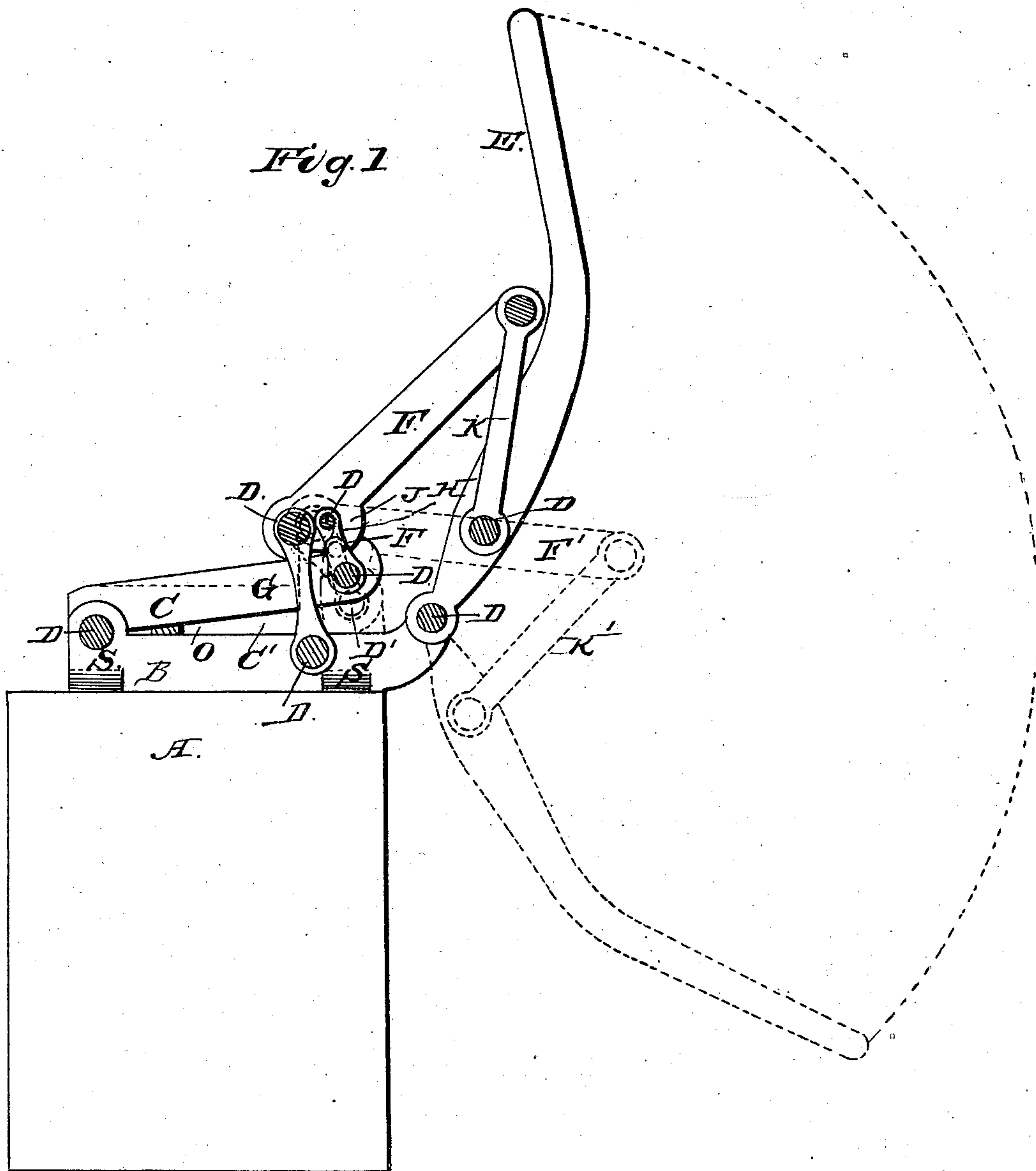


Shearing Metal.

Patented April 16, 1867.



Witnesses:
W. W. Sanborn
Thos. Elwan

Inventor
John J. Sandrey

United States Patent Office.

JOHN J. SANDGREN, OF LYONS, IOWA.

Letters Patent No. 63,945, dated April 16, 1867.

IMPROVEMENT IN LEVER SHEARS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN J. SANDGREN, of Lyons, county of Clinton, State of Iowa, have invented a new and useful Improvement in Compound Lever Shears; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings and letters of reference marked thereon, in which Figure 1 is a side elevation, and will illustrate my invention, in which drawing A represents a post-block or bench, to which the stationary jaw of the device is attached by means of bolts or staples in ears, as at S S; B, the lower and stationary jaw; C the upper and movable jaw; D D D D D D rivets or pins, on which the connecting straps work; E the long arm or lever to which the force is applied to operate the device; F, a lever with an eccentric or cam projecting on under side, as at J; G, strap or stirrup, which holds the lever F in such a manner as that the cam shape at J operates to close the jaws as the lever E is moved down; H, a strap or stirrup that holds the lever F and jaw C together, so when the lever E is raised this strap raises the jaw C, thus opening the device; J, cam to work upper jaw; K, strap to connect levers.

Now, to enable others to understand my invention, I will describe its construction and operation.

I make the jaws of any suitable material, having them with steel cutting-edge well tempered. I construct the levers F and E of any suitable material, connecting them by means of links or stirrups, as shown at K, G, and H. Now it will be seen that by this arrangement of levers a man can exert a great cutting force at O. The red-lines indicate the position of the parts when the jaw is closed. Then by bringing the lever E to its elevated position the strap H raises or opens the jaw C, thus opening it with ease. It will be seen that as the jaw C closes, the point or pin that attaches the upper end of G to the lever F moves over, as indicated by the red lines, bringing the greatest amount of force, by action of the cam J, on the jaw C.

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

The peculiar arrangement and combination of the levers E and F with the cam J and straps K, G, and H, all for the purposes set forth.

JOHN J. SANDGREN.

Witnesses:

W. W. SANBORN,

WM. SLOAN.