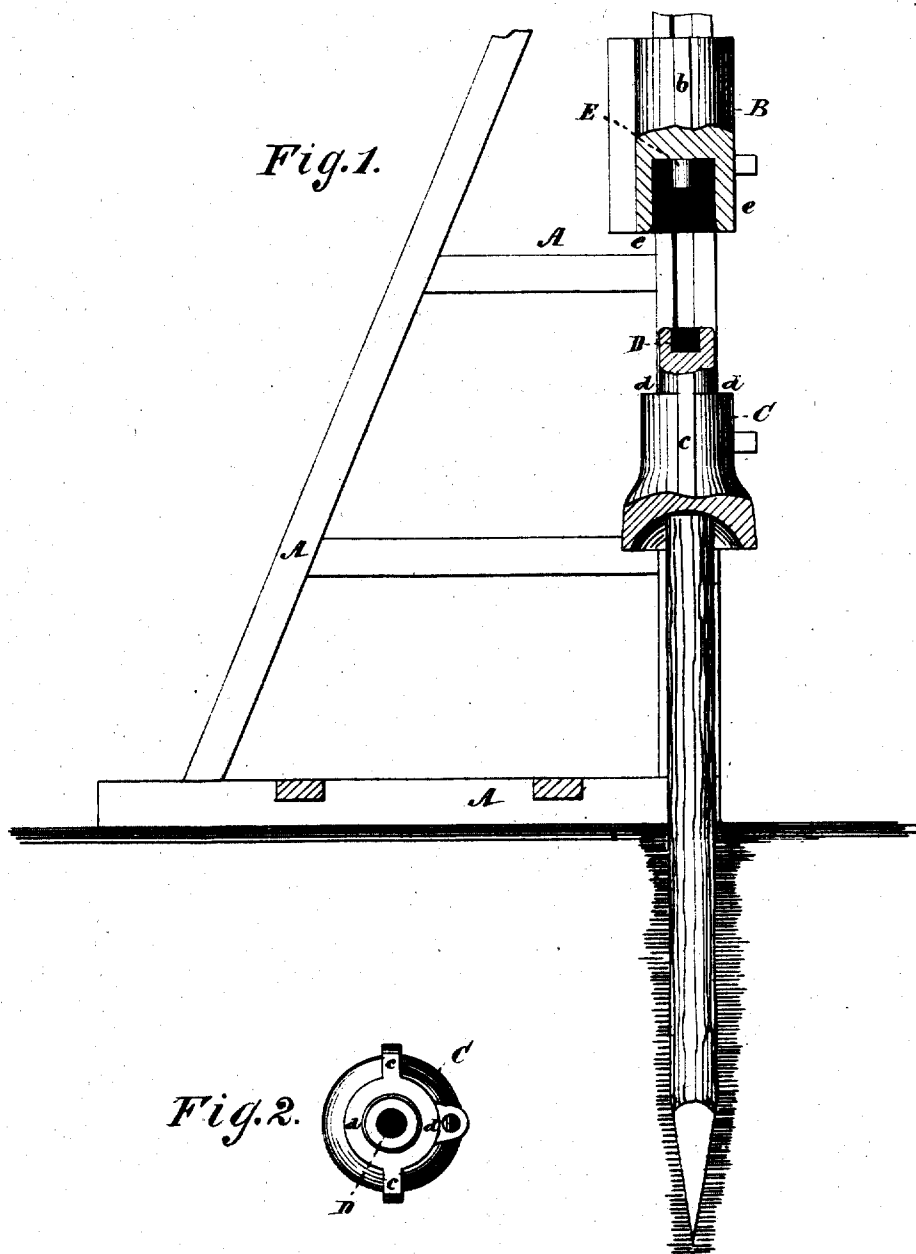


H. VOGLER.
Explosive Pile-Drivers.

No. 137,514.

Patented April 1, 1873.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY VOGLER, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN EXPLOSIVE PILE-DRIVERS.

Specification forming part of Letters Patent No. **137,514**, dated April 1, 1873; application filed March 1, 1873.

To all whom it may concern:

Be it known that I, HENRY VOGLER, of Baltimore, in the county of Baltimore and State of Maryland, have invented a new and Improved Explosive Cartridge Pile-Driver; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification.

The invention consists in a novel mode of relatively constructing the hammer and anvil of that class of pile-drivers in which a cartridge is employed, and wherein powder is caused to explode and be converted into a highly expansible gas between the anvil and the hammer, so that the resistance of the latter enables it to drive the former with great force against the pile. This construction will first be fully described in connection with all that is necessary to a full understanding thereof, and then be clearly pointed out in the claim.

Figure 1 is a side elevation with parts broken away. Fig. 2 is a top view of the anvil.

In the drawing, A represents the frame of a pile-driver; B, the hammer; and C the anvil. The hammer and the anvil have each flanges, *b* or *c*, which fit into ways of the upright posts, while the hammer is caught on each rebound after striking the cartridge, and is also tripped before striking it, in the usual manner. D is

the cartridge-chamber, which rises from the anvil and is surrounded at the base by the supporting annular platform *d*, which receives and coincides with the edge-surface of the tube *e*, which surrounds the inside plunger E. Heretofore the plunger E had not this surrounding-chamber, but simply entered the cartridge-chamber. By that construction much of the expansive power escapes and is lost, unless the cartridge-chamber is made very deep, while this increase in the depth causes the chamber to heat very rapidly, to often set fire to the cartridge, and thus to cause the hammer to stick in the anvil. My construction entirely obviates both these evils, as the gases cannot expand except in the direction of and against the hammer and anvil, while the cartridge-chamber can be made shallow, so as not to be heated sufficiently to set fire to the cartridge.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The shallow cartridge-chamber D, having annular platform *d* around its base, and the plunger E, having the surrounding tube *e*, applied together in connection with a pile-driver, as and for the purpose described.

HENRY VOGLER.

Witnesses:

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