(No Model.)

E. M. HOAGLAND.

ROD COUPLING.

No. 534,507. Patented Feb. 19, 1895.

Fig. 1.

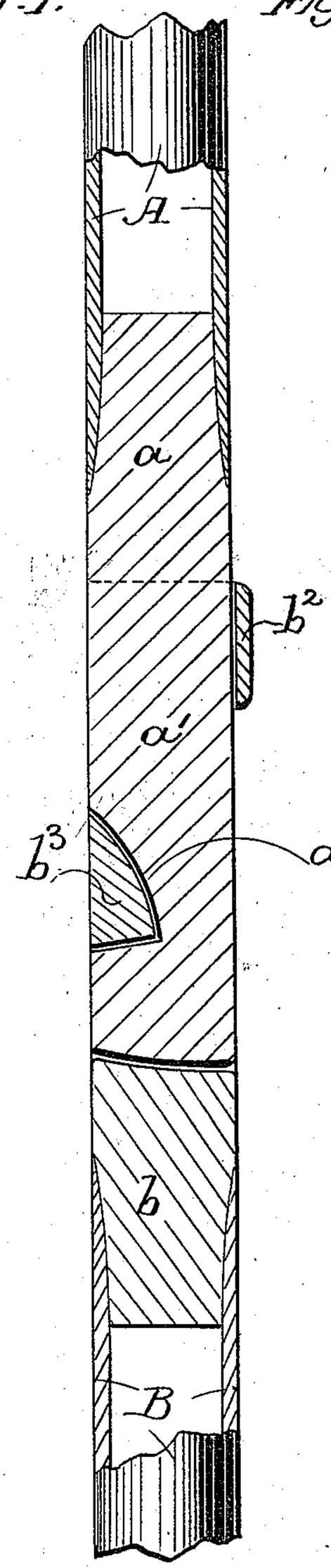


Fig. 2.

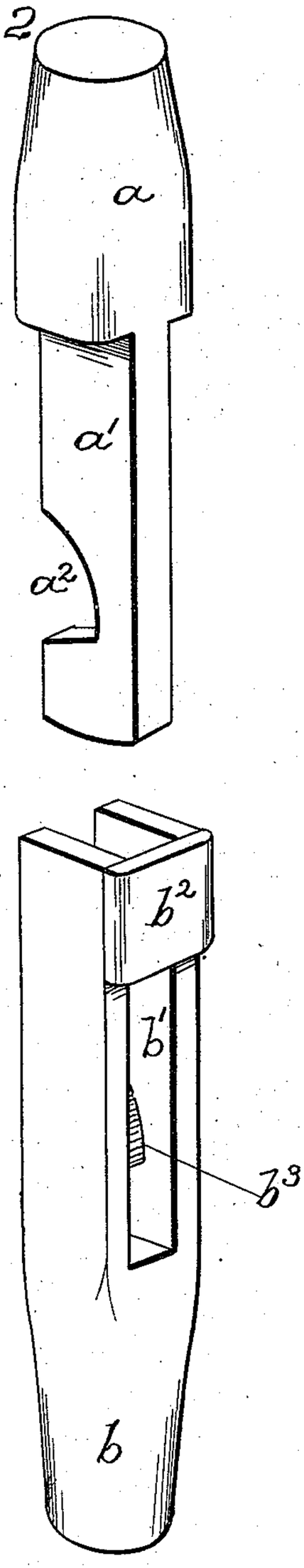
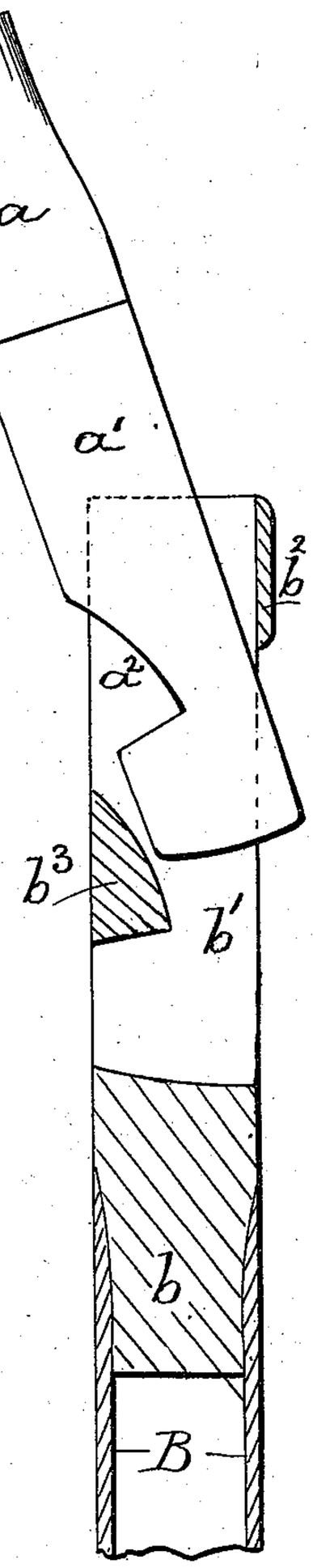


Fig. 3.



Witnesses;
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UNITED STATES PATENT OFFICE.

ELLERY M. HOAGLAND, OF SALINAS, CALIFORNIA.

ROD-COUPLING.

SPECIFICATION forming part of Letters Patent No. 534,507, dated February 19, 1895.

Application filed November 8, 1894. Serial No. 528,232. (No model.)

To all whom it may concern:

Be it known that I, ELLERY M. HOAGLAND, a citizen of the United States, residing at Salinas, Monterey county, State of California, have invented an Improvement in Rod-Couplings; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of couplings for joining the rods of well boring apparatus especially, though applicable to connecting other rods such as the rods of windmills and deep well pumps.

My invention consists in the novel construction and arrangement of the coupling which I shall herein fully describe and specifically claim.

The object of my invention is to provide a coupling for rods, which can be quickly made and broken, and while coupled will remain absolutely secure, thereby especially adapting the device for the joining of all rods, and particularly the rods used in well boring. In the last named work, it is required that the tool below be often withdrawn to discharge and to clear it. This, after it has gone down a considerable depth, is a matter of time, as it is necessary to uncouple the sections of the rod as the device is hauled up, and as it is put down again to couple the sections together once more. It is, therefore, of the greatest importance that the coupling and uncoupling be done with great facility and rapidity; but at the same time the coupling should be an accurate and positive one, precluding all danger of becoming accidentally uncoupled, and one which will permit both the churning action and the rotary movement without lost motion or without yielding or giving in the slightest. All these results are attained by my coupling which I shall now describe in connection with the accompanying drawings to which reference is hereby made.

Figure 1 is a vertical section of the coupling completed. Fig. 2 is a perspective view of the two parts of the coupling. Fig. 3 is a view showing the two parts in the act of coupling, the lower part being shown in vertical section, and the other in elevation.

The male coupling consists of a piece having a shank or stem *a* by which it is connected, as by means of welding or otherwise, with the end of one section A of the rod. It is also formed with a body *a'* having a thickness less than that of the stem or shank, but of approximately the same width. In this body portion, in one side or edge thereof, is made the notch a^2, its standing wall being on a slight curve, while its base is slightly inclined, though this curve and incline are not absolutely essential as they may be both straight surfaces, but I prefer them as here shown. The female coupling is formed with a stem or shank *b* by which it is secured, as by welding or otherwise, in the end of another section B of rod, as in the opposite end of the first section.

This coupling is provided with a hollowed body portion *b'*, the end and sides of the cavity being open. One side of the body, near its end, is provided with a directing wall b^2, while the other side, and at a point a little lower down, is provided with a stop wall b^3, the inner surface of which is beveled or inclined either on a curve or in a straight plane as may be desired.

The two sections of the coupling are fitted together by turning the male coupling at such an angle with respect to the female coupling that it will pass between the lower end of the directing wall b^2, and the inclined inner surface of the stop wall b^3 of the female coupling. After it has passed down in this space until the base of the notch a^2 in the male coupling has passed the lower end of the stop wall b^3 of the female coupling, the former coupling is then turned into line with the latter coupling, in which position the bodies of the two couplings will be flush with each other on each side, and the base of the stem of one will rest on the end of the body of the other, the end of the body of one will rest in the base of the cavity of the other, while the notch a^2 will fully engage the stop wall b^3 and thus the coupling is complete.

To uncouple, the male coupling must be turned to the same angle at which it entered, and it may then be withdrawn. It will be seen that this operation can be a very rapid one, and in the particular use which I have mentioned, namely, that of connecting the rods of well boring apparatus, it is evident that in coupling together one section of rod with a preceding one which has been lowered to nearly the mouth of the casing, the coup-

ling, when completed by turning the male coupling into line with the female coupling, is permanent, as the two will then descend into the small area or diameter of the casing in which it is impossible for the male coupling to turn to the angle for withdrawal, and, therefore, as long as the rods remain in the casing, the couplings cannot come apart.

The various stops and limitations of the two parts of the coupling are such that all the necessary rotary motion may be given to the rods, and also the churning action without in the least disturbing the coupling connection. Nor is there any lost motion and the parts easily draw to place.

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

1. A rod coupling consisting of a section having a shank reduced in thickness and provided with a notch in one of its edges, a second section having a hollowed or recessed body portion open at both sides with a directing wall b^2 closing a portion of the opening at one side, and a stop wall closing a portion of the opening at the opposite side, and disposed in a plane below that of the directing wall, said stop wall adapted to engage the notched portion of the first named section.

2. A rod coupling consisting of a section having a shank reduced in thickness with a notch formed in one edge, a second section recessed in the direction of its length with the recess opening through the top and two opposite sides of the section, a directing wall at the upper portion of one side of the second section and a stop wall at the opposite side of the section below the plane of the directing wall, having a beveled or inclined inner surface adapted to engage the notch in the edge of the first named section.

In witness whereof I have hereunto set my hand.

ELLERY M. HOAGLAND.

Witnesses:
S. H. NOURSE,
WM. F. BOOTH.