

John P. Culver *Imp^t in Cores for Dykes etc.*

No. 120,943.

Patented Nov. 14, 1871.

Fig. 1

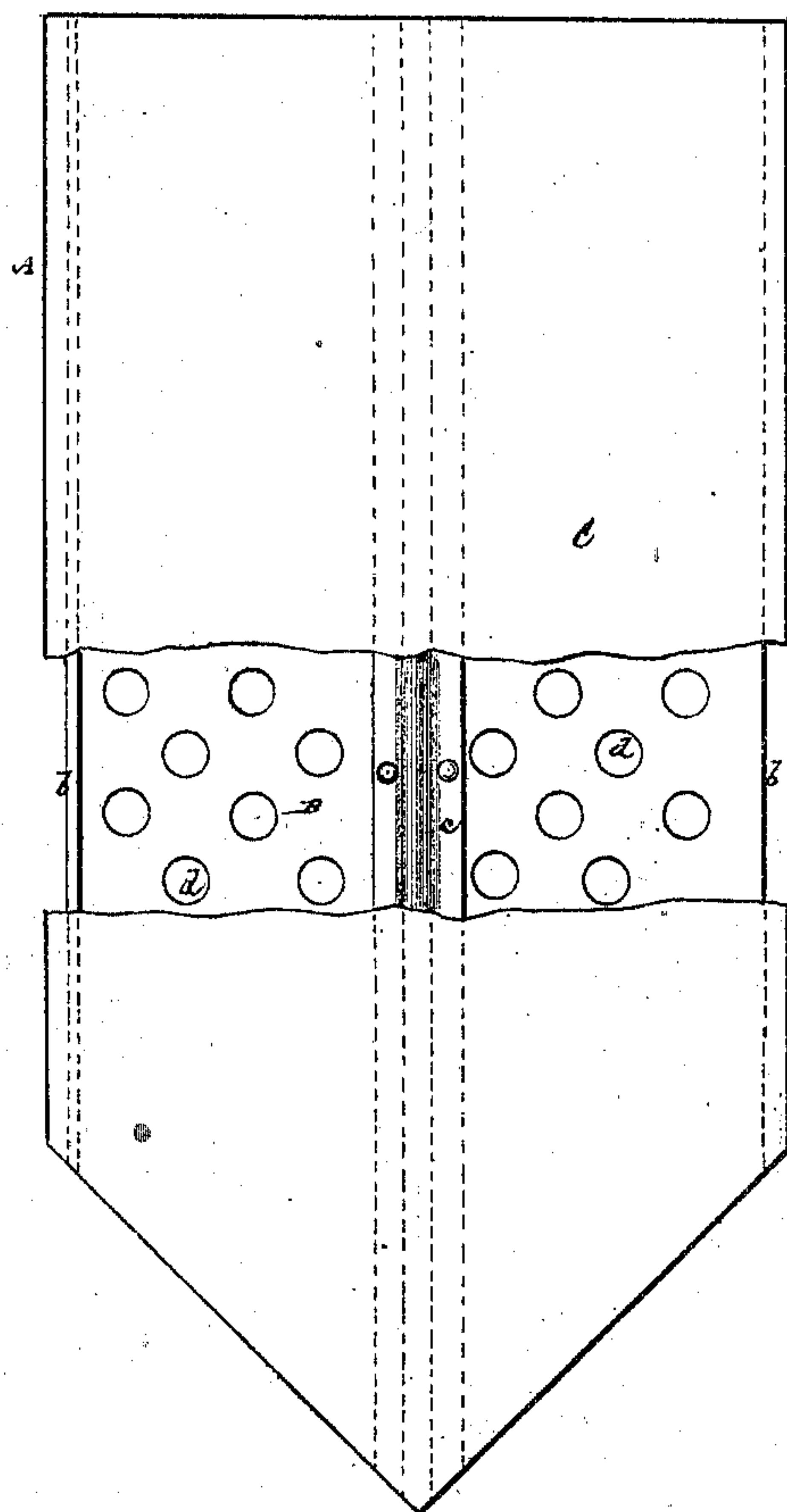


Fig. 2

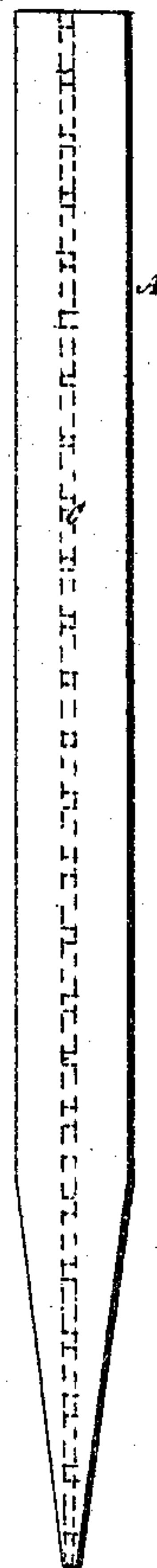
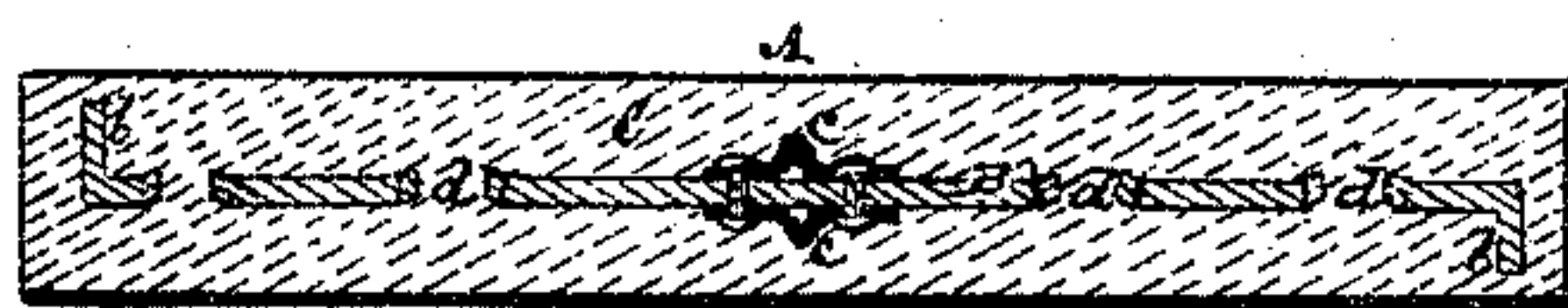


Fig. 3



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN P. CULVER, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO THE UNION PIPE COMPANY, OF NEW YORK CITY.

IMPROVEMENT IN CORES FOR DIKES.

Specification forming part of Letters Patent No. 120,943, dated November 14, 1871.

To all whom it may concern:

Be it known that I, JOHN P. CULVER, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Cores for Dikes and Levees to Rivers and other waters; applicable also to reclaiming marsh and swamp lands; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a partly-broken face view of one core-section constructed in accordance with my improvement; Fig. 2, an edge view of the same; and Fig. 3 a horizontal section thereof.

Similar letters of reference indicate corresponding parts throughout the several figures.

This invention relates to cores for dikes and other purposes, as, for instance, along the banks of rivers or arms of the sea, in which the core is composed of plate-like sections inserted into the ground at a suitable distance from the water to be excluded, and, when necessary, extending a sufficient distance above to prevent tidal or other overflow. It is an essential element of such structures that the plates of which they are composed should be impervious to water and proof against being punctured by rats, cray-fish, or other borers. These requirements my invention fully meets; and it may be constructed at less cost and is more durable, being free from rust, than cores composed of wrought or cast-iron plates, as heretofore used. The invention consists in a core or core-section made up of a perforated inner core covered by a suitable cement or plastic substance arranged to pass through the perforations in the inner core, as well as to incase the latter, and that, when set, is impervious to water, hard, and durable.

Referring to the accompanying drawing, A represents one of my improved cores or core-sections in a form that will answer as well as any other to illustrate my invention. Said core-sections may be of any desired shape and size, and be either straight or made tapering at their lower ends. When entered within the ground

they may be arranged in line with each other and their edges in contact, or nearly so, or they may be made to overlap one another. Each of these core-sections is composed in part of an inner core, B, that is formed of a perforated sheet or plate of any suitable material; as, for instance, a perforated thin metal sheet, or even a perforated wooden board would answer; said inner core merely being a base for an inner binder of the material or compound of which the core-section is mainly composed. This inner core, which it is preferred to make of perforated sheet metal, is of a shape and size to correspond with the core-section when finished, or to approximate thereto, and may have its edges bent over to form flanges *b*; also have trusses *c c* up its center to further stiffen or strengthen it. The perforations in said plate or sheet may be of any desired shape or size, and be arranged at various distances apart. Over or around, or so as to incase this perforated inner core is a covering, C, made of cement or any suitable substance, that may be applied in a plastic state to the perforated sheet B, so as not only to cover the same, but to pass through the perforations *d* of the sheet, and that when set is impervious to water, capable of resisting rats and borers of various kinds, and is generally hard and durable. Hydraulic cement, or a plastic substance composed principally of hydraulic cement, will answer the purpose and serve to preserve the inner core, plate, or sheet from destruction. By the passage of the cement through the perforations in the plate or sheet the two sides of the covering are tied together and the entire mass made to form one homogeneous whole, the ties or connections being integral part of the covering and serving to prevent water from getting into the core-section and rusting and crumbling it away; also establishing a union of the covering and plate which could not be effected by mere adhesion.

What is here claimed, and desired to be secured by Letters Patent, is—

1. A core or core-section, constructed of a perforated inner sheet, plate or board incased by a covering of plastic substance arranged to pass

through the perforations in the sheet, and which when set is hard and impervious to water, substantially as and for the purpose or purposes herein set forth.

2. The inner perforated core B, having flanges *b b* at its edges, in combination with the covering C of cement or plastic substance, essentially as described.

3. The combination of the trusses *c c* with the perforated core B and covering C of cement or plastic material substantially as specified.

JOHN P. CULVER.

Witnesses:

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