(No Model.)

J. ALMOND.

CROSS BOW AND ARROW.

No. 315,878. Patented Apr. 14, 1885.

Fig. 1.

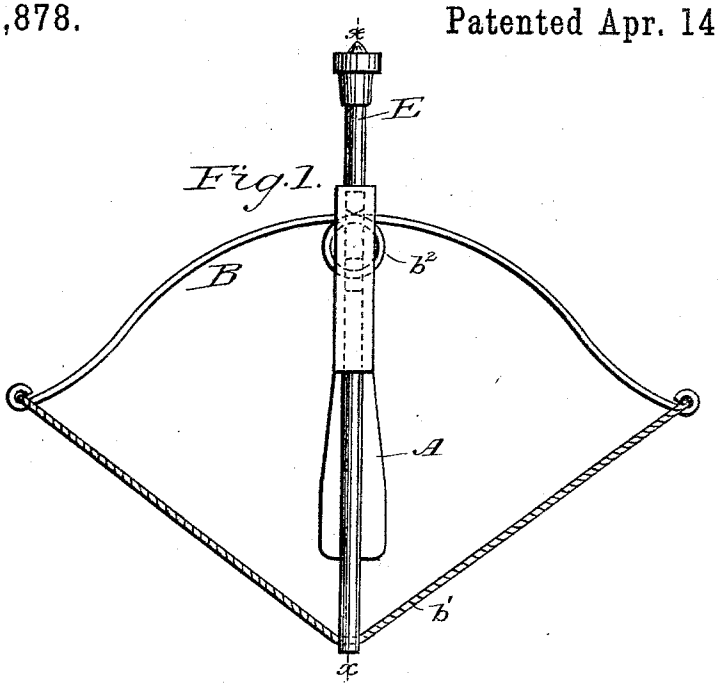


Fig. 3.

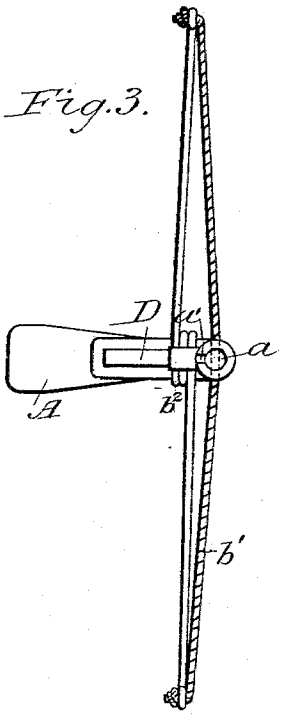


Fig. 4.

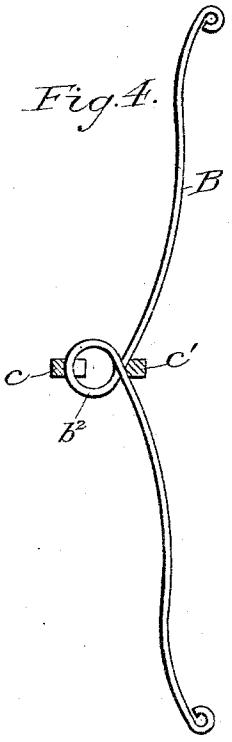
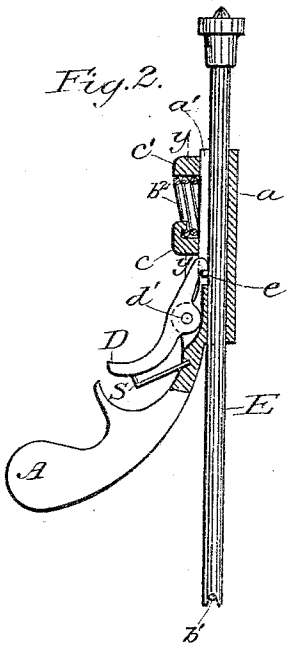


Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES ALMOND, OF BROOKLYN, NEW YORK.

CROSS-BOW AND ARROW.

SPECIFICATION forming part of Letters Patent No. 315,878, dated April 14, 1885.

Application filed January 7, 1885. (No model.)

To all whom it may concern:

Be it known that I, JAMES ALMOND, of the city of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Cross-Bows and Arrows; and I do hereby declare that the following description, taken in connection with the accompanying drawings, forms a full and exact specification, reference being made to the letters and figures marked thereon.

My invention relates to a cross-bow and arrow; and it consists of a novel method of forming the bow, and means for attaching and detaching the bow from the barrel and stock, and in an improved arrow and lock for loading and discharging the cross-bow, which will be more fully described and claimed.

Figure 1 is a plan view of my improved cross-bow and arrow, representing the same loaded ready to be discharged. Fig. 2 is a longitudinal section view of the same, taken through line *x x*, Fig. 1. Fig. 3 is a front view of the cross-bow before the bow is drawn. Fig. 4 is a sectional view taken at *y y*, Fig. 2, showing the bow in a plan view before it is drawn, detached from the barrel and stock.

Having described my invention by reference to the figures illustrated in the accompanying drawings, I will now proceed to describe the same by reference to the letters marked thereon. A represents the stock and barrel of the cross-bow. The drawings show the barrel and stock formed together. They may be sectional and joined.

a represents the bore for the reception of the arrow.

a' represents a groove in the lower part of the bore to accommodate a projection on the arrow.

B represents the detachable bow, having two coils in the center. These coils are provided to impart additional elasticity to the bow, and for centering the same when attached to the barrel.

b is the coil.

b' represents the cord attached to the ends of the bow.

C represents a projecting hook on the under side of the barrel for receiving and holding the coil, and C' represents a projecting lug on the under side of the barrel, so located as to fit in the angle formed by the coil in the bow for centering and holding the bow when the same is in use and to allow the same to be inserted or removed at the pleasure of the operator.

D represents the lever forming the catch at one end and a trigger at the opposite end. This lever is pivoted near the center to the under side of the stock.

d represents the catch, and *d'* is the fulcrum or pivot. This lever is moved upward by spring S, one end attached to the trigger and the other bearing against the stock. The end of the lever on which the inclined catch is formed is let into the barrel, so as to embrace the projection on the arrow, as hereinafter described. A downward motion may be imparted to the end of the lever carrying the catch by the operator pulling the trigger, thereby releasing the arrow, as hereinafter described.

E represents the arrow, and *e* represents a projection on the arrow-stem. A single coil is shown in the drawings; two or more may be used. It is obvious that a projecting pin might be formed integrally with the arrow without departing from the spirit of my invention.

Operation: The coil on the bow is inserted in hook C, and the angle formed by the coil is placed astride of the lug C'. The cord is then drawn backward until the same is brought over the bore at the rear of the barrel. The arrow is then inserted in the muzzle with the projection downward, so as to move in groove *a'*. The arrow is then crowded backward until the projection *e* on the arrow is forced back of catch *d* on the lever, when the cross-bow is loaded ready for use. To discharge the arrow, the trigger or lever is pulled by the operator, thereby releasing catch *d* from the projection *e* on the arrow.

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

1. The combination of a bow constructed of wire, having one or more convolutions in the center, the coils being formed on a plane with the bow, with a barrel having upon the under side a projecting hook to embrace and retain the bow and a projecting lug on the under side of the barrel to fit the angle formed by the convolutions in the bow, combined and arranged for attaching and detaching the bow from the barrel, substantially as described.

2. In an arrow-gun, the combination of the arrow, constructed, as described, with a notch in the rear and provided with a projecting pin, with the gun herein described, provided with a slotted barrel and a trigger which engages the projecting pin on the arrow when the latter is in position to be shot, and the bow and string, substantially as described.

3. In an arrow-gun, the combination of the barrel, constructed, as described, with a hook and a lug to hold the bow and retain it in position, and provided with a slot through which the projection on the arrow passes as the latter is shot from the gun, and provided with a trigger which engages directly with the projecting pin on the arrow, of the arrow provided with a projecting pin and a notch, and a bow and string, as set forth.

4. In an arrow-gun, the combination of the barrel provided, as described, with a hook and lug for retaining the bow in place and a trigger for engaging a projection on the arrow and thus holding the arrow when in position to be discharged, with an arrow provided with a notch or groove to engage with the string of a bow, and a projecting pin which extends at an angle to the notch or groove in the arrow, and a spring-bow and string, substantially as described.

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