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T. O. OTTO & J. A. RUSSELL.

GAFF OR BOOM IRON.

APPLICATION FILED AUG. 14, 1903.

NO MODEL.

Fig. 1.

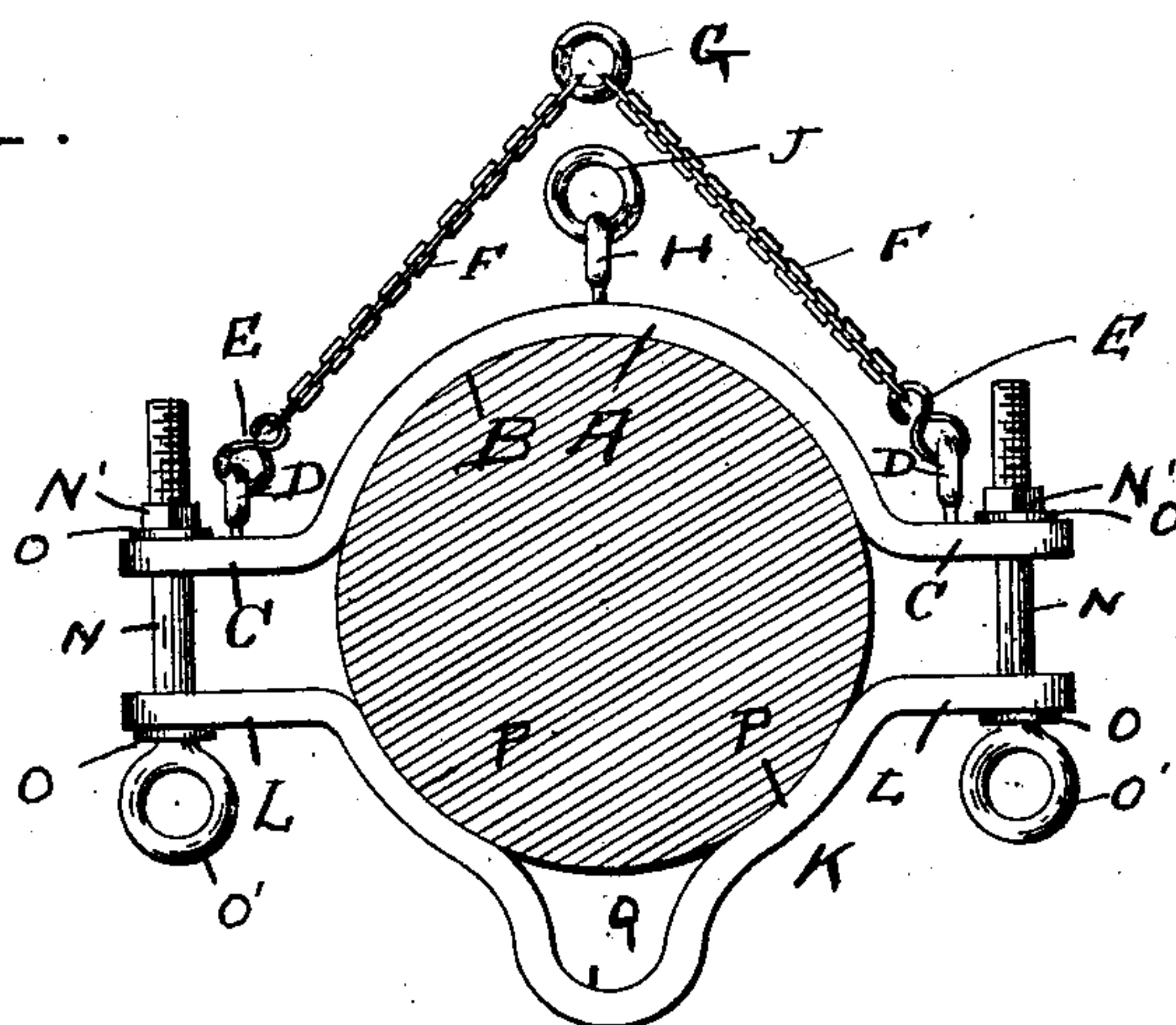


Fig. 2.

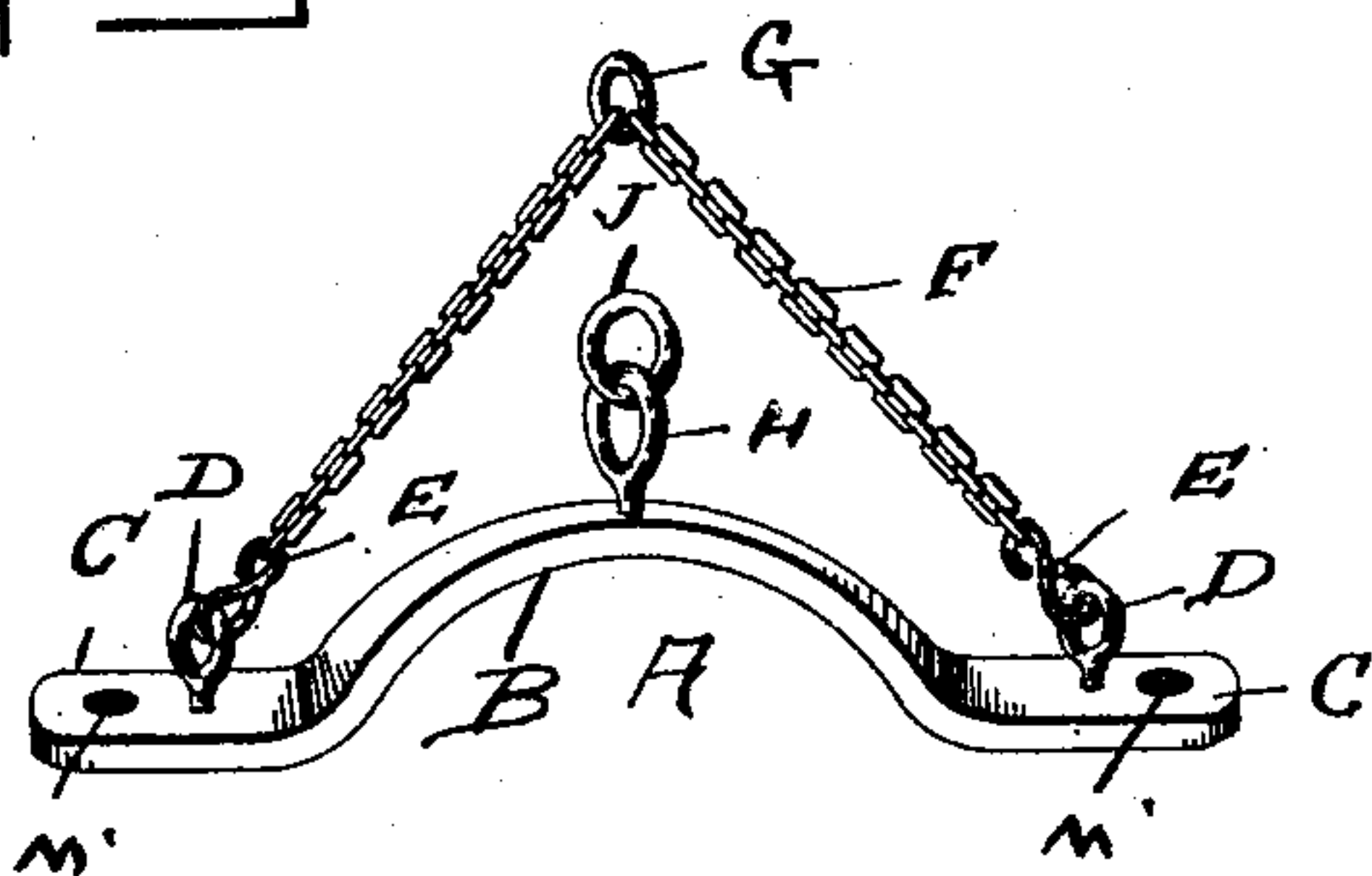


Fig. 3.

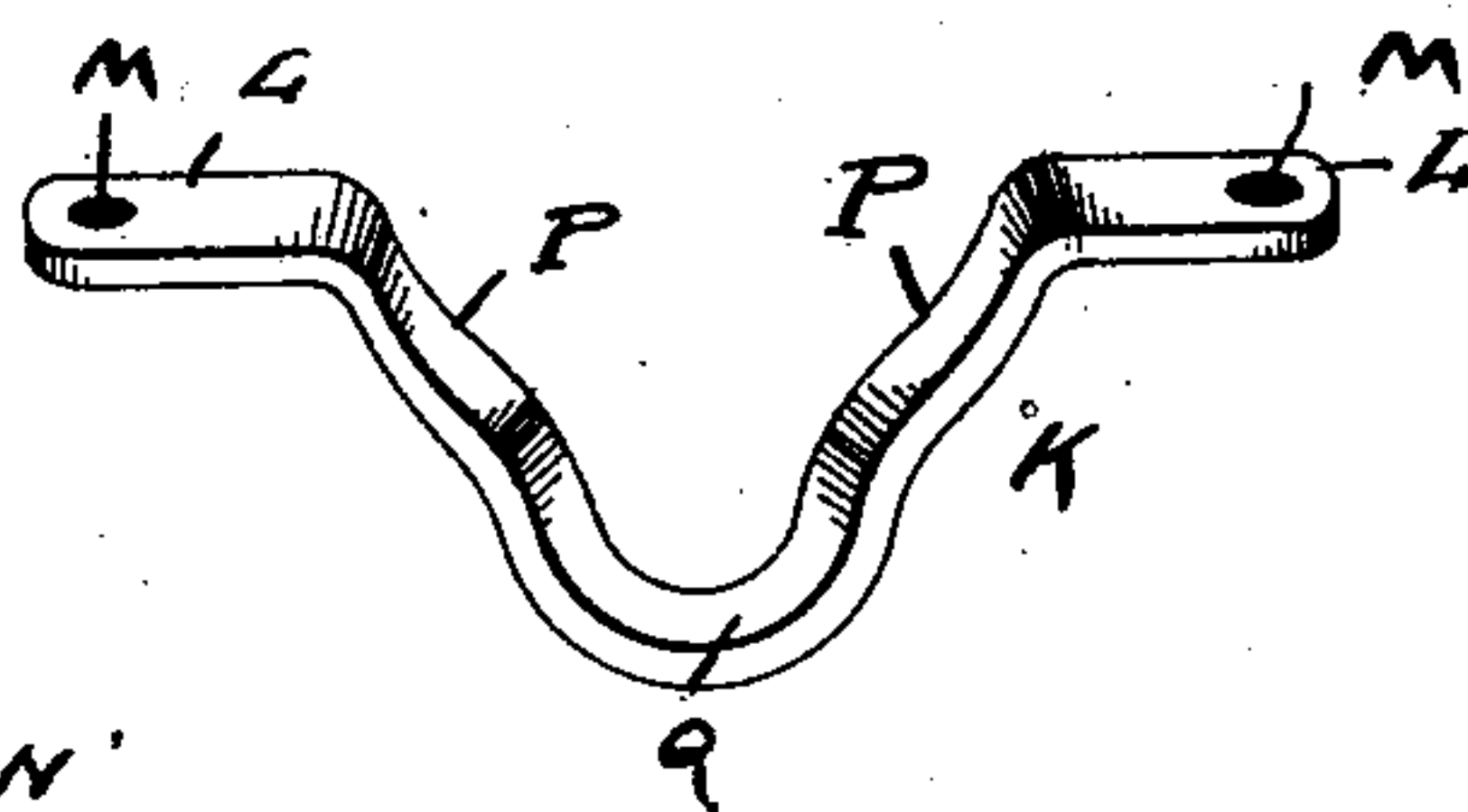
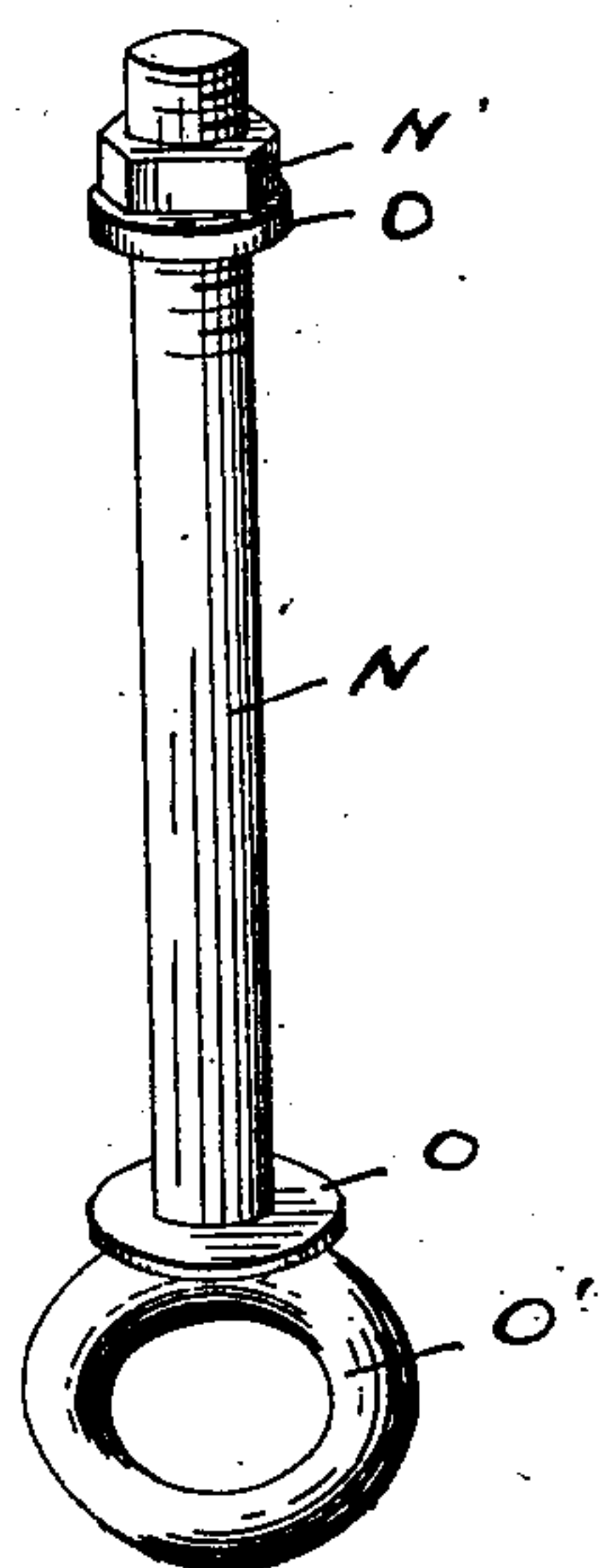


Fig. 4.



WITNESSES:

*J. Mason Mangrum*

*J. M. Wright.*

INVENTORS.

*Thomas Osgood Otto,*  
*and*  
*John Andrew Russell,*

BY *David A. Moore*

Attorney



# UNITED STATES PATENT OFFICE.

THOMAS OSGOOD OTTO AND JOHN ANDREW RUSSELL, OF KEYWEST,  
FLORIDA.

## GAFF OR BOOM IRON.

SPECIFICATION forming part of Letters Patent No. 747,471, dated December 22, 1903.

Application filed August 14, 1903. Serial No. 169,469. (No model.)

*To all whom it may concern:*

Be it known that we, THOMAS OSGOOD OTTO and JOHN ANDREW RUSSELL, citizens of the United States, residing at Keywest, in the  
5 county of Monroe and State of Florida, have invented certain new and useful Improvements in Gaff or Boom Irons, of which the following is a specification.

Our present invention relates to improvements in gaff or boom irons; and the main object of the invention is the provision of an iron which can be readily secured in place upon a gaff or boom and readily adjusted to  
15 with means whereby the throat-halyard and sheet-block are readily secured.

To attain these objects, the invention consists of a device of this character embodying novel features of construction and combination of parts substantially as disclosed herein.

In the accompanying drawings, Figure 1 is a front elevation of the device secured to the boom, which is shown in cross-section. Fig. 2 is a top perspective view of the upper clamp.  
25 Fig. 3 is a detail view of the lower clamp. Fig. 4 is a detail view of one of the connecting-bolts.

Referring to the drawings, A designates the upper clamp, which is provided with  
30 the centrally-arranged curved portion B and the two straight oppositely-extending arms C. Secured upon the upper face of the arms are the eyes D, to which are removably secured the hooks E, preferably sister hooks, which  
35 are connected to the chains F, the said chains being connected together at their ends by means of the ring G. The central curved portion of this clamp is adapted to fit around the gaff, but when the same is secured upon  
40 the boom the oppositely-extending straight arms lie crosswise upon the jaws of the boom. Secured centrally of the curved portion of this clamp and extending upwardly therefrom is an eyebolt H, in which is mounted a  
45 ring J, to which the throat-halyards are adapted to be hooked.

The lower clamp K consists of a single piece of metal provided with the flat terminals L, which are adapted to lie in parallel line with  
50 the straight arms of the upper clamp and are provided with alining openings M, which are

adapted to aline with the openings M' of the upper clamp, so that the bolt N can be passed through the upper and lower plates and be secured in place by means of the nut N',  
55 washers O being employed to assist the bolt in securing the clamps together. These bolts are provided with the eyed heads O'.

The lower clamp is provided with the two oppositely-arranged curved portions P and  
60 the centrally-arranged abrupt curved portion Q, the two curved portions P being adapted to rest upon the under face of a boom or gaff, so that the central curved portion will form an eye to which a tack of a sail can be secured.  
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From the foregoing description, taken in connection with the drawings, it is evident that we provide an iron of this character which can be used upon a gaff, a main-boom, or upon a gaff-topsail and one which is readily applied to it as circumstances require.  
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What we claim as new, and desire to secure by Letters Patent, is—

1. A device of this character, consisting of an upper and a lower clamping member, the  
75 upper member being provided with a centrally-curved portion and two oppositely-extending straight arms, an eye secured to the upper face of each one of the straight arms and the curved portion, a pair of chains secured to the eyes of the straight portions, and  
80 a link secured to the eyes of the curved portion.

2. A device of this character, consisting of an upper and a lower clamping member, the  
85 lower clamp being made of a single piece of metal and having two oppositely-arranged straight portions, two oppositely-arranged slightly-curved portions, and a centrally-arranged curved portion of greater depth than  
90 the curve of the oppositely-arranged portions.

3. A device of this character, consisting of an upper and a lower clamping member, the upper member being provided with a centrally-curved portion, and two oppositely-extending straight arms, an eye secured to the  
95 upper face of each one of the straight arms and the curved portion, a pair of chains secured to the eyes of the straight portions, and a link secured to the eyes of the curved portion, while the lower clamping member consists of a centrally-arranged curved portion,  
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two oppositely-arranged straight portions and two oppositely-arranged slightly-curved portions, the curve of the centrally-arranged curved portion being greater in depth than the curve of the oppositely-arranged portions.

4. A device of this character, consisting of an upper and a lower clamping-section, the upper member being provided with a centrally-curved portion and two oppositely-extending straight arms, an eye secured to the upper face of each one of the straight arms and the curved portion, a pair of chains secured to the eyes of the straight portions, a link secured to the eye of the curved portion, and bolts for securing the clamps together.

5. A device of this character, consisting of an upper and a lower clamping member, the lower clamp being made of a single piece of metal and having two oppositely-arranged straight portions, two oppositely-arranged slightly-curved portions, a centrally-arranged curved portion of greater depth than the curve of the oppositely-arranged portions, and bolts for securing both of the clamps adjustably together.

6. A device of this character, consisting of an upper and a lower clamping member, the upper member being provided with a centrally-curved portion and two oppositely-extending straight arms, an eye secured to the upper face of each one of the straight arms and the curved portion, a pair of chains secured to the eyes of the straight portions, and a link secured to the eyes of the curved portion, while the lower clamping member is made of a single piece of metal and consists of two oppositely-arranged straight portions, two oppositely-arranged slightly-curved portions, and a centrally-arranged curved portion of greater depth than the curve of the oppositely-arranged portions, and bolts for securing both of the clamps adjustably together.

In testimony whereof we affix our signatures in presence of two witnesses.

THOMAS OSGOOD OTTO.

JOHN ANDREW RUSSELL.

Witnesses:

ZELMA CURRY,

A. H. MCINNIS.