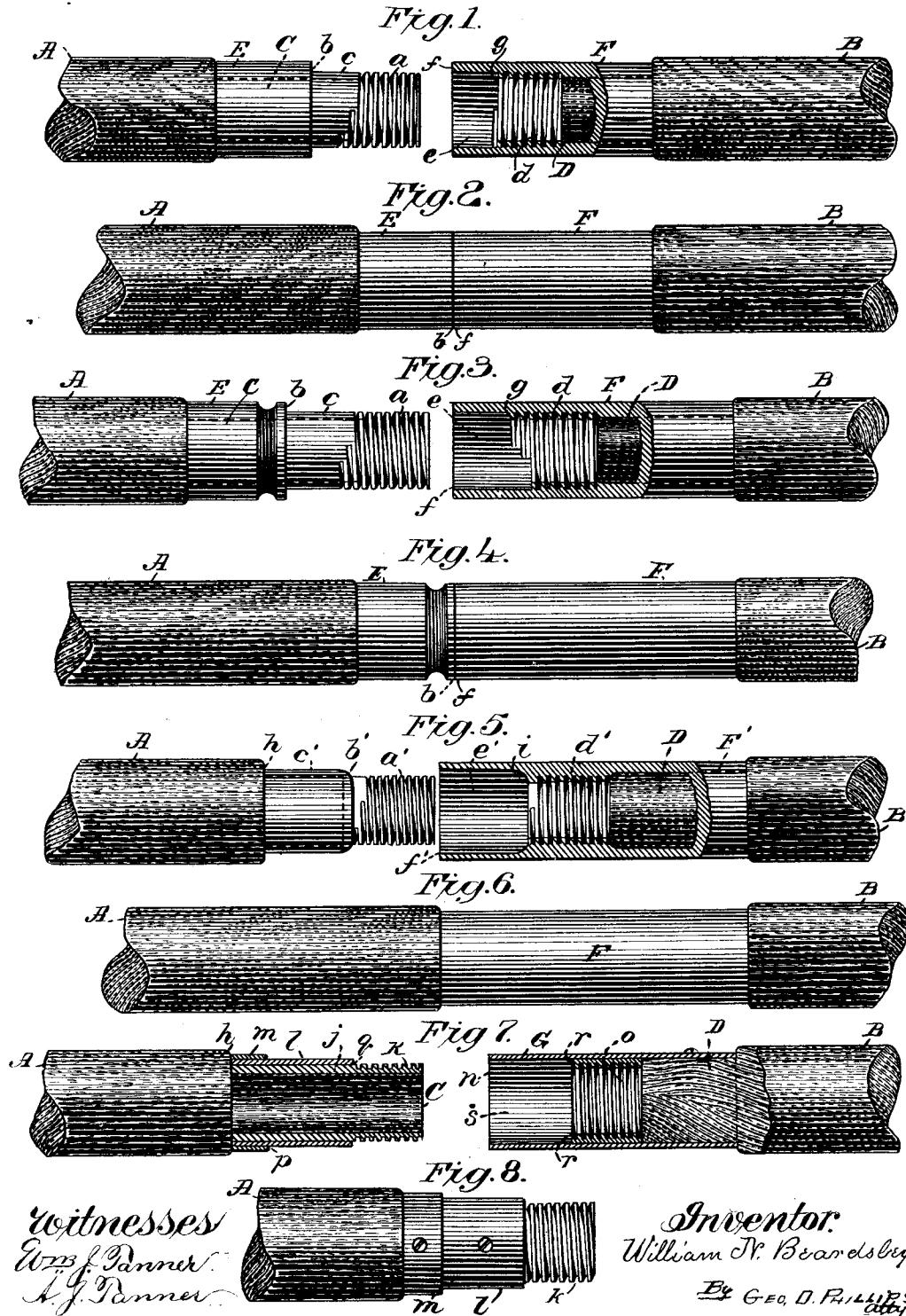


(No Model.)

W. N. BEARDSLEY.
JOINTED GUN ROD.

No. 468,529.

Patented Feb. 9, 1892.



UNITED STATES PATENT OFFICE.

WILLIAM N. BEARDSLEY, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO
MARCELLUS HARTLEY AND MALCOLM GRAHAM, OF NEW YORK. N. Y.

JOINTED GUN-ROD.

SPECIFICATION forming part of Letters Patent No. 468,529, dated February 9, 1892.

Application filed October 9, 1889. Serial No. 326,370. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM N. BEARDSLEY, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Jointed Gun-Rods; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to jointed gun-rods; and it consists in an improved construction of the tip and sleeve forming the coupling, so as to combine strength, lightness, and cheapness of manufacture.

Said improvement consists of a threaded tip attached to the tenon of one section of a rod, a shoulder on such tip between the threaded end and the rod-section, a blank threadless space or cylindrical surface between such shoulder and threaded end, and a hollow sleeve attached to the tenon of the other section of the rod, said sleeve having a female thread to engage the threaded tip, said thread situated within the sleeve, the space between said thread and the end of the sleeve enlarged below the thread to engage with the cylindrical portion of the tip, the end of sleeve abutting the shoulder of the tip, which, in combination with the cylindrical surfaces and the threaded portions, will form a compact joint.

My invention consists, further, in imparting additional strength to the joint by abutting the shoulder of the tip against a shoulder provided in the sleeve at the junction of the enlarged cylindrical mouth with the threaded portion.

My invention further consists in cheapening the manner of constructing the tip and sleeve to form the necessary shoulders and bearings—viz., a thin cylindrical metal shell having a threaded end, said shell placed on the tenon of the wooden rod-section, a second shell mounted on the first or primary shell, one end of which shell will form the shoulder and the other end abutting the

wooden section of the rod, and the sleeve consisting of a thin metal shell and having a separate threaded ring inserted therein.

To more fully understand my invention, reference is had to the accompanying drawings, forming a part of this specification, said drawings representing enlarged views.

Figure 1 represents a disjointed view of the tip and broken sectional view of the sleeve of a short coupling. Fig. 2 represents the same joined together. Fig. 3 represents a view of a longer section than that shown in Fig. 1, being a full view of the tip and broken sectional view of the sleeve. Fig. 4 represents the same joined. Fig. 5 represents a view of a tip and a broken sectional view of the sleeve, showing the manner in which the shoulder of the tip and shoulder of the sleeve engage. Fig. 6 represents the same joined. Fig. 7 represents a sectional view of the tip and sleeve constructed of a series of shells. Fig. 8 represents a full view of the tip shown in Fig. 7.

Its construction is as follows: A B represent the wooden rod-section; C D, their respective tenons to receive the tip and sleeve. E is the tip, and F the sleeve. The tip and sleeve are preferably made of thin metal tubing of sufficient thickness to form the threads and give the necessary strength to all the parts. The tips and sleeves of the couplings shown in Figs. 1, 2, 3, and 4 are substantially the same, the difference consisting only in the length of the sections. In a cheaper class of rods the devices shown in Figs. 1 and 2 would undoubtedly be used.

In Figs. 1 and 3 the tip E is fastened to the tenon C in the usual manner, said tenon extending, preferably, through said tip, said tip having the threaded end *a* and shoulder *b*. The thread on the end of said tip does not extend to said shoulder, but a smooth cylindrical surface *c* is left between such shoulder and the thread. The sleeve F is provided with the female thread *d* to engage the threaded end *a* of the tip. The mouth *e* of said sleeve from the end *f* to the end *g* of the thread *d* is enlarged below such threaded portion and engages with the cylindrical portion *c* of the tip. End *f* of said sleeve abuts against shoulder *b* of the tip, and when the

two sections are screwed together a firm cylindrical coupling is made, as shown in Figs. 2 and 4.

In Fig. 5 a slightly-different construction is shown. The thread a' is cut up to the shoulder b' , and the cylindrical portion c' is situated between shoulder b' and the shoulder h of the wooden section A. The sleeve F' is made, preferably, of heavier material than the sleeves of Figs. 1 and 3. This is necessary to form the shoulder i at the junction of the cylindrical mouth e' and thread d' . In joining the two sections—viz., the tip and sleeve—the shoulder i of this sleeve will engage or abut against the shoulder b' of the tip. The cylindrical mouth e' of the sleeve and cylindrical part c' of the tip will also engage each other. The end f' of the sleeve may, if necessary, also abut against shoulder h of the rod-section A, thus making when joined together, as shown in Fig. 6, a coupling apparently without a joint.

In the device shown in Figs. 7 and 8 the tip is constructed of a series of thin tubes or shells overlying each other. The primary shell j is placed on the tenon of the wooden rod-section, similar to the devices shown in the other views, one end abutting against shoulder h of said section, the other end k being threaded. The secondary shell l overlies shell j , but is shorter than such shell and is situated between shoulder h of the rod-section and the end of thread k . If required, a third shell m , shorter than shell l and overlying the same, may be placed against shoulder h of the wooden rod-section.

The sleeve G is made of thin metal tubing and placed on the tenon D of wooden rod-section B. As said sleeve would be too thin to form an internal or female thread, I prefer in this case to insert within the sleeve and at the proper distance from the end n the threaded ring o and secure it within said sleeve by soldering or in any other suitable manner. In joining the sections together the threaded portions will engage, as in the other devices. The end n of sleeve G will engage or abut against the end p of the short shell m . The shoulder q of the shell l will engage the shoulder or end r of the threaded ring o of the sleeve. The cylindrical mouths of the sleeve will also engage the cylindrical surface of the shell l . The short shell m may, if required, be dispensed with, in which case the end n of the sleeve may abut the shoulder h of the wooden rod-section by making said sleeve as much longer as the width of shell m . This device (shown in Figs. 7 and 8) it is thought might be made cheaper than those shown in the other views, the principle embodied be-

ing the same, the difference consisting only in its construction.

It is quite evident that the principle of construction above described, and shown in the several views—viz., the engagement of the threaded portions of the tip and sleeve, supplemented by the abutment of the end of the sleeve against a shoulder provided on the tip, together with the engagement of the long cylindrical surface of said tip and sleeve—will make a firm compact joint, thoroughly braced at all points, and much stronger than if such joint depended on the engagement of the threads alone.

The cylindrical surfaces of the tip and sleeve engaging each other will preserve the alignment of the sections while the threads are engaging, and thus prevent crossing of the same. Shortening the threaded portion of the tip and sleeve, enabling the joint to be quickly put together, is another advantage of the cylindrical surfaces of the two sections. I prefer to employ double threads on the sections to further facilitate the coupling of the same.

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

1. A gun-rod joint consisting of the sleeve F and tip E , each mounted on the tenon of a wooden rod-section and each provided, as shown, with the threaded portions a and d and smooth cylindrical portions c and e and arranged to engage each other, as shown, combined with the shoulder b , placed back of the smooth portion c of the tip to engage the end f of the sleeve and thus provide an additional support, and with the respective threaded and cylindrical portions of said sleeve and tip, as shown.

2. In a gun-rod joint, the combination, with the sleeve F , mounted on the tenon of a wooden rod-section, as shown, having internally-threaded portion d and smooth cylindrical portion e between said thread and end f of said sleeve, of the tip E , made of sheet-metal tubing, having threaded end a , smooth cylindrical portion c back of such threaded end, and shoulder b back of said cylindrical portion c , so that the end f of the sleeve shall abut firmly against said shoulder and thereby supplement and strengthen the engagement of the respective threaded and cylindrical portions of the sleeve and tip, as shown.

In testimony whereof I affix my signature in presence of two witnesses.

WM. N. BEARDSLEY.

Witnesses:

DAVID F. CROFUT,
L. M. SLADE.