J. W. DEARSLEY.

FOUNDRY FLASK CLAMP.

APPLICATION FILED FEB. 7, 1919.

1,309,613.

Patented July 15, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

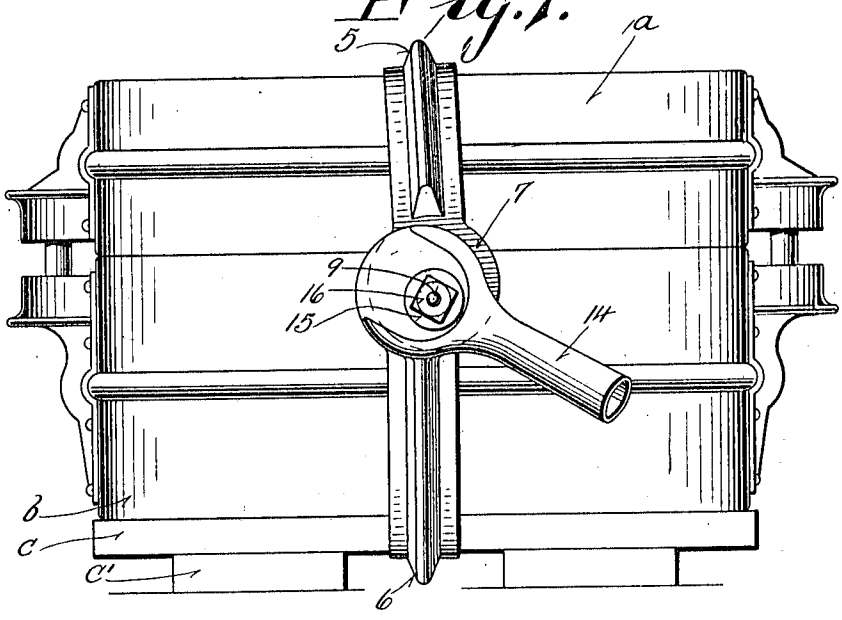


Fig. 2.

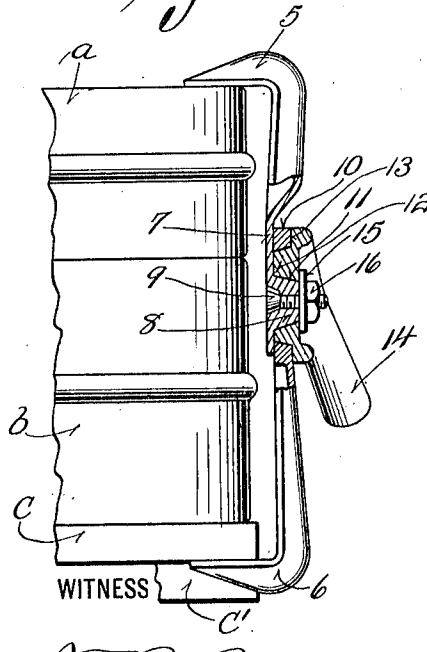
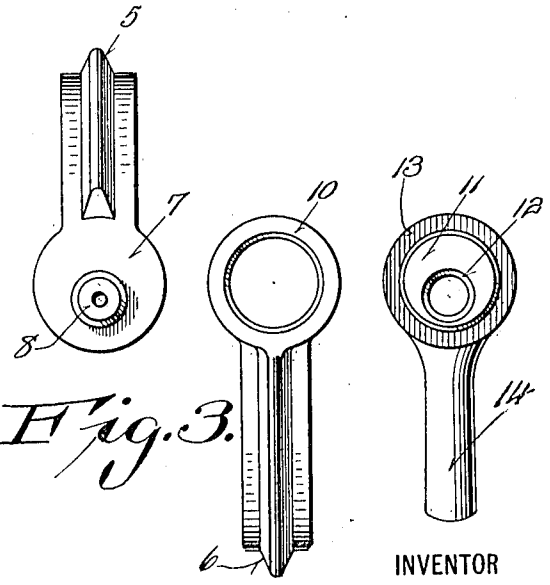


Fig. 3.



WITNESS

T. P. Britt

INVENTOR

John W. Dearsley

BY Young & Young

ATTORNEYS

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

J. W. DEARSLEY.

FOUNDRY FLASK CLAMP.

APPLICATION FILED FEB. 7, 1919.

1,309,613.

Patented July 15, 1919.

2 SHEETS—SHEET 2.

Fig. 4.

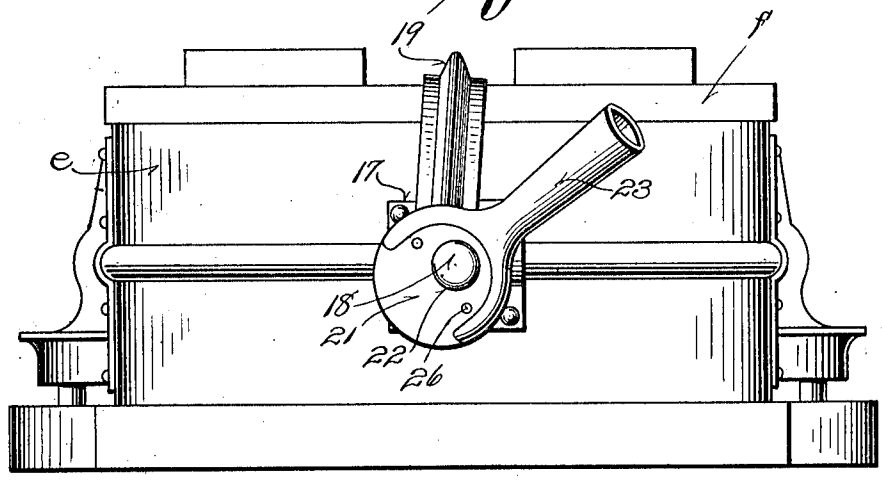
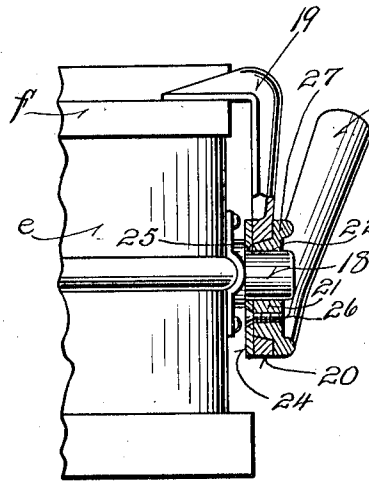


Fig. 5.



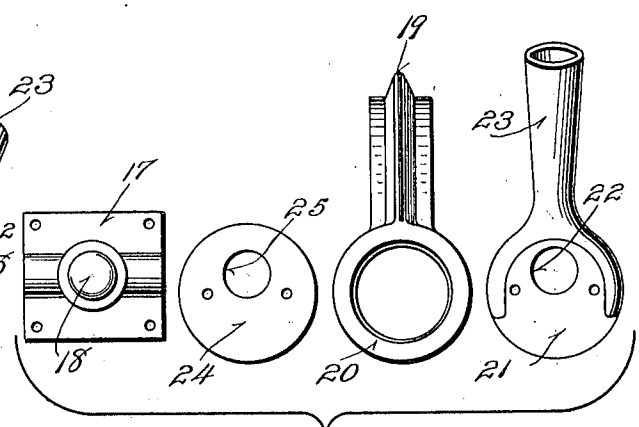


Fig. 6.

WITNESS

J. F. Britt

INVENTOR

John W. Dearsley

BY Young & Young,

ATTORNEYS

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN W. DEARSLEY, OF RACINE, WISCONSIN, ASSIGNOR TO FREEMAN MANUFACTURING COMPANY, OF RACINE, WISCONSIN.

FOUNDRY-FLASK CLAMP.

1,309,613. Specification of Letters Patent. Patented July 15, 1919.

Application filed February 7, 1919. Serial No. 275,572.

To all whom it may concern:

Be it known that I, JOHN W. DEARSLEY, a citizen of the United States, and resident of Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Foundry-Flask Clamps; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to new and useful improvements in clamping devices, and it is more particularly directed to the provision of a clamp adapted to secure together the sections of a molding flask or like structure.

It is primarily the object of my invention to provide a device of this character which may be most readily manipulated to procure and maintain a most efficient clamping action and which may be most readily released to permit disengagement of the articles held.

A more detailed object resides in the provision of a clamping device for foundry flask sections which is connected with the sections by its clamping engagement and may be removed therefrom when not in use.

A still further object resides in the provision of a clamping device of this character which is exceedingly simple in structure and lends itself most readily to economical manufacture.

With the above and other objects and advantages in view, which will be apparent as the description proceeds, my invention resides in the novel features of construction, combination and arrangement of parts, as hereinafter more particularly described and defined by the appended claims.

In the accompanying drawings:

Figure 1 is an elevational view of my improved clamping device applied to a conventional foundry flask.

Fig. 2 is a side elevational view of the flask and clamping device, the connecting portions of the clamping device being in section.

Fig. 3 is an elevational view of the disassembled parts of the clamping device.

Fig. 4 is a side elevational view of a modified form of my improved clamping device applied to the flask of a molding machine.

Fig. 5 is an elevational view of the flash shown in Fig. 4 and the modified clamping device, connecting portions of the clamping device being in section.

Fig. 6 is an elevational view of the disassembled parts of the modified clamping structure.

Referring now more particularly to Figs. 1 to 3 of the drawings, there is shown a conventional clamping flask comprising the cope and drag sections *a* and *b*, the latter seating on the usual plate *c* having spacing cleats *c'* on its bottom.

My improved clamping device for association with this type of flask comprises a pair of flask engaging members in the form of upper and lower jaws 5 and 6 engageable respectively against the upper edge of the cope sections *a* and the bottom of the base plate *c*, the shanks of said jaws extending inwardly at substantially right angles therefrom. The inner end of the shank of the jaw 5 terminates in a disk 7 on which is formed a journal boss 8 frustoconical in shape and apertured for the reception of a securing bolt 9 which has its head countersunk and keyed in the disk 7. The shank of the jaw 6 terminates in a ring or annulus 10 having its inner periphery beveled in a direction opposite to the bevel or taper of the journal boss 8. A circular cam member 11 is provided having its periphery beveled to engage the beveled inner periphery of the jaw annulus 10 and having an eccentric tapered aperture 12 fitting on the boss 8. The eccentric member is provided with an outwardly extending flange 13 fitting against the outer side of the annulus 10, and carries a handle socket 14 which is inclined outwardly. The parts are held assembled by a washer 15 on the outer portion of the bolt 9, which is engaged by a nut 16 threaded on said bolt, abutment of the washer with the boss preventing binding contact of the outer portion of said washer with the cam member 11 so as not to interfere with rotative movement of said member.

An exceedingly simple and readily manipulated device is thus provided to effectively clamp parts together. In operation, the cam member is turned to bring the side of the annulus 10 remote from the jaw 6 adjacent the journal boss 8 and thus spread the jaws. The jaws are then engaged over the edges of the parts to be clamped and their clamping engagement is effected by grasping the member 14 and rotating the cam 11, or by inserting a handle bar in the member 14 should a greater leverage be desired. Rotation of the cam member 11 obviously shifts

the ring 10 of one jaw shank on the head disk 7 of the other shank to draw the jaws together, and by reason of the beveled engaged faces of the ring 10, cam member 11 and bearing boss 8, a lateral binding friction is set up which maintains the parts in clamping position, these beveled surfaces also facilitating economical manufacture by avoiding the necessity of machining accurately fitting faces.

It is noted that the jaw members 5 and 6 constitute essentially engaging members for the parts to be clamped, and so far as the broader phase of my invention is concerned, these engaging members may be of any nature to procure positive connection with the parts to be clamped.

In Figs. 4 to 6, I show a form of my invention for use with a machine type of flask comprising a body *e* onto which it is desired to clamp a plate *f*. In this modified form of my invention, one of the engaging members of the device comprises a plate 17 permanently secured to the flask body *e* and carrying an outstanding boss 18 corresponding broadly to the boss 8, but of cylindrical shape. The other engaging member constitutes a jaw 19 having a right-angular shank terminating in a ring 20. A cam member 21 is provided to fit within this ring 20, having an eccentric bore 22 engageable on the boss 18. The handle member 23 of this cam member projects radially therefrom. A disk 24 is eccentrically apertured at 25 to receive the boss 18, and this disk is secured to the cam member by bolts 26, said cam member being provided with an outwardly extending annular flange 27 at its inner side whereby the ring 20 of the jaw 19 is confined between said flange and the disk 24, thus providing a connected unit which may be readily removed from the boss 18. The operation of this modified clamping device is similar to the operation of the aforedescribed device, and the modified device may be readily removed from the flask when unclamped, by simply drawing it off the boss 18.

While I have shown and described preferred embodiments of my invention for certain working conditions, it will be appreciated that to adapt my invention for other conditions of use, various changes and modifications of structure may be resorted to, without departing in any manner from the spirit of my invention as defined in the accompanying claims.

What is claimed is:

1. A clamping device comprising a pair of engaging members, one of said members being provided with a bearing opening, a boss on the other engaging member, an eccentric disk journaled in the opening of the first specified engaging member, and provided with an eccentric bore receiving the said boss, and a handle on the cam disk.

2. A clamping device comprising a pair of engaging members, one of said engaging members being provided with a bearing opening, a boss on the other engaging member, a disk journaled in the opening of the first specified engaging member and provided with an eccentric bore receiving the said boss, a peripheral flange at one side of the disk engaging the one side of the first named engaging member and a disk disposed at the other side of the first named engaging member and secured to the first disk and apertured to receive the said boss.

In testimony that I claim the foregoing I have hereunto set my hand at Racine, in the county of Racine and State of Wisconsin.

JOHN W. DEARSLEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."