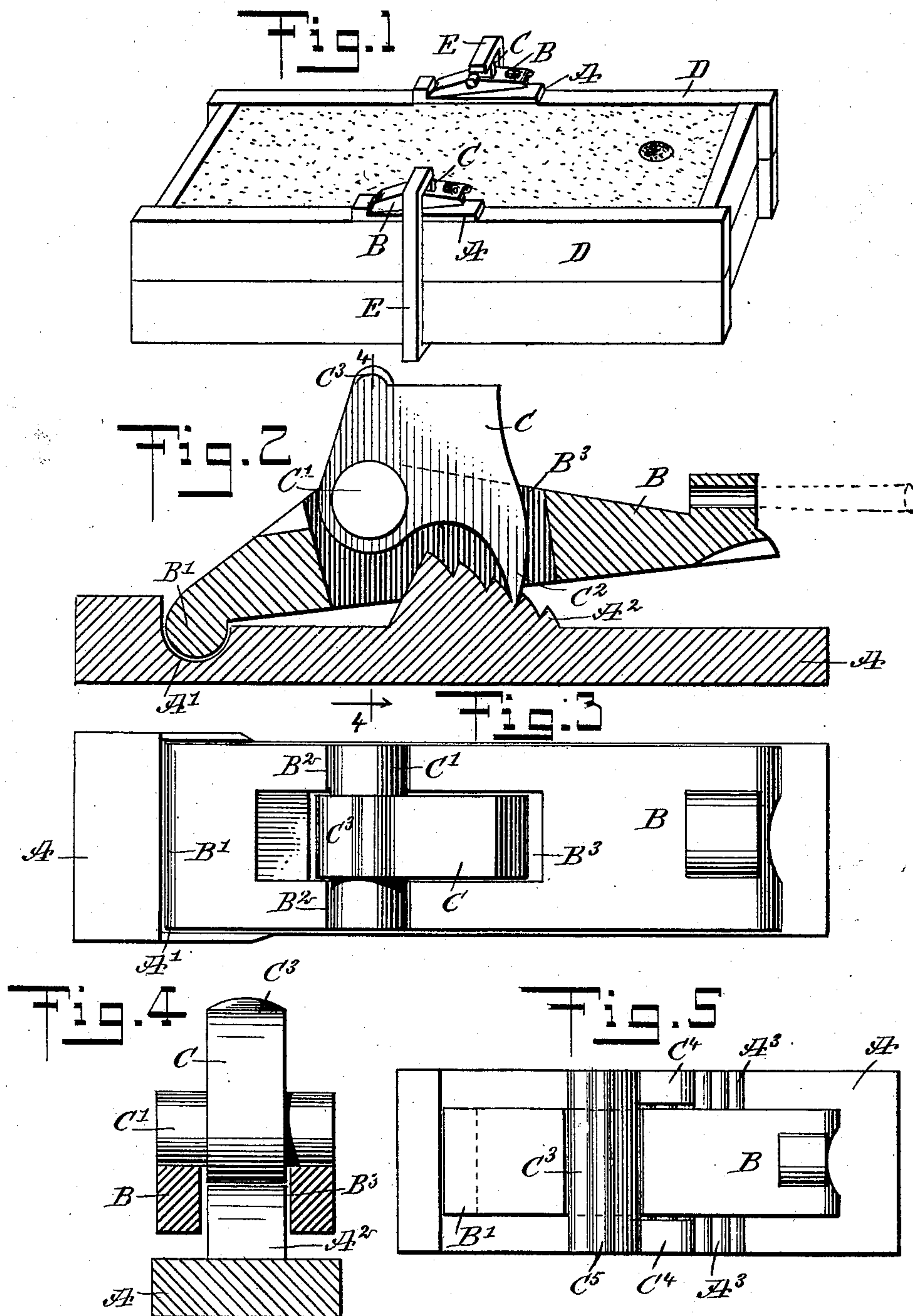


No. 889,817.

PATENTED JUNE 2, 1908.

P. SCHWICKART.
TIGHTENING DEVICE.
APPLICATION FILED JUNE 21, 1907.



WITNESSES

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PHILIP SCHWICKART, OF NEW YORK, N. Y.

TIGHTENING DEVICE.

No. 889,817.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed June 21, 1907. Serial No. 380,065.

To all whom it may concern:

Be it known that I, PHILIP SCHWICKART, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Tightening Device, of which the following is a full, clear, and exact description.

The invention relates to metal founding, and its object is to provide a new and improved tightening device, more especially designed for use in connection with the clamps employed for holding the sections of a flask together, the tightening device serving to securely and firmly hold the clamp in position and to draw the sections of the flask firmly together.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the improvement as applied to a flask and its two tightening clamps; Fig. 2 is an enlarged sectional side elevation of the improvement; Fig. 3 is a plan view of the same; Fig. 4 is a transverse section of the same on the line 4—4 of Fig. 2, and Fig. 5 is a plan view of a modified form of the improvement.

The base A of the tightening device is provided at the top and near one end thereof with a recess or a seat A' for the pivot end B' of a lever B to swing in, the said lever B being provided on its top with bearings B² for the trunnions C' of a pawl C adapted to engage with its free end C² steps A² rising from the top of the base A. The top C³ of the pawl C extends a distance above the top of the lever B.

The device is interposed between the top of the flask D and the upper angular member of a clamp E, as plainly illustrated in Fig. 1, the base A resting on the top of the flask D, the upper end C³ of the pawl C being opposite the under side of the upper angular member of the clamp E. The operator now swings the lever B upward, either by hand or by the use of a suitable tool, so that the pawl C rises on the steps A² until the top C³ of the pawl abuts against the under side of the upper member of the clamp E, and on a further

upward swinging motion given to the lever B, the pawl C exerts an upward pressure on the clamp E to draw the latter tight, thus holding the two sections of the flask D securely together.

It is understood that the usual two clamps are used on a flask, and each clamp is engaged by one of the tightening devices, as indicated in Fig. 1.

The pawl C extends through an aperture B³ formed in the lever B, as plainly illustrated in Figs. 2, 3 and 4, but, if desired, the pawl may be made with double-pointed ends C⁴ extending on opposite sides of the lever B and engaging steps A³ rising from the top of the base A, it being understood that in this case the pivot or trunnions C⁵ of the pawl are extended beyond the sides of the lever B, as plainly indicated in Fig. 5.

The several parts of the tightening device may be readily detached one from the other, so as to allow convenient assembling of the parts when it is desired to use the same on any one or all of the clamps employed for holding the sections of a flask together.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A tightening device comprising a base having steps thereon, a lever mounted to swing on the base, and a tightening pawl carried by the lever and having its free end adapted to engage the said steps, a part of the pawl opposite the free end projecting beyond the lever and arranged to engage a part to be tightened.

2. A tightening device comprising a base having one of its faces flat, the opposite face being provided with steps, a lever fulcrumed on the said base, and a tightening pawl fulcrumed on the said lever and having its free end engaging the said steps, a part of the pawl projecting beyond the lever, the outer face of said projecting part of the pawl being constructed to engage a part to be tightened.

3. A tightening device comprising a base having a flat lower face, the top of said base being provided near one end with a recess forming a seat, steps rising from the top of the base, a lever having a pivot end seated in the said recess in the top of the base, and a tightening pawl fulcrumed on the said lever near the top thereof, and having its free end arranged to engage the said steps, the said pawl rising on the steps as the lever is swung upward, the top of the pawl extending above

the top of the lever for engaging a part to be tightened.

4. A tightening device comprising a base, having a flat face, steps on its opposite face, a lever mounted to swing on the base toward and from the stepped face, the steps rising in the direction of the fulcrum of the lever, and a tightening pawl fulcrumed on the lever and having its free end extending adjacent to the inner surface of the lever and adapted to engage the said steps, the pawl having a portion extending outward beyond the outer surface of the lever for engaging a part to be tightened.

5. The combination with a hook bar for holding the sections of a flask together, of a tightening device adapted to be interposed between the flask and a member of the hook bar, the said tightening device comprising a base, a lever fulcrumed on the base, steps on the base, and a tightening pawl fulcrumed on the lever, the free end of the pawl being arranged to engage the said steps, a part of the pawl extending beyond the lever to engage the said member of the hook bar, for the purpose set forth.

6. The combination with the hook bars for

holding the sections of a molding flask together, of tightening devices adapted to be interposed between the top of the flask and the upper angular members of the hook bars, each tightening device comprising a base adapted to rest on the top of the flask, a lever fulcrumed on the base and adapted to swing toward and from the upper face thereof, steps on the upper face of the base, the steps rising in the direction of the fulcrum of the lever, and a tightening pawl fulcrumed on the lever, the free end of the pawl being adapted to engage the said steps, the upper end of the said pawl extending above the lever and located opposite the under side of the upper angular member of a hook bar, the pawl being adapted to rise on the steps as the lever is swung upward and exert an upward pressure on the said member of the hook bar.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PHILIP SCHWICKART.

Witnesses:

THEO. G. HOSTER,
JOHN P. DAVIS.