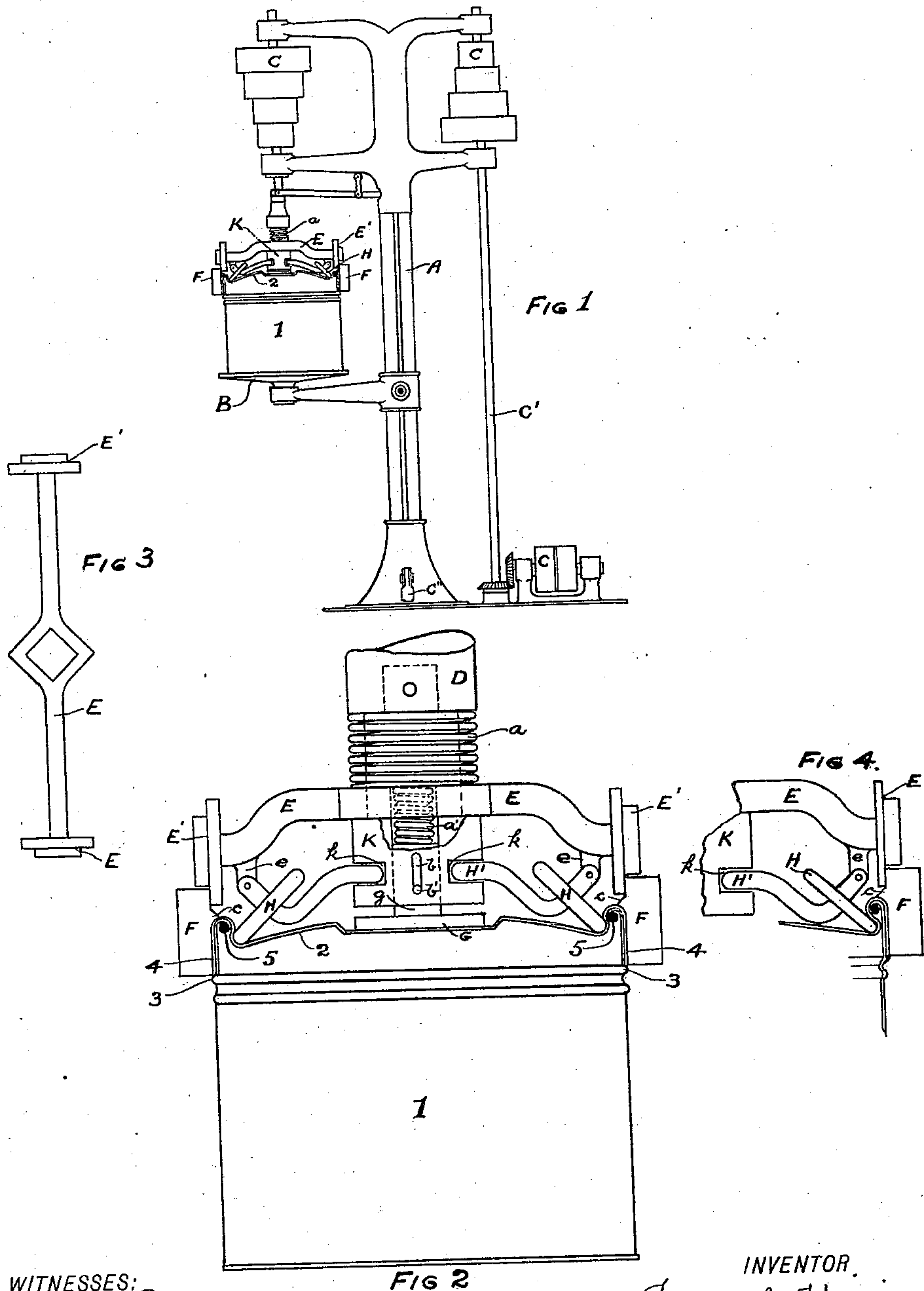


(No Model.)

F. E. HEINIG.  
SHEET METAL WORKING MACHINE.

No. 546,468.

Patented Sept. 17, 1895.



WITNESSES:

*Ernest C. Peters*

*H. Towne*

INVENTOR.

*Frederick E. Heinig*

BY *J. H. Gibbs*

ATTORNEY.

# UNITED STATES PATENT OFFICE.

FREDERICK E. HEINIG, OF LOUISVILLE, KENTUCKY.

## SHEET-METAL-WORKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 546,468, dated September 17, 1895.

Application filed February 28, 1895. Serial No. 539,986. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK E. HEINIG, of Louisville, in the county of Jefferson and State of Kentucky, have invented new and  
5 useful Improvements in Sheet-Metal-Working Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to sheet-metal-working machines, and particularly to that class  
10 of machines used in heading sheet-metal pails, &c., and is hereinafter more fully described, and specifically pointed out in the claims.

15 In the annexed drawings, Figure 1 is an elevation of the machine with a sheet-metal pail supported in position on the carrying-bracket at the left and the parts in position for performing their functions in securing  
20 the cover of the said pail in position. Fig. 2 is an enlarged detail view of the heading devices used in closing the vessel; Fig. 3 is a separate plan view of the roller-carrying yoke E, and Fig. 4 is a detached view showing parts  
25 in their extreme position.

The object sought to be accomplished is to securely fasten the cover of the vessel in position, so that it cannot be accidentally removed when once placed in the desired position, and to that end the machine is employed.  
30

In the drawings, A is the standard of the machine.

B is the supporting-bracket for the work.

C represents the driving-pulleys.

35 C' is the vertical driving-shaft.

C'' is the foot-treadle for bringing the parts into operative position.

D is the main supporting-spindle for the heading devices.

40 E is a roller-carrying yoke carrying the two pressure-rolls E' at its ends.

F is the clamping-collar, adapted to securely hold the downwardly-extending flange 4 of the cover 2 in form and position.

45 G is a spring-held step adapted to serve as a bearing-plate to press on the upper face of the top and hold it down and co-operating with clamping-collar F.

50 H H are forming-rolls, rounded on their peripheral faces, and are used to bend the sheet-metal top into position and compress the metal thereof under the intruding cir-

cumferential head 5, which may consist of a wire inclosed with an inturned portion of the metal, or it may be merely an intruding  
55 bead, at the will of the manufacturer, though the inclosed wire is preferred, as it forms a much stronger head.

ee are downwardly-projecting ears, to which one end of the levers H' is securely pivoted,  
60 while the inner ends of said levers H' are loosely held in open sockets k in the thrust-block K.

a is an expansion-spring bearing on the yoke E to hold it and its connected parts  
65 yieldingly in their operative position.

a' is a similar spring bearing on the upper end of the shank g of the step G, so as to make it more or less yielding, while the pin b',  
70 entering said shank through the slot b, prevents the same dropping out when the working parts are raised from their duty.

In practice a shoulder c is provided on the inner face of the clamping-collar F, so as to prevent angularity in the bend of the metal  
75 at that point, the under side of said shoulder being rounded in substantially the arc of a circle struck from the center of the head 5 of the vessel. The vessel 1 is preferably provided with the bead 3, which serves as a stop  
80 for the down-turned flange 4 of the cover 2.

The operation of the machine is as follows: The sheet-metal vessel 1, with its top 2, provided with downturned flange 4, is placed upon the bracket B with the clamping-collar  
85 F in position, as shown in the drawings. The treadle C'' is depressed, so as to bring the spindle D with its suspended connections down, the step G resting on the upper face of the top 2. Continuing the pressure, the rolls  
90 E' are made to bear upon the upper side of the clamping-collar F, so as to hold it in position. Additional pressure upon the treadle C'' will cause the spindle D to descend, carrying with it the thrust-block K. The position  
95 of the yoke E, (shown in Fig. 2,) brings the forming-rollers H into close contact with the metal of the cover, and as the spindle D moves down the inner end of the lever H' is carried down by the thrust-block K until,  
100 finally, the forming-rollers H are made to assume the position shown in Fig. 4. In the meantime the spindle D and its dependent connections are made to revolve more or less



rapidly, causing the bearing-rollers E' to travel around on the upper side of the collar F and to carry with them, through the ears e e, depending from the yoke E, the forming-rollers H, which continue to bear upon and force the metal of the top down and under the head 5 of the pail, thus sealing the same securely in position, as is more clearly illustrated in Fig. 4 of the drawings, in which the parts are at their extreme position, ready to be retracted upon relieving the pressure upon the foot-treadle C'.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for the described purpose, a base step, a carrying spindle, a thrust block connected thereto, a roller carrying yoke, pressure levers pivotally connected to said yoke at one end and to the thrust block at the other end and forming rollers on said levers all combined substantially as specified.

2. In a machine for the described purpose, a support for the work, a collar for clamping

the cover flange, a yoke, a thrust block, above the position of the work, levers connected at one end to said yoke and adapted to be carried at the opposite end in said thrust block and forming rollers on said levers, all combined substantially as specified.

3. In a machine for the described purpose, a support for the work, a collar for clamping the cover flange, a pair of pressure rolls, a carrying yoke for said rolls, a pair of forming rolls, a pair of pivoted levers carrying said forming rolls and a thrust block carrying the inner ends of said levers, substantially as specified.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Louisville, in the county of Jefferson, in the State of Kentucky, this 15th day of December, 1894.

FREDERICK E. HEINIG.

Witnesses:

FREDERICK H. GIBBS,  
A. E. MUELLER.