A. C. GOELL.

Boring Rockets.

No. 2,009. Patented Mar. 18, 1841.

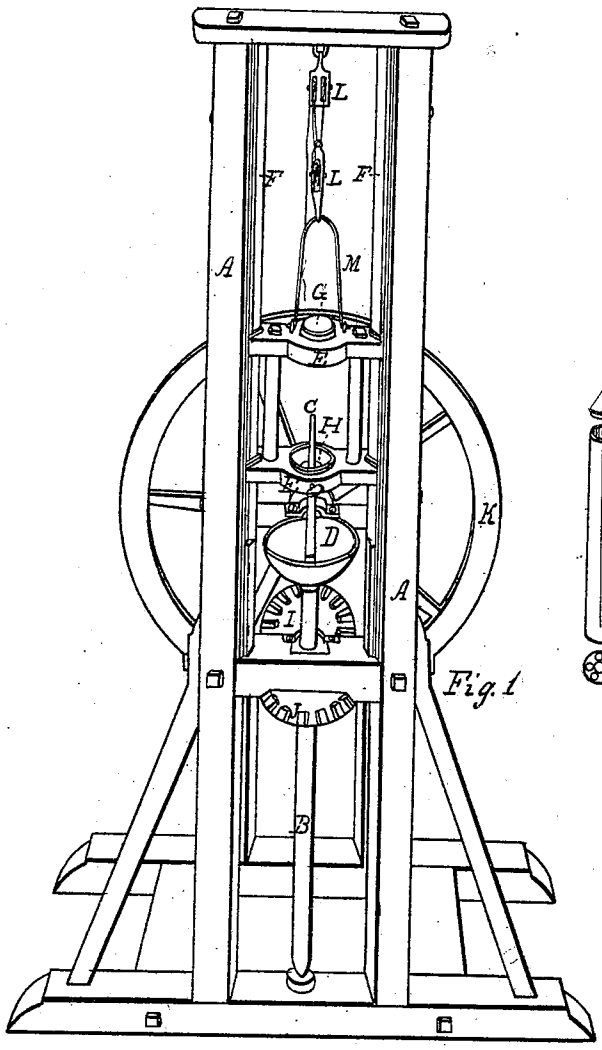

Fig. 1

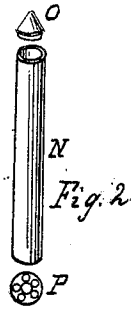

Fig. 2

UNITED STATES PATENT OFFICE.

ALVIN C. GOELL, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN MACHINES FOR BORING WAR-ROCKETS.

Specification forming part of Letters Patent No. **2,009**, dated March 18, 1841.

To all whom it may concern:

Be it known that I, ALVIN C. GOELL, of the city of Washington, in the District of Columbia, have invented a new and improved machine for boring the conical opening into the composition which constitutes the charge of rockets used in war, and which machine is applicable also to the boring out of the charge of such rockets as have had the materials pressed into them, but which are found defective, and not, therefore, adapted to be used as missiles; and I do hereby declare that the following is a full and exact description thereof.

It has been the practice heretofore to bore the conical opening required in the composition of war-rockets by means of a drill or borer running horizontally, a lathe, or other similar apparatus—a process by which the composition has not been freely delivered from the opening, and in the performance of which other difficulties have been encountered. In those cases, also, when it has been deemed necessary to remove the whole charge, the rockets have sometimes been put into water to dissolve out the composition, or it has been removed by other means which were inconvenient and wasteful. These difficulties are altogether obviated by the use of the apparatus which I am about to describe.

Figure 1 in the accompanying drawings is a front view of my boring-machine in perspective, and Fig. 2 the iron case of a rocket with its conical cap.

A A is the frame of the machine.

B is a vertical shaft, carrying at its upper end a taper borer, C, for boring the conical hole in the composition, but for which conical bit a drill or borer nearly the size of the interior of the case of the rocket is to be substituted when the composition is desired to be altogether removed.

D is a cup or basin which is fixed on the shaft B, below the borer or drill, and which is to be sufficiently large to hold the composition that is to be bored out.

E E is the rocket-holder, which consists of a sliding frame moving vertically up and down by means of the guides F F. The rocket passes through the circular opening G in the upper part of the rocket-holder, and is received within that marked H at its lower end, where it rests on a shoulder formed for that purpose, and is held in place by a thumb-screw. This borer is made to revolve by the turning of a winch on the horizontal shaft of the bevel-geared wheel I, which meshes into J on the shaft B. A fly-wheel, K, is fixed on the horizontal shaft.

L L are pulleys connected with the bail M, and serving to raise and lower the sliding frame and rocket, as may be necessary.

The rocket N, Fig. 2, is represented with its conical end O detached, but which end is fixed firmly on when the rocket is prepared for use.

P is a view of the lower end of the rocket-case, the center hole being that which is to receive the stick which balances and guides the rocket, and those around it the fuse-holes. The conical opening is bored through the center hole, and may extend to two-thirds or three-fourths of the whole length of the rocket.

When it is desired to remove the composition entirely from a charged rocket, the conical end is to be detached, as shown in the drawings. The rocket is then put into the sliding frame and secured, the opening left by the removal of the conical end being turned downward, a drill is substituted for the conical borer, and the required operation performed.

Having thus fully made known the manner in which I construct my machine for boring war-rockets and arrange and combine the respective parts thereof, I do hereby declare that I do not claim to be the inventor of either of the parts thereof taken individually; nor do I claim the general arrangement of these parts, there having been machines made for other purposes bearing a considerable resemblance thereto. I therefore limit my claim to the particular manner in which I have adapted this instrument to the purpose of boring out war rockets and of collecting and preserving the composition with which the rocket was charged—that is to say,

I claim—

The combining with the borer C the cup or basin D on the shaft B, so as to bore out and collect the material from a rocket placed in a holder or sliding frame, E E, the whole being combined, connected, and operating as herein set forth.

ALVIN C. GOELL.

Witnesses:

THOS. P. JONES,

CHAS. H. CRAGIN.