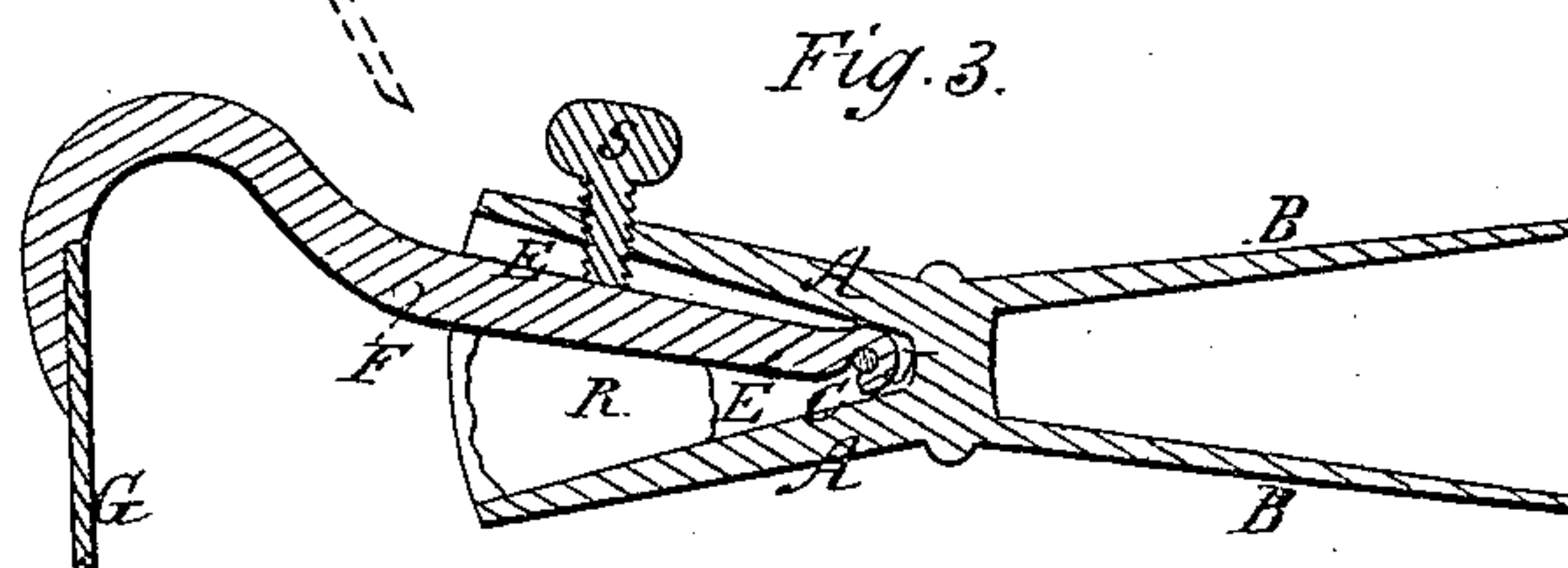
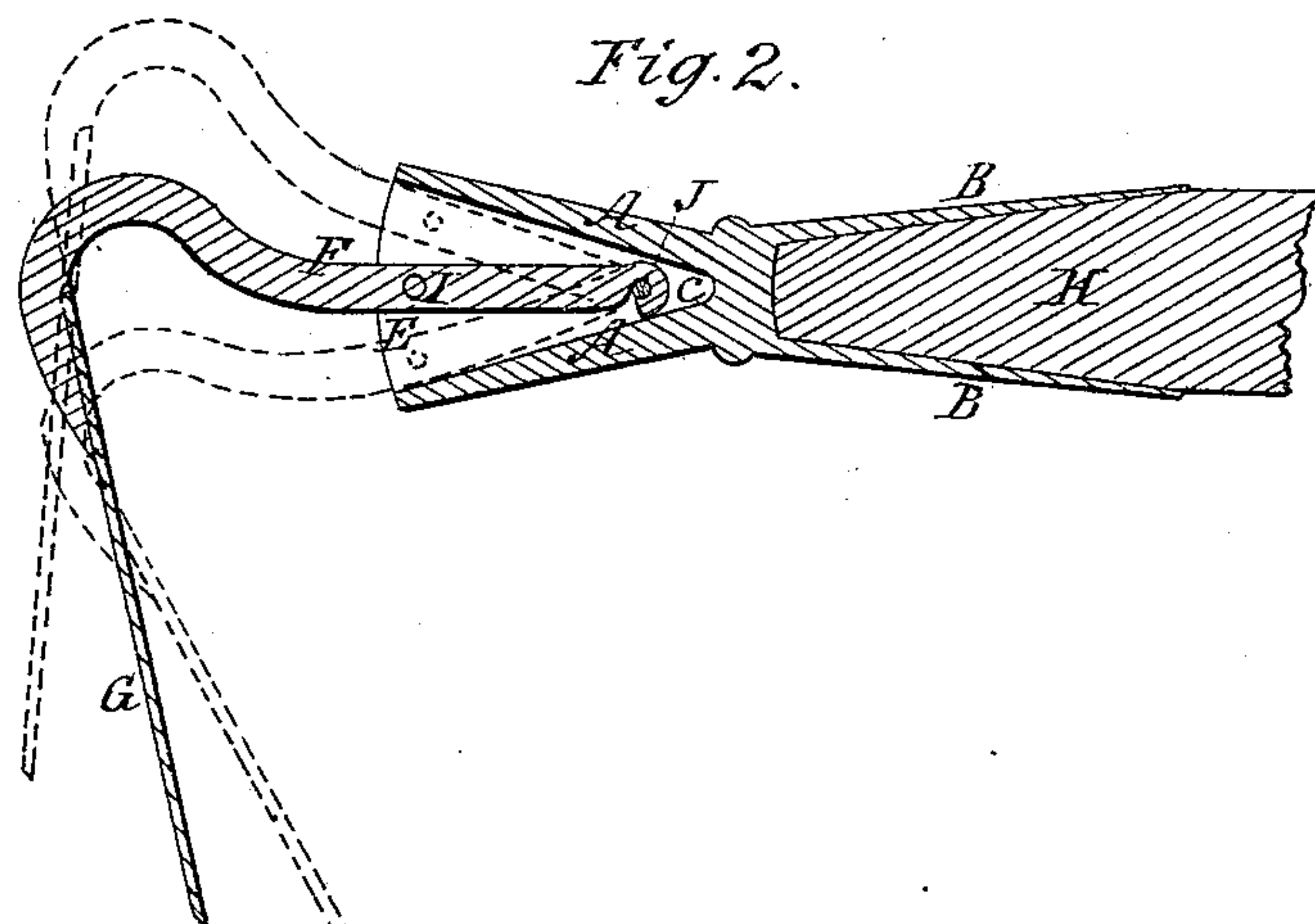
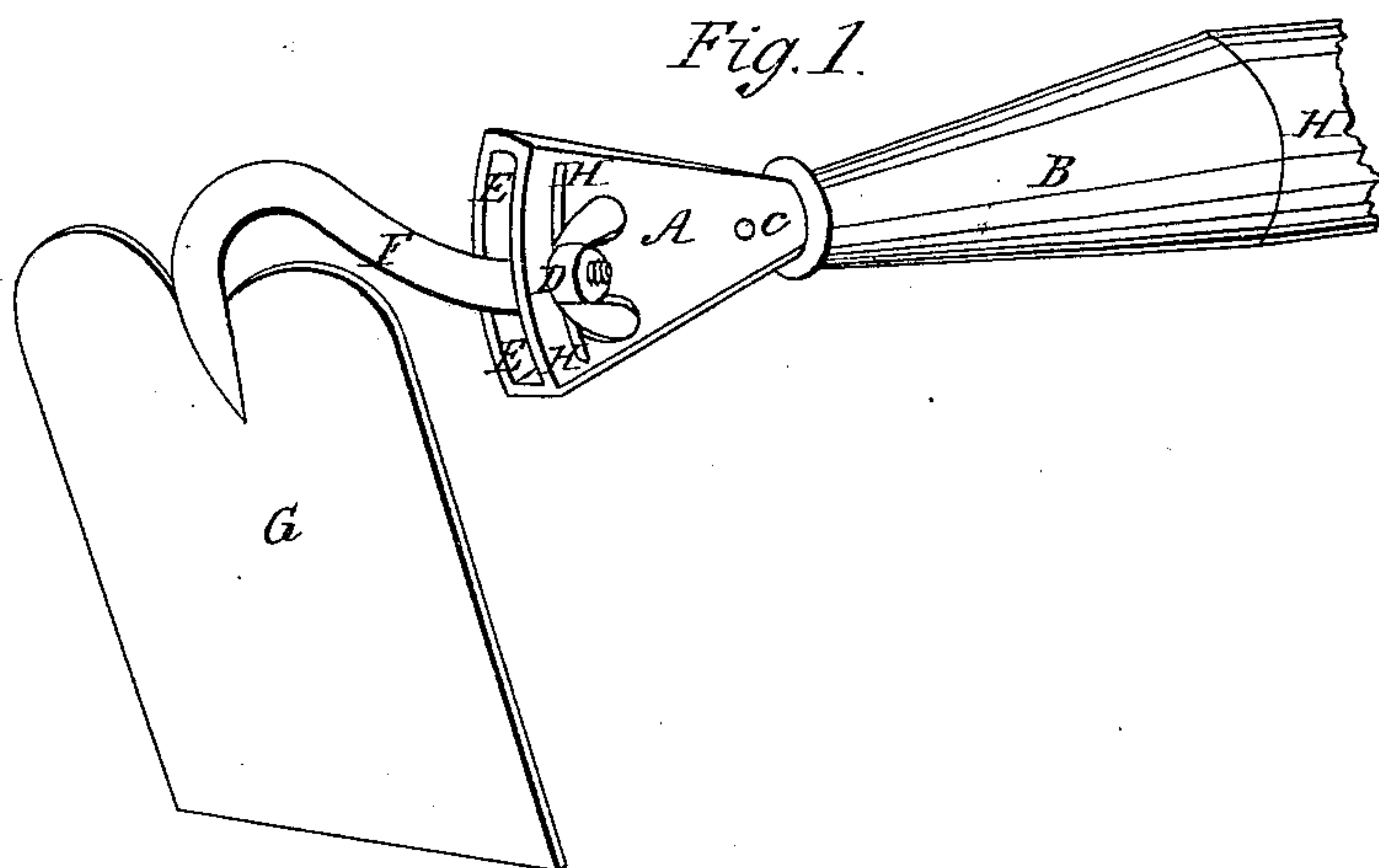


J. C. PLUMER.

Hoe.

No. 53,332.

Patented Mar. 20. 1866.



Witnesses:
William H. Clifford
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Inventor.
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UNITED STATES PATENT OFFICE.

J. C. PLUMER, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN HOES.

Specification forming part of Letters Patent No. 53,332, dated March 20, 1866.

To all whom it may concern:

Be it known that I, J. C. PLUMER, of Boston, in the Commonwealth of Massachusetts, have invented a new and useful Improvement in Hoes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 represents a view of my improved adjustable hoe; Fig. 2, a section of the same; Fig. 3, another view with the screw placed over the shank and a piece of rubber beneath it.

The object of my invention is to make a simple and uncombined hoe which shall have an adjustable and removable blade so arranged in reference to the handle that it will admit of a variation of its inclination to the handle, and of its being permanently secured at any desired plane relative to the handle, and so that the hang of the hoe can be adjusted to the various inclinations of the surface of the earth or the height of the person using it; so, also, to admit of easy and ready removal of the blade from the handle for sharpening and other purposes.

Hitherto in the manufacture of hoes the blade has been rigidly and permanently attached to the handle, so as to admit of no motion of the blade or variation of the angle it makes with the handle or of convenient removal. Amendment in this particular has been found practically necessary, since an inclination or hang of the blade proper for a person of one height is unsuitable to another, and, furthermore, because the same hang of the blade is not desirable even for the same person under all circumstances of use, a different inclination being requisite for deep hoeing from that required for superficial hoeing.

Another inconvenience attending the construction of the hoe in the common form is the impossibility of grinding the edge of the blade when thus permanently attached to the handle.

My invention consists in attaching the blade of the hoe to the handle thereof by an improved arrangement which will admit of a change which the blade makes with the handle through the motion of the shank working in the socket, to which the shank can be permanently secured at two points—its end and its

body or main portion—whatever its position in the socket and whatever the inclination of the blade to the handle, and of the ready removal of one from the other for the various purposes required.

I construct my improved hoe by providing a socket, substantially as shown at A, Fig. 1, made smaller at the bottom, or that portion nearest the handle, so that the end of the shank of the blade may be received into and fixed at the smaller end of the socket, while the body or main portion of the shank is allowed to move backward and forward in the larger part of the socket for the purpose of varying the plane of the blade relative of that of the handle, as shown by the dotted lines in Fig. 2. I provide the larger end of the socket with a channel or slot, H H, Fig. 1, or with two or more holes instead thereof, to receive a bolt passing through the body or main portion of the shank for the purpose of fixing it in different positions in the socket; or I fix this portion of the shank in different positions by a screw passing through the upper side of the socket and pressing against the upper surface of the body or main portion of the shank in conjunction with the yielding resistance, as shown at R, Fig. 3.

Another mode of fixing the body of the shank in different positions in the socket is by having notches in the margins of the larger end of the socket to receive projections from this portion of the shank, while the end of the shank is secured to its place at the bottom of the socket by a bolt or screw passing into or through it. The socket may have a projection from its smaller end to be inserted into the end of the handle, or may be of one piece with the ferrule which receives the end of the handle.

I am aware that a combined spade or hand rake and hoe attached to the same handle has been made and so as to admit of interchange of use, and each fixable on the same plane relative to the handle for its intended use, and that a combined hoe-blade and rake-head has been made so arranged as to be convertible in their uses, the former to those of a spade, the latter to those of a fork, each fixable on the one plane relative to the handle for its intended use. These are totally different from mine in purpose, construction, and use.

I am also aware that forks have been so con-

structed that the blades may be made to revolve on the handle for the purpose of conversion from one use to another. The mechanism of these is different from my invention. In my invention the end of the shank is fixed and capable of being fixed and held stationary in the body or main portion thereof.

I do not claim a rake or fork in which the end of the shank is movable while the body or main portion is fixed; neither do I claim a combined spade, fork, hoe, and rake attached to the same handle, so as to admit of an interchange of use nor a combined hoe-blade and

rake-head so attached to the same handle as to be convertible in their uses; but

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

In the construction of hoes, the arrangement of the shank within the socket, as described, the former operated and secured, substantially as set forth.

J. C. PLUMER.

Witnesses:

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