No. 861,106. PATENTED JULY 23, 1907.

G. GEORGENSON.

MOLD FOR SEWERS.

APPLICATION FILED DEC. 7, 1906.

2 SHEETS—SHEET 1.

Fig. 2.

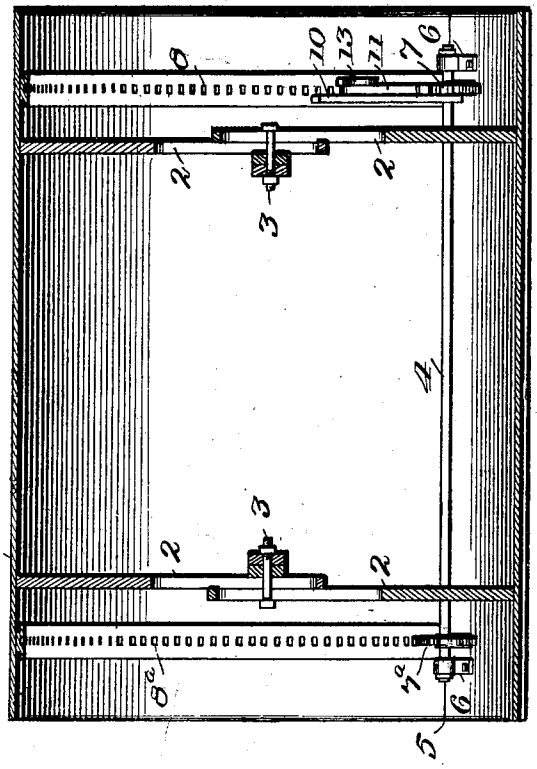


Fig. 4.

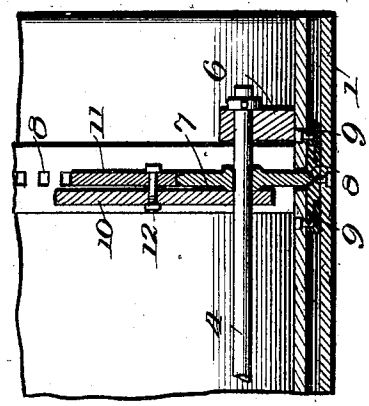


Fig. 3.

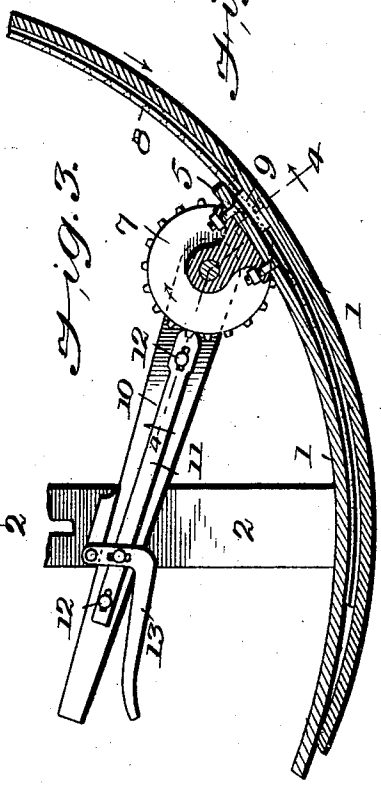
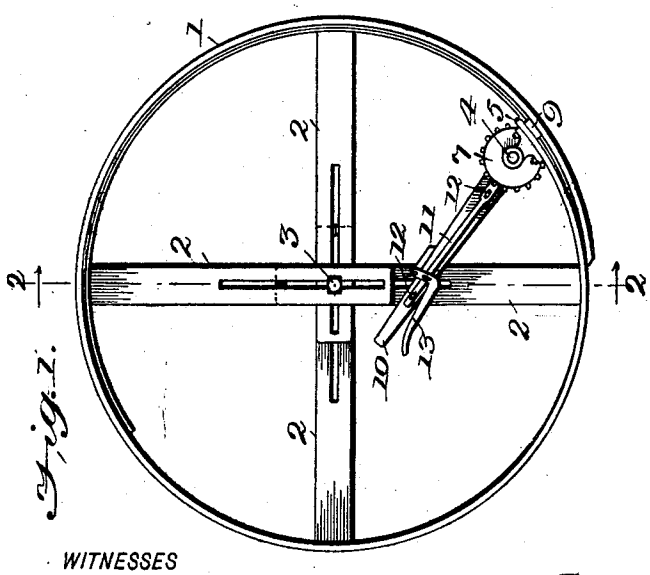


Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 5.

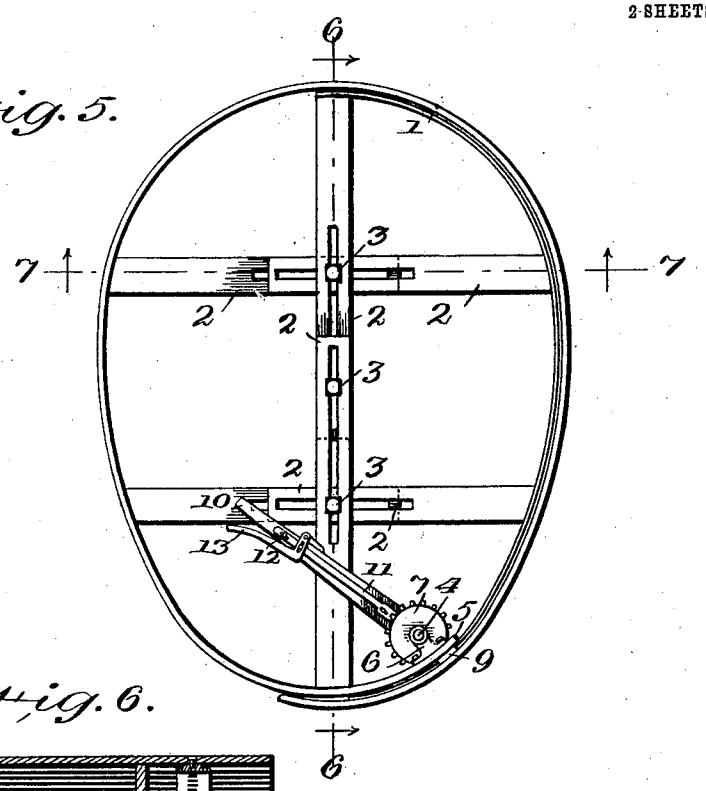


Fig. 6.

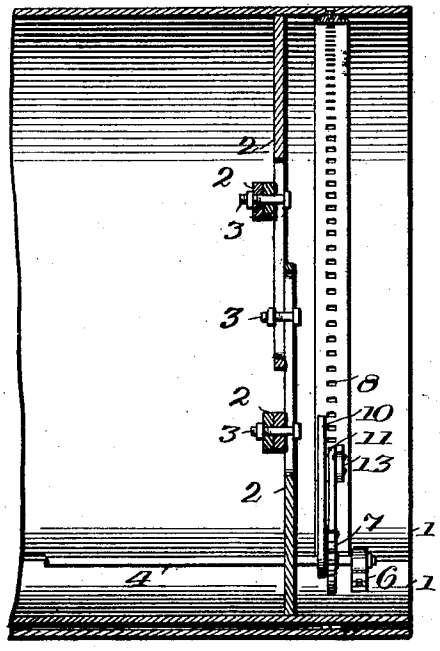
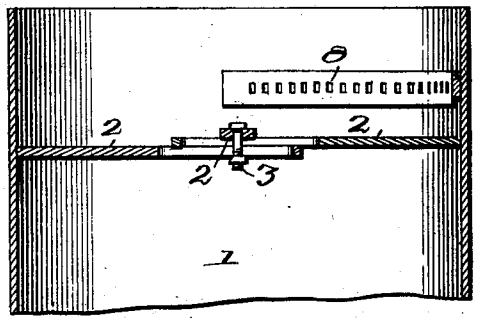


Fig. 7.



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MOLD FOR SEWERS.

No. 861,106. Specification of Letters Patent. Patented July 23, 1907.

Application filed December 7, 1906. Serial No. 346,701.

To all whom it may concern:

Be it known that I, GEORGE GEORGENSON, a citizen of the United States, and a resident of Wilmington, in the county of New Hanover and State of North Carolina, have invented an Improved Mold for Sewers, &c., of which the following is a specification.

My invention is an improvement in expansible molds for use in forming sewers or conduits of various kinds.

The details of construction, arrangement, and combination of parts are as hereinafter described, and illustrated in the accompanying drawings, in which

(Sheet) Figure 1 is an end view of my improved mold when in cylindrical form. Fig. 2 is a longitudinal section on the line 2—2 of Fig. 1. Fig. 3 is an enlarged cross-section of a portion of the mold. Fig. 4 is a longitudinal section of a portion of the mold. (Sheet 2) Fig. 5 is an end view of the mold when adjusted in oval or egg shape form. Fig. 6 is a longitudinal section of a portion of the mold on the line 6—6 of Fig. 5. Fig. 7 is a transverse section of a portion of the mold on the line 7—7 of Fig. 5.

1 indicates the shell or body of the mold which is formed of flexible sheet metal, the side edges of the same being overlapped. The said shell or body 1 is provided interiorly with braces or struts 2, the same consisting of bars whose outer ends are attached to the shell at opposite points, and their inner ends are overlapped and slotted longitudinally to receive the fastening screw-bolt 3. These struts or braces 2 serve to hold the mold distended to any required size or any required form for which it is adapted. I provide an improved means for adjusting the shell 1, that is to say, for expanding or contracting it, as occasion requires. A shaft 4 is arranged adjacent to the inner edge 5 of the shell 1, the same extending longitudinally of the shell, but spaced therefrom, and supported rotatably in brackets 6, which are suitably secured to the shell by means of screw-bolts, as shown in Fig. 3. Upon this shaft are keyed two toothed wheels 7, 7^a, and the same engage racks 8 and 8^a, which are secured to the inner overlapping face of the shell. The racks are formed of thin strips or bars of flexible metal and may be secured to the shell by screws, or brazing, or by any other suitable means. The edges of these strips 8, 8^a, are rabbeted to receive the flanges or claws of blocks 9 secured to the outer face of the inner portion of the shell. Thus the overlapping portions of the shell are held together and practically parallel, but are adapted to slide on each other.

The wheels 7, 7^a, are made of such diameter that they project through slots formed in the inner overlapped portion of the shell and project into engagement with the racks. It is obvious that if these wheels 7—7^a be rotated in one direction or the other, the shell will be contracted or expanded correspondingly, and, since both wheels are fast on the shaft 4, it is equally apparent that both will rotate together so that the shell will be contracted or expanded uniformly throughout its length. The means for rotating the wheels and the shaft consist of a hand lever 10 which is pivoted on the shaft and provided with a device 11 adapted to engage the teeth of the adjacent wheel 7. Said device consists of a bar which is secured to the lever 10 and adapted to slide thereon, it having longitudinal slots that receive studs or bolts 12 that enter the lever. The inner enlarged end or head of the locking device 11 is recessed to adapt it to engage the teeth of the wheel 7. For adjusting the locking device into or out of engagement with the wheel 7, I employ an elbow lever 13, which is pivoted to the lever 10 and provided with a slot in its shorter arm which receives a stud that secures it to the locking device 11. It will now be seen that, if the lever be thrown over to the position indicated in Fig. 3, that is, to the right, the wheel 7 will be rotated in a direction indicated by the arrow applied thereto, and thus the inner overlapped edge of the shell will be slid on the outer portion and the shell contracted in size or diameter. On the other hand, if the lever be thrown from right to left, it is apparent that the opposite result will occur, namely, the shell will be expanded. The manipulation of the locking device 11 is easily effected, or in other words it may be easily and quickly engaged with, or disengaged from, a tooth on the wheel 7.

In Fig. 5, the shell 1 is shown adjusted to form in cross-section an oval or egg-shape figure, which is the form required for some sewers or other forms of conduits. It is apparent that this form is produced by contracting one set, say the lower set, of braces 2 more than the other, say the upper ones. This adjustment is ordinarily effected in the first instance, and then the lever 10 is operated to rotate the wheels 7, 7^a, and thereby adjust the overlapped ends of the shell on each other as required. In other words, the braces are first set to give the proper size, and form to the mold, whether cylindrical or oval, and then the lever and cog wheels are operated to draw the overlapping portions of the shell one way or the other, in order to fix the shell rigidly in the desired form. The adjustment for different forms and sizes may be easily and quickly effected, and the overlapped portions may be quickly adjusted and locked. The mold is also light and may be easily transported from place to place according to the requirements of the work to be done.

I claim—

1. A mold for the purpose specified comprising a flexible sheet metal shell or body formed in one piece and having overlapping side edges, interior braces attached to the shell at diametrically opposite points and overlapping at their inner ends which are slotted longitudinally, clamping bolts passing through the coincident slots of the braces, and means for adjusting the overlapping edges of

the shell upon each other, the same comprising a rotatable shaft extending longitudinally of the shell and having supports attached to the inner or overlapped edges of the same, the shaft being arranged within the shell toothed wheels keyed on said shaft, racks attached to the outer or overlapping portions of the shell, devices secured to the inner edge of the shell and engaging the said racks, a lever pivoted on the shaft and having a device adapted for engagement with the teeth of the adjacent wheel, and an attachment of the lever for manipulating said locking device, substantially as set forth.

2. A mold for the purpose specified comprising a flexible sheet metal shell or body, interior braces consisting of bars whose inner ends are overlapped and provided with coincident slots, clamping bolts passing through said slots and serving to secure the braces to each other in any adjustment, racks secured to the overlapping portion of the shell, toothed wheels engaging the racks, and journaled on the inner or overlapped portion, a rotatable shaft upon which the wheels are mounted and arranged within the shell, and means for rotating said shaft and wheels for effecting contraction or expansion of the shell, substantially as described.

3. The improved mold consisting of a flexible sheet metal shell, or body, interior braces 2 attached at one end to said shell, their inner ends being overlapped and provided with lengthwise slots, and bolts 3 passing through the said slots and serving to secure the bars together in any adjustment, substantially as described.

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Witnesses:
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D. A. MARINE.