W. J. Gordon,

Jointing Sheet-Metal.

No. 56,494. Patented July 17, 1866.

Fig: 1.

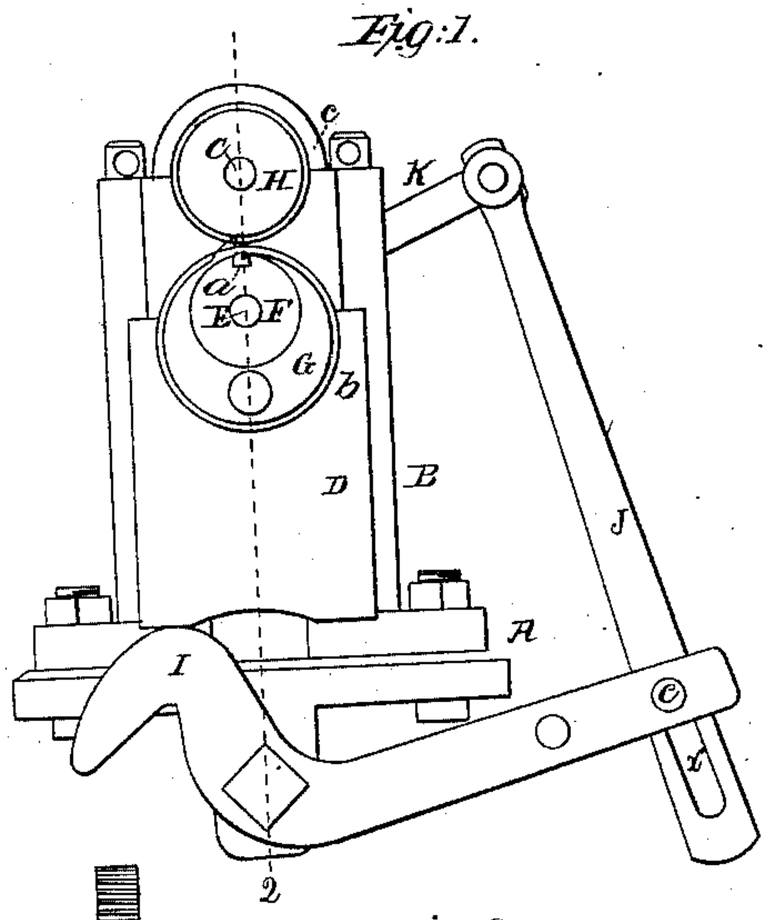


Fig: 2.

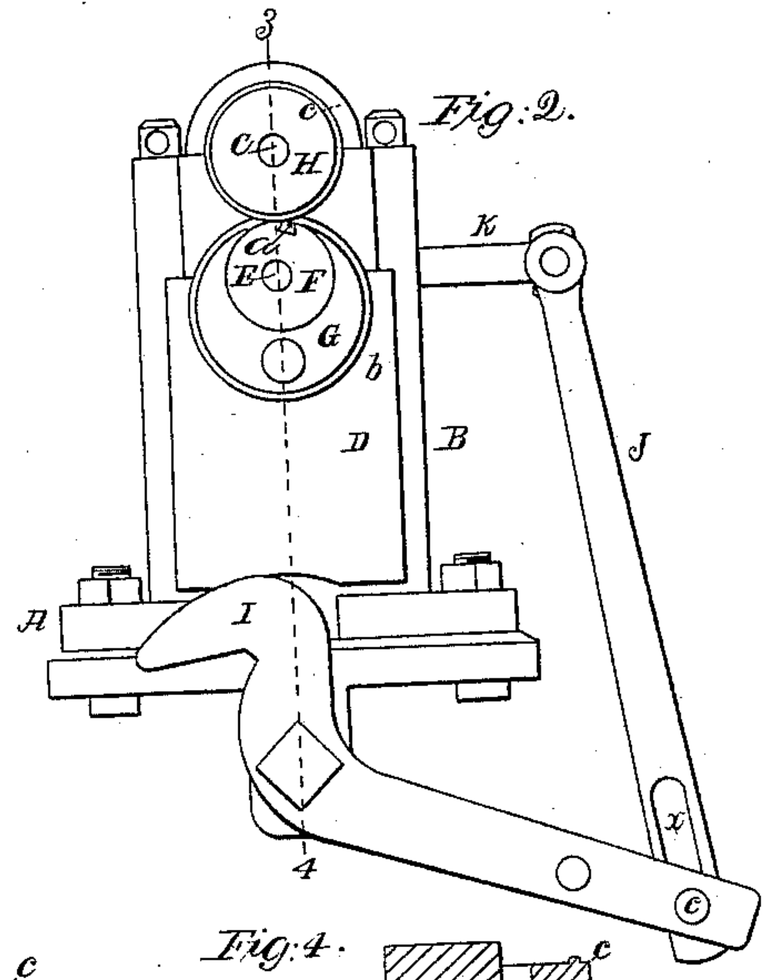


Fig: 3.

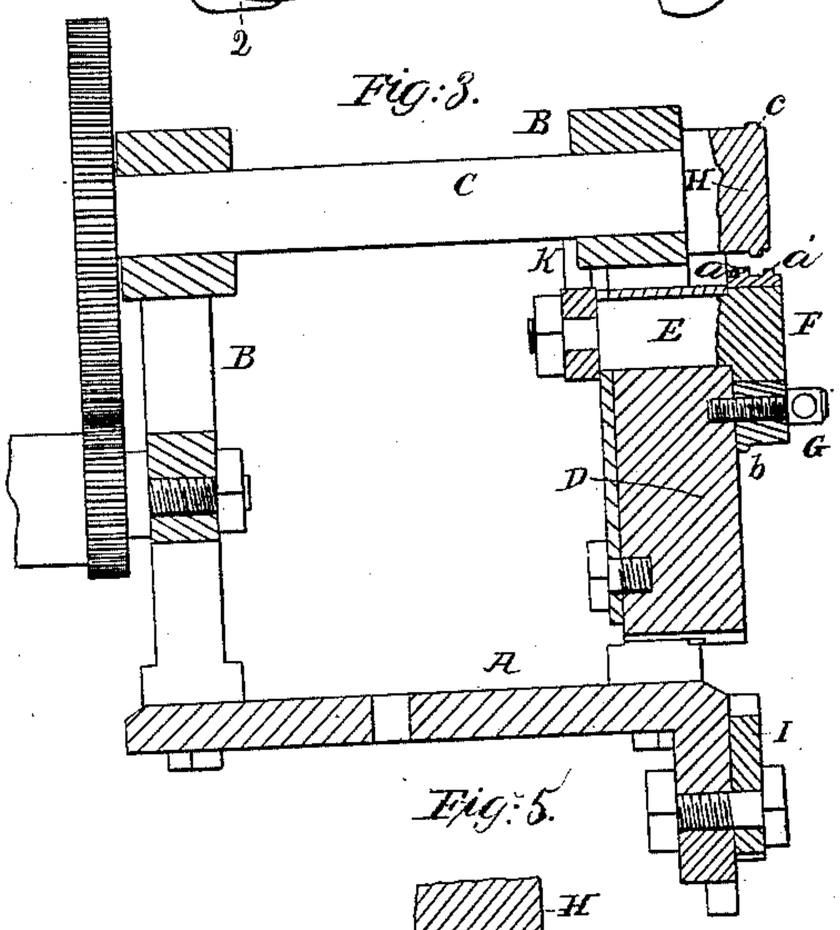


Fig: 4.

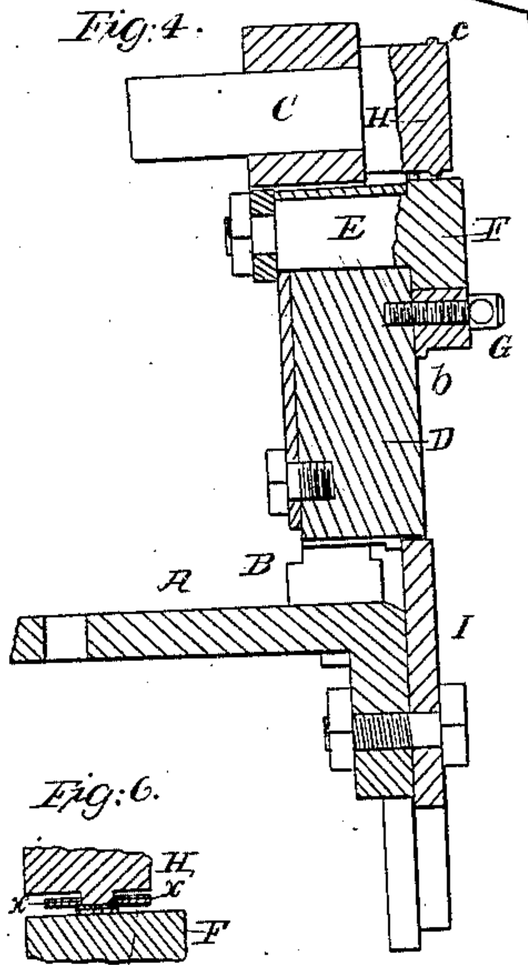


Fig: 5.

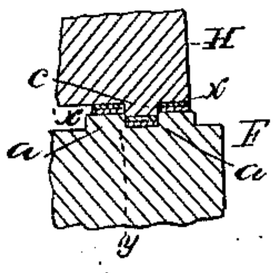
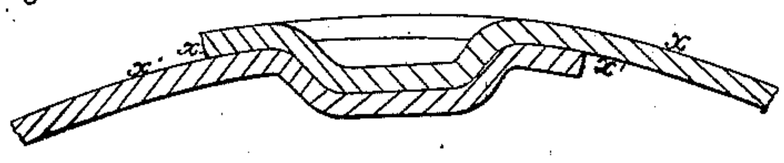


Fig: 6.

Fig: 7.



Witnesses:
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John Parker.

Inventor:
W. J. Gordon.
By his Atty
H. Howson.

UNITED STATES PATENT OFFICE.

W. J. GORDON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO J. S. MASON & CO., OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR SECURING THE ENDS OF STRIPS OF SHEET METAL TOGETHER.

Specification forming part of Letters Patent No. **56,494,** dated July 17, 1866.

To all whom it may concern:

Be it known that I, WILLIAM J. GORDON, of Philadelphia, Pennsylvania, have invented an Improved Machine for Securing the Ends of Metal Strips Together; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists of certain mechanism, fully described hereinafter, for securing together the ends of metal strips—such, for instance, as those used in the manufacture of blacking-boxes.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figures 1 and 2 are front elevations of my improved machine for securing the ends of metal strips together, showing the operating parts in different positions. Fig. 3 is a vertical section on the line 1 2, Fig. 1; Fig. 4, a vertical section of part of the machine on the line 3 4, Fig. 2; Figs. 5 and 6, detached views drawn to an enlarged scale; and Fig. 7, a sectional view, showing the ends of a band or strip secured together.

Similar letters refer to similar parts throughout the several views.

A is the base of the machine, to which are secured the standards B′ B′, and in the upper ends of the same turns a shaft, C.

On guides in the standard B slides a block, D, through the upper end of which passes a shaft, E, and on the outer end of the latter is a disk, F, on the edge of which are two lugs or projections, *a a′*.

To the face of the sliding block D is secured a detachable disk, G, on which is an annular flange, *b*, and in the said disk is a circular opening for the reception of the disk F, the edge of the latter projecting slightly above the edge of the disk G, as shown in the drawings.

On the outer end of the shaft C is a roller, H, on the edge of which is an annular flange, *c*, the latter being of such a width as to fit readily between the lugs *a a′* of the disk F.

Against the under side of the sliding block D bears the short arm of a lever, I, hung to a pin on the base-plate A, the said arm being of the peculiar shape shown in Figs. 1 and 2; and on the long arm of the lever is a pin, *e*, which projects into a slot, *x*, in a rod, J, the latter being jointed to an arm, K, which is secured to the shaft E.

The parts are brought to the position shown in Figs. 1 and 3, and a strip, X, of metal, the ends *x x′* of which are to be secured together, is passed around the disk G, the edge of the strip bearing against the flange *b*, while its ends extend over the projections *a a′* on the disk F. A rotary motion in the direction of its arrow is then imparted to the roller H, and the long arm of the lever I is depressed, so as to raise the block D. As the rollers G and H are brought together the flange *c* will be introduced between the lugs *a a′*, and both ends of the strip will be cut between the edges of the flange and the inner edges of the lugs, and that portion of the strip between the two slits thus made will be forced down between the lugs *a a′* onto the edge of the roller F, as shown in Figs. 5 and 7, a portion, *y*, of the end *x* being thus carried below the under surface of the end *x′*.

As the long arm of the lever is farther depressed the motion of the block D, owing to the peculiar shape of the short arm of the lever, will be arrested, while the pin *e* will be brought to the end of the slot *x* and the rod J will be drawn downward, the roller F, during the movement of the lever, being caused to turn in the direction of its arrow.

As the rollers H and F revolve the strip X will be carried with them, and the depressed portion *y* of the end *x* will be compressed and rolled beneath the flange *c* until its width is so increased that its edges will project beyond the edges of the opening in the end *x′*, the withdrawal of the portion *y* through the opening in the end *x′* being thus prevented, so that the ends of the strip are securely fastened together. The long arm of the lever is now raised, so as to lower the block D and turn the roller F back to its first position, when the strip X may be removed.

It will be seen that the disk G determines the exact size of the band formed by joining the ends of the strip. When it is desired,

therefore, to make a band of a different size, the disk is removed, and a larger or smaller one, according to the size of the band required, is secured in its place. If desired, however, the disk may be dispensed with.

Other devices for elevating the block D and turning the roller F may be substituted for those described. The number of flanges on the roller H and projections on the roller F may also be increased when the ends of broad strips of metal have to be secured together.

I claim as my invention and desire to secure by Letters Patent—

1. The roller H, with its flange *c*, in combination with the disk F and its lugs *a a'*, the whole being arranged for joint action, substantially as and for the purpose described.

2. The detachable disk G, with its flange *b*, in combination with the disk F.

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

W. J. GORDON.

Witnesses:

CHARLES E. FOSTER,

JOHN WHITE.