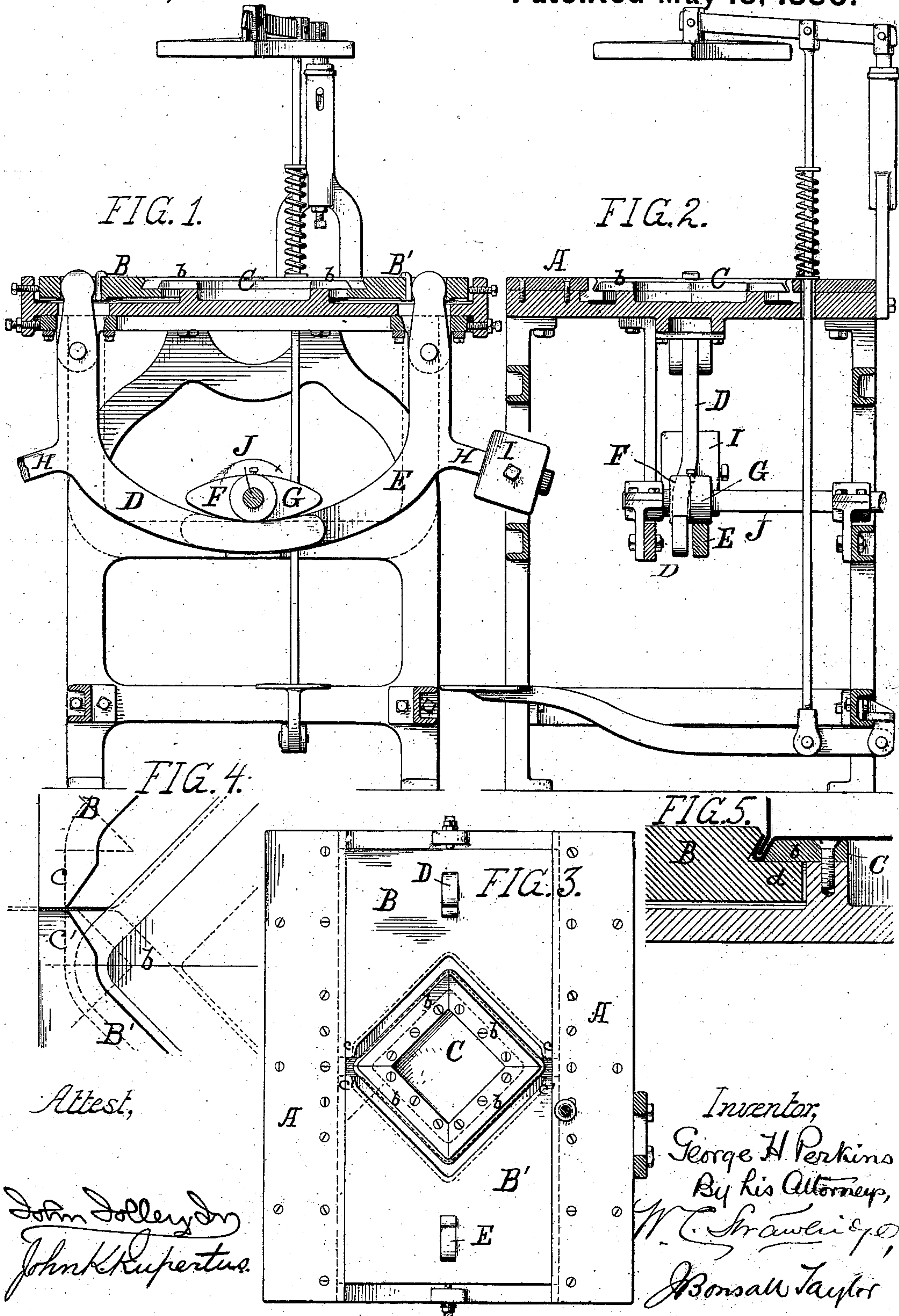


(Model.)

G. H. PERKINS.
Can-Seaming Machine.

No. 227,824.

Patented May 18, 1880.



UNITED STATES PATENT OFFICE.

GEORGE H. PERKINS, OF PHILADELPHIA, PENNSYLVANIA.

CAN-SEAMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 227,824, dated May 18, 1880.

Application filed March 13, 1880. (Model.)

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.

My invention relates to devices for closing the joints or the junctions of the bottoms and tops with the bodies of, for instance, such cans as are commonly used for the transportation and storage of petroleum and other fluids; and its object is to close the portions of the seams at the corners of the can without leaving upon them a fin, crease, or other uneven or partially-closed portion, while at the same time closing up the side portions of the seam.

To such end, in general terms, my invention consists in a seaming-machine in which there are two slides or seam-closing dies, which face each toward a corner of the can, (in contradistinction from a side,) and which strike alternately, being so further constructed by an extension of their corners that the portion of each die which encounters and is to close the two corners of the can farthest from the corner which the die immediately faces overlaps that portion of said corners which has been or is to be overlapped, encountered, and closed by the corresponding contiguous corner of the opposite slide or die.

Of the drawings, Figure 1 is a front sectional elevation of a machine embodying my invention; Fig. 2, a side sectional elevation of the same; Fig. 3, a top-plan view of the table; Fig. 4, a partial top-plan view of contiguous extensions of the two dies in the position which they occupy when one die has struck and is in the act of closing the seam and when the other die is retracted; and Fig. 5, an enlarged sectional view of the underlap of the dies.

Similar letters of reference indicate corresponding parts.

The underlap last above referred to is patented to me in and by Letters Patent No. 149,516, dated April 7, 1874.

In the drawings, guides A on a table are adapted to receive two sliding dies, B B', which are designed to act alternately on the joints of a can placed on a central quadrangular bed, C, of the table, which bed projects

above the table surface, and is edged on its four sides with steel plates b, beveled at their outer edges, and arranged to overhang that part of the table to which they are secured, as shown in Figs. 1, 2, and 5.

The dies may be provided with underlapping continuations d, arranged to slide beneath the plates b, substantially as explained in my Letters Patent referred to.

Each die, as will be seen by reference to Fig. 3, faces a corner of the can and two sides of the same, (the quadrangular bed is placed diagonally upon the table,) and is so conformed as to tightly and smoothly close the corner of the can which it faces, and also and in like manner a little more than half of the two other corners, which its extremities or the extensions thereof embrace. The extensions, in striking, each come up to and extend past a diagonal line bisecting said corners.

I operate the sliding dies alternately by any fit device.

I find a convenient mechanism to be the following: D E are two curved levers hung to the table, as shown, the long arms of which are curved and pass below a double-winged eccentric, F G, designed to act first upon one long arm and then upon the other. The short arms of the levers project up through the table, and are received in slots formed within the two dies.

Arms H, laterally extending from the long arms of the levers, carry counter-weights I, whose uncontrolled tendency is to throw the long arms of the levers in and the short arms out.

The long arms of the levers are curved or otherwise so formed that their curved extremities lie side by side, one in line beneath each wing of the compound eccentric, which latter is hung upon a shaft, J, suitably revolved.

By the revolution of the shaft and eccentric, it will be readily comprehended, the long arms of the levers are alternately forced down, whereby the short arms of the levers, and with them the sliding dies which they operate, are alternately forced in, the counter-weights of said levers being elevated. Further revolution of the eccentric causes the receding of first one wing of the eccentric and then of the other away from the long lever-arms, which they

first depressed, whereby the counter-weight of first one lever and then of the other deflects the long extremity of its lever inward again, and thereby throws out its die. Continuous
5 revolution of the eccentric therefore causes alternate reciprocation of the dies.

The starting and stopping of the driving-shaft are under the full control of the attendant, through any suitable lever or clutch device,
10 and the adjustment is so made that when the eccentric is stopped in the position shown in Fig. 1 both dies are sufficiently retracted from the quadrangular bed to enable the application or removal of the can.

15 Above the table, on the outer end of an arm, is suspended a plate, whose office is, when depressed by a treadle connected therewith, to hold the can firmly down upon the bed, as will be seen by consulting Figs. 3 and 4.

20 The dies are each provided with projecting corners *c c'*, adapted to each embrace a corner seam of the can, while their action of striking alternately is, with respect to the corner portion of the cans, such that the dies in striking
25 embrace each both farthest corners of the can which they act upon, and that, after one die has struck, the opposite die, as it strikes, embraces and closes up a portion of the two farthest corners previously or subsequently
30 acted upon by the opposite die, whereby two of the corners of the can are subjected to two compressing or closing actions coming from opposite directions, with the result that the metal of the overlapped corner portions of the
35 seam so acted upon is compressed upon itself,

so to speak, in a manner effectual in obliterating any possible fin or roughened portion, and in making a very smooth and uniformly compacted corner seam.

In practice the corners which face the hearts
40 of the dies are closed sufficiently well and smoothly not to require other closing; but, if desired, the can can be rotated upon its bed, so that each corner can be subjected in turn to the twofold compressions of the extensions
45 of the dies.

My invention differs from former inventions in that each die is adapted to act upon three corners of the can, and acts upon two of said corners in such manner that said corners are
50 subjected to two overlapping compressions coming from opposite directions.

Having thus described my invention, I claim and desire to secure by Letters Patent of the
United States—

In a seaming-machine of the class herein-
55 before recited, two sliding dies adapted to strike alternately, and provided with projecting corners adapted to embrace two of the corner seams of the can up to and beyond a
60 diagonal line bisecting said corners, as shown and described, for the purpose specified.

In testimony whereof I have hereunto signed my name this 13th day of February, A. D. 1880.

GEORGE H. PERKINS.

In presence of—

J. BONSALE TAYLOR,
C. B. TAYLOR.