(No Model.) 2 Sheets—Sheet 1.

G. A. RIESE.

Stove Pipe Elbow Machine.

No. 240,928. **Patented May 3, 1881.**

Fig. I.

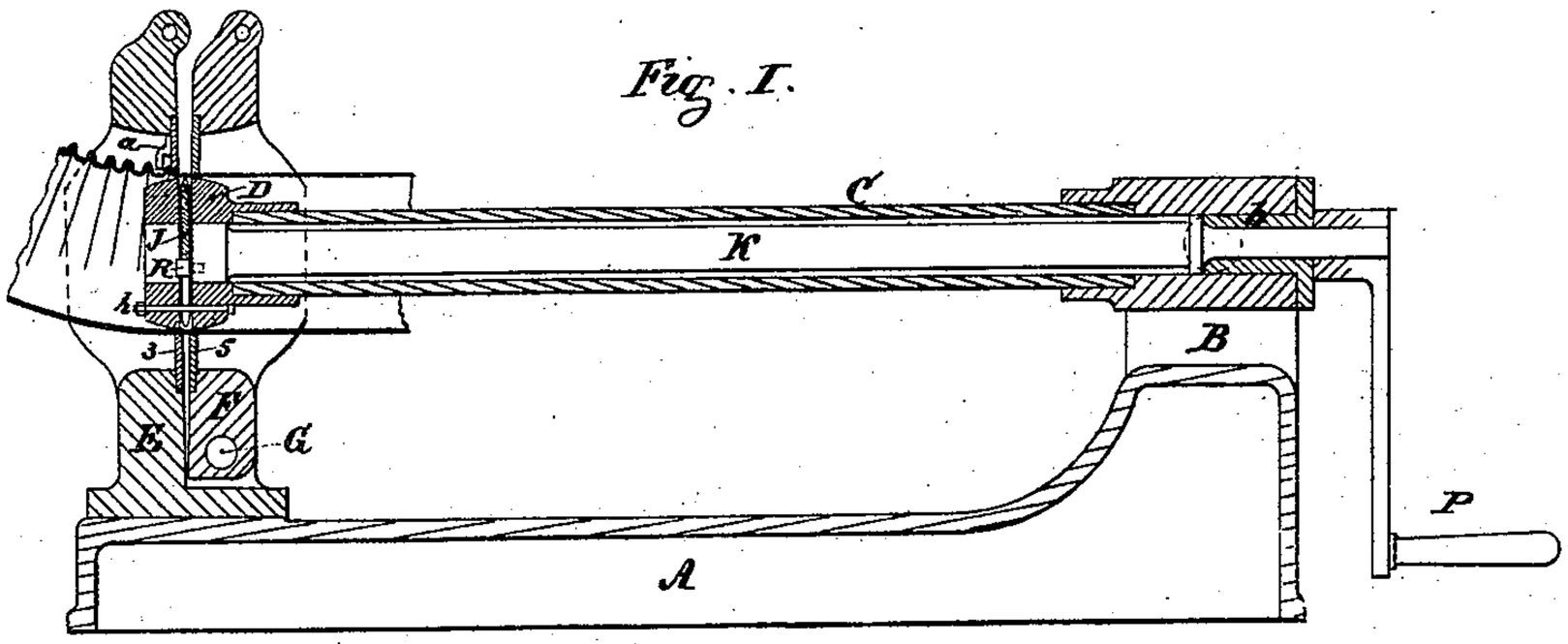


Fig. II.

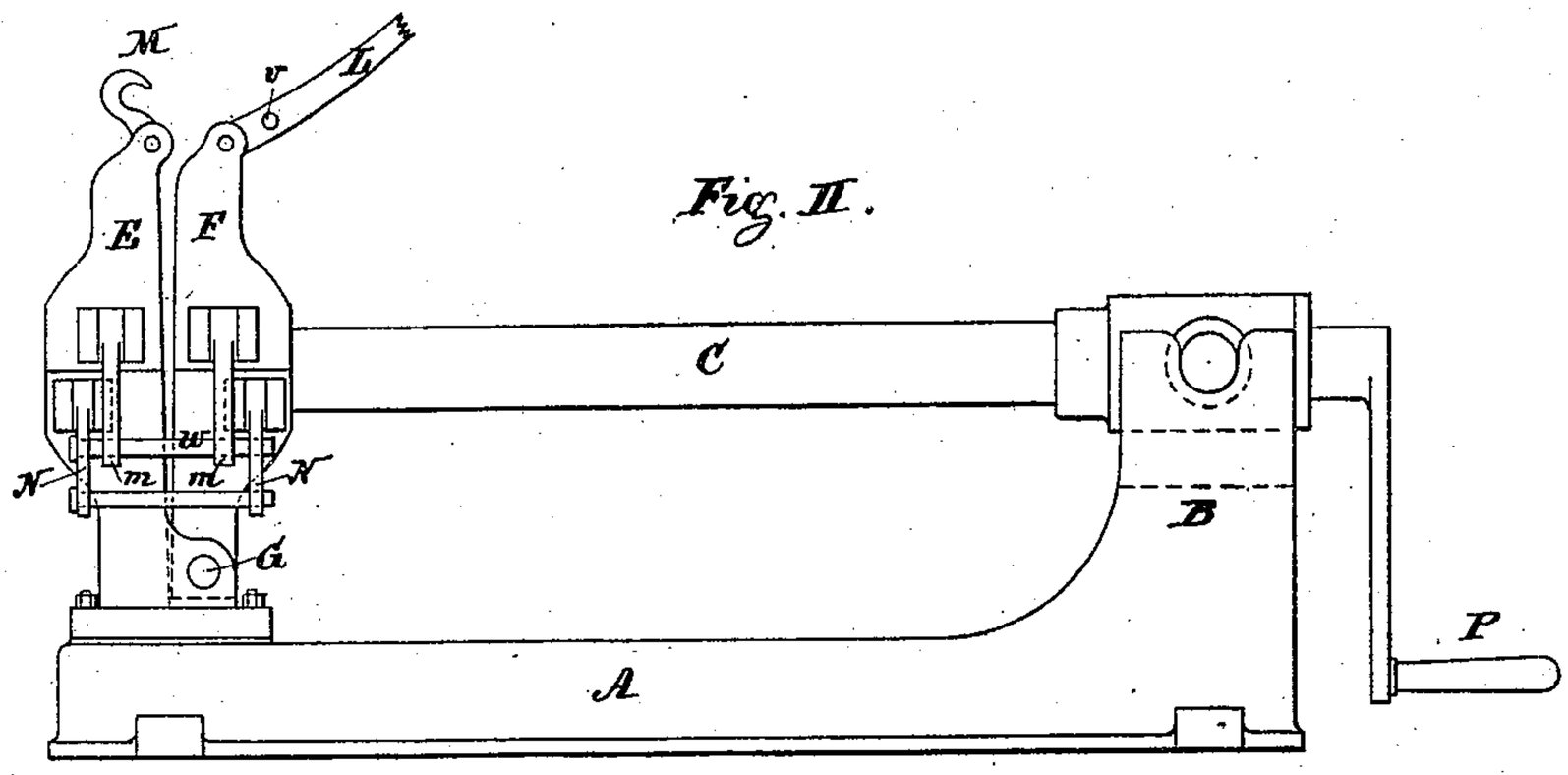
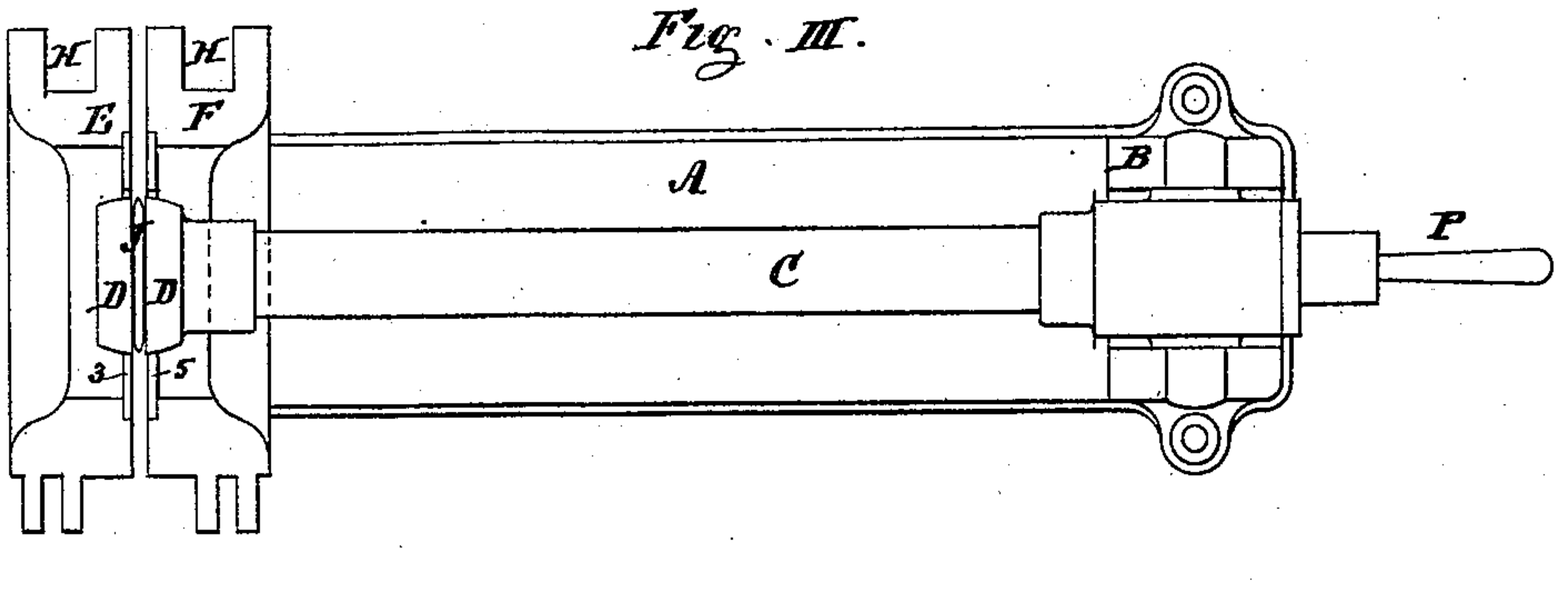


Fig. III.



Witnesses.

Edward P. Suter

James Gemmell, Jr.

Inventor.

Gustav Adolph Riese

per Henry E. Raeder

attorney.

(No Model.) 2 Sheets—Sheet 2.

G. A. RIESE.

Stove Pipe Elbow Machine.

No. 240,928. Patented May 3, 1881.

Fig. V.

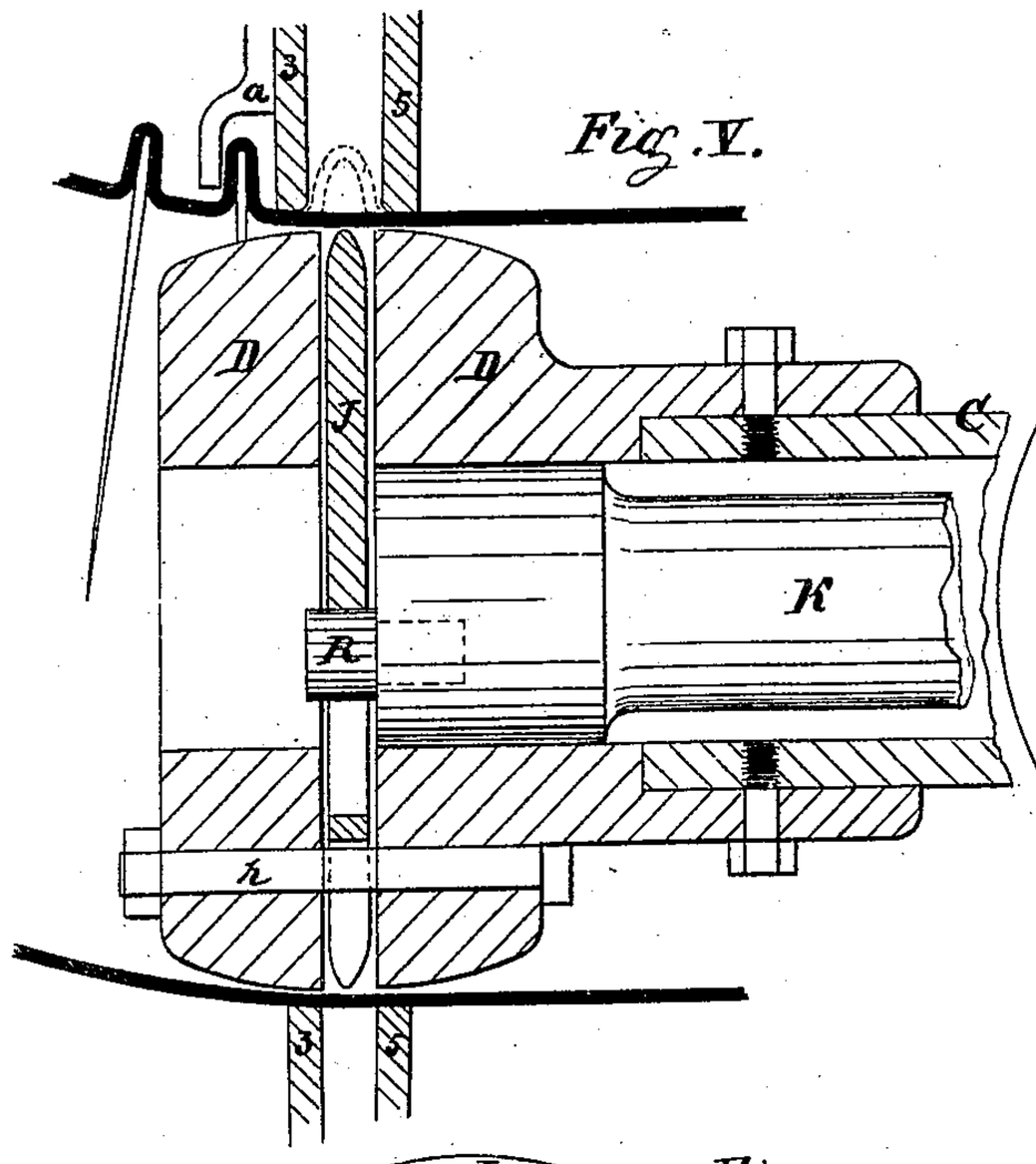


Fig. VI.

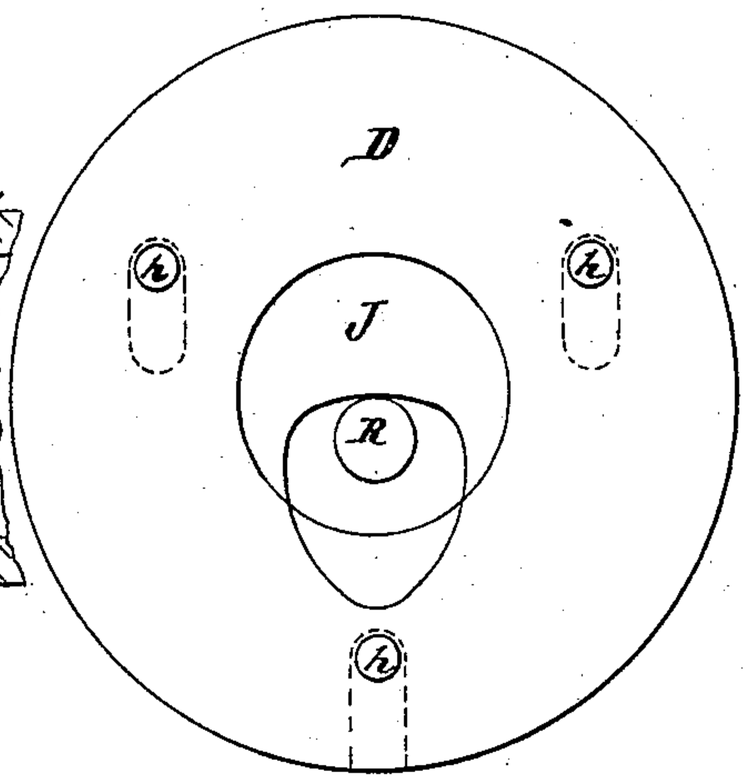


Fig. VIII.

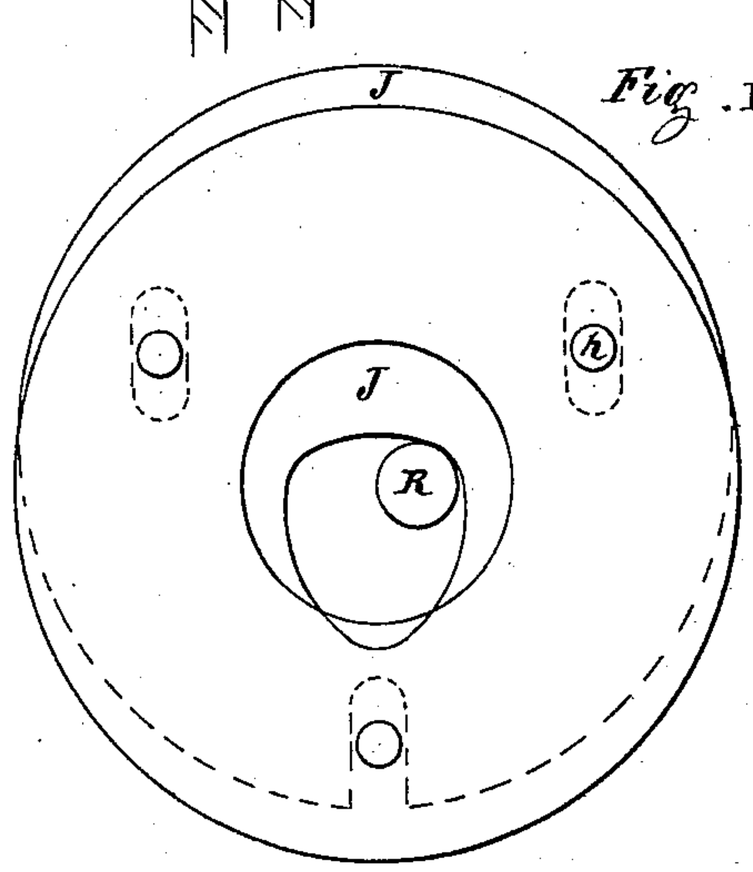


Fig. VII.

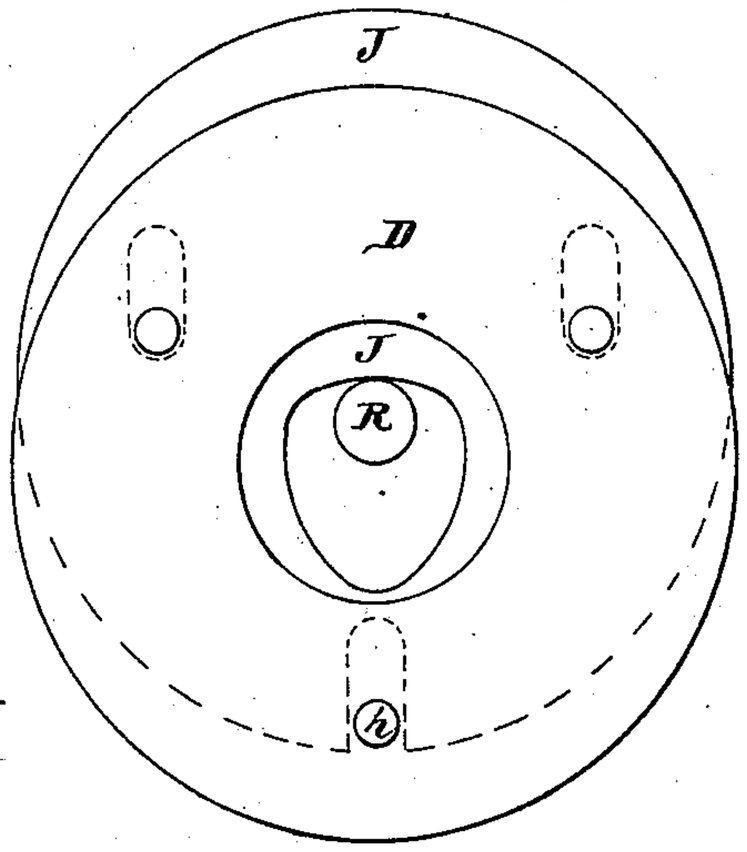
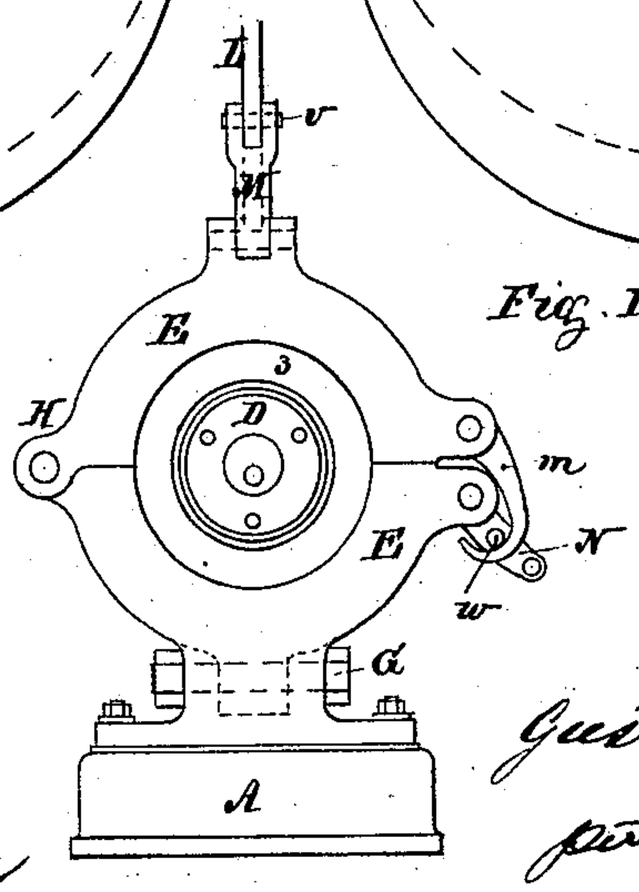


Fig. IV.



Witnesses.

Edward P. Lukey.

James Gemmell, Jr.

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Gustav Adolph Riese

per Henry & Rhodes

attorney.

UNITED STATES PATENT OFFICE.

GUSTAV A. RIESE, OF PLAGWITZ, NEAR LEIPSIC, SAXONY, GERMANY.

STOVE-PIPE-ELBOW MACHINE.

SPECIFICATION forming part of Letters Patent No. 240,928, dated May 3, 1881.

Application filed August 20, 1880. (No model.) Patented in Germany October 11, 1878.

To all whom it may concern:

Be it known that I, GUSTAV ADOLF RIESE, of Plagwitz, near Leipsic, Kingdom of Saxony, Empire of Germany, have invented a new and Improved Machine for Making Iron Knees for Stove-Pipes, of which the following is a specification, and which has not been introduced in the United States within the last two years previous to this application.

In the accompanying drawings, Figure I represents a longitudinal section of the machine. Fig. II is a side view; Fig. III, a plan of the machine, and Fig. IV an end view of the machine. Fig. V is a longitudinal section of the cutter-head or die-head, and Figs. VI, VII, and VIII are end views of the die-head.

Similar letters represent similar parts in all the figures.

At one end of a suitable frame, A, a support, B, is arranged to support the end of the guiding-tube C. On the other end of the frame A the jaws E F, for guiding the pipe and compressing the folds in the pipe, are attached. The jaw E is firmly attached to the frame A, and the jaw F is hinged to the jaw E near the bottom at G. Each of these jaw-frames is divided horizontally at the center, the upper part being hinged to the respective lower part at one side at H, (see Fig. IV,) and are held together at the opposite side through clamps *m m*, attached to the upper parts or caps connecting with pins *w* fast to a lever, N, attached to the lower parts. The two parts E and F, forming the jaw, are fastened together at their upper ends, so as to be brought close together by a hook, M, attached to the jaw E, working over a pin, *v*, fast in the lever L, which latter is attached to the jaw F.

To the inner surfaces of the jaw-frames E and F plates 3 and 5 are attached, having central holes corresponding with the outside diameter of the stove-pipe to be operated upon, and thus supporting said pipe.

The end head, D, which is made of a size to pass freely into the stove-pipe, is made in two parts, one part being attached to the end of the guiding-tube C, and the other or outer part being attached to the inner part by means of three bolts, *h h h*.

Between those two parts forming the end head, D, the die-plate J is placed, provided with perpendicular slots, through which the bolts *h* pass, so that any motion given to said die-plate will cause the same to move perpendicular up or down.

Through the guiding-tube C a shaft, K, is placed, one end of which is supported in a suitable bearing, *b*, at the end of the support B, and the other end of said shaft has a bearing in that part of the end head, D, which is attached to the guiding-tube C. The outer end of this shaft K is provided with a suitable wheel or handle, P, for turning the same, and to the inner end of said shaft a pin, R, eccentric to its center, is attached, passing through the die-plate J and communicating the desired up and down motion to the same.

To the outer side of the plate 3, near the upper end, a bent lug, *a*, is attached, between which and the plate 3 one of the finished ribs or creases of the elbow-pipe is held for the purpose of holding the pipe firm during operation.

The operation of the machine is as follows: The pipe is inserted into the holes in the plates 3 and 5, and over the end head, D, to the place where the first rib or crease to form the elbow is to be made. The shaft K is then turned around, whereby the die-plate J is moved upward and the upper part of the pipe is bent outward between the plates 3 and 5, when the die-plate J moves down again. During this operation the jaws E and F are held a certain distance apart by the hook M being loosely passed over the pin *v*, while the lever L is kept in an upright position. As soon as the die-plate J has been moved out of the formed crease the lever L is moved downward, bringing thereby its pin *v* farther away from the joint-pin of the hook M, forming a toggle-joint, whereby the two parts E and F, forming the jaw, are moved together, and the previously-formed crease in the upper part of the pipe is pressed together between the plates 3 and 5. The lever L is then moved again into an upright position, thereby relieving the rib or crease of the pressure and friction of the jaws, and the hooks *m* are then brought clear of the pins *w*, when the upper parts or caps of the jaws can be turned upward to allow the rib or crease to pass through the central opening of the plate 3, and to move the pipe so far as to bring said rib or crease between the lug *a* and plate 3. The upper parts of the jaw-frames are then again fast-

ened down, when the same operation is repeated to form the next rib or crease.

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

1. The jaws E and F, hinged together at the bottom at G, each jaw being divided horizontally in the center, and hinged together on one side and secured at the opposite side by suitable hooks, in combination with plates 3 and 5, arranged to operate substantially in the manner and for the purpose described.

2. The jaws E and F, hinged together at the lower part at G, and provided with central plates, 3 and 5, in combination with a hook, M, attached to one jaw, and the lever L attached to the other jaw, and provided with a projecting pin, *v*, constructed and arranged to operate in the manner and for the purpose substantially as set forth.

3. In combination with the plate 3 and the outer jaw, E, the lug *a*, for the purpose substantially as specified.

4. The guiding-tube C, supported at one end in a suitable support on the frame A, and carrying at its other end a head, D, made in two parts connected together by bolts *h h h*, supporting and guiding a die-plate, J, in combination with a shaft, K, with a pin, R, eccentric to its center, constructed and arranged to operate substantially in the manner and for the purpose herein described.

5. The jaws E and F, hinged together at the lower part at G, and fastened at top by a suitable hook, M, and pin *v*, attached to a lever, L, with central plates, 3 and 5, in combination with a guiding-tube, C, having an end head, D, supporting the die-plate J and shaft K, with pin R, eccentric to the center of the shaft, the whole being arranged to operate in the manner and for the purpose substantially as set forth and described.

GUSTAV ADOLF RIESE.

Witnesses:
OTTO SASK,
EDUARD RIESE.