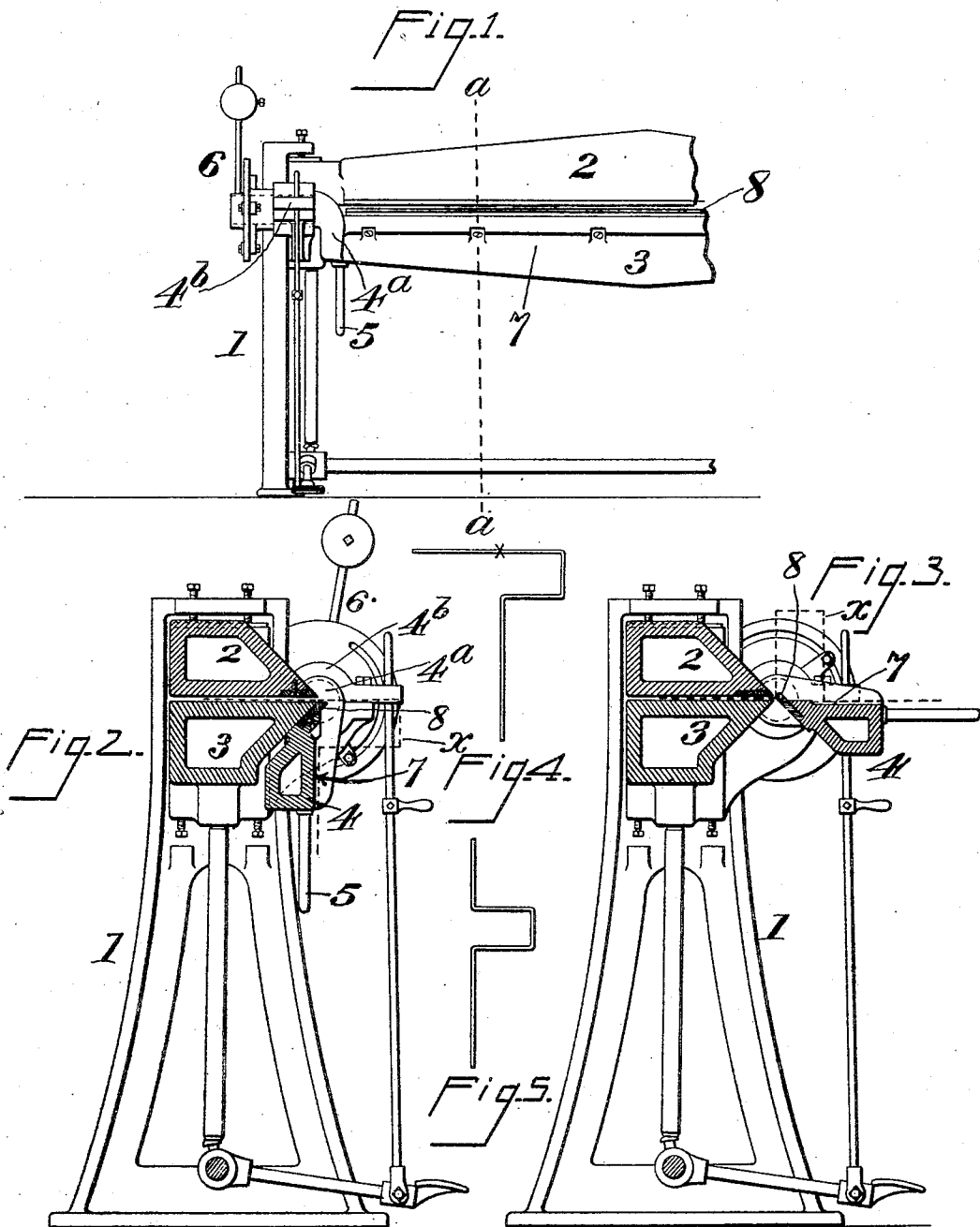


G. C. KEENE.
CORNICE BRAKE.
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941,783.

Patented Nov. 30, 1909.



Witnesses.
Homer Bradford.
Norma Keiser.

Inventor.
George C. Keene,
by John Elias Jones,
his attorney.

UNITED STATES PATENT OFFICE.

GEORGE C. KEENE, OF CINCINNATI, OHIO.

CORNICE-BRAKE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE C. KEENE, a citizen of the United States of America, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Cornice-Brakes, of which the following is a specification.

This invention relates to cornice-brakes having a swinging-apron for use in bending sheet metal at the desired angles and the object thereof is to make it possible to take a sheet or thin plate of metal and bend it in the clamping-jaws of a cornice-brake so that true alinement of the angles in such sheet or plate may be maintained and the invention, therefore, consists in the provision of a pair of suitably mounted clamping-jaws, a bending-apron swung on pivots in axial relation parallel to the fore edge or mouth of said jaws and having a depressed or sunken outer face in the same perpendicular plane as that of the said fore edge or mouth of the jaws, and an outwardly-extended bending-edge constructed along the upper, fore edge of said apron, whereby a sheet or plate, in the act of being bent, is first bent at several angles, as customary, and then the unbent portion thereof clamped between the jaws with the already-bent portion hanging pendent with a part thereof accommodated by the depressed or sunken face of the said apron so that the next bend in the sheet shall be in true alinement with the angle in said part that is accommodated by the depressed face of the apron.

In the accompanying sheet of drawings, forming a part hereof, Figure 1 is a fragmentary front elevation of one form of cornice-brake made by me and having my improvement herein applied thereto, the bending-apron and the jaw parts of the machine being shown in normal position before receiving a sheet to be operated upon; Fig. 2, a sectional elevation taken on the dotted-line *a, a*, of Fig. 1, but on a somewhat larger scale and showing in dotted-lines a metal sheet in the process of being bent to the desired shape, the fourth step in the bending of such sheet being ready to take place by swinging the bending-apron upward and resulting in a bend that will be in true alinement with the first bend made in the sheet; Fig. 3, a view similar to Fig. 2, but showing the bending-apron in its uppermost swung position and in the act of

completing the fourth bend in the sheet, such bend being in true alinement with the first bend in the sheet; Fig. 4, an end view (in full elevation) of the sheet seen in Fig. 2 and showing a cross thereon to indicate where the fourth bend is made in the sheet; and Fig. 5, a view similar to Fig. 4 but with the sheet shown as having its fourth bend made therein.

In these views, 1 indicates one of the upright end-frames of the machine, there being two, as customary, but only one of them shown herein, by way of convenience and on a larger scale for clearness.

2 indicates the upper one of the pair of clamping-jaws and 3 indicates the lower one of said pair of clamping-jaws suitably mounted between said end-frames, the upper jaw being the stationary one and the lower jaw being the movable one, any suitable actuating devices being used to properly raise and lower said lower jaw to and from clamping position. I have shown in the drawings an actuating mechanism for said lower jaw, which has already been patented by me, under date May 10, 1887, No. 362,749, and it comprises a pair of vertical lifting-bars, a rock-shaft, a foot-treadle on said rock-shaft, a reversing hand-rod connected to said foot-treadle and suitable adjusting devices for the proper setting of the two jaws to suit the thickness of the metal being bent in the machine and such other leveling or adjustment of both said jaws, as may be required.

4 indicates a bending-apron journaling at its opposite ends 4^a in boxes 4^b on the end-frames and provided with hand-levers 5, one at each end thereof. The bending-apron is provided, as customary, with a counter-balancing device 6 at the outer end of one of its bearings so that it may be swung on such bearings in an easy and effective manner.

7 indicates a depressed or sunken face provided on the front side of the bending-apron and 8 indicates an outwardly-projecting extension or protuberance made along the upper fore edge of said bending-apron.

The extension 8 forms, preferably, a part of a steel plate that is let into a recess or shouldered portion made along the upper inner edge of the bending portion of the apron, as best seen in Figs. 2 and 3, the body portion of the apron being made of hollow cast material and thus providing for both strength and economy in the entire make-up

or construction of the bending-apron in its preferred form. The steel bending-plate is detachably-held in place to provide for repairs or other desired reasons customary in the use and handling of such machines as cornice-brakes, and the outer fore edge of such steel plate is preferably blunted or flattened, as shown in both said Figs. 2 and 3, so as to avoid a sharp shearing edge along the bending portion of the apron that might cause damage to the sheet in the operation of bending thereof.

In the bending operation of the machine, a flat sheet of metal is placed between the clamping-jaws at the desired position for the first bend to be made therein and then the foot-treadle is lowered to firmly clamp said sheet ready for the next step of raising or swinging the bending-apron in a quarter circle upward; then the bending-apron is allowed to swing downward to normal position and the foot-treadle is raised by means of the hand-rod so as to release the sheet from between the jaws; then the sheet is again set in the jaws up to the next desired point of bending and the same action of the machine repeated; then the sheet is released as before and reset between the jaws with its already-bent portion hanging pendent, as best seen in Fig. 2, and the bending-apron is now ready to swing in a quarter circle upward to the position seen in Fig. 3 for the fourth bend in the sheet, the latter being shown in completed condition, with the first and fourth bends in true alinement, as well, too, the second and third bends in true alinement. The extension along the fore edge of

the bending-apron forms a powerful lever at the point of bending the sheet against the lower fore edge of the upper clamping-jaw and there is no chance of the sheet slipping or cracking along such bending edge projecting as it does beyond the angle of bend in the throat of the machine.

The depressed or sunken face of the bending-apron forms a receptacle to allow the already-bent lower portion of the sheet to position itself inwardly toward the machine and to make due allowance and compensation for the desired alinement of the fourth bend in the sheet, as will be readily seen by reference to the several steps shown in the operation of bending the sheet seen in dotted-lines at x in both Figs. 2 and 3, and in both the partially completed and fully completed sheets seen in Figs. 4 and 5, respectively.

I claim:—

In a cornice-brake, a pair of suitably mounted clamping-jaws, a swinging bending-apron journaled in axial relation to the mouth and bending-edge of said clamping-jaws and having a depressed or sunken plane face made along its front side in alinement with or in the same unbroken perpendicular line or plane as the said bending-edge of the clamping-jaws and a forwardly-extended bending-edge along the upper bending portion of said apron.

GEORGE C. KEENE.

Witnesses:

JOHN ELIAS JONES,
NORMA KEISER.