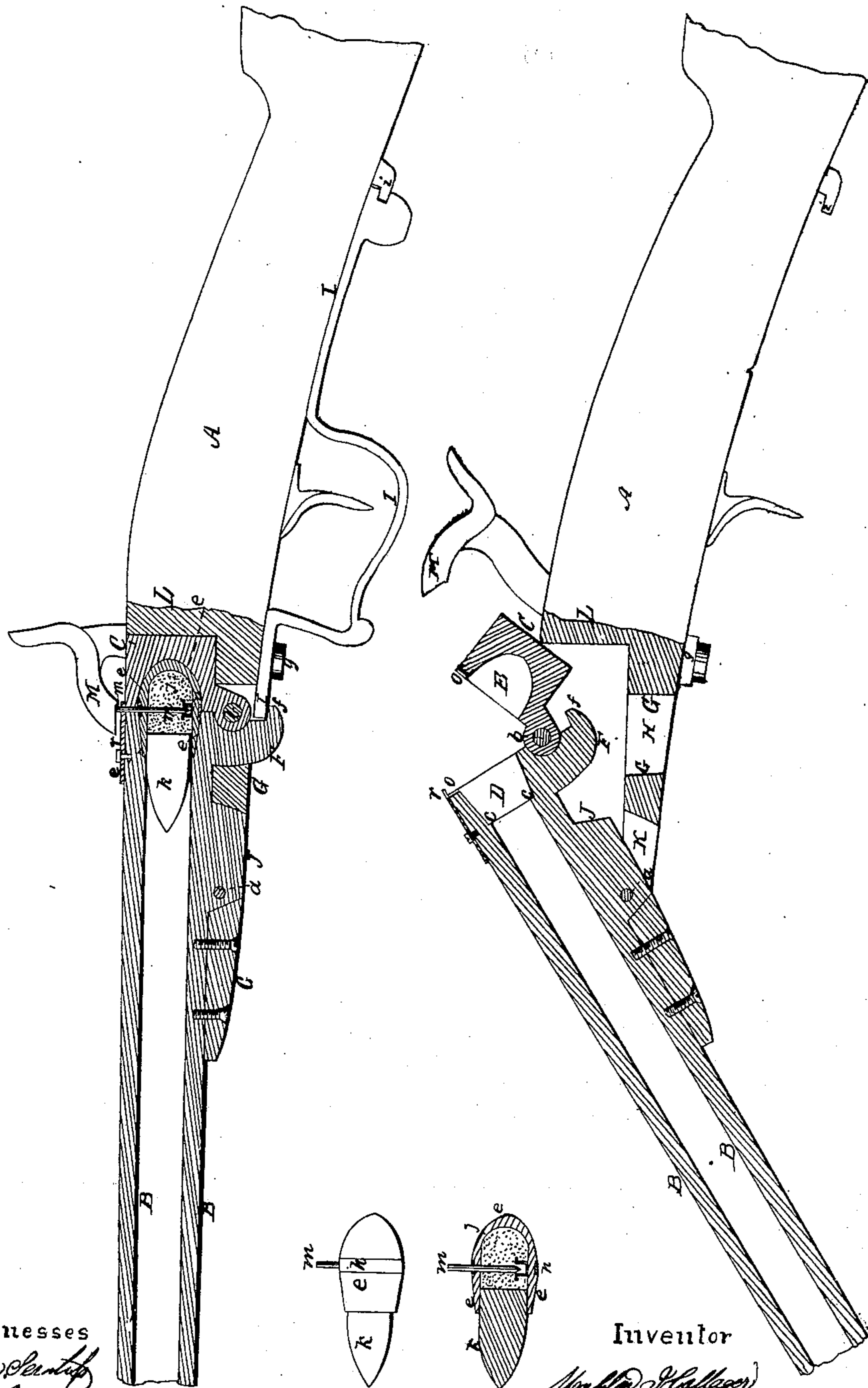


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BREECH LOADING FIREARM.

No. 24,730.

Patented July 12, 1859



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 24,730, dated July 12, 1859.

*To all whom it may concern.*

Be it known that we, MAHLON J. GALLAGER and WILLIAM H. GLADDING, of Savannah, in the county of Chatham and State of Georgia, have invented certain new and useful Improvements in Breech-Loading Fire-Arms; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a longitudinal section through the gun when charged with the cartridge and ready to be fired. Fig. 2 represents a similar section through the gun when it is put in position for receiving a cartridge, the breech being opened for that purpose. Fig. 3 represents a side view and a section of one of the cartridges which we propose to use.

Our invention consists in the peculiar form of that part of the bore of the gun or breech-piece which constitutes the chamber for containing the cartridge.

To enable others skilled in the art to make and use our invention, we will proceed to describe the same with reference to the drawings.

A represents the stock of the gun, and B the barrel, which may be of any well-known form or material. The barrel is pivoted or hinged to the stock at or near the point *a*, so that the rear end of the barrel may rise up, as shown in Fig. 2, which requires said hinge to be forward of the joint between the barrel and the breech of the gun.

C is the breech of the gun. It is hinged at *b* to the end of the barrel B, and moves with the barrel when it is raised or lowered. The rear end of the barrel, and behind its bore, is formed into a chamber having the form of a frustum of a cone, as seen at D, though it may have the form of a section of a parabolic spindle, it being necessary only that said chamber should be larger at its rear than at its forward end, and it is immaterial whether the boundaries of the chamber between these points be right-lined or curved; and where the chamber meets the bore of the gun, as at *c*, there may be a slight shoulder; or it may terminate without the shoulder, though we prefer the shoulder. The breech-piece C is countersunk, so as to form a chamber somewhat in the shape of a section or, rather, piece of a parabolic

spindle, or of a half-egg form, as seen at E, Fig. 2, the base or larger part of this chamber or countersink being next the base of the chamber D in the barrel, and of equal size or diameter with it, so that when the hinged breech C is closed up against the barrel the semi-chamber in each shall form one chamber of a form that will receive a cartridge-case, *e*, such as represented in Figs. 1, 3, or of substantially that form.

The opening and closing and locking of the breech are effected as follows: A projection, F, on the under side of the barrel, that has a catch-piece, *f*, on it, passes through an opening, H, in the metal part G of the stock. Underneath the stock is pivoted at *g* a lever, I, which may be so bent as to form the trigger-guard, the rear end of which swings under a stationary catch, *i*, in the after part of the stock. The front part of this lever swings in onto the catch-piece *f*, and thus firmly locks down the barrel and breech-piece to the stock. Other fastenings, of course, may be devised for effecting this object. The one we show is simple and effective.

There may be a second projecting piece, J, on the under side of the barrel, which snugly fits into the mortise or opening K in the metallic part G of the stock or mounting, the object of this being to make a strong and reliable union between the barrel and stock; and this is further effected by causing the rear of the hinged breech-piece C to come up snugly to the metallic piece L on the stock A. The joints thus all bear tightly against each other, and there is no weak point in the connection, as the joints are all broken or covered by solid material horizontal or vertical to their line.

The cartridge-case *e* may be made of paper, wood, or metal. If of paper or wood, they may have a light metallic band, *h*, around them; but though the case is swelled out on its outer perimeter, as shown in the drawings, its chamber is cylindrical and of the same diameter throughout.

*j* is the charge of powder in the cartridge-case, and *k* the ball, which is tightly inserted in its open end, and is of the "Minié" form, or pointed. The cap *n* or other thing which ignites the powder is placed inside of the cartridge, and a pin or rod, *m*, is set in said cap, and extends through the cartridge-case, upon which rod the hammer M falls and explodes

the cap or other priming and ignites the powder.

At the joint between the rear of the barrel and the front of the hinged breech-piece there is a small opening, *o*, half of it formed in each of said pieces, through which the rod *m* projects, and the rod thus forms a gage for the extent of entrance of the forward part of the cartridge into the barrel, and the recess in the end of the barrel forms a gage for the position of the rod, so that the hammer shall strike it centrally and fairly.

The cartridge-case *c* closely fills the chamber formed for it in the barrel and the breech-piece, and remains in its chamber when the charge contained in it is fired, so that it may be used over and over again. It is evident from the outer form of the cartridge-case that it cannot be driven out of its chamber, though it may be forced forward slightly, which tends more closely to pack the joint between the barrel and the breech, and thus prevent the escape of the gases or of any of the force of the charge.

Instead of the notch *o* in the barrel being the gage for the pin *m* to come against, a sepa-

rate and adjustable gage, *r*, may be attached to the barrel, and the face of the hammer may be so made as that when the arm has been discharged, and the lever *I* swung out, so as to release the barrel, and the barrel raised up, the hammer continuing in contact with the rod *m*, it may draw out the cartridge-case from the barrel.

Having thus fully described the nature and object of our invention, what we claim therein as new, and desire to secure by Letters Patent, is—

Forming the chamber in the barrel and breech of the gun of the shape of two frustums of cones or of a frustum of a cone, and a section of a parabolic spindle, whose bases meet at or near the line of the joint between said barrel and breech, for the purpose of containing a cartridge-case of the form substantially as that herein represented.

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Witnesses:

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