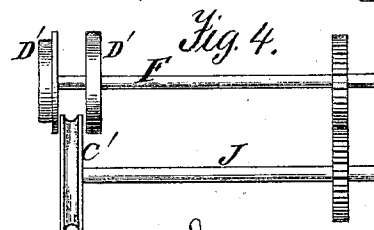
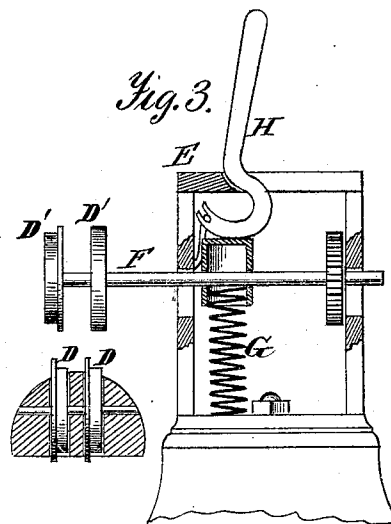
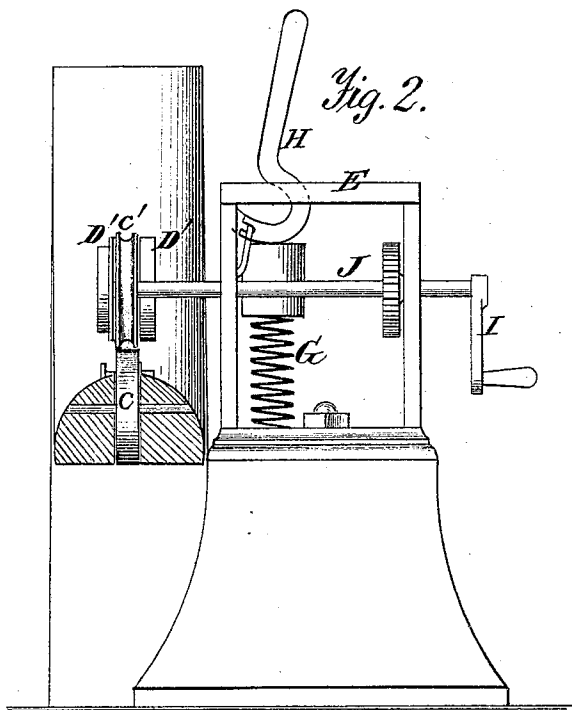
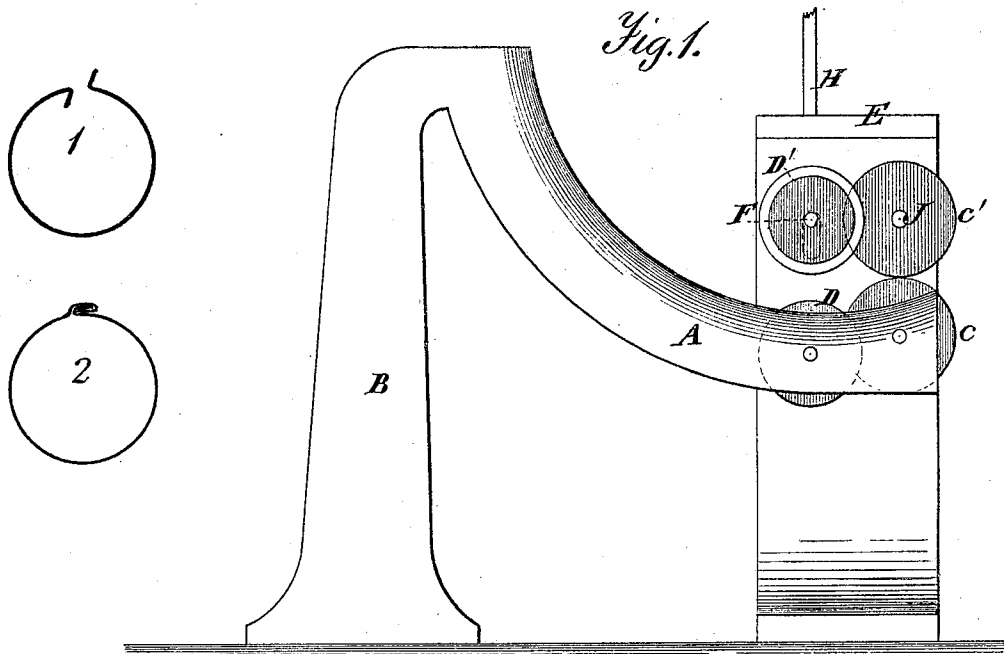


G. LUPTON.
Seaming-Machines.

No. 150,169.

Patented April 28, 1874.



Witnesses.
A. Ruppert.
C. Edw. Cile

George Lupton,
Inventor.

UNITED STATES PATENT OFFICE.

GEORGE LUPTON, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN SEAMING-MACHINES.

Specification forming part of Letters Patent No. **150,169**, dated April 23, 1874; application filed February 16, 1874.

CASE A.

To all whom it may concern:

Be it known that I, GEORGE LUPTON, of Indianapolis, county of Marion and State of Indiana, have invented a Combined Folding and Grooving Machine, of which the following is a specification:

The object of this invention is to usefully combine the function of folding and grooving machines for tinner's use in one and the same machine, for the especial purpose of seaming or uniting the edges of hollow cylindrical articles made of sheet metal, such as stove-pipes, pipe-elbows, &c.

Figure 1 is a side elevation of a machine for seaming pipe-elbows, constructed according to my invention. Fig. 2 is an end elevation of the same, showing the mandrel in section. Fig. 3 is a transverse section. Fig. 4 is a plan view of the upper folding-rollers and their geared shafts.

The same letters of reference are used in all the figures in the designation of identical parts.

A is a curved mandrel supported at one end by standard B. The free end of this mandrel is slotted to receive three small wheels, the grooving-wheel C in the center, and near the end of the mandrel, while the folding-wheels D and D' are journaled side by side, and a little farther from the end of the mandrel, so that each one laps C slightly. The wheel or roller *c* being somewhat elevated above the rollers D D enters the slit in the blank pipe as it is drawn onto the mandrel, and thus forms a guide therefor while its contiguous edges are being bent by the folding-rollers, and it raises the pipe above the latter when it is being withdrawn from the mandrel and the seam is being finished by the rollers *c* and *c'*. E is a standard supporting at its head three small wheels, C', D', and D'', the first of which is a grooving-wheel, while D' and D'' are folding-wheels. These wheels are suspended just above the similar wheels that are journaled in the end of mandrel A. C' is placed at the end of crank-shaft J and just above C in mandrel, while D' and D'' are both secured on the vertically-sliding shaft F and just over D D in the mandrel. The shafts J and F are parallel to each other and at right angles with mandrel A. They are geared together in the usual way. The shaft F carrying wheels D' is thrown up and the

folding-wheels out of gear by a spring, G, and down when at work by the cam-lever H. The crank I is placed upon the outer end of the fixed shaft J.

The construction of a machine for making straight pipes is exactly like this, with only the substitution of a straight mandrel in lieu of the curved mandrel A, as here shown.

The operation of my machine is as follows, viz: When the shaft F is thrown down by cam-lever H the folding-wheels D D and D' D' are brought into working proximity, and gearing contact of shafts J and F causes the wheels D' to revolve in an opposite direction from that of the crank, performing the folding of the edges of the pipe, while they also draw the pipe onto the mandrel. When the pipe is thus run entirely on the mandrel its edges are completely folded, one edge in and the other edge out, forming the blank marked 1; and by reversing the cam-lever H the folding-wheels are forced asunder, thus placing them out of the way of the pipe. The edges of the pipe are now locked together by hand, and by turning the crank in the same direction the pipe-seam is passed between the grooving-wheels *c* and *c'*, they grooving and pressing the seam together as they pull the pipe off of the mandrel, thus completing the work.

The periphery of the grooving-wheels and the folding-wheels are made to correspond with the function required of each.

I claim as new—

1. The combination of the overhung-rollers D D and counter-rollers D' D', substantially as and for the purpose specified.

2. The combination of the overhung-rollers D D and *c* and vertically-adjustable counter-rollers D' D', substantially as and for the purpose set forth.

3. In combination with the mandrel A, wheels D D, D' D', and guide-wheel *c*, which control and fold the blank as it is passed onto the mandrel, a wheel, *c'*, so arranged in relation to wheel *c* as to set the seam as the blank is withdrawn, substantially as specified.

GEORGE LUPTON.

Witnesses:

ERASTUS T. BUSSELL,
WILLIAM J. MCCULLOUGH.