

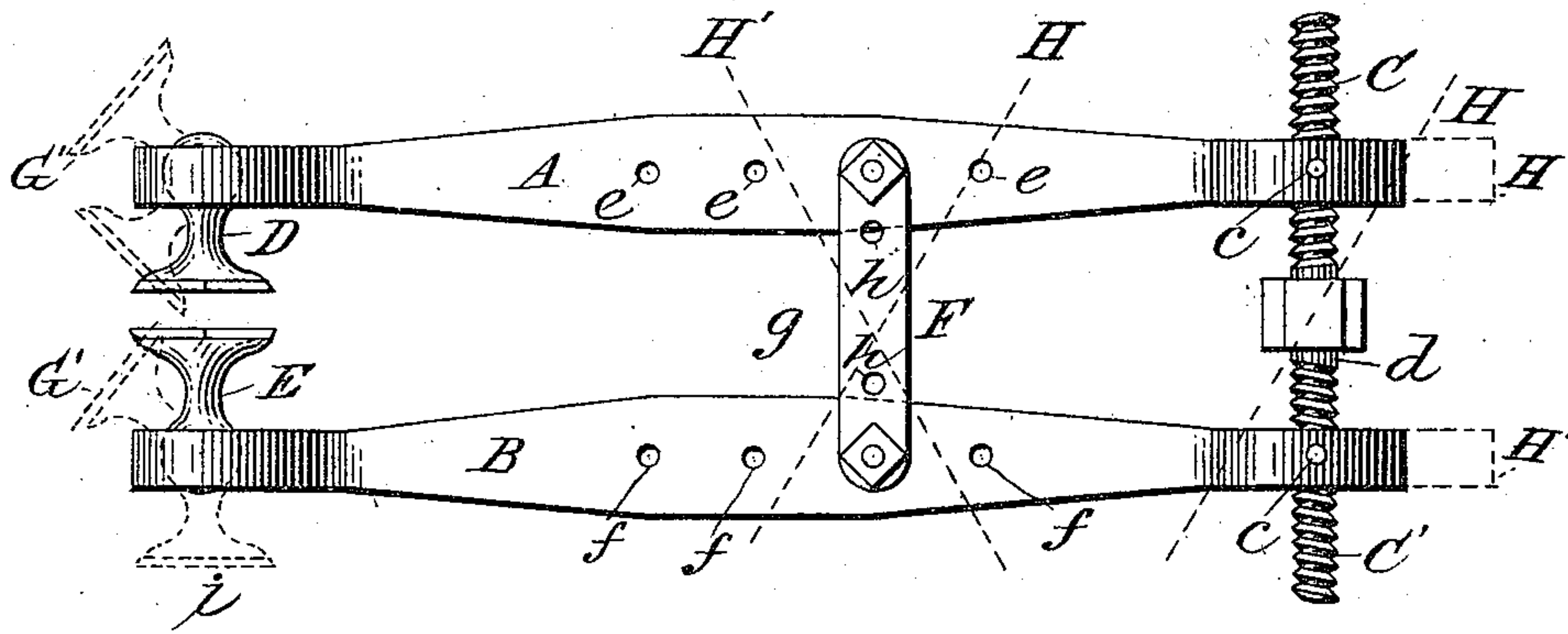
(No Model.)

W. J. SHAMPEL.  
CLAMP.

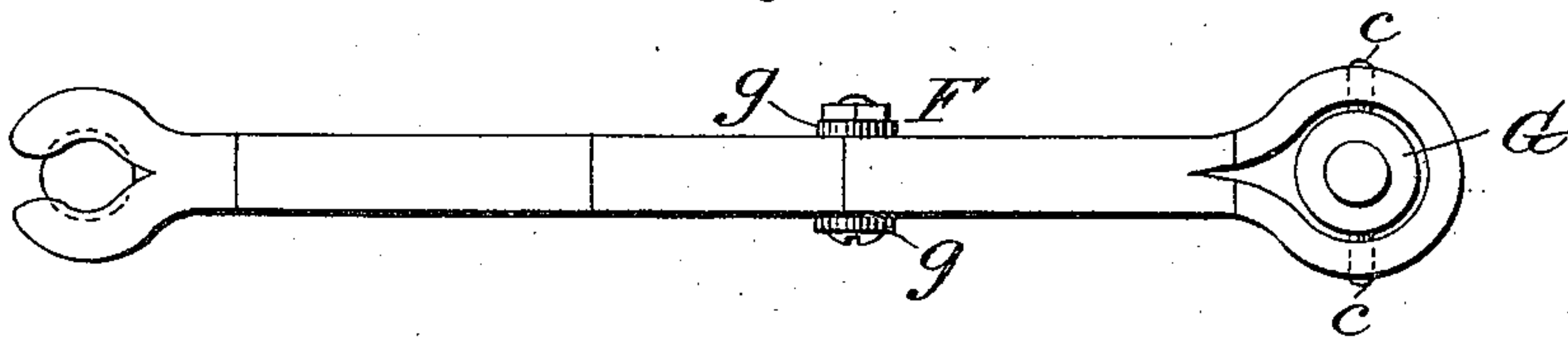
No. 442,733.

Patented Dec. 16, 1890.

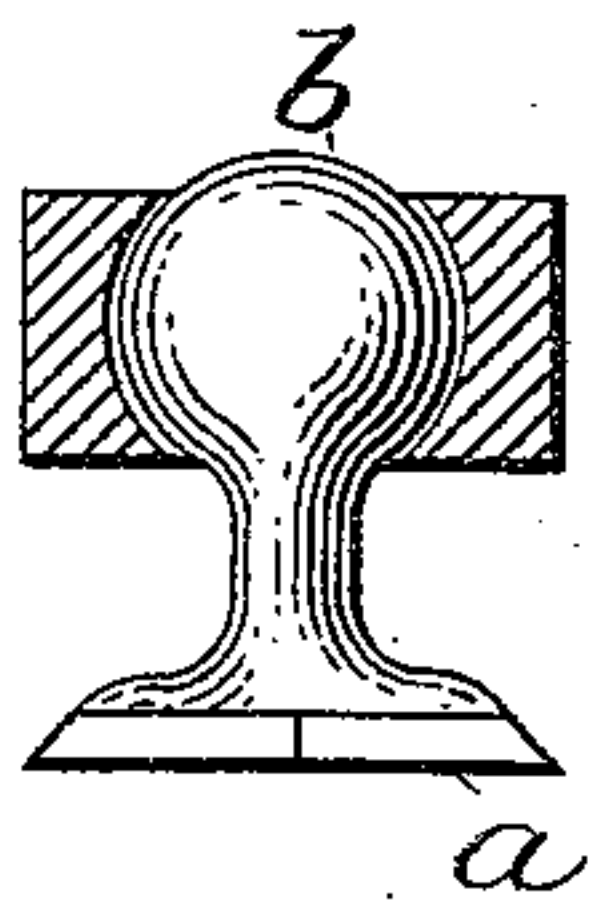
*Fig. 1.*



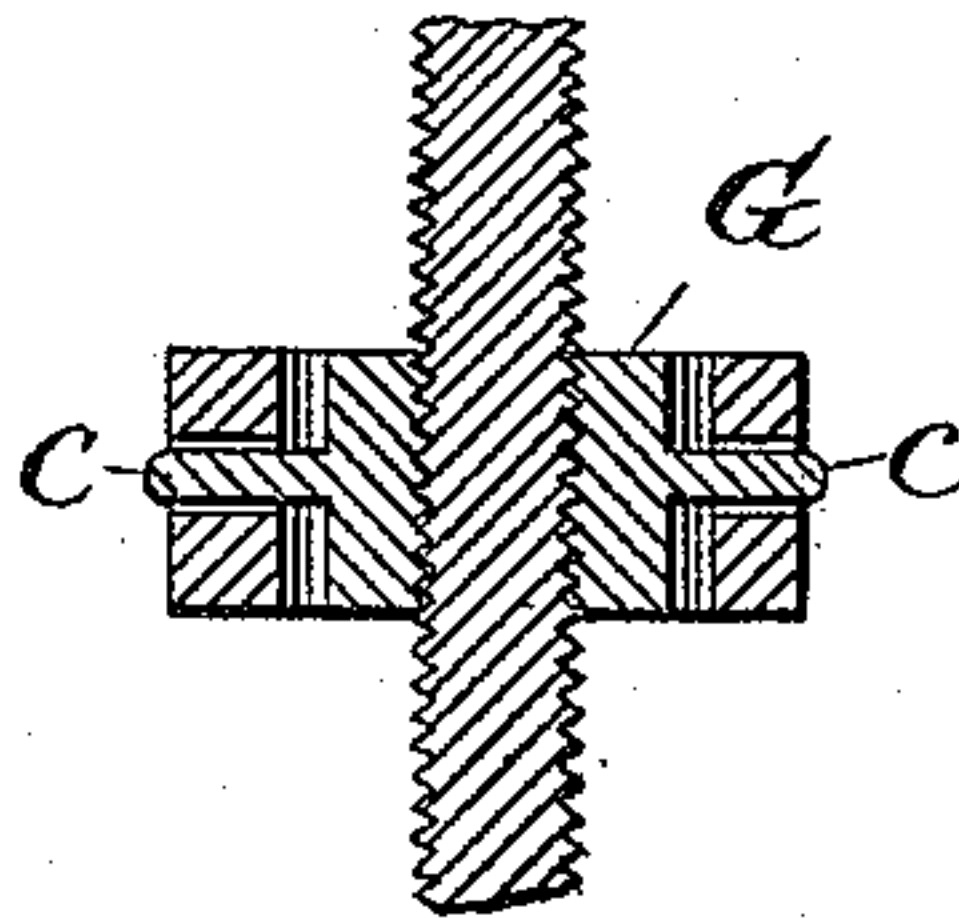
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses:

Henry Ford  
L. L. Irish

*Inventor:*

W. J. Champel  
W. H. Burridge  
Atty.

# UNITED STATES PATENT OFFICE.

WILLIAM J. SHAMPEL, OF CHAGRIN FALLS, OHIO.

## CLAMP.

SPECIFICATION forming part of Letters Patent No. 442,733, dated December 16, 1890.

Application filed May 17, 1890. Serial No. 352,269. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. SHAMPEL, a citizen of the United States, residing at Chagrin Falls, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Clamps; and I do hereby declare the following to be a full and complete description thereof.

The invention relates to a clamp having ball-joint attachments at one end of the levers, a duplex screw at the other end with an adjustable fulcrum interposed between the two ends, whereby said clamp is made variable in its angular relation with said duplex screw and its pivotal connection with the fulcrum.

That the invention may be seen and fully understood by others, reference may be had to the following specification and annexed drawings, making part thereof, in which—

Figure 1 is a side view of the clamp complete. Fig. 2 is a plan view of Fig. 1. Figs. 3 and 4 are views of detached sections hereinafter explained.

Like letters of reference designate like parts in the drawings and specification.

The clamp may be made of any suitable material, preferably steel or iron, and is essentially of the same configuration shown in Fig. 1—that is, the two levers A and B, of similar construction, connected with each other at one end by the duplex or right-and-left screw C C'. At the opposite ends of the levers are two arms D and E, having a flat face *a* and a spherical head *b*, Fig. 3. Each head is so arranged in connection with the respective jaws of the levers as to form a ball-and-socket joint at the ends thereof, the utility of which is hereinafter shown. The duplex screw connects the levers A and B at one end by the intervention of the threaded sockets pivoted to the levers at *c*, as seen in Figs. 2 and 4, C being the right-hand screw and C' the left. This, however, may be reversed without changing the novelty of the invention.

The pivoting of the sockets or sleeves G G, Figs. 2 and 4, in the terminals of the levers and the right-and left screw being threaded in said sleeves, and the levers being con-

nected by the movable link-fulcrum F, Figs. 1 and 2, admits of an easy opening and closing of the opposite ends of the levers. By this form of construction and arrangement of parts the clamp is readily adjusted to any required position and retained in said position by the screw.

The power of the levers may be increased or reduced by changing the position of the fulcrum F, for which a series of holes are provided, as indicated at *e* and *f*, Fig. 1, arranged in the levers for said purpose. In the link-fulcrum F, which consists of two plates or bars *g g*, bolted to the levers on the sides, as shown in Figs. 1 and 2, are holes *h h* for the purpose of adjusting the levers at various distances apart.

Owing to the ball-and-socket connections of the arms D E with the levers A B, said arms may be put in various positions, as shown by the dotted lines G', Fig. 1. By this arrangement the clamp can be used on uneven surfaces and angles. The arms may be turned entirely around, as shown by the dotted line *i*, the ends of the levers being open sufficient to admit the shank of the arm to pass through, so that the clamp may be used to expand at the arm ends of the levers as well as to compress, as conditions or purpose may require for various kinds of work. As the levers A B are connected to the movable link-fulcrum F, it admits of the levers, screws, and link-fulcrum being in an angular position for use, as indicated by the dotted lines H, Fig. 1, or in a reverse position, (shown at H'.) This construction admits of the appliance being used as a spreader as well as a clamp.

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

1. In a variable clamp, the combination of two levers, a connecting link-fulcrum, and a right and left hand screw threaded into pivotal sleeves in the ends of said levers, in conjoint operation with two arms having a ball-and-socket connection with the free ends of said levers, arranged in the manner and for the purposes substantially as set forth.

2. In a variable clamp, two levers having an adjustable link-fulcrum connected to the



side thereof and arranged to admit of the  
fulcrum being adjusted for change of lever-  
age, in combination with the duplex screw  
threaded in sleeves or sockets pivoted to the  
5 ends of the levers, constructed and arranged  
for conjoint action as and for the purpose  
set forth.

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

WILLIAM J. SHAMPEL.

Witnesses:

W. H. BURRIDGE,  
L. F. GRISWOLD.