Dec. 11, 1934. H. R. STREET 1,983,581

POURING JACKET FOR MOLDS

Filed Dec. 10, 1932

Fig. 1.

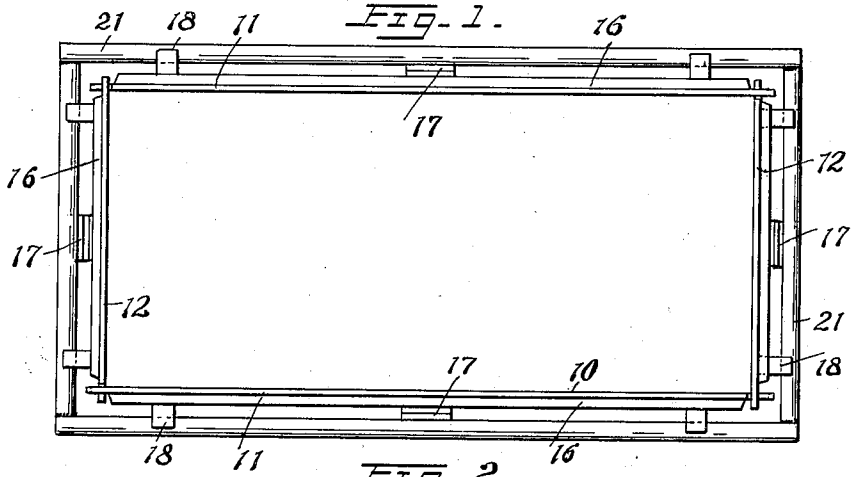



Fig. 2.

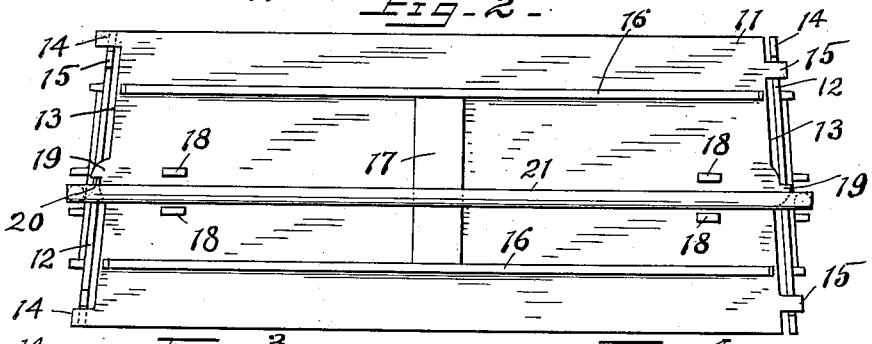



Fig. 3.

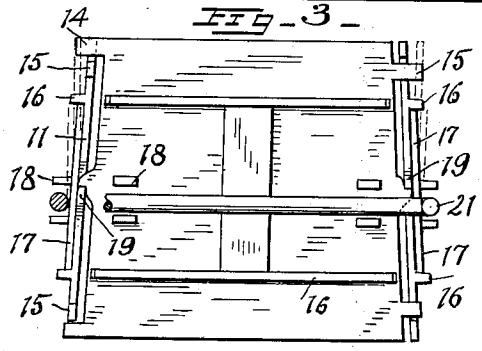



Fig. 4.

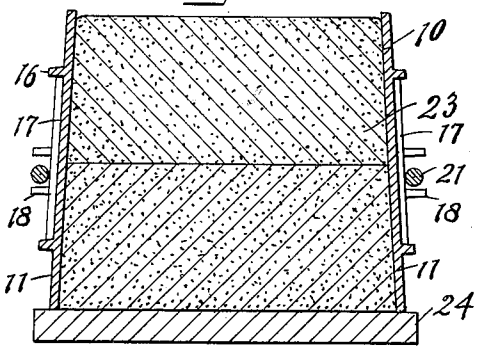



Fig. 5.

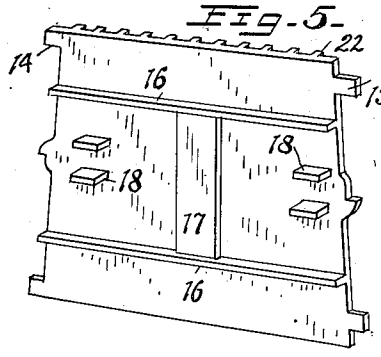
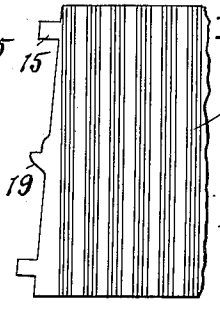



Fig. 6.




Inventor:
HORACE R. STREET.
Kerr Hudson & Kent
Attys.

Patented Dec. 11, 1934 1,983,581

# UNITED STATES PATENT OFFICE

1,983,581

## POURING JACKET FOR MOLDS

Horace R. Street, Cleveland, Ohio

Application December 10, 1932, Serial No. 646,633

6 Claims. (Cl. 22—112)

This invention relates to mold jackets which are used in place of flasks during the pouring of the molten metal into the mold and has for its principal object the production of a jacket which is simple in construction, efficient in operation and inexpensive to manufacture.

Another object of the invention is to construct a mold jacket of the type referred to which may be used with molds having either tapered or straight sides.

Another object of the invention is to provide a sectional mold jacket.

A further object of the invention is to provide a mold jacket having interchangeable and replaceable sections.

Another object of the invention is to provide a mold jacket which can be assembled or disassembled without the use of tools.

With the objects above indicated and other objects hereinafter explained in view, the invention consists in the construction and combination of elements hereinafter described and claimed.

Referring to the drawing:

Figure 1 is a top plan view of a mold jacket embodying the present invention;

Fig. 2 is a side elevational view of the jacket shown in Fig. 1;

Fig. 3 is an end elevational view of the jacket;

Fig. 4 is a transverse sectional view of a jacket such as shown in Fig. 1, but with a mold positioned therein.

Fig. 5 is a perspective view of a section of the jacket showing the inner surface modified by vertically extending ribs;

Fig. 6 is a fragmentary elevational view showing the ribs upon the inner surface of the section illustrated in Fig. 5.

In the drawing 10 indicates generally a mold jacket which is adapted to be used as a form or enclosure for a sand mold to prevent bulging thereof during the pouring of the molten metal into the mold. There are many types of mold jackets on the market at the present time, most of which comprise rigid frame structures having tapered inner walls and are expensive and impracticable due to the fact that the mold jackets will fit only one type of mold, resulting in the necessity of maintaining on hand in the foundry innumerable mold jackets for use with various types of molds.

In the present mold jacket one of the important features resides in constructing the jacket in sections interchangeable, replaceable and flexible which permits the mold jacket to be used with various types of molds. The mold jacket 10 includes a pair of side members 11 and a pair of end members 12 held together in box-like formation by a construction to be later described. As the side members 11 and end members 12 are of identical construction, it is believed that a description of the construction of one of such members will suffice, it being understood, of course, that the length of the members employed will depend upon the purpose for which the jacket is to be employed and the mold it is adapted to receive.

The side member 11 in the present instance is preferably formed from a sheet of aluminum in any suitable manner and has preferably a substantially smooth inner surface. The plate 11 is substantially rectangular in shape having slightly tapered end edges 13 extending inwardly from the bottom towards the top. Adjacent one end of the end member 11 are extensions 14 one being disposed adjacent the upper surface and the other being disposed adjacent the lower surface, but both being formed integral and extending in substantially the same plane as the plane of the side member 11. At the opposite side of the side member 11 are a pair of extensions 15 formed integral therewith and being in substantially the same plane as the plane of the side member 11. These extensions 15, however, are positioned a further distance inwardly from the edges of the side member 11 than the extensions 14 for a purpose to be later described. Reenforcing ribs 16 may be provided to reenforce the side members against strains and, in the present instance, consists of longitudinally extending ribs formed integral with the side member and spaced apart in substantial parallelism. A rib 17 extends vertically and is formed integral with the side member 11 and extends between the longitudinally extending ribs 16, this rib 17 being positioned substantially midway between the opposite ends of the side member. A pair of lugs 18 are spaced apart and are formed integral with the outer surface of the side member 11, a pair of such lugs being located adjacent the opposite ends of the side member, as shown in Fig. 2. The lugs 18 are further positioned at substantially the longitudinal center of the side member and the lugs of each pair extend in substantially the same horizontal plane.

Between the extensions 14 and the extensions 15 are offset portions 19 positioned in reverse relation and having a flat surface 20 lying in a plane beyond the adjacent edge of the side member.

As already stated, it is to be noted that the construction of the side members and end members is identical with the exception that the overall lengths of the members are different, although this is of no material importance in view of the fact that they may be made up of plates of different lengths. Due to the position of the extensions 14 and 15, the plates may be assembled in interengaging relation, as shown in Figs. 2 and 3, in which event the lugs 15 at one end of the side member will be disposed directly beneath the lugs 14 of the adjacent member which prevents any appreciable amount of relative vertical movement between the members. At the same time the surfaces 20 of the offset portions 19 will engage similar portions upon the adjacent plates.

When the side members 11 and end members 12 are assembled in the position shown in Fig. 1, a preferably continuous rod or bar 21 maintains the same against accidental displacement, the portions of the rod extending between the spaced lugs 18 and engaging the ribs 17 to provide a fulcrum to permit slight oscillation of the side and end members about the axis of the rod 21. This flexibility permits the jacket to be employed with molds having either tapered or straight outer sides and in fact permits the use with practically all types of molds for which the present type of jacket is intended.

In assembling the jacket, each member is placed within the continuous rod 21 separately, but successively with the pair of lugs 18 upon the opposite sides of the adjacent portion of the rod 21 and, due to the construction of the side and end members, it will be found that they fit together very readily. However, when once assembled they are maintained in assembled relation without any probability of accidental displacement. With the portions of the rod 21 bearing against the ribs 17 upon the side and end members, any tendency of the side and end members to flex during the pouring of the molten metal into the mold is counteracted and, therefore, the mold held in its most favorable condition for the pouring operation. The weight of the rod 21 is sufficient to force the side and end members into relatively tight engagement with the mold by downward movement of the rod into cooperative engagement with the ribs 17. However, the side and end members may be moved into rigid engagement with the mold by the operator positively depressing the rod 21 into engagement with the ribs 17.

If desired, the inner surfaces of the side and end members may be provided with vertically extending ribs 22, as clearly shown in Figs. 5 and 6, which is some times required, or any other configuration may be placed upon the inner surface depending upon the purpose for which the jacket is to be employed. In Fig. 4 the jacket 10 is illustrated in its position upon a mold 23 having tapered sides and rests upon any suitable support 24.

It will be at once apparent that by constructing the jacket in the manner heretofore described, replacement of either the side or end members may be readily made if for any reason one of the members becomes damaged or otherwise unusable, whereas with the present types of jackets if a portion becomes marred or unfit for use it destroys the utility of the entire jacket. In Fig. 3 the dotted lines indicate the position to which the side and end members are adapted to move about the rod 21 as a fulcrum to adapt the jacket for straight sided molds or molds having different tapered surfaces. An additional advantage in having the jacket flexible and sectional resides in the fact that a greater and more equal pressure upon the mold may be exerted, due to irregularities in the latter, than with the unitary mold jackets which are at present available. A further advantage in the present construction resides in the cheapness with which the jacket can be manufactured due to the fact that a single die may be employed for forming the side and end members, the same being interchangeable.

While I have described the preferred embodiments of the invention it is to be understood that I am not to be limited thereto inasmuch as changes and modifications may be resorted to without departing from the spirit of the invention as defined in the appended claims.

Having thus described my invention, I claim:

1. A knock-down jacket for molds comprising a pair of spaced side walls, a pair of spaced end walls, said side walls of each pair and said end walls of each pair being relatively interchangeable, extensions on the opposite ends of said walls disposed in overlapping relation, pairs of laterally extending lugs secured to the outer surfaces of said walls and spaced apart in longitudinal alignment, and a member in the form of a continuous bar adapted to encircle said walls and removably disposed between said pairs of laterally extending lugs.

2. A knock-down jacket for molds comprising a pair of spaced side walls, a pair of spaced end walls, said side walls of each pair and said end walls of each pair being relatively interchangeable, extensions on the opposite ends of said walls disposed in overlapping relation, reenforcing ribs secured to the outer surfaces of said walls and extending longitudinally thereof, pairs of laterally extending lugs secured to the outer surfaces of said walls and spaced apart in longitudinal alignment, and a member in the form of a continuous bar adapted to encircle said walls and removably disposed between said pairs of laterally extending lugs.

3. A knock-down jacket for molds comprising a pair of spaced side walls, a pair of spaced end walls, the opposite ends of said walls being tapered, said side walls of each pair and said end walls of each pair being relatively interchangeable, extensions on the opposite ends of said walls disposed in overlapping relation, pairs of laterally extending lugs secured to the outer surfaces of said walls and spaced apart in longitudinal alignment, and a member in the form of a continuous bar adapted to encircle said walls and removably disposed between said pairs of laterally extending lugs.

4. A knock-down jacket for molds comprising a pair of spaced side walls, a pair of spaced end walls, the opposite ends of said walls being tapered, said side walls of each pair and said end walls of each pair being relatively interchangeable, extensions on the opposite ends of said walls disposed in overlapping relation, reenforcing ribs secured to the outer surfaces of said walls and extending longitudinally thereof, pairs of laterally extending lugs secured to the outer surfaces of said walls and spaced apart in longitudinal alignment, and a member in the form of a continuous bar adapted to encircle said walls and removably disposed between said pairs of laterally extending lugs.

5. A knock-down jacket for molds comprising a pair of spaced side walls, a pair of spaced end walls, the opposite ends of said walls being ta-

pered, said side walls of each pair and said end walls of each pair being relatively interchangeable, extensions on the opposite ends of said walls disposed in overlapping relation, reenforcing ribs secured to the outer surfaces of said walls and extending longitudinally thereof, pairs of laterally extending lugs secured to the outer surfaces of said walls and spaced apart in longitudinal alignment, a substantially flat plate secured to the outer surface of each of said walls and extending transversely between said reenforcing ribs and said laterally extending lugs, and a member in the form of a continuous bar adapted to encircle said walls and removably disposed between said pairs of laterally extending lugs and engageable with said plates.

6. A knock-down jacket for molds comprising a pair of spaced side walls, a pair of spaced end walls, the opposite ends of said walls being tapered, said side walls of each pair and said end walls of each pair being relatively interchangeable, extensions on the opposite ends of said walls disposed in overlapping relation, reenforcing ribs secured to the outer surfaces of said walls and extending longitudinally thereof, pairs of laterally extending lugs secured to the outer surfaces of said walls and spaced apart in longitudinal alignment, a substantially flat plate secured to the outer surface of each of said walls and extending transversely between said reenforcing ribs and said laterally extending lugs, offset portions formed upon the opposite ends of said walls and having interengaging surfaces arranged in reverse relation, and a member in the form of a continuous bar adapted to encircle said walls and removably disposed between said pairs of laterally extending lugs and engageable with said plates.

HORACE R. STREET.