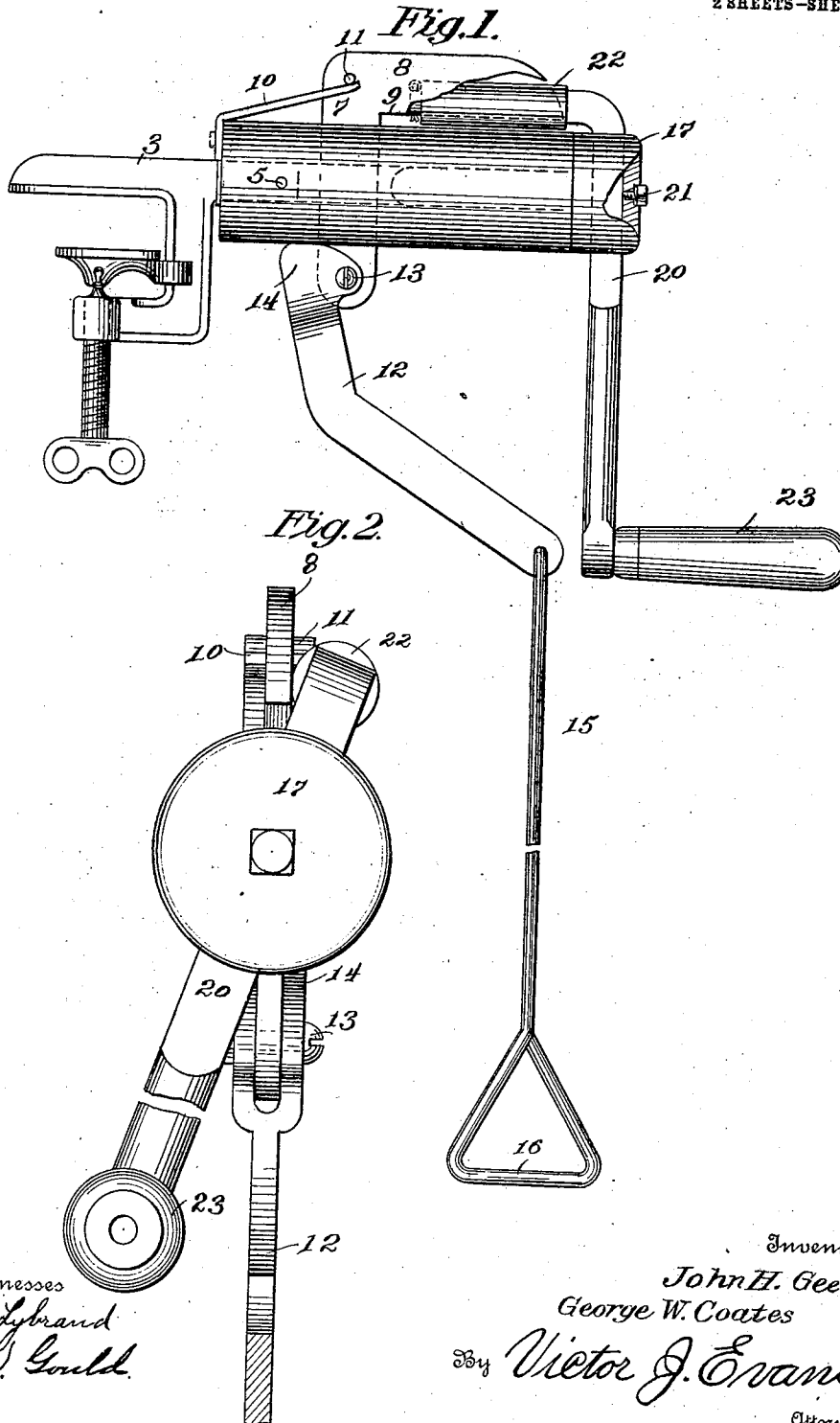


J. H. GEE & G. W. COATES.
FORMING IMPLEMENT.
APPLICATION FILED NOV. 3, 1909.

968,548.

Patented Aug. 30, 1910.

2 SHEETS—SHEET 1.



Witnesses
A. S. Lybrand
D. W. Gould.

Inventors
John H. Gee &
George W. Coates
By Victor J. Evans
Attorney

J. H. GEE & G. W. COATES.
FORMING IMPLEMENT.
APPLICATION FILED NOV. 3, 1909.

968,548.

Patented Aug. 30, 1910.

2 SHEETS—SHEET 2.

Fig. 3.

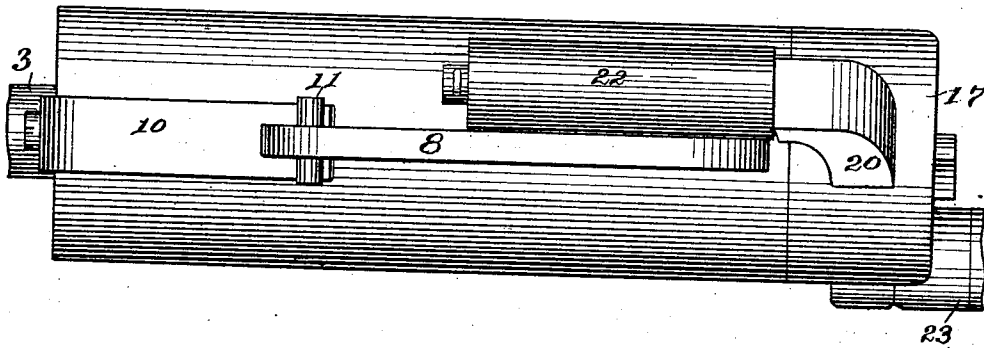
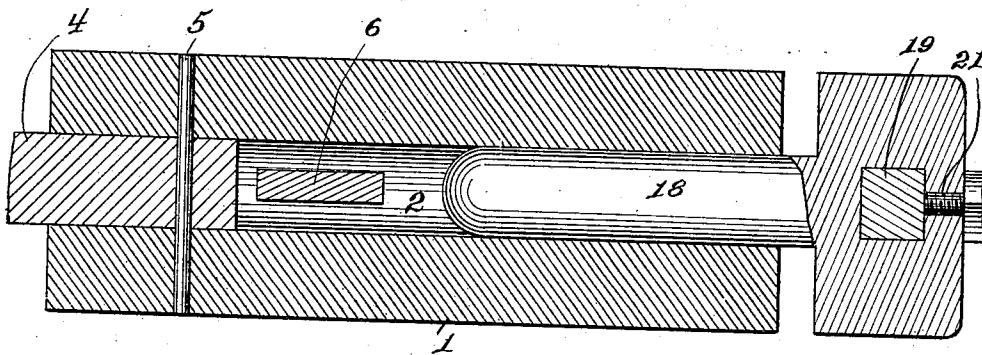


Fig. 4.



Witnesses
H. B. Lybrand
D. W. Gould.

Inventors
John H. Gee &
George W. Coates
By Victor J. Evans
Attorney

UNITED STATES PATENT OFFICE.

JOHN H. GEE AND GEORGE W. COATES, OF PALESTINE, TEXAS.

FORMING IMPLEMENT.

968,548.

Specification of Letters Patent. **Patented Aug. 30, 1910.**

Application filed November 3, 1909. Serial No. 526,120.

To all whom it may concern:

Be it known that we, JOHN H. GEE and GEORGE W. COATES, citizens of the United States, residing at Palestine, in the county of Anderson and State of Texas, have invented new and useful Improvements in Forming Implements, of which the following is a specification.

The invention relates to an improvement in sheet metal forming implements, being more particularly directed to a former designed for the convenient and speedy construction of shims for boiler tubes.

The main object of the present invention is the provision of a forming implement in which the metal strip, initially shaped and outlined by any suitable cutter, may be clamped and formed to provide the completed article, the parts being adjustable to accommodate the different thicknesses of material for the production of light or heavy shims.

The invention in its preferred details of construction will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a side elevation of the improved forming implement. Fig. 2 is an end elevation of the same. Fig. 3 is a plan of the implement, the securing means and handle broken away. Fig. 4 is a vertical section, partly in elevation, of Fig. 3.

Referring particularly to the accompanying drawings, the improved forming implement comprises a fixed mandrel 1, preferably of cylindrical shape and formed with a central bore 2. The mandrel is provided at one end with means for securing it in fixed position to the support, the means illustrated comprising a bench clamp 3 having a rod projection 4 designed to seat in the rear end of the mandrel bore and to be secured therein by a transverse pin 5. The securing means is designed to illustrate any form or construction for this purpose, as such means forms no material part of the present invention. The mandrel is formed, near its rear end, with a diametrically extending slot 6 in which is fitted a rectangular shank 7 of a clamp comprising a right angle strip including an arm 8 designed to overlie the peripheral surface of the mandrel. The lower or clamping edge 9 of the arm 8 is normally held in spaced relation from the surface of the mandrel by a

spring preferably of the leaf type secured, at one end, to the rear end of the mandrel and formed at the opposite end with a slot to receive the rear edge of the shank 7, the forward ends of the spring, as thus formed, underlying the ends of the pin 11 passed through the shank, as will be plain from Fig. 1. The lower or free end of the shank 7 is connected to a lever 12 of angular form which at the upper end is pivotally connected at 13 to the shank and formed beyond and to the side of the pivot with a cam head 14 designed to engage the peripheral surface of the mandrel, the parts being so arranged that on the depression of the free or lower end of the lever the cam head 14 will operate to force the clamping edge 9 of the cam head into cooperation with the surface of the mandrel. The lower or free end of the mandrel is connected to the rod 15 terminating in a stirrup 16 whereby the desired power may be imparted to the clamp by the foot of the operator.

The shaping element of the former includes a head 17 corresponding in diametrical extent and shape with the similar dimensions of the mandrel and centrally formed with a guide stud 18 designed to fit within the bore 2 of the mandrel and provide a bearing for the rotation of the head. The head is centrally and diametrically formed with an opening 19 of angular shape in section, and slidably fitted within this opening is a shank 20 of the shaping element. The shank corresponds in size and sectional contour to that of the opening 19, and is adjustably held in any desired position within the opening by means of a set-screw 21 passing through the head and engaging the shank. The upper end of the shank is bent laterally and reduced to form a shaft on which is loosely mounted a shaping roller 22, the parts being arranged so that when the head is positioned in contact with forward end of the mandrel with the stud 18 seated in the bore 2, the shaping roller 22 will overlie the peripheral surface of the mandrel. The opposing end of the shank 20 is provided with an operating handle whereby the head may be rotated with relation to the mandrel.

With the parts constructed as described, the material of which the shim is to be formed is inserted between the clamping edge 9 of the arm 8 and the surface of the mandrel. The clamp is then operated

through the medium of the stirrup 16 to secure the material in fixed relation to the mandrel. The head is then applied by inserting the stud 18 in the bore 2 of the mandrel and the shaping roller above material immediately adjacent the arm 8, or in the position shown in Fig. 3. By rotation of the head, by means of the handle, the material will be caused to assume the shape of the mandrel on one side, after which the operation is repeated on the opposing side of the arm, this completing the article.

By the adjustment of the shaping roller with relation to the surface of the mandrel, as previously described, any desired thickness of material may be shaped in a simple and convenient manner.

The use of any material for the parts and the construction of the device in any desired size is contemplated.

We claim:—

1. A shaping implement including a fixed mandrel formed with a bore, a head having a stud to seat within the bore, a shank longitudinally adjustable through the head, and a shaping roller mounted on the shank overlying the surface of the mandrel.

2. A shaping implement including a fixed mandrel formed with a bore, a head having a stud to seat within the bore, a shank longitudinally adjustable through the head, a shaping roller mounted on the shank overlying the surface of the mandrel, and a clamp operative through the mandrel.

3. A shaping implement including a fixed mandrel formed with a bore, a head having

a stud to seat within the bore, a shank longitudinally adjustable through the head, a shaping roller mounted on the shank overlying the surface of the mandrel, a clamp operative through the mandrel, the clamp including an arm overlying the mandrel surface and a shank slidably mounted in the slot formed in the mandrel, a lever pivotally connected to the free end of the shank and formed with a cam end engaging the mandrel surface, and means for operating the lever.

4. A shaping implement including a fixed mandrel formed with a bore, a head having a stud to seat within the bore, a shank longitudinally adjustable through the head, a shaping roller mounted on the shank overlying the surface of the mandrel, a clamp operative through the mandrel, the clamp including an arm overlying the mandrel surface and a shank slidably mounted in the slot formed in the mandrel, a lever pivotally connected to the free end of the shank and formed with a cam end engaging the mandrel surface, and means for operating the lever, and a spring for normally maintaining the clamp in inoperative relation to the mandrel surface.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN H. GEE.
GEORGE W. COATES.

Witnesses:

LEE WITHERS,
ARCHIBALD J. HOWARD.