

C. E. BELL.

Machines for Crimping Pipe-Elbows.

No. 128,781.

Patented July 9, 1872.

Fig. 1.

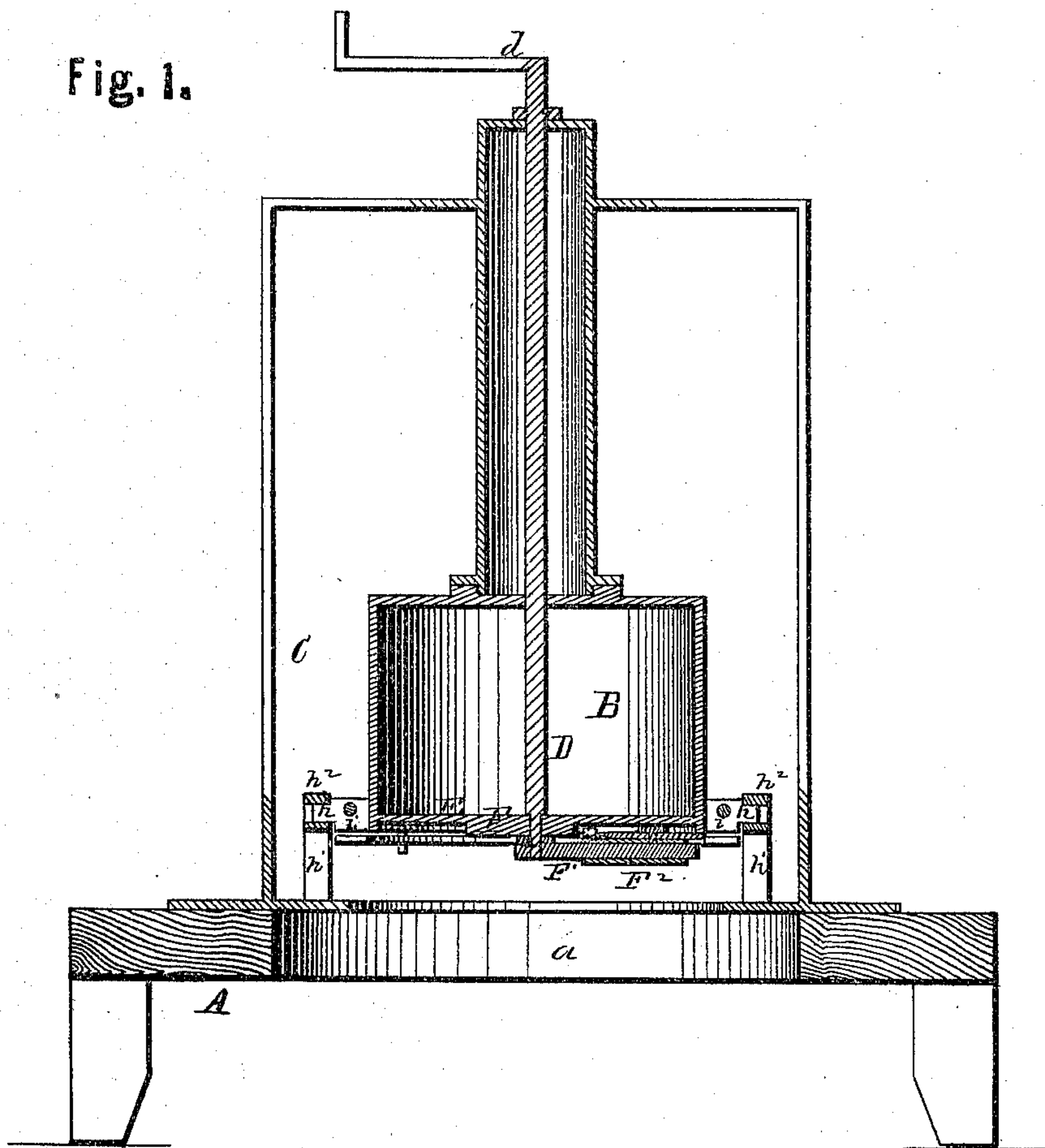
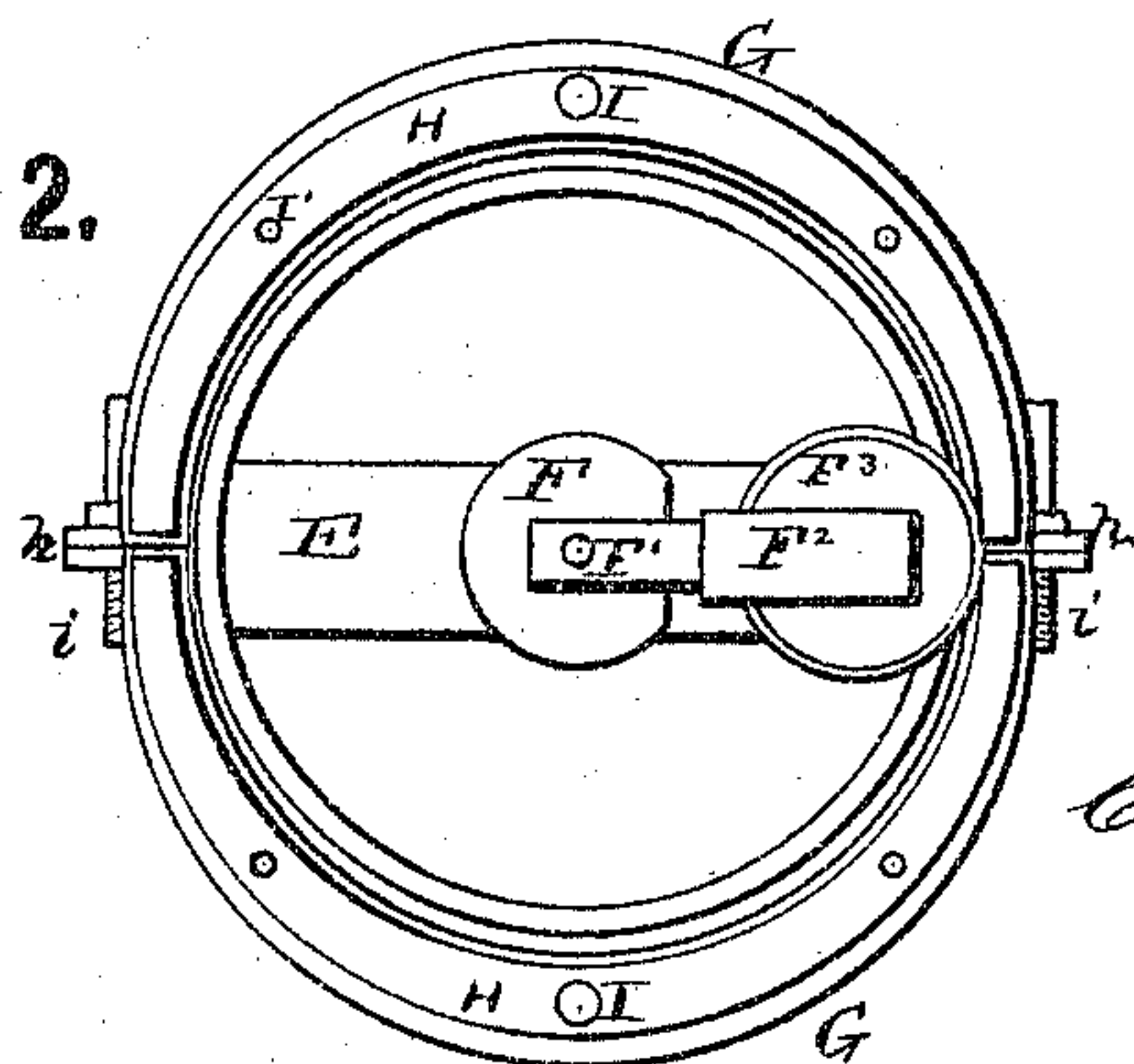


Fig. 2.



WITNESSES.

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IMPROVEMENT IN MACHINES FOR CRIMPING PIPE-ELBOWS.

Specification forming part of Letters Patent No. 128,781, dated July 9, 1872.

To all whom it may concern:

Be it known that I, CHAS. E. BELL, of Greenfield, in the county of Highland and State of Ohio, have invented a new and valuable Improvement in Stove-Pipe-Elbow Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a vertical central section of my invention. Fig. 2 is a horizontal section.

This invention has relation to a machine for making stove-pipe elbows; and consists in the construction and novel arrangement of devices for the purpose of making the indentations by means of which a section of pipe is bent to an arc, substantially as hereinafter described.

Referring to the drawing, A represents a table with an opening, *a*, in the center, through which a section of stove-pipe may be passed.

B designates a vertical cylinder of an exterior diameter equal to that of the pipe to be bent. This cylinder is suspended above the opening *a* by means of an upright frame, C. Through the center of the cylinder passes a shaft, D, operated by means of a crank, *d*, or otherwise. The lower end of the shaft has its bearing in a transverse plate, E, attached to the bottom of the cylinder, and holding midway between its ends a cam, F. The lower end of said shaft is furnished with a horizontal arm, F¹, upon which works a sliding sleeve, F², having pivoted to it a bevel-edged wheel, F³. G G represent two semicircular flanged plates, having abutting lugs *h* which rest on stands *h*¹ constructed with guards *h*². These lugs are continuations of the flanges *g*. The plates G are held together and adjusted by means of the screws *i*, which pass through the opposing or abutting lugs. Each of these screws is a right-and-left-hand screw, and hence, when turned, will force both of the flanged plates G to their desired position in bringing them together or moving them apart.

To the plates G are attached other semicircular plates H, adjusted by means of screws I and prevented from lateral movement by means of studs I', which project from the lower surfaces of the plates G and pass through holes in the plates H. The wheel F³ is arranged to rotate about on a line with the crevice between the plates G H.

The machine is operated as follows: A section of stove-pipe of the proper length for an elbow is passed up through the opening *a* between the plates G and the cylinder and over the cylinder, the end being elevated until it touches the horizontal bar J. The plates G are now tightened around the pipe to hold it in place. The shaft D is then turned and the wheel F³ made to indent the pipe. The sleeve F¹ is made to move in contact with the rim of the cam F, the form of which is such that the indentation made in the pipe by the wheel will have a gradually increasing and diminishing character. The deepest part of the indentation occurs opposite to the middle part of the cam, and is produced by the wheel F³ projecting to its utmost beyond the periphery of the cylinder. The deepest part of the indentation lies on the concave side or hollow of the elbow, and from this point to the ends of the indentation the latter diminishes both in depth and width, and finally ceases, leaving one or two inches of the pipe between its ends perfectly plain. To give the indentation its proper character the cam may be of a nearly circular form, but eccentrically placed with reference to the center of the cylinder. As the indentation is formed the metal is pressed between the plates G and H. These plates are afterward adjusted by turning the screws I, and the bulging metal compressed to any extent required. After one depression is made the pipe is lowered, another made, and thus the work continues, the curved elbow passing out from under the table toward the front of the machine.

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

1. A machine for bending stove-pipe elbows, having the cylinder B, adjustable clamps G,

shaft D, cam F, and adjustable indenting-wheel F³, substantially as specified.

2. A machine for bending stove-pipe elbows, having combined a wheel for making indentations, a cam to regulate the track of said wheel, and a set of adjustable plates to compress the indentations to the proper width, substantially as specified.

3. The combination of the horizontally-adjustable plates G, vertically-adjustable plates

H, and cylinder B with the indenting-wheel F³, sleeve F², arm F¹, cam F, and shaft D, or their equivalent, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CHAS. EDWARD BELL.

Witnesses:

A. N. MACKERLEY,

M. O. DEBOSS.