J. B. BLAW.

MOLD.

APPLICATION FILED MAR. 17, 1908.

946,002.

Patented Jan. 11, 1910.

2 SHEETS—SHEET 1.

Fig. 2.

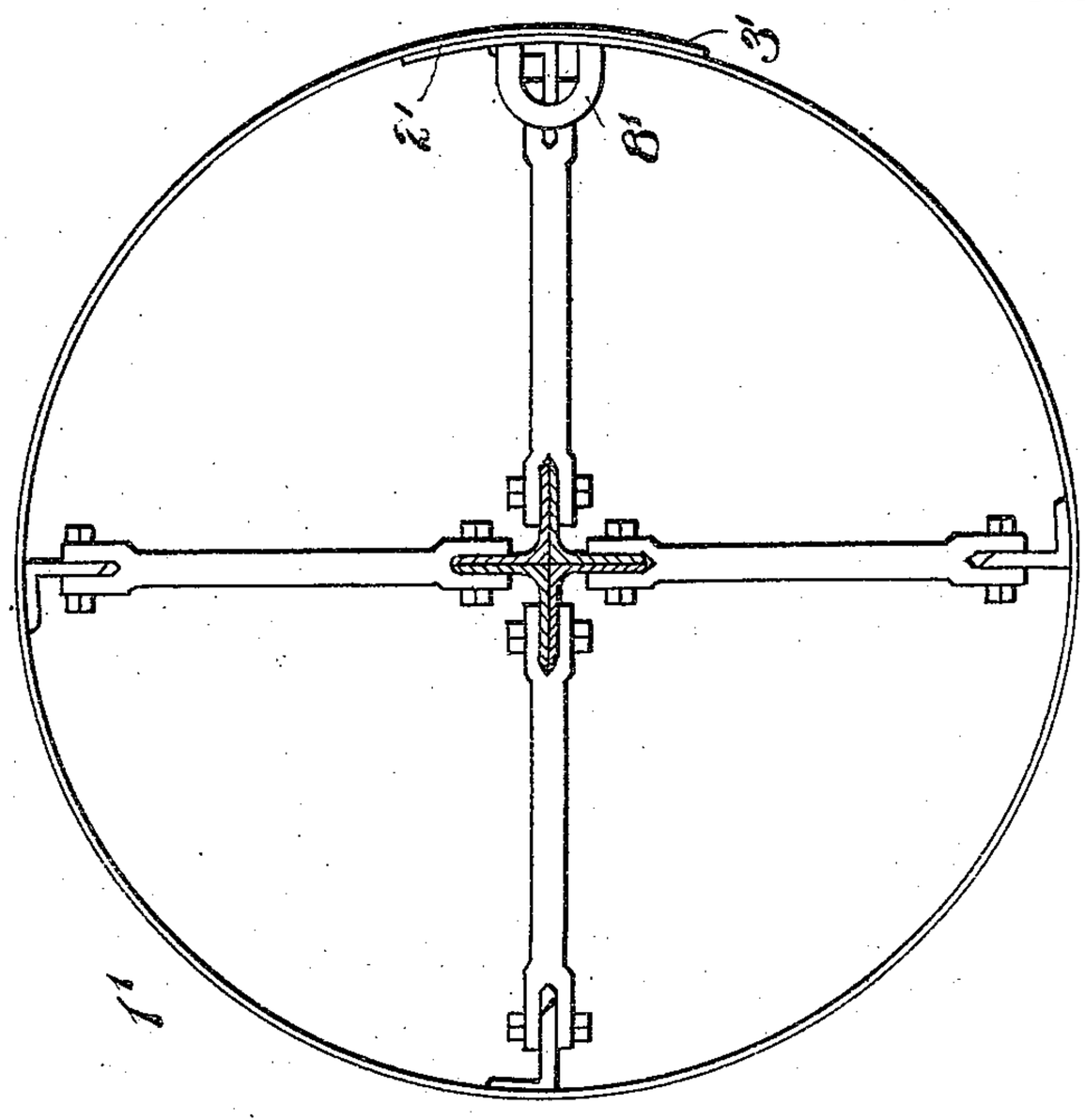


Fig. 1.




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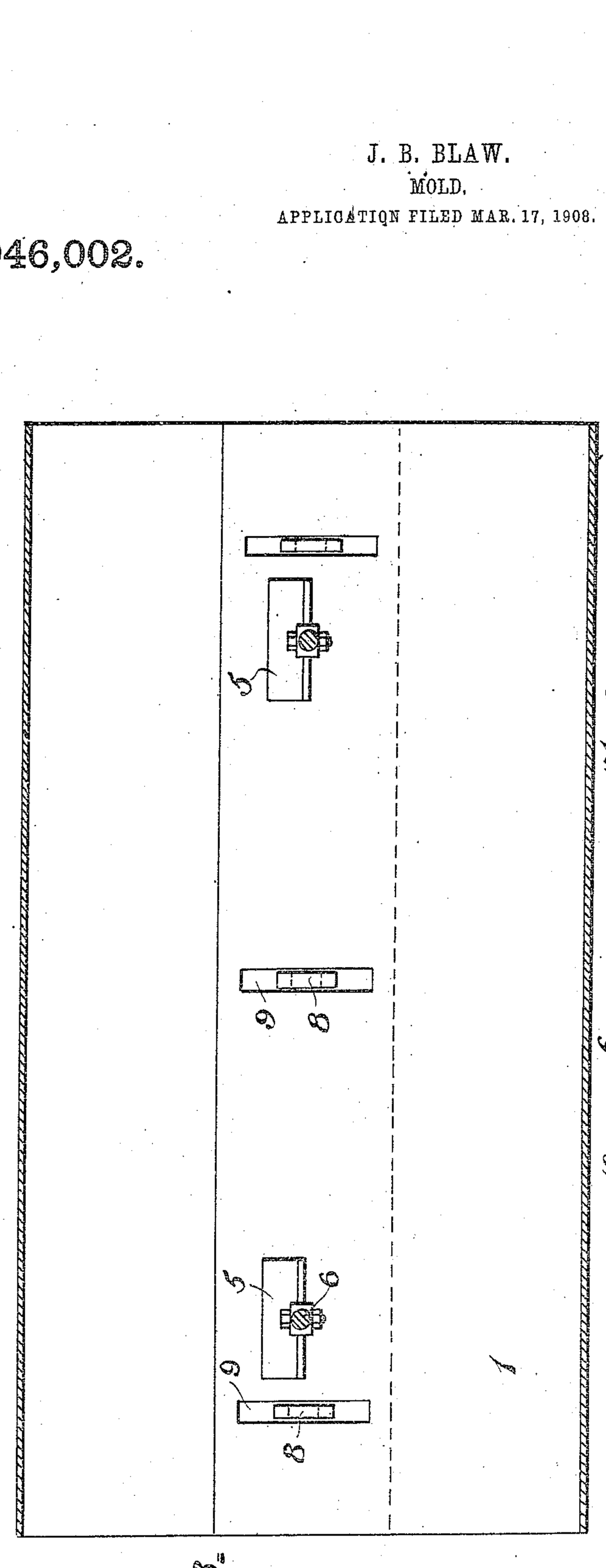


FIG. 3.

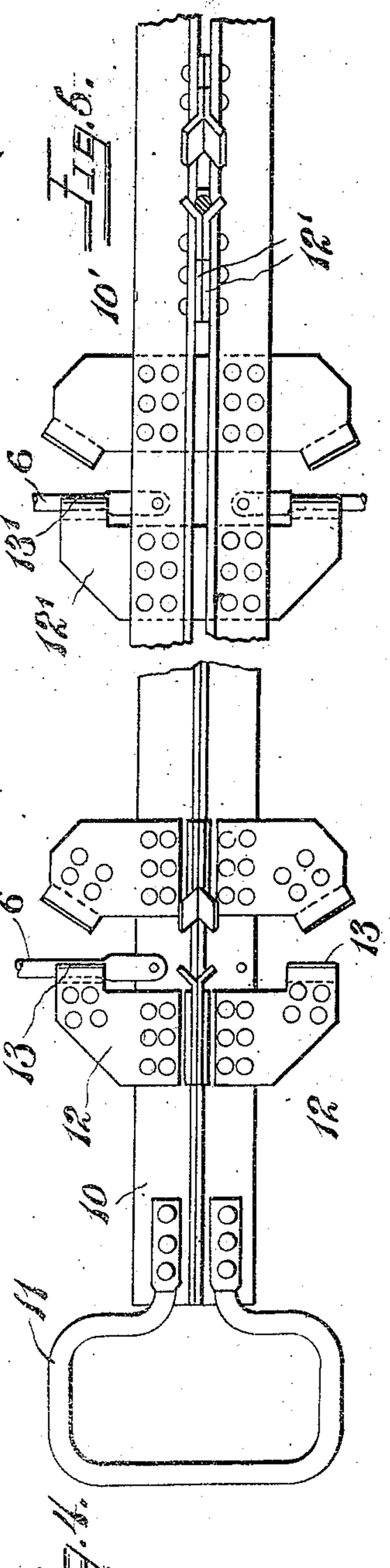


FIG. 4.

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# UNITED STATES PATENT OFFICE.

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## MOLD.

946,002. Specification of Letters Patent. Patented Jan. 11, 1910.

Application filed March 17, 1908. Serial No. 421,715.

*To all whom it may concern:*

Be it known that I, JACOB B. BLAW, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Molds, of which the following is a specification.

The invention relates to molds and particularly to those for forming the interior surfaces of concrete pipe sections. The invention has for its principal objects; the provision of an improved form of collapsible section which may be conveniently and rapidly operated; and the provision of improved means for holding the collapsing members in position. Certain embodiments of the invention are illustrated in the accompanying drawings, wherein—

Figure 1 is an end view of one form of mold,

Figure 2 is an end view of a modified form of mold,

Figure 3 is a transverse section on the line III—III of Figure 1,

Figure 4 is an enlarged detail elevation of the handle for collapsing the toggle levers, and the means thereon for stopping the oscillation of such levers, and

Figure 5 is an enlarged detail showing a modified stop arrangement applied to the handle.

The mold is designed to form the inner surface of a section of pipe, the mold member for the outer surface of the pipe being formed by any desired form of casing spaced away from the inner mold member a distance equal to the thickness of pipe. Briefly stated, the mold comprises an outer sheet metal shell, together with supporting and collapsing levers spaced at intervals along the interior and operable from a longitudinally extended handle.

Referring first to the form of mold shown in Figures 1 and 3, 1, 1, are a pair of sheet metal plates constituting the shell of the mold and over-lapping in the manner shown at their edges 2—2 and 3—3, 4—4 and 5—5 are angle irons bolted to the interior of the shells 1—1 and extending longitudinally a short distance as indicated in Figure 3, 6 are toggle levers for bracing and collapsing the shells, which toggle members are pivoted at their outer ends to the angle clips 4—4 and 5—5 and at their inner ends are pivoted to the collapsing lever 7. The members 1—1 are guided upon each other and prevented from moving longitudinally with respect to each other by means of the guide members 8, which members are in the form of staples secured to the upper member 1 and projecting through slots 9 in the lower member 1.

One of the important features of my construction is the collapsing lever together with the stop means provided therewith, which construction is shown clearly in Figures 1 and 4. By reference to these figures it will be seen that the lever is built up from four angles 10 placed back to back and providing flanges for engagement with the inner ends of the toggle levers 6. This handle extends longitudinally throughout the length of the mold and is provided at the end with a hand engaging portion 11. In order to prevent too great an oscillation of the collapsing levers 6, the stop means shown in Figure 4 for limiting the movement of the levers is employed. The stop means are adapted to engage the levers as they oscillate in both directions, one stop means being arranged to stop the movement of the levers when they are at right angles to the collapsing lever, and the other stop means being adapted to stop the collapsing levers when they reach a position at approximately 15° from the position shown in Figure 4, at which time the shell of the mold is sufficiently collapsed to permit its being removed from the pipe which has been formed. The stop means for each of the collapsing levers 6 is precisely the same so that a description of one stop means will indicate the construction of all. The stop comprises two opposing plates 12, which are placed on opposite sides of the angles constituting the collapsing lever 7, and are riveted together in the manner shown in Figure 4, the outer ends being spread apart at 13 to receive the lever 6. Each of the plates 12 is in the form of an angle having two projecting legs, so that each plate forms a half of two stops and four plates only are necessary to form stops for the four levers 6.

A modified arrangement of stops is shown in Figure 5, which modification consists in passing the plates 12′ which constitute the stops between the angles 10′ of the collapsing handle, which angles 10′ are of course necessarily spread apart in the manner indicated in order to provide room for the reception of the plates 12′. The ends of the

plates 12′ are spread apart at 13′ to receive the collapsing levers 6 as in the other form of stop.

In Figure 2 still another form of mold is shown, which form differs from that of Figure 1 only in that the shell 1′ consists of a single sheet, which sheet has the overlapping edges 2′ and 3′. The necessity of guide means 8′ for preventing longitudinal movement of the two edges with respect to each other is not so important in this form of mold as in the form shown in Figure 1, for the reason that the continuous opposing side of the shell reduces the tendency of the edges to move longitudinally, and if desired the guide means 8′ might be omitted.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is the following:—

1. The combination with a collapsible sheet metal shell and collapsing handle, of a plurality of toggle levers pivoted to the flanges and the shell, and stops on the handle on both sides of the levers for limiting their oscillatory movement in both directions.

2. The combination with a collapsible sheet metal shell and flanged collapsing handle, of a plurality of toggle levers pivoted to the flanges and the shell, and stops for limiting the movement of the levers and comprising a pair of strips secured in opposition and having their ends spread laterally to receive the levers.

In testimony whereof I have hereunto signed my name in the presence of the two subscribed witnesses.

JACOB B. BLAW.

Witnesses:
HARVEY L. LECHNER,
ARCHWORTH MARTIN.