(No Model.)

J. H. WATSON.

CORRUGATED METAL CULVERT.

No. 559,642. Patented May 5, 1896.

Fig. 1.

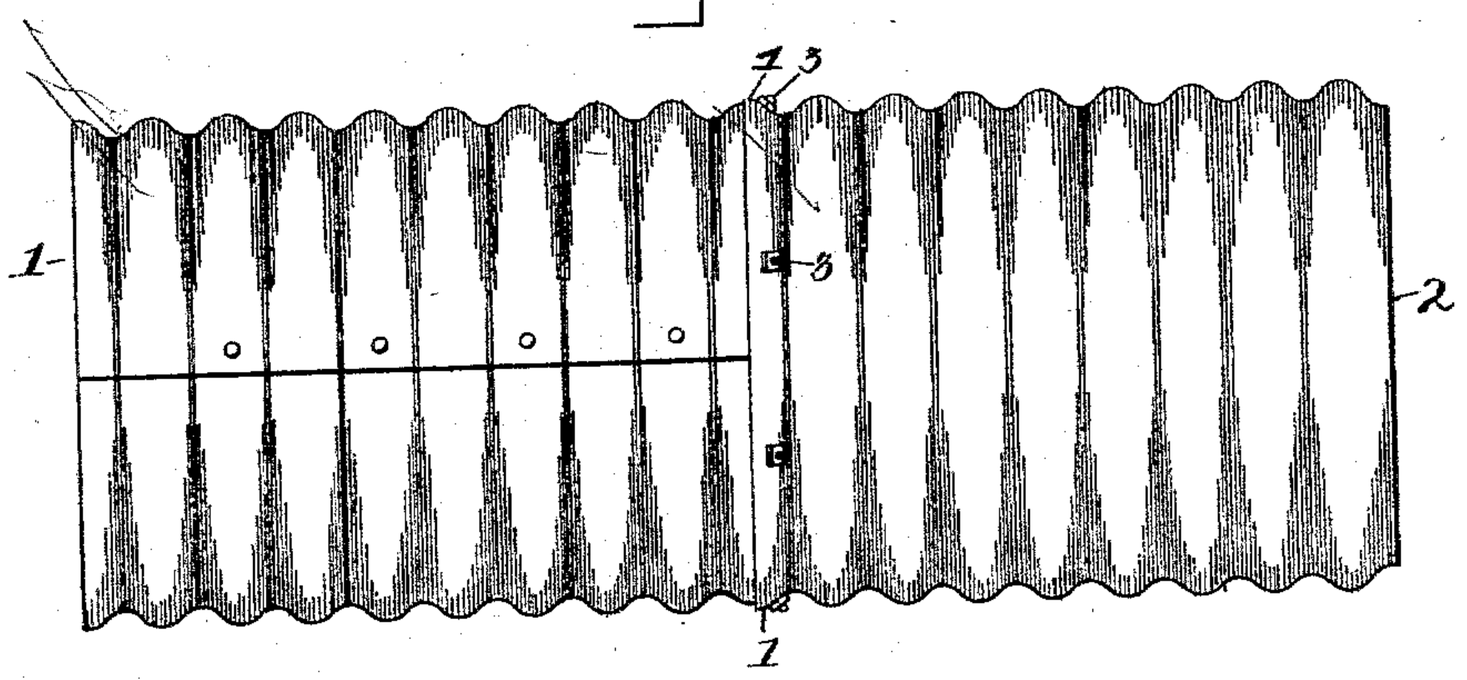
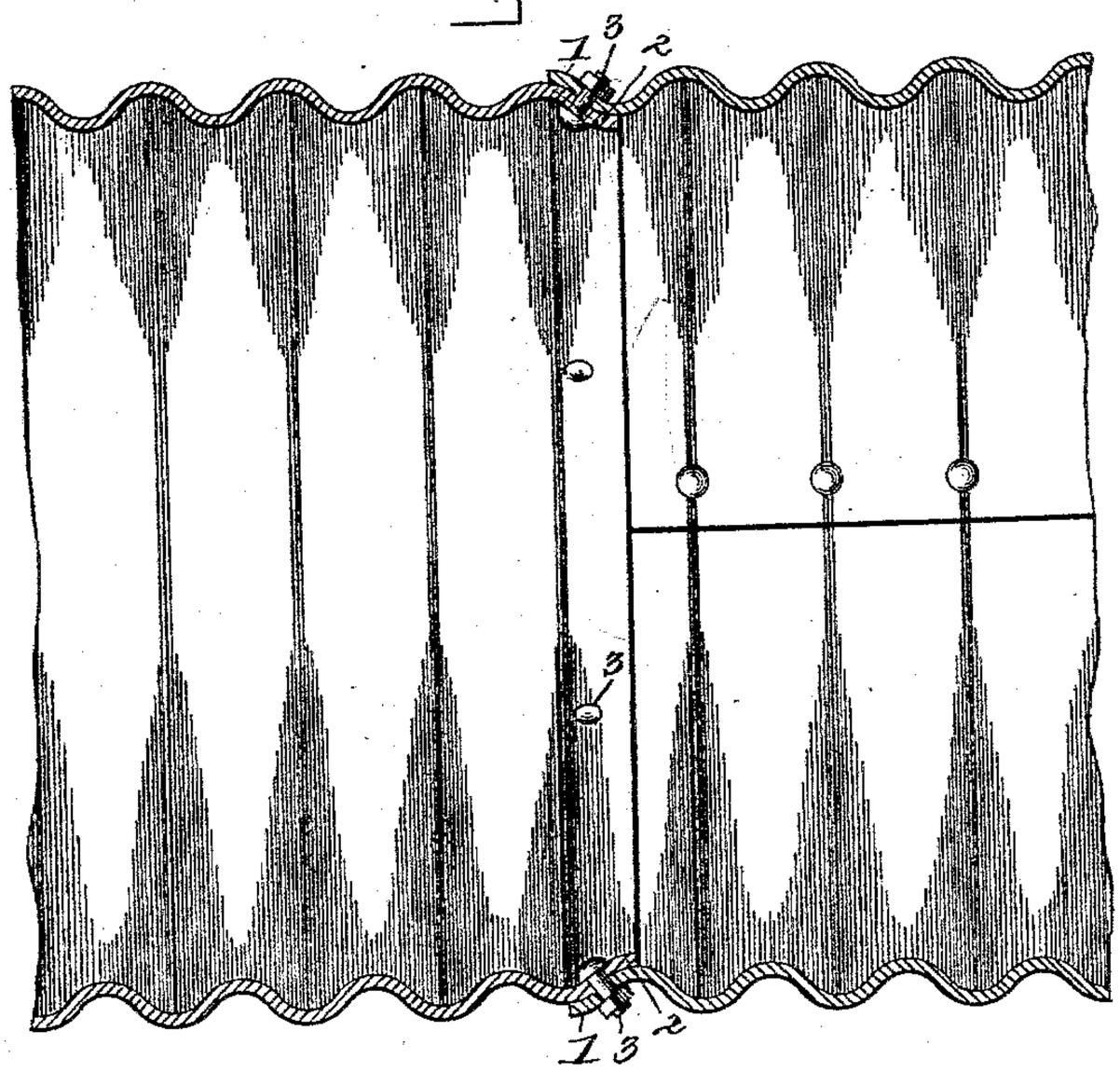


Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES H. WATSON, OF CRAWFORDSVILLE, INDIANA.

CORRUGATED-METAL CULVERT.

SPECIFICATION forming part of Letters Patent No. 559,642, dated May 5, 1896.

Application filed February 19, 1896. Serial No. 579,913. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. WATSON, a citizen of the United States, residing at Crawfordsville, in the county of Montgomery and State of Indiana, have invented a new and useful Corrugated-Metal Culvert, of which the following is a specification.

My invention has for its object to provide a corrugated sheet-metal pipe adapted particularly for use as a culvert and as well-curbing to take the place of vitrified tile now in common use for these purposes. The disadvantages incident to the use of tile, particularly for culverts, reside in the weight of the material, and hence the necessity of making it in short lengths which must be joined, when the culvert is laid, by cement or its equivalent, and its frangibility, which necessitates the transportation thereof by wagon in small loads, a length not exceeding sixteen or twenty feet being the capacity of an ordinary two-horse team.

The cement used for joining the sections of tile culverts is liable to be washed out of the joints, and the consequent washing or undermining of the culvert results, by reason of the weight of the tile, in the sinking of the latter and the separation of the sections, if not the breakage thereof, and this element of weight also necessitates the careful preparation of the bed in which tile culverts are laid, whereby when in position the joints may be relieved of strain. This careful preparation of the bed for a tile culvert is expensive, without considering the repairs which may be necessitated by any injury which may be caused in the bed by reason of a small leakage at one or more of the joints; and hence it is my object to provide a substitute for tile culverts which may be laid upon an uneven bed without injurious results, the improved culvert being strengthened against transverse as well as against crushing and other destructive strains, the joints being formed without the use of cement, and a greater length of the material being transportable at one time by the means ordinarily employed for this purpose.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claim.

In the drawings, Figure 1 is a side view of two connected sections of a culvert constructed in accordance with my invention. Fig. 2 is a detail sectional view of the joint between said sections.

Similar numerals of reference indicate corresponding parts in both the figures of the drawings.

The improved culvert may be constructed in sections of any desired length and diameter to suit the purpose for which it is designed, the same consisting of sheet metal rolled to a cylindrical form and being provided with circumferential corrugations, preferably arranged in transverse planes, in contradistinction to the corrugations which are formed spirally. The corrugations are extended uniformly to the extremities of the sections, whereby when two sections are connected the terminal corrugations of the connected ends interlock. Preferably each section terminates at one end in a flared portion of a corrugation, as shown at 1, and at the other end in a contracted portion of a corrugation, as shown at 2, whereby the flared end of one section is adapted to receive the contracted end of the adjoining section. These telescoping and interlocking extremities of contiguous sections are permanently joined by means of bolts 3. The fit of the extremities of the sections is sufficiently close to form a practically water-tight joint when secured by means of bolts or rivets.

By extending the corrugations to the extremities of the sections and interlocking the terminal corrugations the culvert is strengthened at its joints as well as at intermediate points, and the increased thickness has the effect of making the device stronger at the joints than elsewhere. Hence a roughly-formed trench or ditch is sufficient for the reception of a culvert constructed in accordance with my invention, and the injury to a roadway through which the culvert extends is prevented by the fact that the undermining of an end or intermediate portion of the culvert will not cause displacement of the conductor, and therefore will not result in the inoperativeness thereof.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

A culvert constructed of sheet metal and comprising connected cylindrical sections provided with circumferential corrugations extending to the extremities of the sections, each section terminating at one end in a flared and at the other end in a contracted portion of a corrugation, whereby the contracted extremity of one section is adapted to fit into the flared extremity of the adjoining section to interlock the terminal corrugations, and means, as bolts, engaging the overlapping extremities of the corrugations for securing the sections together, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES H. WATSON.

Witnesses:

JOHN R. ROBINSON,

CHARLES E. DAVIS.