This invention relates to improvements in overjackets for molds, and an object thereof is to provide a frame designed to be fitted in place upon a sand mold after removal of the usual flask, an important provision in the overjacket being that which permits fitting it upon a tapering mold.

Other objects and advantages appear in the following specification, reference being had to the accompanying drawings, in which:

Figure 1 is a perspective view of the improved overjacket.

Figure 2 is a plan view showing the overjacket stretched out flat.

Figure 3 is a side elevation of the overjacket.

Figure 4 is a detail elevation of one corner of the overjacket illustrating the use of short bolts instead of long pins for making the connection.

The purpose of the invention is to provide an overjacket or frame intended to be fitted over a sand mold after removal of the usual flask in which the mold is formed, the specific use of the overjacket being to hold the sand mold in firm position and to prevent bursting out of the molten metal contained by the mold. As will presently appear, the overjacket may be said to be self-adjusting, inasmuch as each of the four corners is so connected that considerable freedom of motion can be had. While the latter is one of the features of the overjacket it is also possible to so connect the corners that the overjacket becomes perfectly rigid and incapable of self-adjusting motion.

In carrying out the invention provision is made of plates 1, 2, 3 and 4 which are joined in rectangular formation (Fig. 1) by pins 5 which occur at each of the four corners. Depressions 6 on the inner walls of the space provide channels at which gas may escape from the mold, while the overjacket is in place on the mold. These depressions or channels are in the shape of transverse grooves which open at the longitudinal edges of the plate. Each of the arrangements at the corners of the overjackets by which the plates are hinged together is the same so that the description of one will answer for all. The brackets 7 have projecting hinge knuckles 8 which have sufficiently large holes 9 permitting the pin 5 to pass through rather loosely. The pin is held in place by any suitable means when once inserted. The hinge brackets 7 have adjoining lugs 10 so arranged as to prevent the overjacket from collapsing. Each of the hinge brackets have a pair of transverse slots 11.

Screw studs 12 carried by the plates 1 and 2 pass from inside to outside and through the slots 11 of the hinge brackets 7. A washer 13 is fitted upon each screw stud before the nut 14 is screwed down tight. The screw studs are in fixed relationship to each of the overjacket plates, but by properly loosening the nuts 14 the hinge bracket 7 may be shifted principally for the purpose of giving the plates 1, 2, etc. a slant, permitting the overjacket to be fitted upon a tapering mold.

The tapering formation of the overjacket, due to proper adjustment of the screw stud nuts 14 is plainly shown in Figures 1 and 3. Any one of the pins 5 may be removed thereby permitting the overjacket to be stretched out flat (Fig. 2). The provision for stretching the overjacket out flat is a great convenience in storing because the overjacket will obviously take up less room when lying out flat than when stored in its set up condition. Figure 2 illustrates the curved effect of the overjacket due to the adjustment of the hinge brackets 7 in relationship to the overjacket plates.

Handles 15 on the plates 2 and 4 (Fig. 2) provide a means for readily stretching the overjacket. These consist of nothing more than outstanding or flange portions made integrally with the plates mentioned. They provide finger holds by which the overjacket may be carried. Mention is made above of both the self-adjusting and rigid features of the overjacket. The latter is illustrated in Figure 4. Instead of providing a single pin 5 at each hinge corner the knuckles 8 are connected with individual bolts 16. These have individual nuts 17 which may be screwed down tightly against the adjacent knuckles thereby making it possible to rigidly connect the plates of the overjacket.

The operation is readily understood. It has been stated that the overjacket is intended to be placed over a sand mold previously formed in a conventional flask. The important purpose of the overjacket is to hold the mold together, preventing bursting out of the molten metal. In the main form of the invention (Figs. 1, 2 and 3) the corners of the overjacket are connected by
hinges which are not necessarily of the particular design illustrated. The hinges (regardless of what construction they might be) render the plates 1, 2, etc., freely movable, and at least permitting sufficient movement when the overjacket is placed upon a mold to afford self adjustment of the overjacket to the mold. It has been demonstrated in practice that a perfect fit can be obtained with the use of the self adjusting feature.

By appropriately adjusting the lowermost portions of the hinge plates 1, 2, etc., the latter plates may be made to assume stopping positions. The walls or plates of the overjacket can therefore be accurately fitted to a tapering mold, or the overjacket can be slid down upon a mold without shaving or scraping the sides thereof. It is quite clear that a proper degree of downward pressure upon the tapering overjacket will produce a very snug and secure fit upon the mold, and this is what is desired in practice. The slightly oversized holes 9 readily permit the aforesaid adjustment of the lower portions of the hinge brackets 7.

The advantages of the adjustable and self-adjusting overjacket are herein emphasized, and while these are most important, yet the overjacket may be converted into a perfectly rigid structure by the use of the bolts 16 and nuts 17 as illustrated in Figure 4. After the overjacket is properly adjusted the nuts 17 are screwed down tight so as to keep the overjacket plates in position.

While the construction and arrangement of the improved overjacket is that of a generally preferred form, obviously modifications and changes may be made without departing from the spirit of the invention or the scope of the claims.

I claim:

1. An overjacket comprising a plurality of rectangular plates having pairs of screw studs projecting therefrom in transverse positions adjacent to the longitudinal extremities, hinges connecting said plates comprising brackets applied to said extremities and having slots through which the screws project, knuckles formed upon the brackets fitting upon each other and having registering holes, connecting means inserted in the holes and completing the hinge arrangement, and nuts applied to said screw studs permitting fixing the hinge brackets in adjusted position upon said plates.

2. An overjacket comprising a plurality of plates carrying projecting screw studs, hinges connecting said plates comprising brackets applied to the studs, knuckles formed upon the brackets fitting upon each other and having registering holes, connecting means inserted in the holes, and lugs carried by the brackets in adjoining positions and so arranged as to prevent the overjacket from collapsing.

ADAM DIEHL.