(No Model.) 2 Sheets—Sheet 1.

E. S. MEALS.

ROOFER'S SEAMING TONGS.

No. 444,498. Patented Jan. 13, 1891.

Fig. 1.

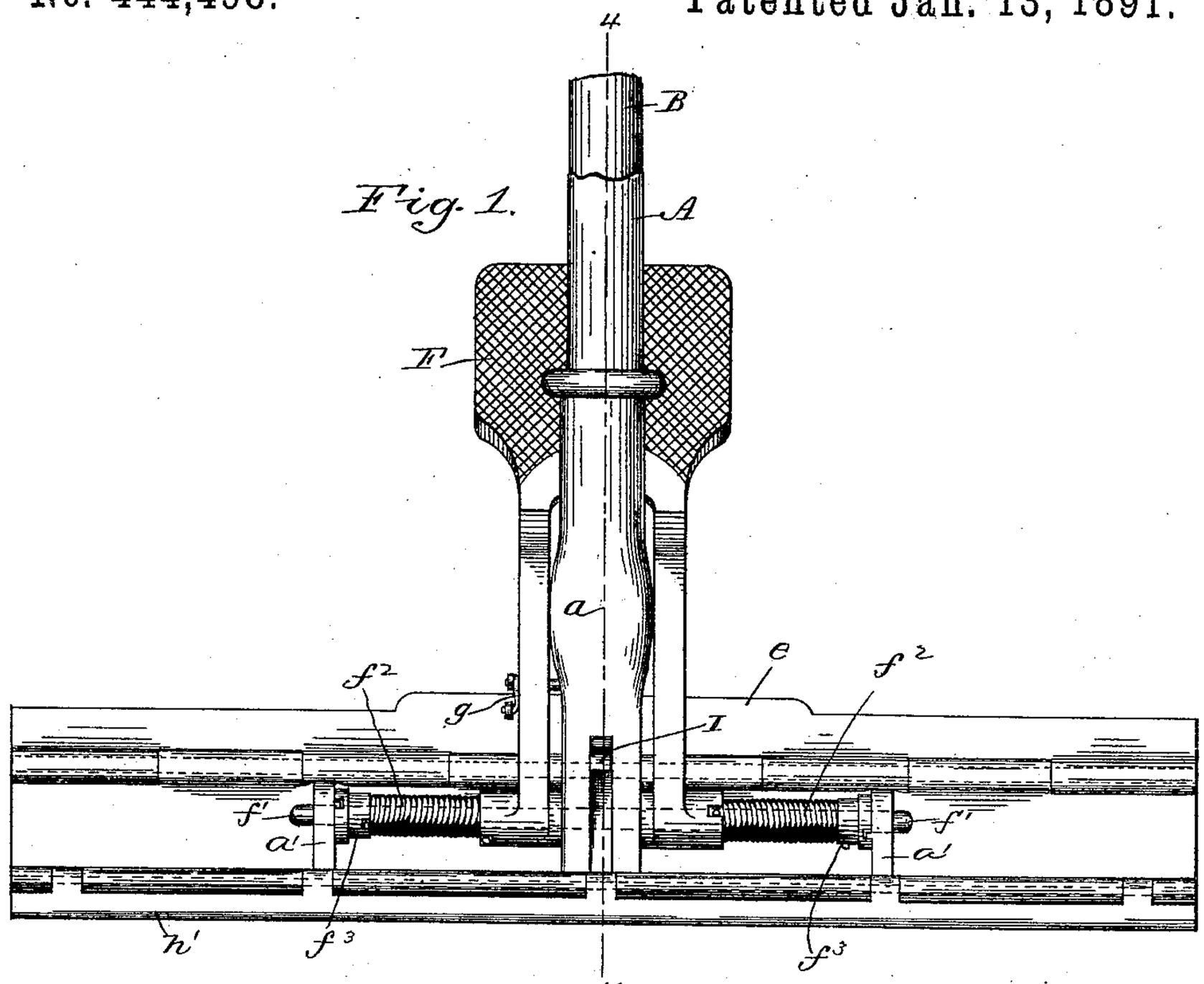


Fig. 2.

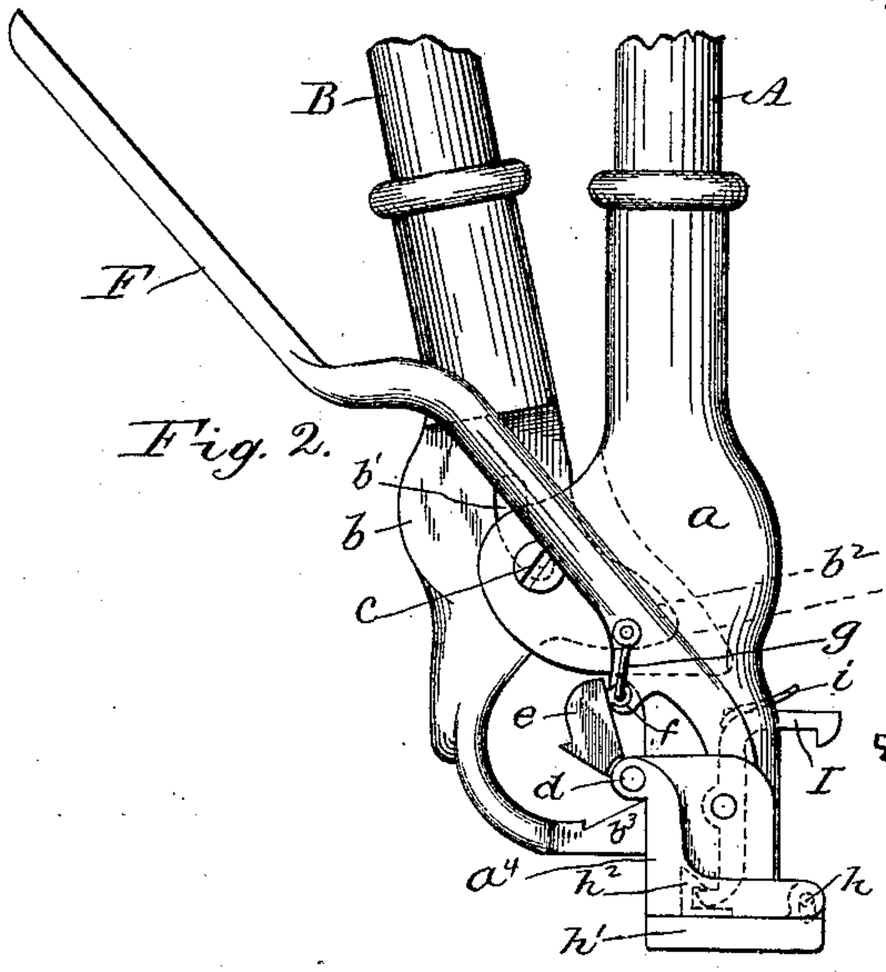
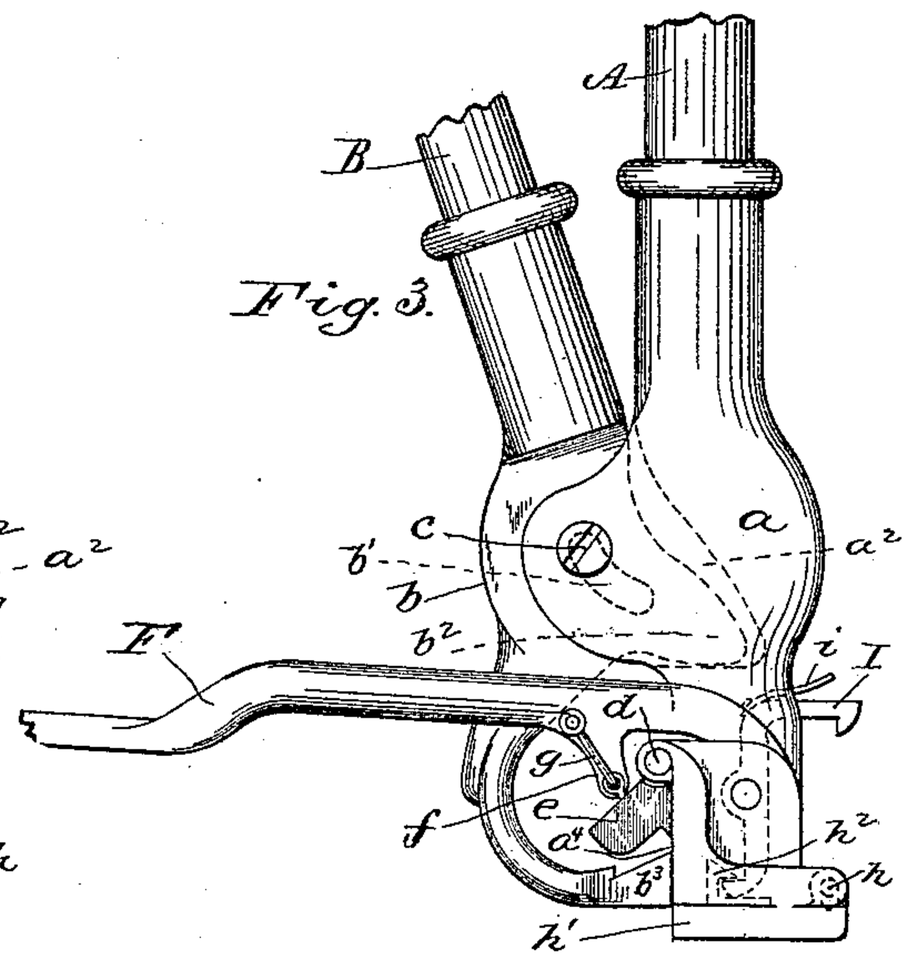


Fig. 3.



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Henry Calver

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

E. S. MEALS.

ROOFER'S SEAMING TONGS.

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Fig. 4.

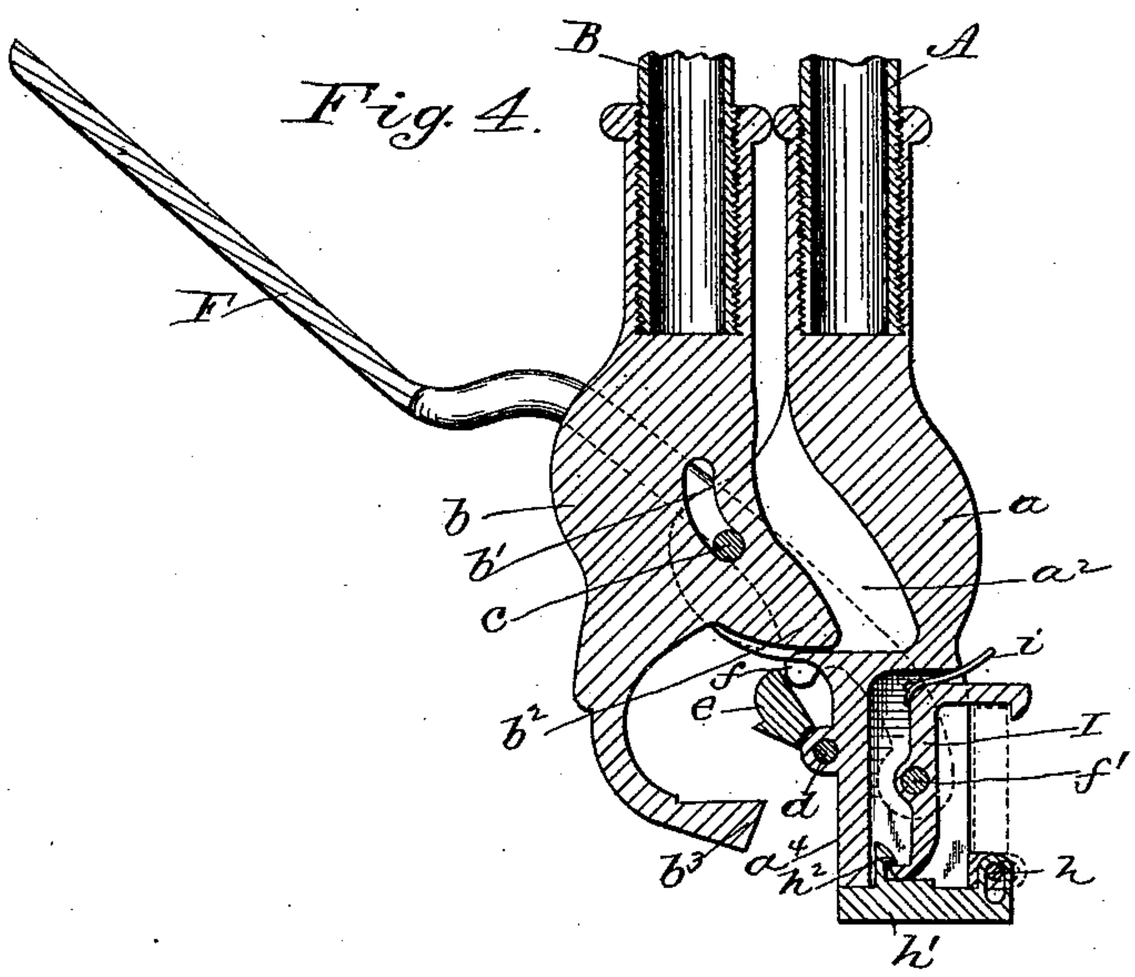


Fig. 5.

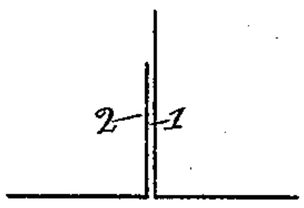


Fig. 6.

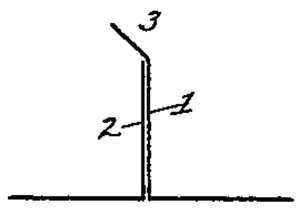


Fig. 7.

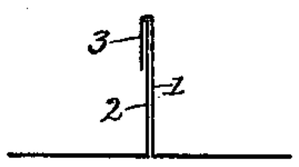
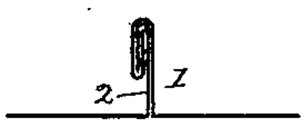


Fig 8.



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UNITED STATES PATENT OFFICE.

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ROOFER'S SEAMING-TONGS.

SPECIFICATION forming part of Letters Patent No. 444,498, dated January 13, 1891.

Application filed May 15, 1890. Serial No. 351,898. (No model.)

To all whom it may concern:

Be it known that I, EZRA S. MEALS, a citizen of the United States, residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Roofer's Seaming-Tongs, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has for its object to provide a roofer's seamer or seaming-tongs adapted for turning single or double seams, my improved device being of such construction as to be convenient for use and inexpensive to manufacture, while being powerful in action, so that seams of heavy sheet metal, like zinc or galvanized iron, may be easily turned.

In the drawings, Figure 1 is a side view of my improved seaming-tongs. Figs. 2 and 3 are end views of the same with the parts in different positions. Fig. 4 is a central vertical section on line 4 4 of Fig. 1. Figs. 5, 6, 7, and 8 are diagrams to illustrate the operation of my device.

The body of my improved seamer consists of two members or levers *a* and *b*, connected by a pivot-bolt *c*. To the lever *a* is pivoted on bolt *d* the bending-bar *e*, which is pressed upon by lugs *f* on a forked foot-lever F, said lugs being near the fulcrum of said lever and the latter being pivoted on a rod *f'*, extending through ears *a'* on the base portion of the lever *a*. Torsional spiral springs *f²*, surrounding the rod *f'* and connected with the said ears *a'* and with the said foot-lever, serve to normally hold the said lever in the position indicated by Figs. 1, 2, and 4. The said foot-lever is connected by a link or hook *g* with the bending-bar *e*, so that as the said lever is lifted by the said springs it will raise the said bending-bar.

The lever *b* is provided with a slot *b'*, through which the pivot-bolt *c* passes, the said lever *b* thus having a slip-joint connection with the lever *a*. The lever *b* is also provided with a lug or toe portion b^2, extending into a recess a^2 in the lever *a*, as more clearly shown in Fig. 4, and with a jaw b^3. To the base of the lever *a* is pivoted at *h* an extension leaf or bar *h'*, provided with a catch h^2.

I is a double-acting catch pivoted on the rod *f'* and adapted to engage the catch h^2 on the extension-leaf *h'* when the said leaf is folded in beneath the foot of the lever *a* or to engage the upper edge of said leaf when the latter is turned up to the position indicated by dotted lines in Fig. 4. The catch I is provided with a spring *i*, which serves to hold it in engagement with the extension-leaf in either of the positions shown.

The levers *a* and *b* are in practice provided with handles A and B of ordinary construction and of suitable length for use, said handles being screwed into sockets formed in the upper ends of said levers.

The operation of my device is as follows: When a seam is to be formed on two upturned edges of sheet metal, as shown in Fig. 5, the operator places the tongs so that the face a^4 of the lever *a* is against the upturned edge 1 of sheet metal. Holding the tongs firmly in this position, the lever *b* is moved from the position shown in Fig. 4 to the position shown in Fig. 2, bringing the jaw b^3 against the upturned lip 2, and thus forming the initial bend 3, (shown in Fig. 6,) this being effected by the pressure of the said jaw b^3 against the face a^4 of the lever *a* just beneath the rounded ridge in which the pivot-bolt *d* is located. The operator now presses with his foot upon the lever F, causing the lugs *f* thereon to turn down the bending-bar *e*, as shown in Fig. 3, thus turning the bend 3 closely over against the portion 2, as shown in Fig. 7. As the bending-jaw *e* is thus turned over, its rounded outer edge, striking against the upper face of the jaw b^3, forces said jaw straight downward, this movement being permitted by the slot *b'* in the lever *b*. The operator then brings the handles A and B together, as shown in Fig. 4, when the action of the lug or toe portion b^2 on the bottom wall of the recess a^2 in the lever *a* causes the lever *b* to be lifted to the position shown in Fig. 4, in readiness for a new operation as the tongs are moved along the seam being made. These operations are repeated until the single seam has been formed the entire length of the sheets of metal to be united. When the double seam shown in Fig. 8 is to be formed, the extension-leaf *h'* is turned up to the position shown in dotted lines in Fig. 4, and the oper-

ations hereinbefore described being applied to the single seam shown in Fig. 7 will produce the double seam shown in Fig. 8.

When the lever b is moved from the position shown in Fig. 4 to the position shown in Fig. 2, it is held up by the operator until positively forced downward by the bending-bar e as the latter turns the seam.

By providing the lever b with the slot b' to form the slip-joint connection between the said lever and the lever a I am enabled to hold the jaw b^3 closely against the upturned lip 2 of the seam until the bend or bends have been fully made, the said jaw merely sliding downward out of the way of the bending-bar e as the latter turns the seam. Thus a tightly-turned seam is reliably produced by a single operation of the tongs. The torsional spiral springs f^2, the stress of which may be regulated by the adjusting-nut f^3, form a compact and efficient means for raising the foot-lever F and the bending-bar e, and the double-acting catch I, for holding the extension-leaf h' in either of its positions, is a valuable feature of my device.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The combination, with the lever a, provided with the pivoted bending-bar e, of the lever b, provided with the jaw b^3 and having a slotted or slip-joint connection with the said lever a, the said jaw b^3 being arranged to come beneath the said bending-bar.

2. The combination, with the lever a, provided with the recess a^2, the fixed pivot-bolt c, and the pivoted bending-bar e, of the lever b, having the slot b', receiving said pivot-bolt, the lug or toe-piece b^2, entering said recess a^2, the jaw b^3, arranged to come beneath said bending-bar, and the foot-lever F to operate said bending-bar.

3. The combination, with the lever a, provided with the pivoted bending-bar e, of the lever b, provided with the jaw b^3, arranged to come beneath said bending-bar, the foot-lever F, having near its fulcrum lugs to engage the said bending-bar, the link connecting said foot-lever with the rear side of the said bending-bar, and the torsional spiral springs for lifting the said foot-lever and bending-bar, said springs being on the fulcrum-pin of said lever.

4. The combination, with the lever a, provided with the pivoted bending-bar e, of the lever b, provided with the jaw b^3, the foot-lever F, the hinged extension-leaf h', and the double-acting catch I to hold the said extension-leaf in its two positions.

In testimony whereof I affix my signature in presence of two witnesses.

EZRA S. MEALS.

Witnesses:
ALBERT J. FAGER,
W. F. RAYSOR.