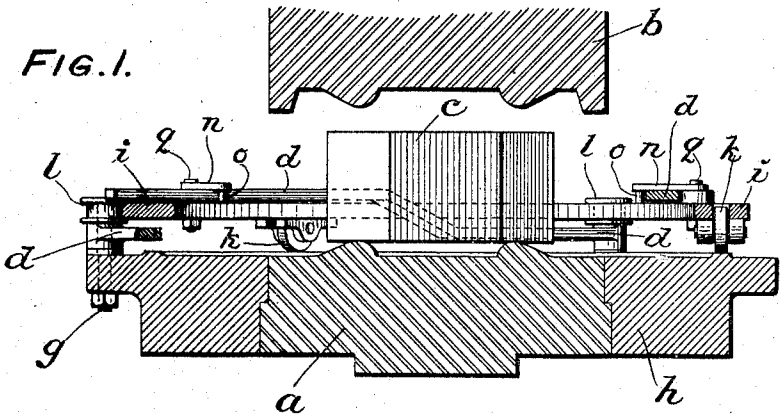
K. A. SODERSTROM.

APPARATUS FOR CENTERING SYMMETRICAL METAL PIECES.

APPLICATION FILED NOV. 30, 1908.

927,890. Patented July 13, 1909.

FIG. 1.



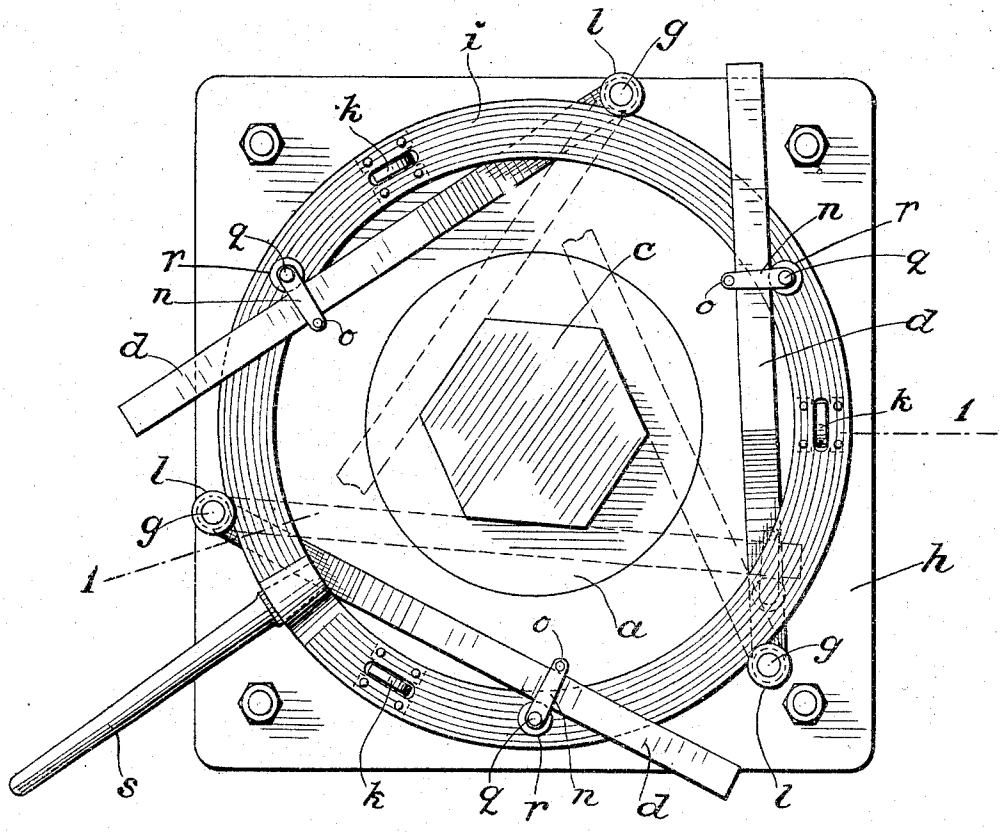


FIG. 2.

WITNESSES:

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KARL ADOLF SODERSTROM, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO MIDVALE STEEL COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

APPARATUS FOR CENTERING SYMMETRICAL METAL PIECES.

No. 927,890. Specification of Letters Patent. Patented July 13, 1909.

Application filed November 30, 1908. Serial No. 465,203.

To all whom it may concern:

Be it known that I, KARL ADOLF SODERSTROM, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Centering Symmetrical Metal Pieces, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My apparatus is adapted for the purpose of centering pieces.

I will now describe the embodiment of my apparatus illustrated in the accompanying drawings, in which—

Figure 1 is a cross section on lines 1—1, Fig. 2. Fig. 2 is a plan view of the apparatus.

a is the bottom die of the formative press and *b* the top die.

c is the billet or slice from billet to be acted on in the formative press.

d are levers, three being shown. These levers have the inner ends or points offset with respect to the outer ends. The outer end of these levers are each pivotally mounted upon a vertical pin *g* in the bed plate *h* of the machine. The length of these levers is, as shown in the drawings, greater than the distance from the pivot to the centering point.

i is a ring mounted upon the rollers *k* resting upon the bed plate of the machine. The outer edge of this ring rests in the grooves in the rollers *l* mounted upon the pins *g*. These rollers are above the pivotal connection of the levers with the pins. The off-setting of the levers *d* enables the outer ends of the levers to be in a lower plane than the ring *i*, while the inner ends of the levers are in a plane above the ring. The inner portion of each lever *d* passes under strap *n* having a downwardly projecting pin *o*. The strap *n* has passing through it the stud *q* by which it is connected to ring *i*. Upon this stud *q* is the roller *r* in line with lever *d*.

s is an operating handle connected to ring *i*.

The billet *c* is placed upon the lever die and the ring rotated by means of the handle which causes the inner ends or points of the levers to move toward the center of the lower die embracing the billet between them. When they have moved inward to their ultimate position, as shown in dotted lines, Fig. 2, the billet *c* embraced between them will be centrally disposed of with respect to the formative dies. In all cases three points or levers should be the minimum used and for pieces having a greater number of faces than three the number of points or levers used should be equal to a divisor of the number of sides if that divisor be greater than three.

As I stated, I do not intend to limit my invention to the manufacture of any particular article or for acting upon any particular shaped metallic piece.

Having now fully described my invention, what I claim and desire to protect by Letters Patent is:—

1. An apparatus for centering pieces, comprising, in combination, a plurality of levers movable toward and from the centering point of the piece, the length of said levers being greater than the distance between the point on which said levers move and the centering point, and means to move said levers simultaneously and synchronously.

2. An apparatus for centering pieces, having a plurality of faces, comprising, in combination, a plurality of levers, not less than three and if greater in number, a divisor of the number of faces of the piece, movable toward and from the centering point of the piece, and means to move said levers simultaneously and synchronously.

3. An apparatus for centering pieces, comprising, in combination, a plurality of levers, a support upon which said levers are pivoted to swing, a ring rotatably mounted, loose connection between said ring and levers, grooved rollers, in the groove of which the outer edge of said ring rests and is guided.

4. An apparatus for centering pieces, comprising, in combination, a plurality of levers, a support upon which said levers are pivoted to swing, a ring, said levers being offset so that one portion rests beneath and the other portion above said ring, loose connections between said ring, and the portions of the levers above said ring, whereby in the rotation of said ring in one direction said levers are moved inward, and in the rotation of the ring in the opposite direction are moved outward, the points of said levers being at the portion below said ring.

5. An apparatus for centering pieces, comprising, in combination, a plurality of levers, a support upon which said levers are pivoted to swing, a ring, said levers being offset so

that one portion rests beneath and the other portion above said ring, means in the rotation of said ring in one direction to move said levers in one direction and in the opposite rotation of the ring in the opposite direction, the points of said levers being at the portion below said ring.

6. An apparatus for centering pieces, comprising, in combination, a plurality of levers, a support upon which said levers are pivoted to swing, a ring, said levers being offset so that one portion rests beneath and the other portion above said ring, loose connections between said ring and the portions of the levers above said ring, adapted in the rotation of the ring in one direction to move said levers inward, and in the rotation of the ring in the opposite direction to move said levers outward, the points of said levers being at the portion below said ring, grooved rollers, in the groove of which the outer edge of said ring rests.

7. An apparatus for centering pieces, comprising, in combination, a plurality of levers, a support upon which said levers are pivoted to swing, a ring, said levers being offset so that one portion rests beneath and the other portion above said ring, means in the rotation of said ring in one direction to move said levers in one direction and in the opposite rotation of the ring in the opposite direction, the points of said levers being at the portion below said ring, grooved rollers, in the groove of which the outer edge of said ring rests.

8. An apparatus for centering pieces, comprising, in combination, a plurality of levers, a support upon which said levers are pivoted to swing, a ring, said levers being offset so that one portion rests beneath and the other portion above said ring, loose connections between said ring and the portions of the levers above said ring, adapted in the rotation of the ring in one direction to move said levers inward, and in the rotation of the ring in the opposite direction to move said levers outward, the points of said levers being at the portion below said ring, grooved rollers, in the groove of which the outer edge of said ring rests and rollers upon which said ring is mounted.

9. An apparatus for centering pieces, comprising, in combination, a plurality of levers, a support upon which said levers are pivoted to swing, a ring, said levers being offset so that one portion rests beneath and the other portion above said ring, means in the rotation of said ring in one direction to move said levers in one direction and in the opposite rotation of the ring in the opposite direction, the points of said levers being at the portion below said ring, grooved rollers, in the groove of which the outer edge of said ring rests and rollers upon which said ring is mounted.

10. An apparatus for centering pieces, having a plurality of faces, comprising, in combination, a plurality of levers equal or proportionate in number to the number of faces of the piece, movable toward or from the centering point of the piece, and means to move said levers simultaneously and synchronously.

In testimony of which invention, I have hereunto set my hand, at Philadelphia, on this 27th day of November, 1908.

KARL ADOLF SODERSTROM.

Witnesses:

M. M. HAMILTON,

A. M. URIAN.