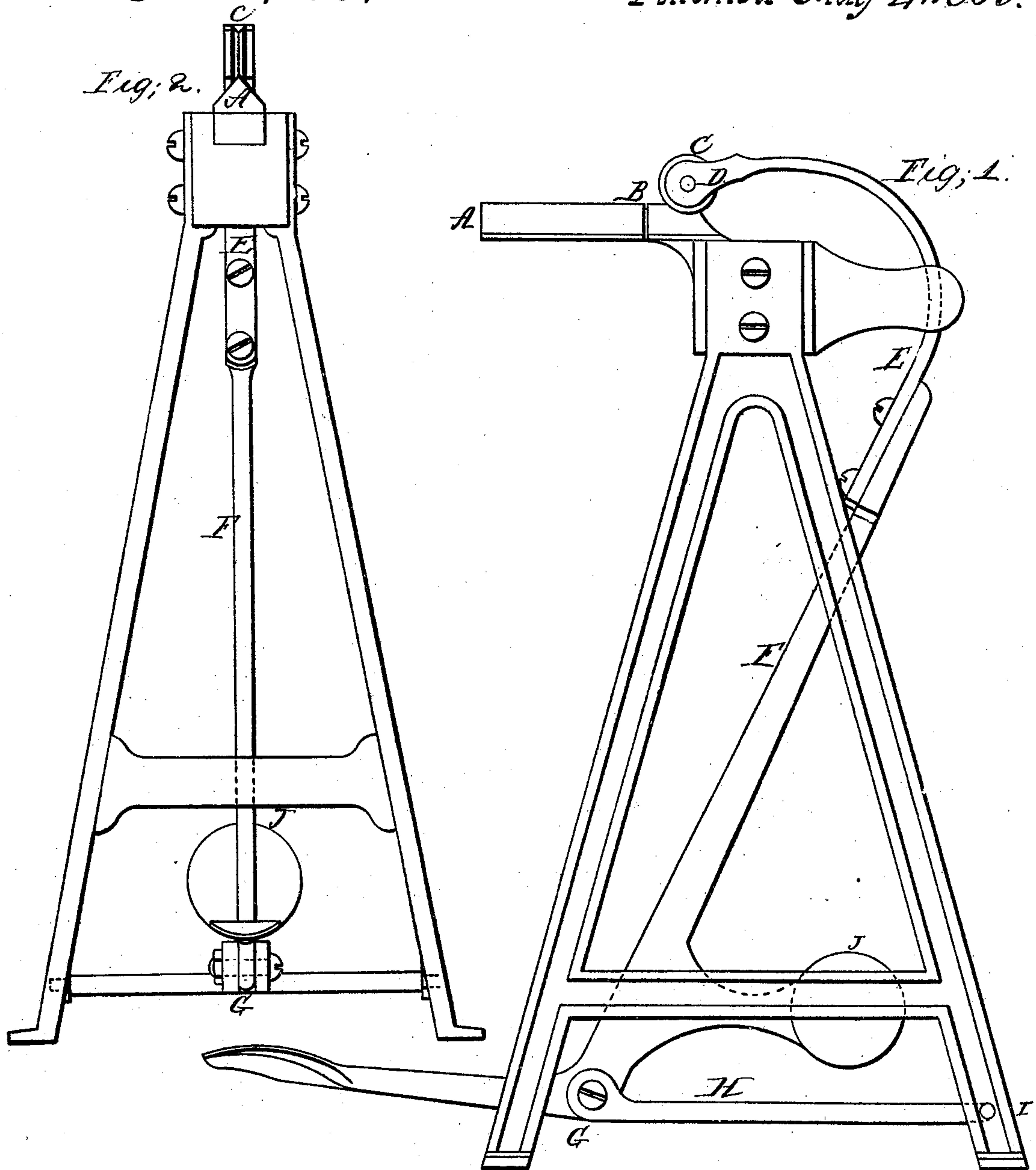


J. H. Merrill,

Box & Can Machine.

No. 82,593.

Patented May 4, 1869.



Witnesses,
Lewis R. Keyes,
W. Rainton.

Inventor,
James H. Merrill

United States Patent Office.

JAMES H. MURRILL, OF BALTIMORE, MARYLAND, ASSIGNOR TO
MURRILL AND KEIZER, OF SAME PLACE.

Letters Patent No. 89,593, dated May 4, 1869. Antedated Feb. 16, 1869.

IMPROVEMENT IN FORMING-MACHINE FOR SQUARE TIN CASES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JAMES H. MURRILL, of Baltimore, Maryland, have invented a new and improved "Forming-Machine" for Square Tin Cans; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation, showing the working parts, and

Figure 2, an end view of the same.

In the manufacture of square tin cans for packing oysters, the body is made of a single flat piece, bent at right angles at three points, the two ends being brought together forming a square.

The object of this invention is to perform the said operation of bending the tin at right angles, or, indeed, at any angle that may be desired for other purposes; and

The nature of the improvement consists in rendering the machine entirely self-adjusting, at the same time materially simplifying its construction.

The chief parts to be considered are, an angular "anvil" or "horn" and a grooved traversing roller, which device, in the abstract, is well known.

Various methods have been used to produce this traverse motion, and at the same time to cause the roller to press with a considerable and constant force, during its travel over the anvil, causing the tin to be bent squarely and evenly.

These ends are accomplished in a novel and most effectual manner by this invention without the usual complicated arrangement of springs, guides, and set-screws, by which other machines for a similar purpose are rendered expensive and objectionable.

The proper adjustment of the pressure on the tin is most important, and this is accomplished by the use of a compound treadle-arrangement, by which the weight of said treadle and part of the force required to operate it are transferred to the roller as effective pressure, as it passes over the tin, as will appear by reference to the construction.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

In the accompanying drawings—

A represents an anvil, of suitable length for the can, having a notch or groove on its upper surface at B, for the reception of the usual edge on the body of the can.

C is the traverse-roller, having a V-groove, conforming to the shape of the anvil.

This roller is carried by a head, D, which is the termination of a spring "goose-neck" or "yoke," E, the

lower end of which is attached rigidly to the treadle-bar F, pivoted at G (directly under the centre of anvil) to a secondary or compensating treadle, H, which, in turn, vibrates on a fulcrum in the legs at I.

Attached to the primary treadle is a weight or counterbalance, J, which has the effect of throwing back said treadle, yoke, and roller, leaving the anvil at all times ready for the reception of the can.

A spring, conveniently attached, may be used, instead of the counterweight.

It will be observed that the roller C sustains the principal weight of the working parts. This, with the additional pressure thrown on the roller when the treadle is pressed down, gives the requisite force to bend the tin without the usual springs and adjusting-arrangements of other machines.

By this means, any wear occurring on the journal of roller C, or other parts, is constantly taken up and a uniform pressure maintained.

The action of the machine is thus:

Pressure being applied to the treadle, the effect is to draw the roller C downward, at the same time driving it forward.

Now, when the treadle-bar, with the "goose-neck" and roller, is vibrated on the fulcrum G, which is immediately under the centre of the anvil, the effort of roller C is to describe a circle, and were the fulcrum G unyielding there would be great resistance to the forward motion of roller, by reason of the anvil compelling it to travel in a direct line; but as the fulcrum is yielding, being pivoted to the yoke or secondary treadle H, it rises to accommodate the position of roller.

This is also the effect of the spring goose-neck, E, which materially assists in changing the direction of roller from a curved to a straight line.

Having thus fully described my invention,

What I claim, and desire to secure by Letters Patent, is—

1. In a forming-machine, the direct attachment of the grooving-roller to the treadle without the intervention of joints.

2. The yielding fulcrum G, or its equivalent, for the purpose specified.

3. The spring goose-neck or yoke E, operating substantially as described.

4. In a forming-machine, as described, the use of the counterweight G, or its equivalent, for returning the working parts to a position of rest.

JAMES H. MURRILL.

Witnesses:

LEWIS R. KEIZER,
W. PAINTER.