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# JOHN G. BUTLER'S PROJECTILE.

No. 119,313.

Patented Sep. 26, 1871.

FIG. II.

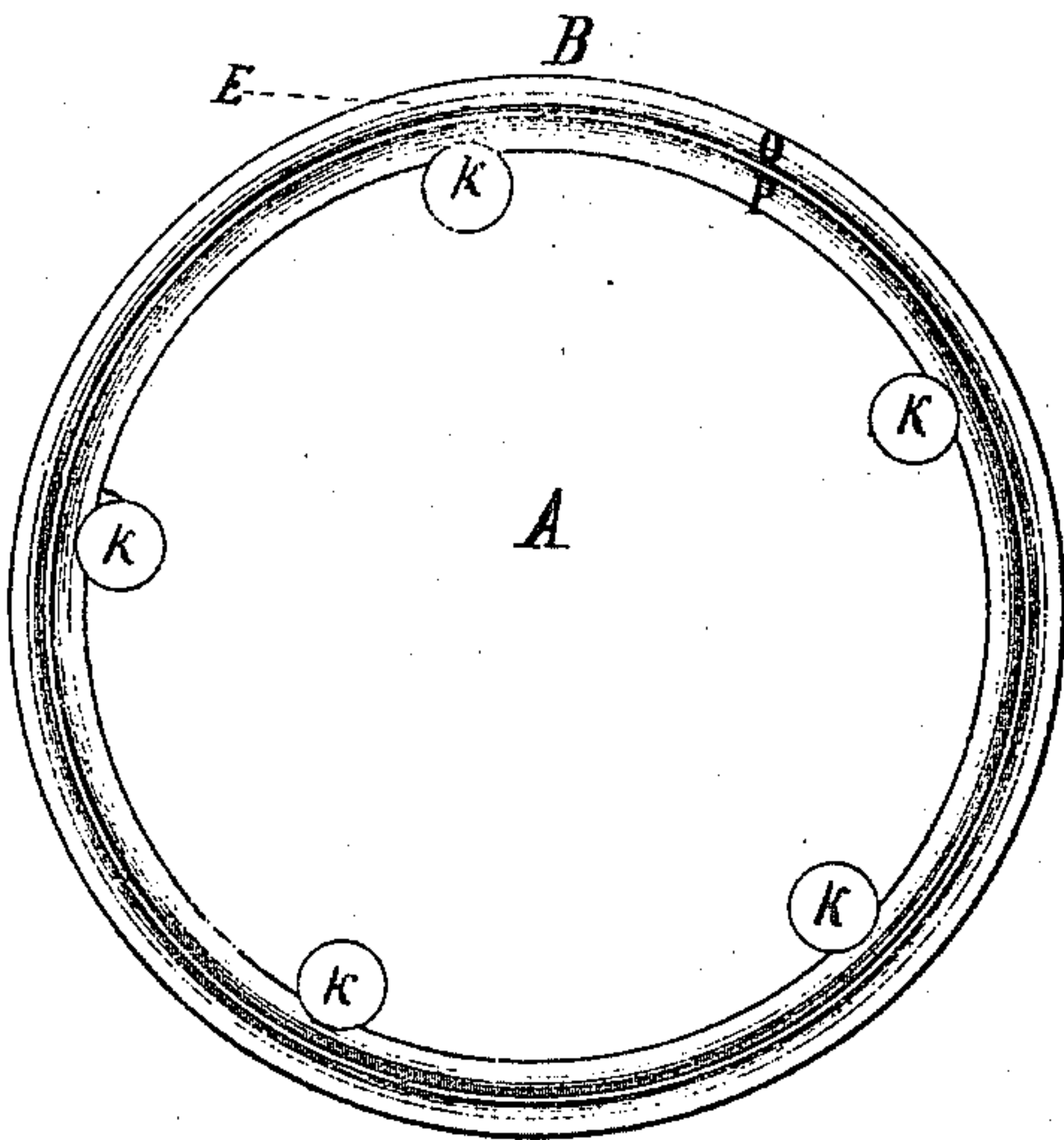


FIG. I.

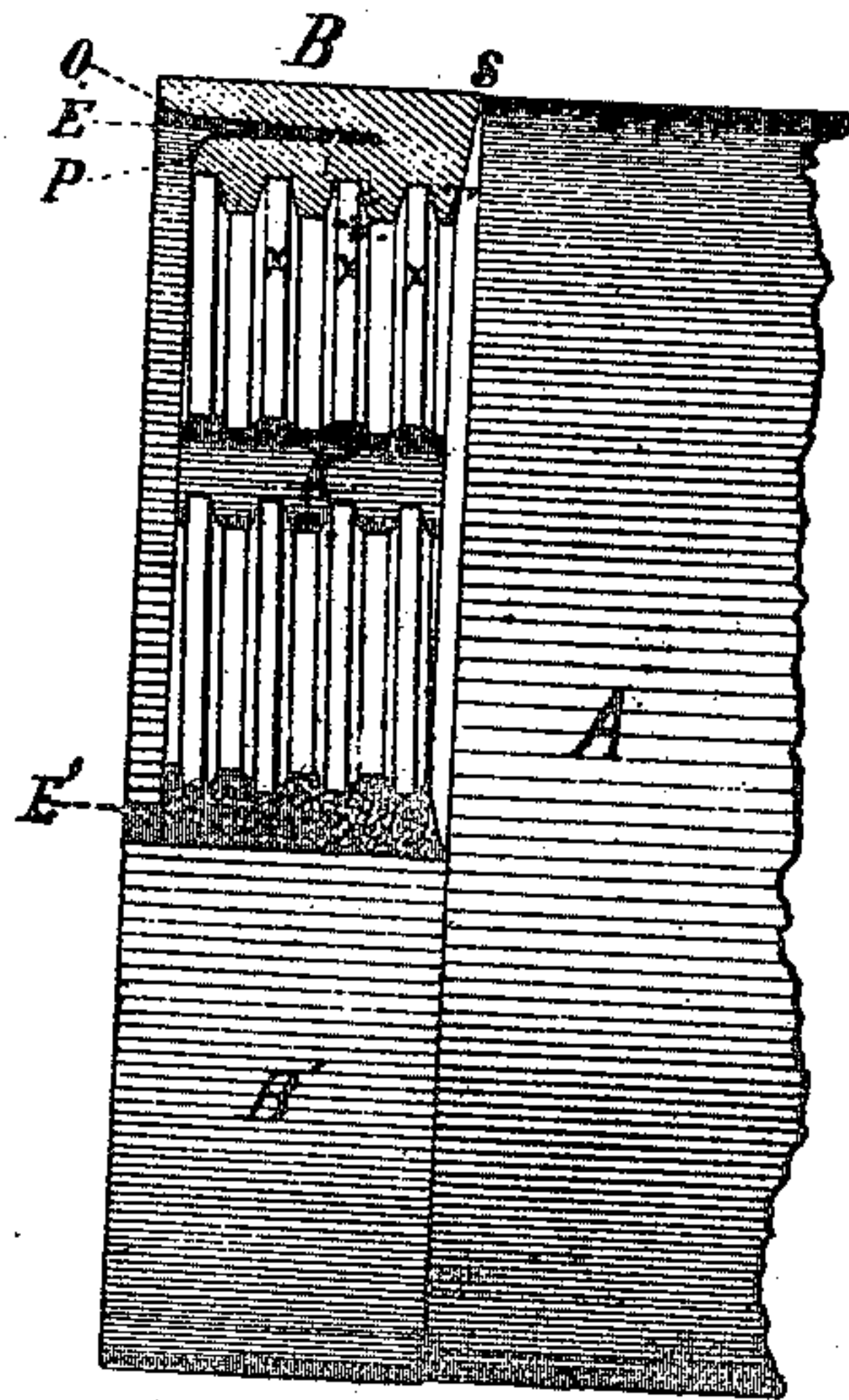
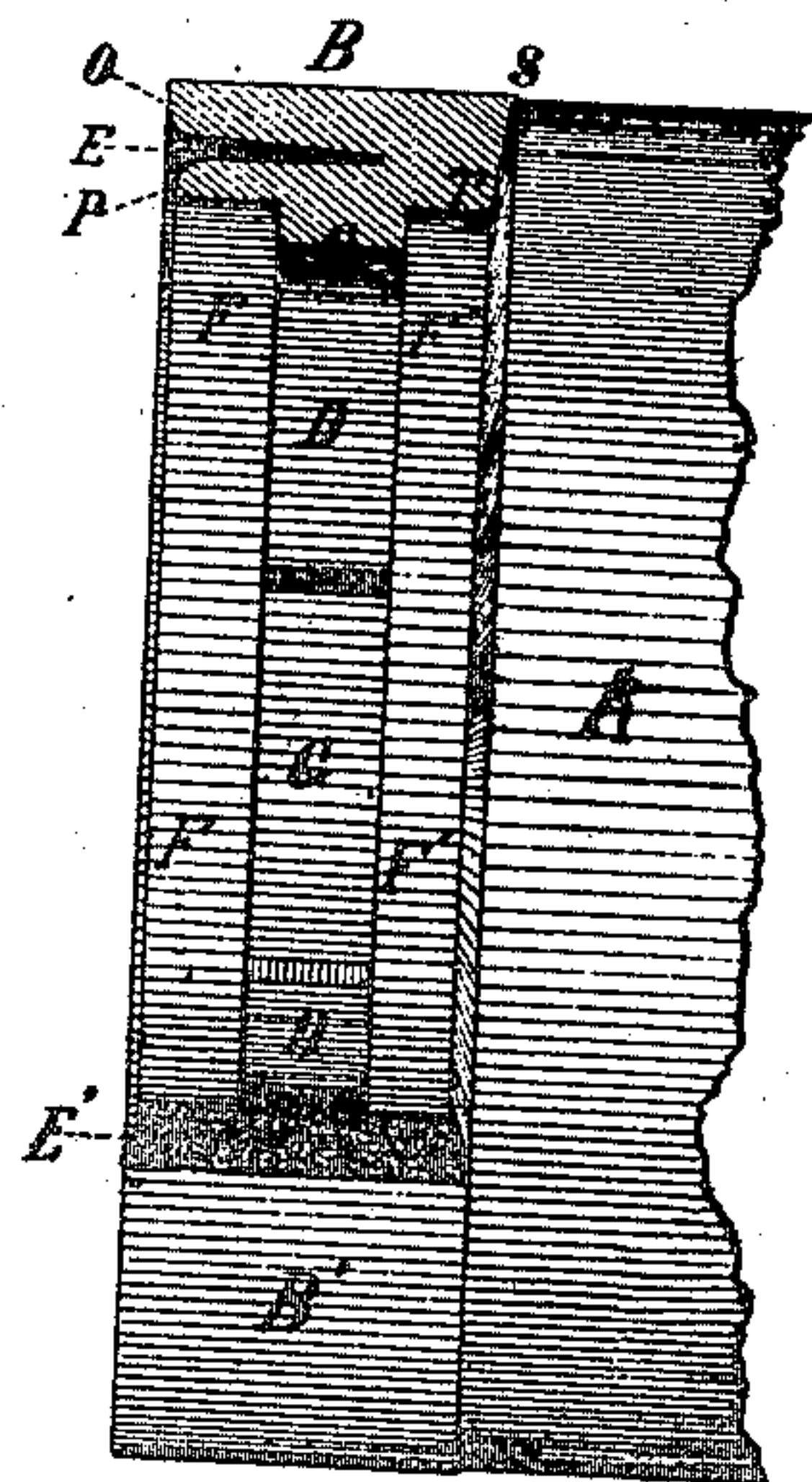


FIG. III.



WITNESSES,

*John F. Heines.*  
*Edward J. McElroy.*

INVENTOR,

*John G. Butler*  
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# UNITED STATES PATENT OFFICE.

JOHN G. BUTLER, OF FORTRESS MONROE, VIRGINIA.

## IMPROVEMENT IN PROJECTILES.

Specification forming part of Letters Patent No. 119,313, dated September 26, 1871.

*To all whom it may concern:*

Be it known that I, JOHN G. BUTLER, United States army, of Fortress Monroe, in the county of Elizabeth City and State of Virginia, have invented an Improved Projectile for Rifled Guns, of which the following is a specification:

My invention relates to improvement in projectiles for rifled ordnance; and it consists in applying to the same, by any suitable mode of attachment, a continuous circular-band having a deep posterior slit. Hitherto, cups or saucer-shaped devices have been attached to the rear ends of projectiles, for the purpose of "centering" the projectiles by expansion into the grooves of the gun in consequence of the action of the powder-gas. They have, however, been so applied as to lengthen the projectiles, a defect my invention is designed to obviate.

In the drawing, Figure 1 is a side elevation, partly in section, of an annular or continuous band applied to the rear end or base of a projectile, and Fig. 2 is an end view of the same. Fig. 3 shows a similar band connected with a projectile.

A indicates the body of the projectile, and B the split annular band shown, applied thereto, in two different ways as per Figs. 1 and 2. A male screw-thread is cut in the projectile and a corresponding female screw-thread on the inner surface of the annular band. Metallic keys K, are inserted in holes drilled in the end of the projectile for the purpose of preventing the band from turning or slipping. In Fig. 3 the band is shown attached by being cast upon the projectile, in

which D D and G are offsets from the shoulders F' F, the same forming a series of connected cells or one continuous groove, varying in depth, around the projectile, for the purpose of receiving the molten metal, (forming the band.) O is the upper and P the lower lip of the annular band. E is the opening between the lips designed to receive the powder-gas, whose instantaneous entrance is facilitated by the tapering or wedge-shaped form of the opening, and the posterior projection of the upper-lip O. S T indicate the rounded or beveled junction of the band and the projectile. By thus slitting or grooving the band I provide a long expanding lip, and at the same time avoid the necessity of allowing the projection of the same to any considerable extent beyond the end of the projectile; this renders projectiles to which they are applied capable of being packed in smaller space, reduces the cost, and facilitates handling.

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

1. The split or slitted annular band B applied to the base of a projectile, substantially as specified.

2. The double-lipped band B attached to the projectile by means of the screw-threads and metallic keys K, substantially as specified.

JOHN G. BUTLER.

Witnesses:

EDWARD J. McELROY,  
JOHN Z. HEINEL.

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