

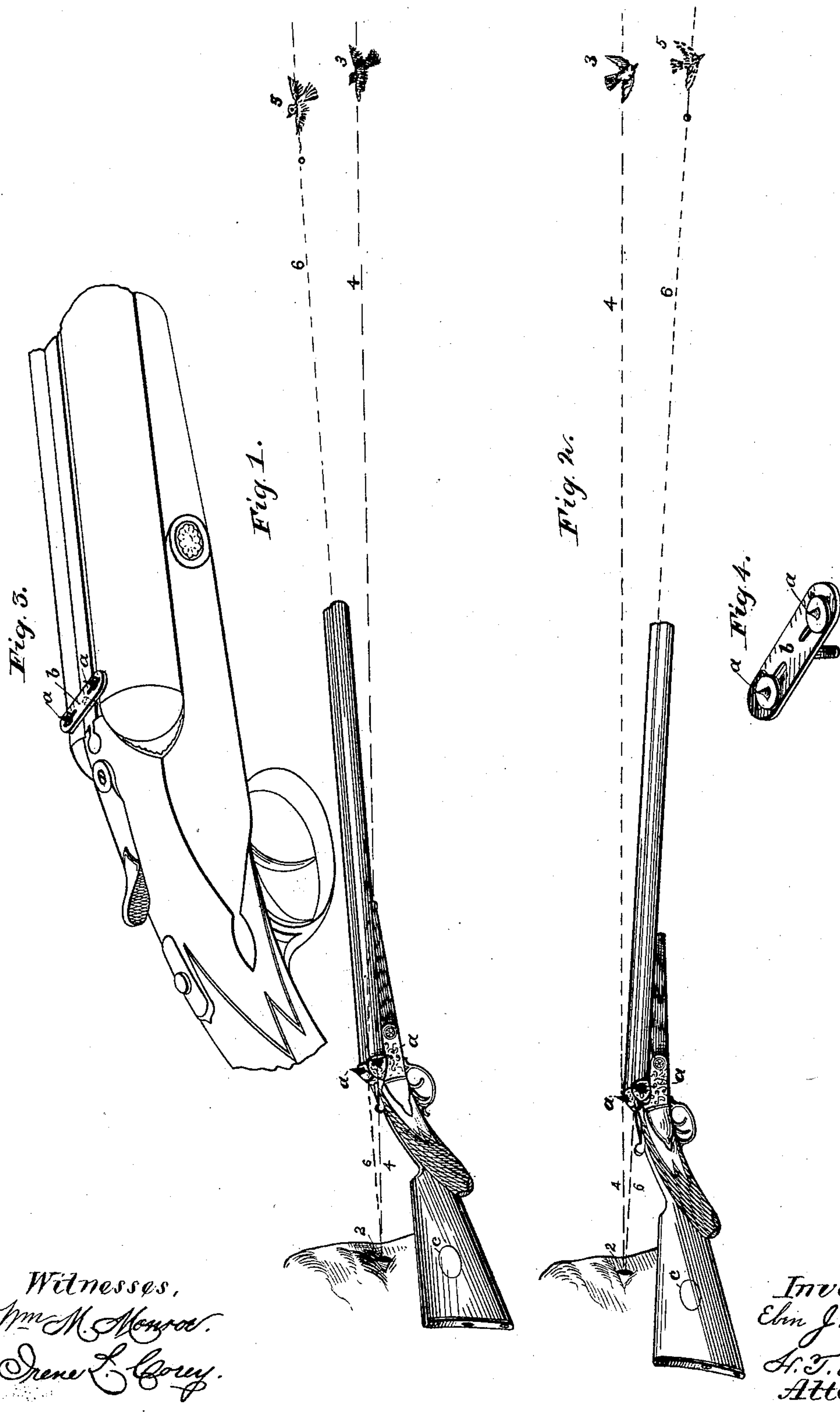
(No Model.)

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SIGHT FOR FIRE ARMS.

No. 392,108.

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SIGHT FOR FIRE-ARMS.

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To all whom it may concern:

Be it known that I, EBEN J. CUTLER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Sights for Fowling-Pieces; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to sights for fowling-pieces and other fire-arms; and it consists in a fowling-piece—as a single or double barrel shot-gun, rifle, or like weapon—provided with a single fixed or adjustable sight arranged on the breech of the gun, substantially as shown in the drawings, whereby a sight is obtained for taking aim in the shooting of any object in motion, animate or inanimate, which enables the gunner to “hold” with precision the proper distance in advance of the object, while at the same time he is “sighting” the object, the same as if it were fixed or at rest. Where and how to hold with reference to game in motion is a question which perplexes the most skillful marksmen, however long and varied his experience, for the reason that the conditions under which a shot is made are seldom repeated, and so many fine calculations are required on the instant that at best and by the observance of all known rules a wing shot becomes largely a matter of guess-work, with the element of “chance” largely against it. For illustration, take a bird in flight, say, forty yards away. Now, if all birds flew at exactly the same rate of speed and a hunter were absolutely certain that he were just forty yards distant, he might with some certainty be able to determine where to hold; but it is known that the flight of birds differs widely, according to the variety of bird, and that the same birds do not always fly equally fast, the speed varying according to circumstances, as when flying against wind or with it, when about to light, when rising and starting off, and the like. Here, then, the hunter has to take into account whether the bird is moving at the rate of, say, twenty-five miles per hour or one hundred or more miles per hour, and in the same moment he must determine its distance from him, for

he will have to hold ahead of the bird according to both its speed and distance and according to the size of the shot employed and the angle of flight to the line of fire. It will be seen that these conditions are liable to such wide variation, and that a shot, which must frequently be made without a moment's time for calculation, is subject to so many contingencies, that, as before said, it becomes largely a matter of guess-work with the most expert gunner as to where he should hold to get his game. That he should hold “ahead” when the flight is at an angle to the line of fire is obviously necessary; but how far ahead, whether five feet or ten feet, is the question, and if he should know definitely how far he would at last be left to the uncertainty of a hurried sweep of the eye to measure off the right distance and to hold his gun at that distance when discharged. His immediate attention would be directed to getting correct measurements; but in getting these the eye would have to be relied upon to do the work, and there is nothing more reliable or certain offered in the best practice hitherto known.

The object of my invention is to reduce the conjectural and uncertain in wing shooting to the minimum, and to provide means whereby the bird may be “sighted” just as if it were at rest, and the gun held mechanically the proper distance ahead, all as hereinafter described.

Referring to the drawings, Figure 1 is a perspective view of a double-barreled gun provided with my improved sights, and showing the line of sight on a bird in full lines and the line of discharge on the bird in dotted lines. Fig. 2 is a corresponding view with the bird flying in the opposite direction. Fig. 3 is a view showing adjustable sights, and Fig. 4 is a detail of the adjustable sight-plate and the sights fixed thereon.

I have chosen to illustrate the invention with a double-barreled gun; but a single barrel would serve the purpose as well. As it is, each barrel is provided with a single sight, *a*, on the breech of the gun, just at the end of the barrel; but the sight might be located on the barrel, if preferred, and be within the scope of the invention, the exact location or form of the sight not being material, provided

it be in position to sight an object about as shown in Figs. 1 and 2. These sights are fixed, and by them the gunner will be able to adapt himself to a variety of birds flying at different rates of speed without any material change in sighting. Suppose, for example, that, as shown in Figs. 1 and 2, the figure 2 denotes the eye of the hunter, 3 the bird, and 4 the line of sight. Now, if the bird flies at the rate of sixty miles an hour, it will fly eleven feet in one-eighth of a second—say to figure marked 5 on line 6, the direct line of the gun. Assuming that the gunner is distant one-eighth of a second from the bird and that sixty miles is an average rate of flight, the gunner would sight the body of the bird, while the barrel of the gun would hold exactly eleven feet ahead. This would occur mechanically and unavoidably if the gun be held in the usual and natural position with the cheek against the cheek-piece. Then, if the bird were of a variety that flies at a more rapid rate, he would sight, say, the head, which would throw the muzzle a corresponding distance forward, and if sighting at lower bird than the average sight back of the body. The same rule would hold good in sighting the same bird under different rates of flight. If the fixed sights do not afford sufficient range for the carrying out of this rule of sighting, an adjustable sight may be employed, though this will not ordinarily be found necessary. I have shown such a sight or set of sights, *a a*, adjustable laterally in slots in a plate, *b*, removably fixed on the rear end of the barrels, said sights having fingers to gage the adjustment by a scale on the plate *b*. By this means it is easy to fix the sight for shooting birds that fly either very fast or very slow, while the sighting in either case will be upon the body of the bird the same as if all the conditions were of the average, as above described. It will be observed, also, that by this system the distance of the bird is wholly immaterial, provided it be within range. If it be nearer than here shown, it will be on the converging lines, and if it be further than shown it will be on the diverging lines, counting back and forth from the bird, Figs. 4 and 5. In any case the gunner will be sighting his bird all the time, just as though it were at rest, and when he pulls may feel certain that he has got the correct measurements both as to distance personally away from the bird and the distance he is holding ahead. These difficult measurements are determined for him and with a degree of accuracy that renders shooting on the wing by an ordinarily skillful marksman much more easy and certain than by any system hitherto known.

In the shooting of any object in motion, or "on the wing," as it is generally termed, there have been three things to take into consideration—viz., the distance of the bird from the shooter, the speed of the bird in flight, and the measuring off by the eye the distance necessary to hold ahead of the bird. By the use

of this breech-sight two of these conditions are done away with: first, the distance the bird is from the shooter, because the sides of the angle formed by the aid of breech-sights will widen as the distance increases, and consequently the sights be the same, whether near or far; second, the breech-sights will be so arranged as to give the measurement necessary to hold ahead. In practice, throw the muzzle of the gun on the moving object, and then forward till the eye, the sight *a*, and the object are in line. Hold in this relative position by moving the gun at the same rate of speed as that of the object until the trigger is pulled and the gun discharged. After a little practice it will not be necessary to notice the muzzle of the gun at all; but throw the sight *a* directly upon the object and hold it there till the gun is discharged.

In speaking of a "sight" in the foregoing description the sight *a* is always referred to, as no other sight is needed in a gun constructed to carry out my invention. It will be understood that this sight *a* covers and includes any and all elevations or depressions or other markings made upon or near the breech of a gun—double or single barrel—for accomplishing the purposes, directly or indirectly, herein described and claimed. A hammerless gun is here shown; but one with hammers would be used in the same way.

An experienced gunner will mechanically bring his cheek to the cheek-piece on the same spot every time so nearly that, the angles of sight and barrel, having their apex at the eye, being once established, there will be no material variation therefrom in repeated shots; but if there should be any difficulty in this particular with beginners or others a suitable mark or guide of some kind—as a small plate of inlaid silver, *c*—may be placed on the cheek-piece at the point where the cheek should rest.

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

1. In combination with a gun, a pair of sights attached thereto at the breech at opposite sides of the normal sight-line of the barrel or barrels, whereby the sight-line to the object aimed at will extend across or diverge from the said normal sight-line, substantially as set forth.

2. In combination with a gun, a pair of sights mounted at the breech thereof on opposite sides of the normal sight-line of the barrel or barrels, and each capable of lateral adjustment, whereby the sight-line to the object aimed at will extend across or diverge from the said normal sight-line, and the angular adjustment thereto may be varied at will, substantially as set forth.

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