W. A. WHEELER.
Sheet-Metal Seam-Bending Machine.

No. 210,382. **Patented Nov. 26, 1878.**

Fig. 4.

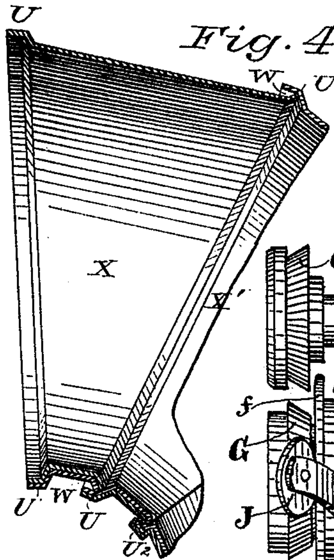


Fig. 1.

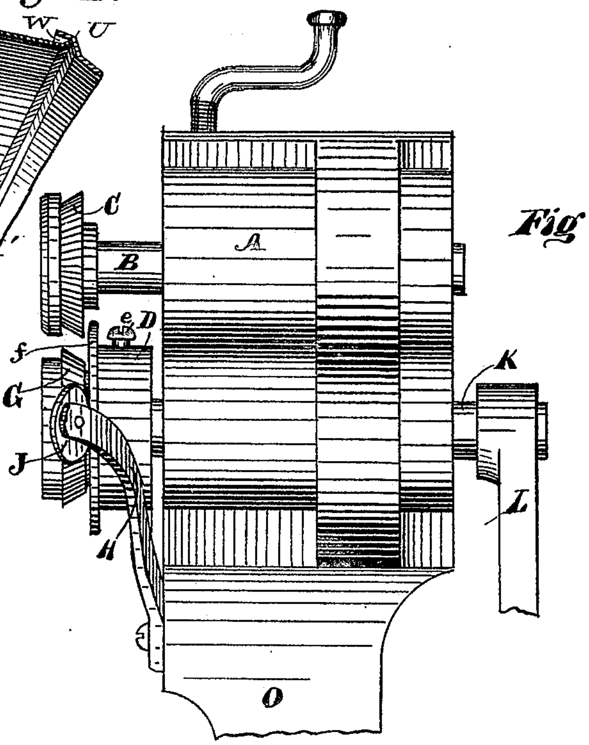


Fig. 2.

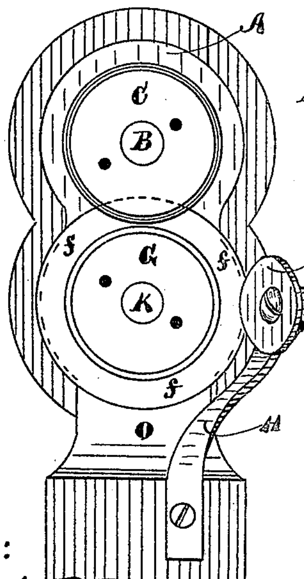
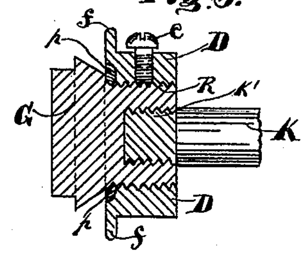


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM A. WHEELER, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN SHEET-METAL-SEAM-BENDING MACHINES.

Specification forming part of Letters Patent No. **210,382**, dated November 26, 1878; application filed June 25, 1878.

To all whom it may concern:

Be it known that I, WILLIAM A. WHEELER, of Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Sheet-Metal-Flange-Bending Machines, of which the following is a description, reference being had to the accompanying drawing.

My invention relates to certain improvements in the face-plate disk of a flange-bending machine, against which the raw edge of a section of pipe comes in contact while the bending-rollers above and below are forming the flange for a seam.

The object of my invention is to make the face-plate adjustable on the bending roller or mandrel, so as to form larger or smaller flanges for the seams with well-defined curves.

My invention consists of an annular ring having a projecting flange around its periphery, and made adjustable on the hub of the lower bending-roller or on the mandrel, whereby the face of the annular plate can be adjusted either to or from the bending-rollers, and thereby increase or diminish the amount of metal that is bent for making a flange.

In the accompanying drawing, in which like letters of reference in the different figures indicate like parts, Figure 1 represents a side elevation of an ordinary flange-bending machine with my improved adjustable face-plate and an ordinary auxiliary roller attached. Fig. 2 is a front elevation of the same, and Fig. 3 is a sectional view of the adjustable face-plate on a bending-roller detached from the machine. Fig. 4 represents a sectional view of the sheets with the flanges bent, ready for being united into a seam, and also the flanges united at a seam.

A and O represent the casing and standard of the bending-machine, with shafts B and K, crank L, and bending-rollers C G, all arranged in the ordinary manner.

The common lower roller, G, may have my new screw-threaded hub R secured thereto by rivets or screws; or the hub may form a part of the roller G, as shown in Fig. 3, to receive the adjustable disk face-plate.

The mandrel K is provided with a screw-thread, K′, at its front end, and on this screw-thread the hub R is firmly screwed. The adjustable annular-ring disk D is formed with a cross-section like that shown in Fig. 3—that is, the flange *f* projects beyond the periphery of the ring at the front edge, and the front face is reamed out to admit the beveled bending-roller G and permit the flange *f* to move forward over said bending-roller. The inner circumference of the ring is provided with a screw-thread, that fits the thread on the outer circumference of the hub R; and the annular ring D is also provided with a set-screw, *e*, to secure the ring at any required adjustment on the hub R.

The auxiliary roller J is mounted on an adjustable or spring bracket, H, in the ordinary manner, with its face inclined slightly from the angle of the face-plate *f* D. The edge of the roller J is designed to roll in the bent part of the turned flange formed by the bending-rollers and prevent sharp angles from being formed in the turned edge.

In operating a flange-bending machine having my improved apparatus, the annular ring D is adjusted according to the size of the flange required on the hub R or mandrel. The cylindrical section X of pipe is then inserted between the bending-rollers with its edge against the annular ring D. The rollers are then revolved, and the small flange W is formed, after which the annular ring D is adjusted farther back on the hub R for the purpose of allowing more metal to be worked into the flange U, which is formed in the same manner as that of flange W, but of different shape, as shown. When the sheets are united the flange W is inserted in the flange U, and the outer projecting edge of the flange U is bent over the flange W by any ordinary seaming-machine.

It is evident that a thread could be cut on the mandrel at the rear of the ordinary head or roller G, and an annular ring or face-plate operated thereon instead of on the hub R, and such an arrangement would only be a modification of my device.

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

1. In a sheet-metal-flange-bending machine, the bending-roller G, with hub R, having a screw-thread on its outer periphery, combined with the adjustable annular ring D, with flange *f* on its outer periphery and a countersunk

face, whereby said ring is permitted to be adjusted forward and permit the flange *f* to overlap the bending-roller, substantially as shown and described.

2. The adjustable annular face-plate ring D, with flange *f* and countersunk face, combined with the mandrel K and bending-roller G in an adjustable manner, substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM A. WHEELER.

Witnesses:
D. F. SPEES,
J. C. FRINK.