

(No Model.)

2 Sheets—Sheet 1.

E. CASE.
SHORE GROIN.

No. 598,076.

Patented Feb. 1, 1898.

Fig. 2.

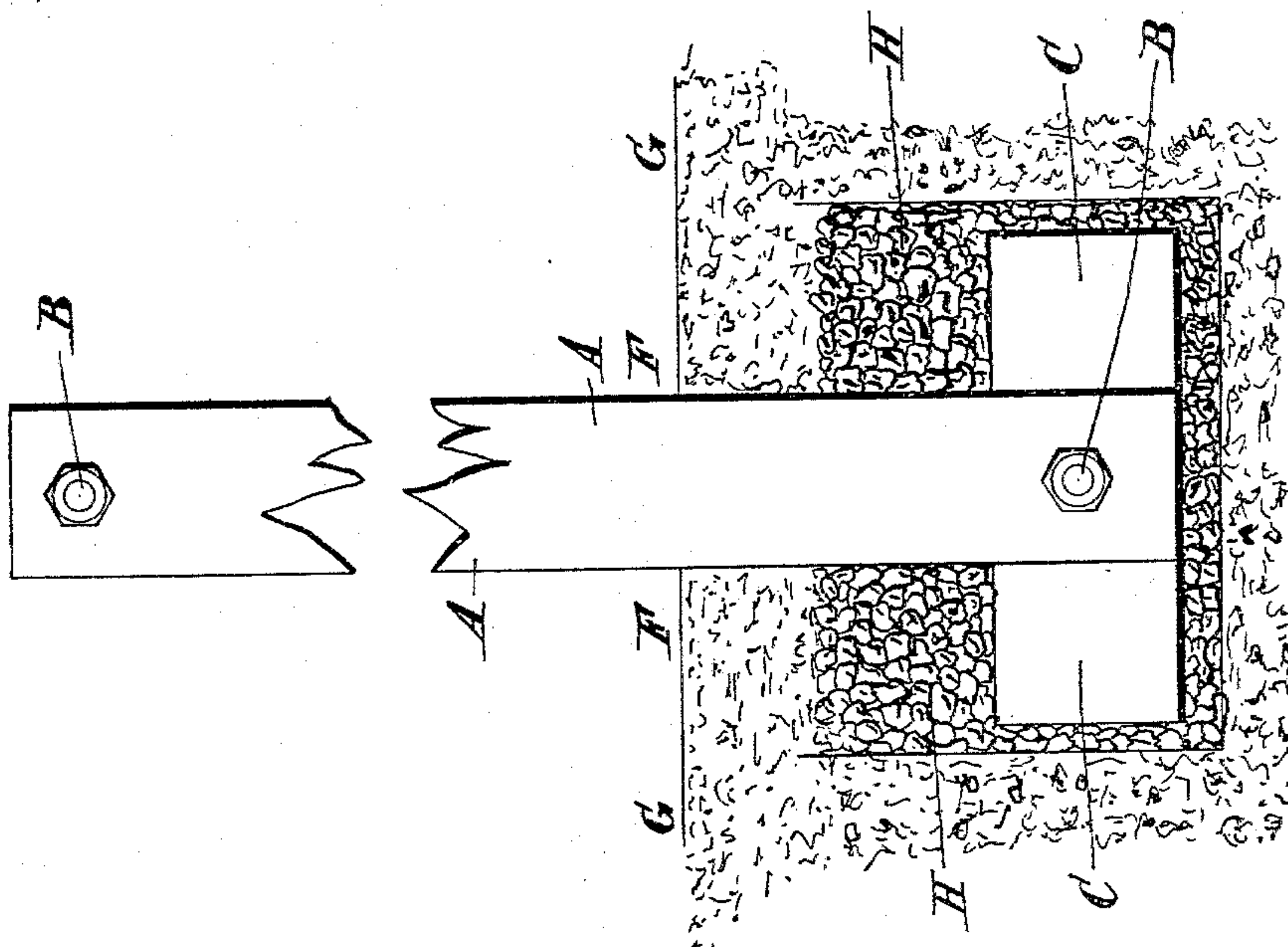
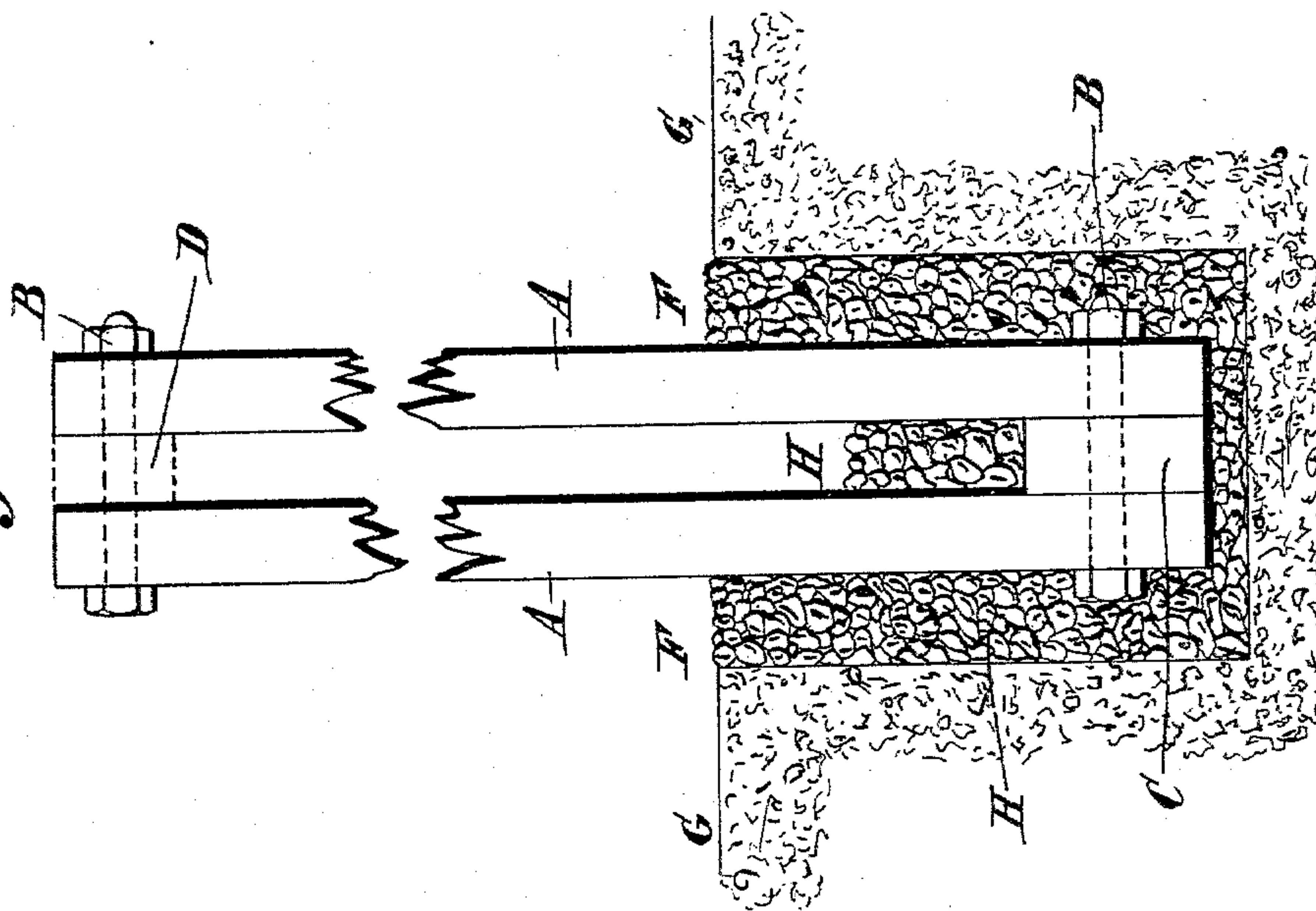


Fig. 1.



INVENTOR

EDWARD CASE

by *Henry Gardner*

ATTY.

WITNESSES

Richard Fore Sandnes

Charles Alfred Grossetete

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Fig. 3.

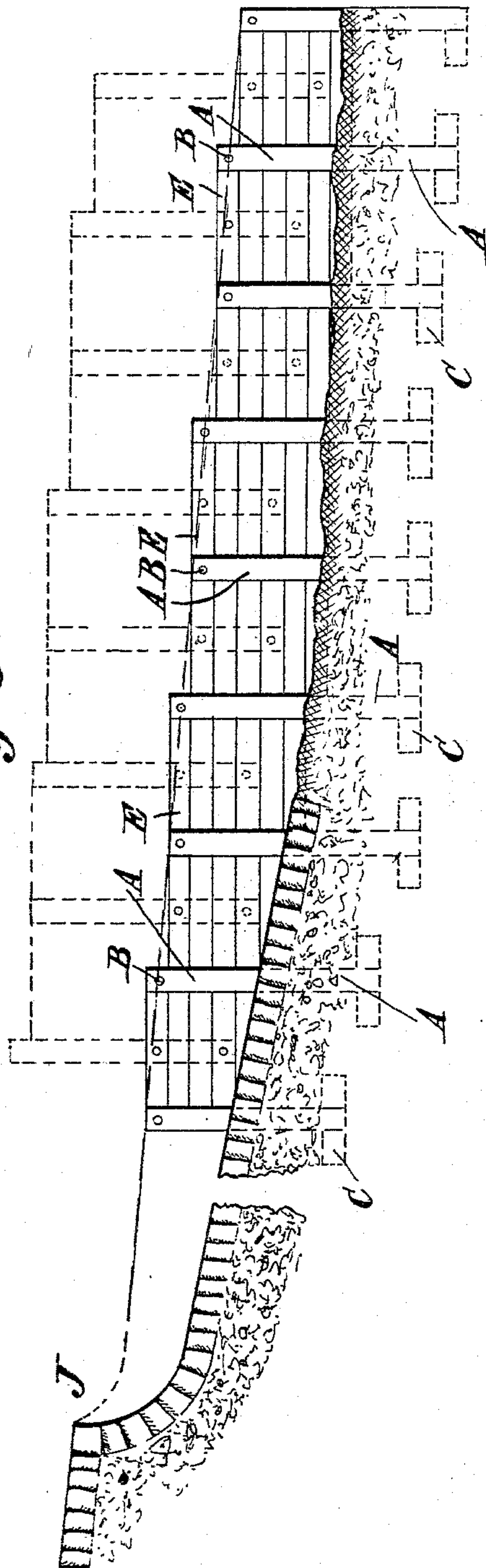
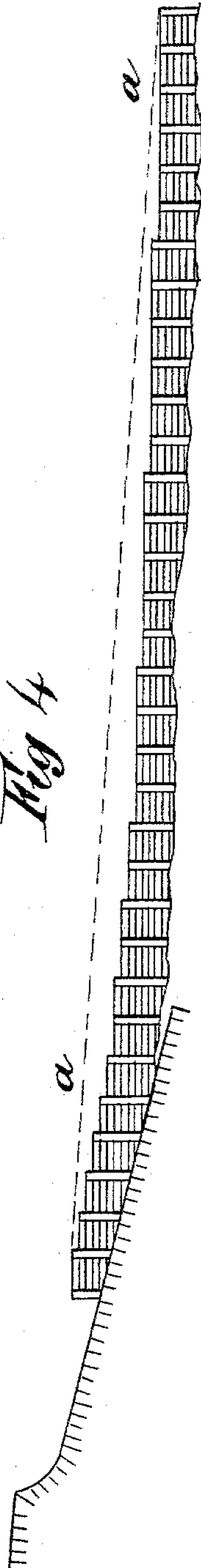


Fig. 4.



WITNESSES

Richard J. Gardner

Charles Alfred Grossetete

INVENTOR

EDWARD CASE

by *Hewitt Gardner*

ATTY.

UNITED STATES PATENT OFFICE.

EDWARD CASE, OF DYMCHURCH, ENGLAND.

SHORE-GROIN.

SPECIFICATION forming part of Letters Patent No. 598,076, dated February 1, 1898.

Application filed July 19, 1897. Serial No. 645,115. (No model.) Patented in England June 25, 1896, No. 14,115.

To all whom it may concern:

Be it known that I, EDWARD CASE, a subject of the Queen of Great Britain, residing at The Hall, Dymchurch, county of Kent, England, have invented certain new and useful Improvements in the Construction or Arrangement of Shore-Groins, (patented in Great Britain, No. 14,115, dated June 25, 1896,) of which the following is a specification.

10 This invention has for its object constructing shore-groins from a combination of upright or anglewise-arranged timbers in couples with lower ends set in concrete beds, preferably from about mean sea-level to low-water mark and landward from the same point to the shore or sea-wall, the spaces between the upright or angle timbers having horizontal planks let in or slipped down to form intermediate screens.

20 To carry my invention into practice, reference is had to the annexed drawings, in which—

Figure 1 is an end view of the uprights bolted together and showing the position they occupy when embedded in the concrete foundation. Fig. 2 is a side view of same. Fig. 3 is an elevation of a short groin for use when the beach has a sharp slope, the dotted lines illustrating how same can be heightened. Fig. 4 is an elevation of a long shore-groin for use with a comparatively shallow beach.

30 I prepare a series of balks or planks A A with bolt-holes B B, Figs. 1 and 2, where necessary. Two of such planks A, I bolt together at top and at bottom with distance-pieces C D between them, one, C, serving as a foot with ends projecting and the other for removal afterward for reception of ends of topmost horizontal planks E, Fig. 3, which are dropped into position on edge to fill up the gap between two sets of uprights. For placing these uprights in position I dig a hole F in the sand or earth G at intervals, starting, preferably, at mean sea-level or low-water level, or thereabout, and set one or more of my coupled uprights A in position. At the same time I fill or nearly fill the hole with cement concrete H, which surrounds and embeds the lower ends of the uprights. I then cover the concrete with sand or earth to the ordinary level

of the beach G. I repeat this with a second couple of uprights and concrete at the requisite distance nearer the sea or river wall and set or slip my horizontal or screen planks E in position and so work up to the wall J in stages.

I purpose cutting a channel between each set of uprights, so that the bottom horizontal planks of the screens are embedded in the sand.

60 The rapidity with which a groin on my principle can be prepared and set in position is marvelous as compared to the time occupied in digging, shoring, strutting, and then tying in position by angle-set struts or props driven into the beach at a distance from the groin itself.

70 The ground-line in Fig. 4 shows the approximate level assumed by shingle, sand, or the like next the shore, and according to the usual practice in making a groin the top is generally carried up to a uniform inclination, as indicated by the dotted lines *a a*, Fig. 4, this indicating a useless waste of timber, which my system is intended to prevent.

75 It will be gathered from the foregoing that all my timber-work can be prepared on shore, so that it has only to be carted to the spot as each hole is dug and the uprights be set in place, gradually moving shoreward or seaward, according to the desire of the contractor. It is also to be noted that practically no plant or preparation other than the above is necessary, so that at the shortest notice advantage can be taken of an extraordinary low tide, caused by favorable wind or otherwise, to extend the groin seaward.

80 Little or no skilled labor will be necessary, as the central position for the digging of the holes can be readily staked out for guiding the digging laborers, who also, after inserting the uprights, simply hold them vertically while the cement concrete is shot in, preferably from a cart, to find its own packing, the action of the water of the inflowing tide effecting the consolidation.

95 Should the sand or shingle be washed up to about the top of the groin, said groin can be easily raised in height by securing fresh uprights to the existing horizontal planks

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and then to insert fresh horizontal planks, as before. This will be understood by the dotted lines in Fig. 3.

What I claim, and desire to secure by Letters Patent, is—

A shore-groin consisting of uprights formed from two or more planks or barks A held apart by distancing-pieces C and braced together by bolts passed through the planks or barks A and distancing-pieces C; together

with planks E arranged between the barks A and between upright and upright as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EDWARD CASE.

Witnesses:

HENRY STRINGER,

HAROLD W. STRINGER.