

(No Model.)

W. HARRIS.

PIPE WRENCH.

No. 326,978.

Patented Sept. 29, 1885.

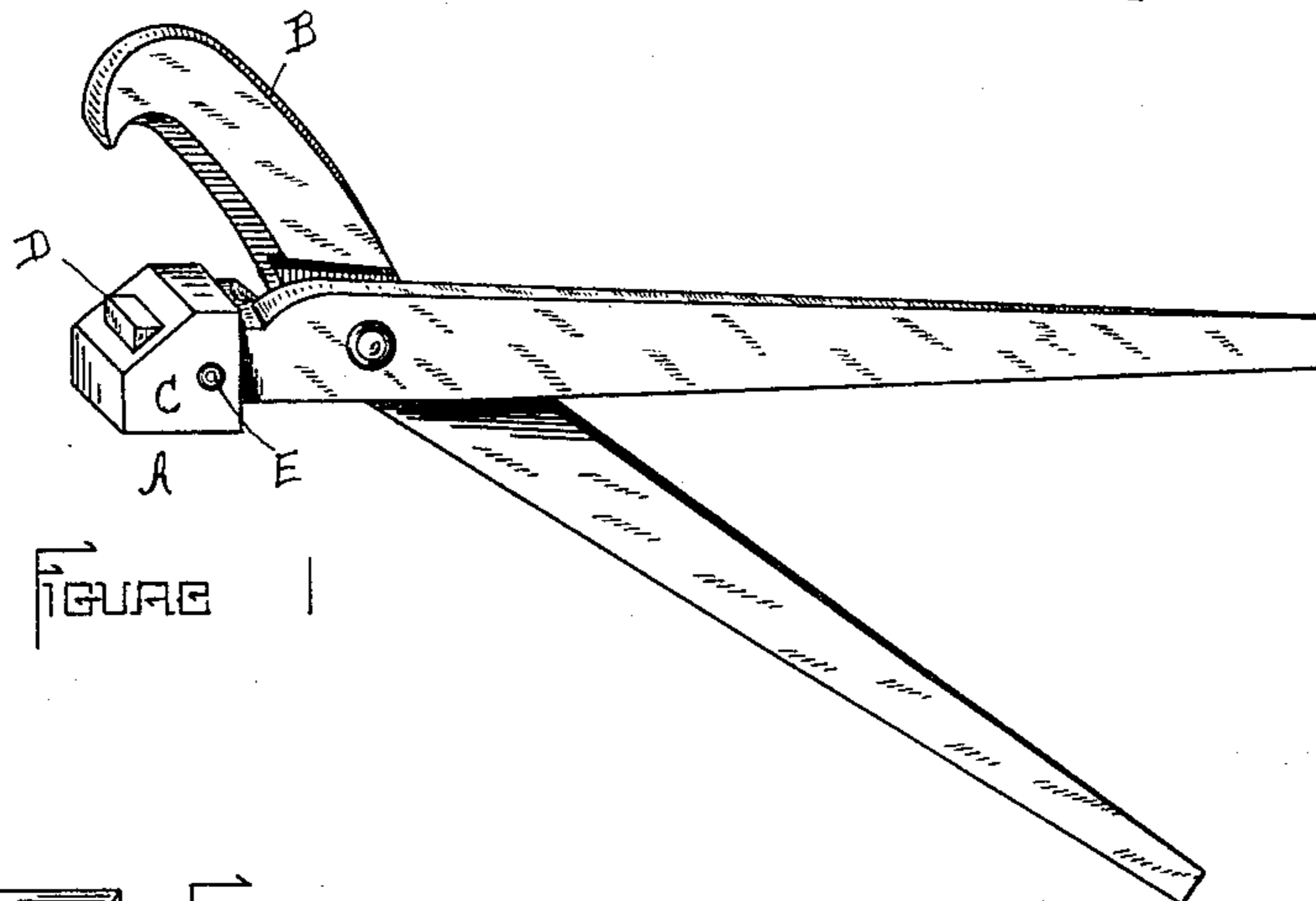


FIGURE 1



FIGURE 2

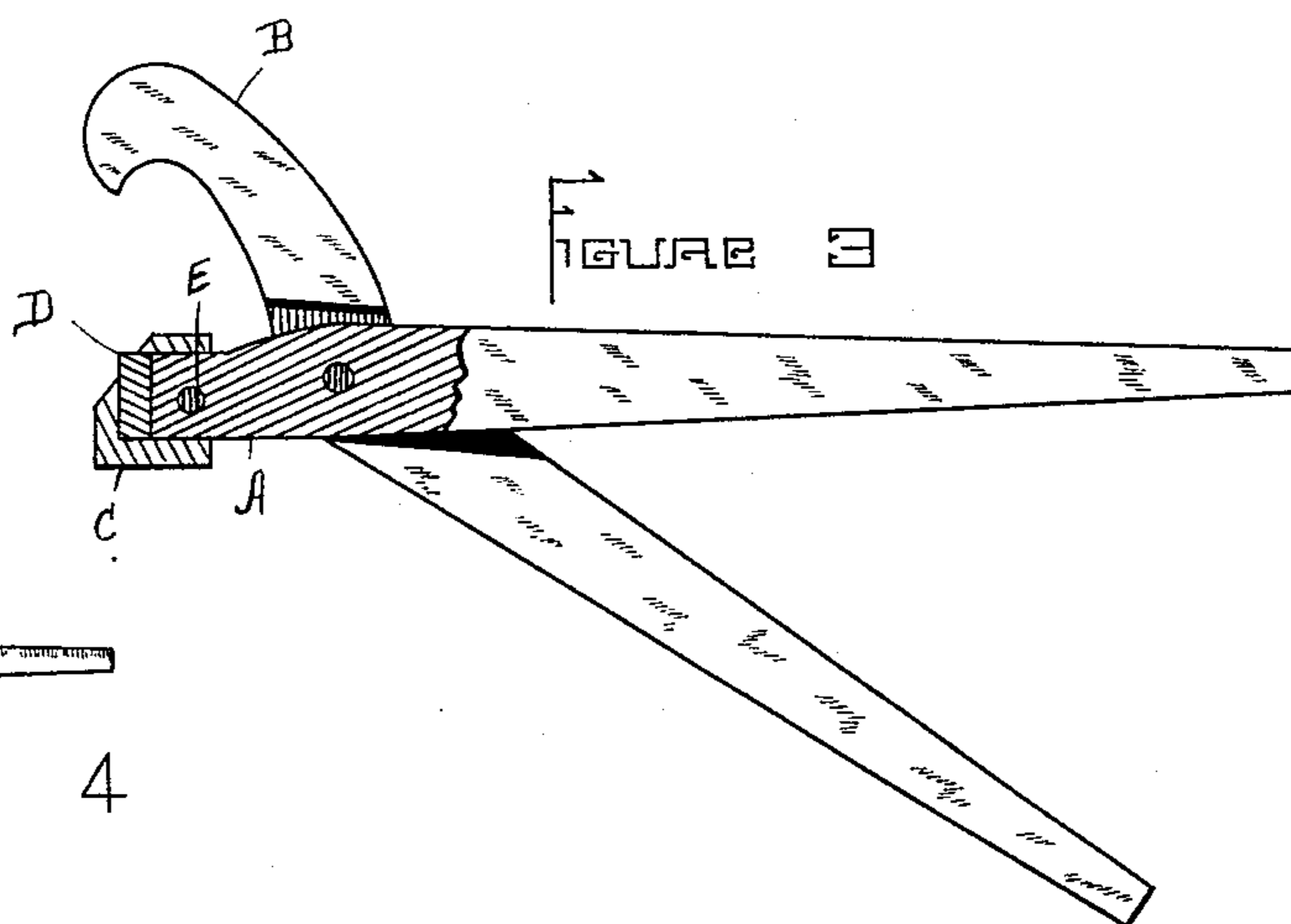


FIGURE 3

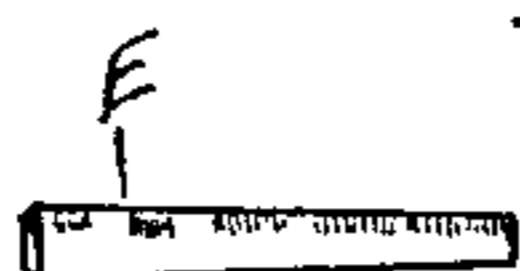


FIGURE 4

Witnesses -

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Inventor -

William Harris  
By Jacob Reese Attorney

# UNITED STATES PATENT OFFICE.

WILLIAM HARRIS, OF PITTSBURG, PENNSYLVANIA.

## PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 326,978, dated September 29, 1885.

Application filed July 13, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM HARRIS, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Pipe-Tongs; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the drawings forming a part of the same, in which—

Figure 1 is a perspective view of my improved pipe-tongs. Fig. 2 is a perspective view of the bit. Fig. 3 is a sectional view of the short jaw of the tongs, showing the shield, bit, pin, and mode of fastening. Fig. 4 is a view of the fastening-pin.

In the construction of pipe-lines for the conveyance of natural gas at high pressure (which is often more than five hundred pounds to the square inch) powerful pipe-tongs are required to screw the pipes together. In order to secure the proper grip the biting-jaws of the tongs must be made of hardened steel. In use the bit of the short jaw wears out much quicker than the bit of the long curved jaw; therefore many devices have been proposed for holding steel bits in place on the short jaw of pipe-tongs, so that the bit may be readily removed, sharpened, and replaced.

My invention consists in the improved construction of pipe-tongs hereinafter described and claimed.

In the drawings, A is the short jaw, and B is the long jaw. C is the shield. D is the bit. E is the pin.

In the construction of my improved pipe-tongs I form the jaw A with a square end, so that the flat bit D will be equal to its cross-section. The bit D is made of steel and tempered hard. The shield C may be made of wrought or malleable iron. It is like a box having five sides, with one corner cut away in such a manner that when the bit D is in it and the shield is drawn over the end of the jaw A, a biting-edge of the bit D will project out of the shield, as shown in Fig. 1.

When the bit is put in the shield, and the

shield has been drawn over the end of the jaw and held tightly in place, a hole is drilled through the shield and jaw, and the steel pin shown in Fig. 4 is driven into the hole o, and thus the bit is drawn up tight against the jaw and securely held in place.

When the bit has been worn, the pin is driven out and the bit turned one-fourth and replaced in the shield, the shield drawn over the jaw, and the pin driven into the hole o, when the tongs are again ready for use and as good as new. Thus the four front edges of the bit may be used, and then the bit can be turned over and the four back edges may be used. Thus it will be seen that there will be eight sharp biting-edges on each bit, and when these are all used a new bit can be put in the shield in one minute and the tongs kept in a good working condition continuously.

The bits may be punched from steel bars, hardened and ground to sharp edges. This form of bits having no holes in them, they can be tempered very hard without cracking. The steel pins, Fig. 4, should have a slight taper, and the hole o tapered to correspond, so that the bit, shield, and pin may all fit tight to the jaw of the tongs.

The advantage of my improvement is, the bit may be tempered harder and made cheaper than a round, six-square, hexagonal, or a bit of any form having a hole in it; second, the bit may be changed quicker, and held more firmly by my shield than by any other method known to me; third, my bit has a broader bite than any other.

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

1. In pipe-tongs, the combination, with the jaw A, of the removable shield inclosing the end of said jaw, substantially as set forth.

2. The combination, with the biting-jaw of pipe-tongs, of the bit D, the shield C, and fastening-pin E, constructed substantially as and for the purpose set forth.

WILLIAM HARRIS.

Witnesses:

WALTER REESE,  
W. M. GORMLY.