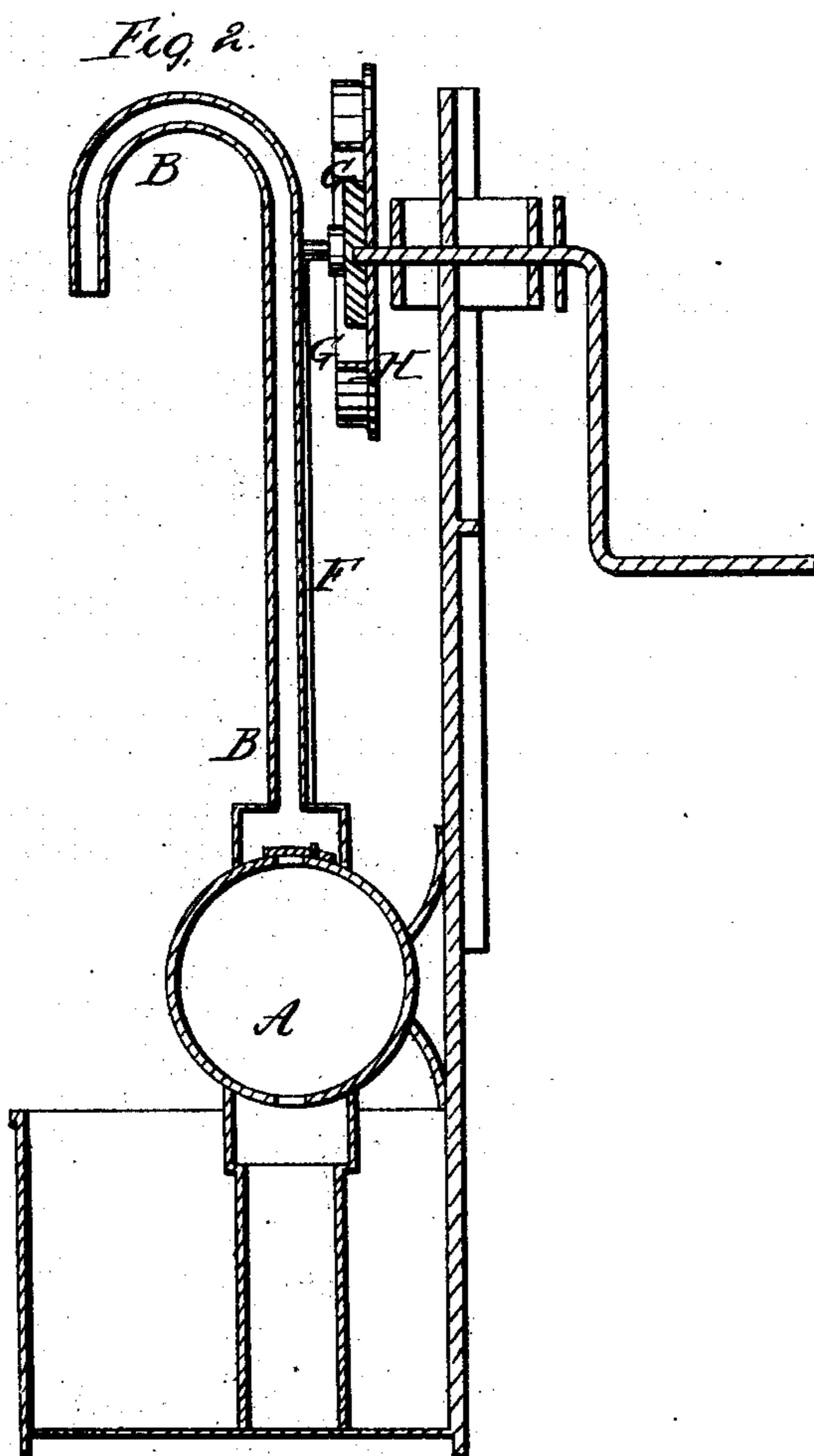
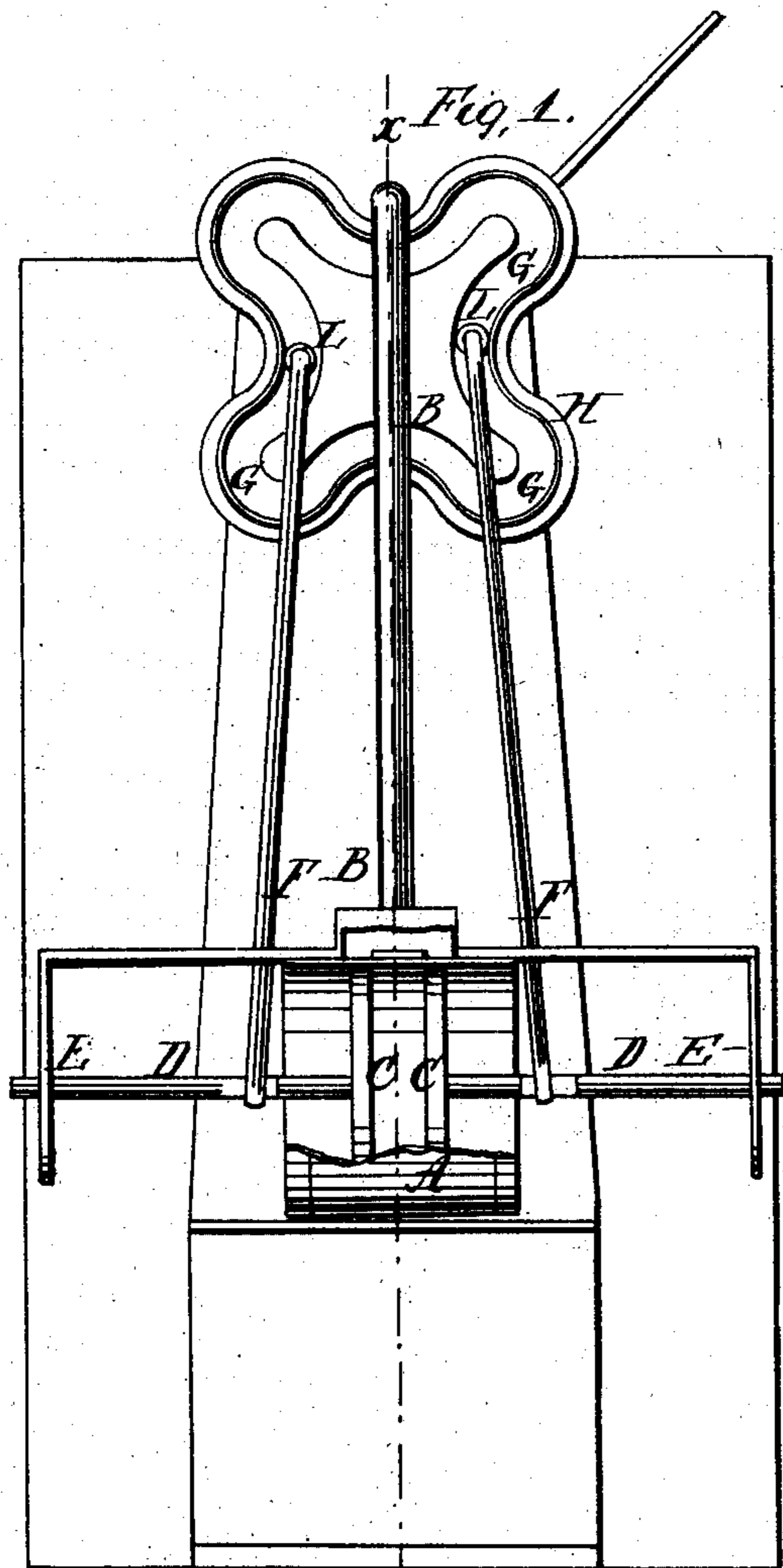


*G. Bruce,*

*Double-Acting Pump.*

*N<sup>o</sup> 69,758.*

*Patented Oct. 15, 1867.*



*Witnesses;*  
*Chas. Tinsche*  
*Wm. Frewin*

*Inventor;*  
*G. Bruce*  
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*Attorneys*

# United States Patent Office.

GEORGE BRUCE, OF CORYDON, INDIANA.

*Letters Patent No. 69,758, dated October 15, 1867.*

## IMPROVEMENT IN PUMPS.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE BRUCE, of Corydon, in the county of Harrison, and State of Indiana, have invented a new and useful Improvement in "Pumps;" and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The pump embraced in the present invention is intended more especially for the pumping or forcing of heated water, although it can be applied to other uses.

In the common hot-water pumps there is a great complication and intricacy of elbows and other parts, rendering it impossible to remove the deposits of lime which cause so much trouble in the majority of such pumps. My improved pump, however, is simple in construction, it consisting of a hollow cylinder easily examined, cleaned, and repaired, which cylinder is provided with two plungers, having but a short stroke, and operated so as to produce the greatest amount of work. In the accompanying plate of drawings my improved pump is illustrated—

Figure 1 being an elevation of the front side of the same, and

Figure 2 a vertical section taken in the plane of the line  $x x$ , fig. 1.

Similar letters of reference indicate like parts.

A, in the drawings, represents the pumping cylinder, placed in a horizontal position, and open at each end. This cylinder A, upon its lower side, communicates, through a centre valve or valves, opening inward, with the water-reservoir or supply, and at its upper side, through a valve or valves opening outward, with the discharge pipe or tube B inserted therein. C, two plungers or piston-heads, arranged to play in cylinder A from each open end to its centre line. These plungers C have each a rod, D, secured to them, that play through guides, E, at their outer ends, and by the connecting-rods F, hung or pivoted to them, they are both operated by the cam-way or groove G in the face of a disk or plate, H, attached to a shaft, I, provided with a crank-handle or other suitable means for turning it, the connecting-rods by the rollers L hung to the upper ends playing around and within the said cam-way or groove, which is of suitable shape to cause the plungers or piston-heads to simultaneously move in and out within the cylinder, and thus to pump and force up the water through the discharge pipe or tube D.

I claim as new, and desire to secure by Letters Patent—

The cylinder A, piston-heads C, cam-grooved disk H, and connecting-rods hung in said cam-groove, when all are constructed and arranged together, substantially as and for the purpose specified.

GEORGE BRUCE.

Witnesses:

JAMES D. IRVIN,

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