To all whom it may concern:

Be it known that I, ALOYSIUS F. O'CONNELL, a citizen of the United States, residing at Norfolk, in the county of Madison and State of Nebraska, have invented certain new and useful Improvements in Bows and Arrows, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to an improved bow and arrow and one object of the invention is to provide a bow which is so constructed that the arrow may be retained in a tube associated with the bow and engaged by a releasable latch carried by the tube so that the arrow may be held in a set position with the bow drawn and the bow string under tension.

Another object of the invention is to construct this bow so that the arrow-receiving tube may serve to guide movement of the arrow when leaving the bow and thus cause the arrow to be propelled in the desired direction so that the bow and arrow may be used and the arrow very accurately fired.

Another object of the invention is to construct this bow so that, when in use, the arrow may be very accurately aimed and the bow prevented from being jarred out of position in which it is held upon releasing of the arrow.

Another object of the invention is to provide a bow with which an arrow may be very accurately fired, the bow being provided with the sight opening to permit proper aiming of the arrow.

Another object of the invention is to provide a bow having an arrow-receiving and guiding tube which is securely connected with the bow in an improved manner.

Another object of the invention is to provide an arrow having an improved sheath whereby it may be provided with seats for receiving a latch carried by the arrow-receiving tube of the bow.

This invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of the bow and arrow.

Figure 2 is an enlarged view showing the bow and arrow in side elevation.

Figure 3 is an enlarged longitudinal sectional view through the arrow-receiving tube.

This improved bow and arrow includes a bow 1 which may be formed of wood, metal or any other suitable material having the proper resiliency. Intermediate its length the bow has been provided with an opening 2 and above this opening 2 there has been provided a small opening 3 which permits viewing of the target in direct alignment with the arrow. The usual string 4 is provided and it will be seen that this bow resembles bows now in use except that it is provided with the large opening 2 and the small opening 3.

In order to hold the arrow 5 and guide movement of the arrow when initially discharged, there has been provided a tube 6 which has one end portion 7 threaded, and at the inner or rear end of this threaded portion 7 a collar 8. This threaded portion 7 is passed through the opening 2 formed in the bow until the collar 8 engages the rear face of the bow and a securing sleeve 9 is then screwed upon the forwardly projecting portion until it engages the forward face of the bow. It will therefore be seen that when the sleeve is screwed tightly into place the bow will be firmly clamped between the collar 8 and the end of the sleeve 9 thereby firmly holding the tube in tight engagement with the bow. If desired, glue, shellac or the like may be applied to the threaded end portion of the tube so that when the sleeve is screwed into place upon this threaded end portion the glue or shellac will serve to securely hold the sleeve in place and prevent it from working loose.

The arrow 5 is of the proper size for passing through the tube and is provided at its forward end with the usual head 10 and may have its rear end portion feathered, as shown at 11. This arrow is to be releasably held stationary in the tube and in order to permit of its being engaged by a latch 12, the arrow has been provided with recesses spaced longitudinally of tube 6 and forming latch-receiving seats 13. Cutting of the arrow to provide these recesses 13 might tend to weaken the arrow and therefore, the portion of the arrow having the recesses or notches formed therein has been covered by a sheath or tube 14 which is formed of thin metal which fits closely to the arrow and is provided with openings registering with the notches so that the latch may enter the notches.

The latch which has been indicated in general by the numeral 12, is of the lever type and is provided with side arms 15 piv-
totally mounted upon a pivot pin 16 carried by a band 17 which is drawn tightly about the tube to the rear of the collar 8, by tightening the pin 16. A spring 18 is provided upon the pivot pin 16 and engages the handle portion 19 of this latch so that the latch will be yieldably held in an operative position with its bill 20 extending through an opening 21 formed in the side of the tube. This bill 20 extends into the tube a sufficient distance to fit into a recess or seat 13 of the arrow and securely but releasably hold the arrow in a set position. The arrow will therefore be releasably held in place with the bow drawn and its string engaged with the arrow until the latch is released so that the bow can return to its original shape and by means of the string cause the arrow to be propelled forwardly through the tube.

When this bow is in use, the arrow to be fired will be passed through the tube and its rear end brought into engagement with the bow string. The arrow will then be drawn rearwardly through the tube with the bill of the latch moving out of one notch 13 and into another as the arrow is drawn rearwardly. When the arrow has been drawn rearwardly as far as desired and the latch is seated in one of the notches 13, the arrow will be securely held against forward movement and the bow will be held in the drawn position. The bow can then be sighted by looking through the sight opening 3 and as soon as the arrow has been aimed in the proper direction the handle 19 of the lever may be pressed to move the bill outwardly. As the bill moves outwardly the arrow will be released and the bow will spring back to its original shape thereby causing the bow string, which is in engagement with the arrow, to cause the arrow to be fired in the usual manner. As the arrow is fired it passes through the tube and therefore this tube will serve to prevent the arrow from moving out of the desired position when discharged. The arrow will therefore be very securely fired by means of this improved bow.

What is claimed is:

1. A bow, a tube extending through the bow intermediate its length and having a side opening, a latch carried by said tube and having a portion extending through the opening into the tube, said latch being movable into and out of an operative position and yieldably held in the operative position, and an arrow for passing through the tube provided with longitudinally spaced notches for receiving the latch and releasably holding the arrow in a set position with the bow drawn and the bow string engaged with the arrow and under tension.

2. A bow having an opening intermediate its length, a tube having a threaded forward end portion extending through the opening and a collar engaging the rear face of the bow, a clamping sleeve screwed upon the threaded end portion of the tube and engaging the forward face of the bow, a latch pivotally connected with said tube and having a bill extending into the tube through a side opening therein, and an arrow for fitting in the tube and passing through the same, said arrow having recesses for receiving the bill and causing the arrow to be releasably held against forward movement with its rear end in engagement with the bow string and the bow pulled.

3. An arrow having longitudinally spaced latch receiving recesses, and a strengthening sheath positioned about the arrow and having an opening registering with the recesses.

In testimony whereof I hereunto affix my signature.

ALOYSIUS F. O'CONNELL.