(No Model.) 2 Sheets—Sheet 1.

C. H. TRUAX.

SURGEON'S KNIFE.

No. 459,056. Patented Sept. 8, 1891.

Fig. 1.

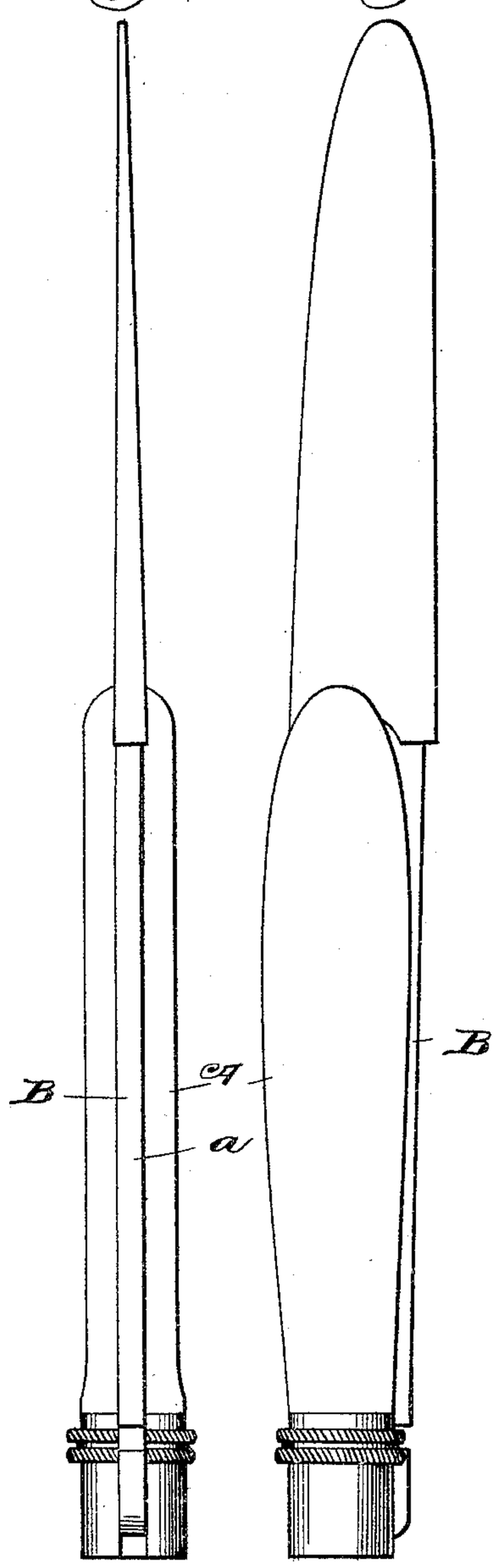


Fig. 2.

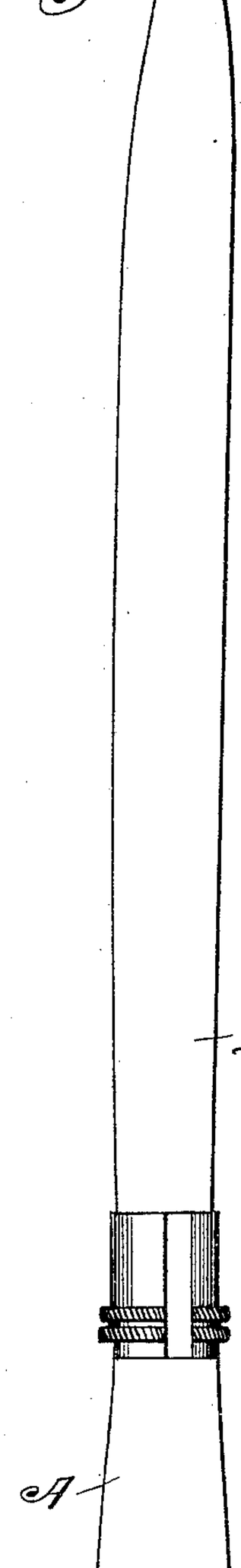


Fig. 3.

Fig. 4.

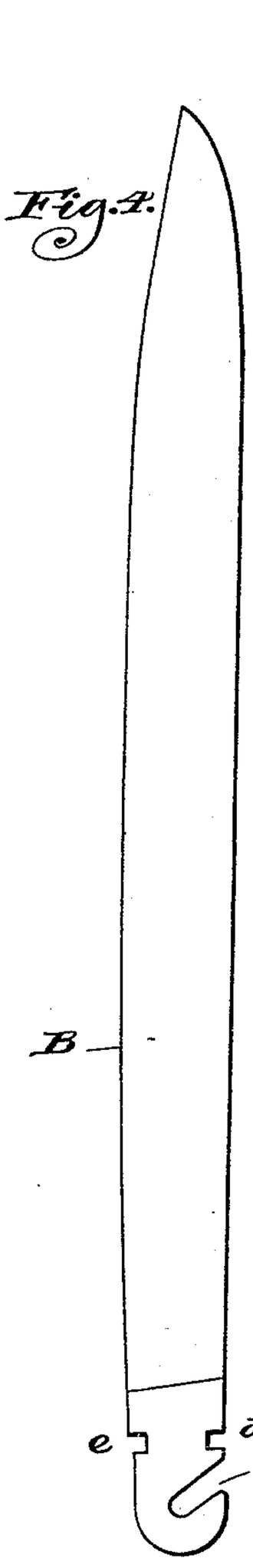


Fig. 5.

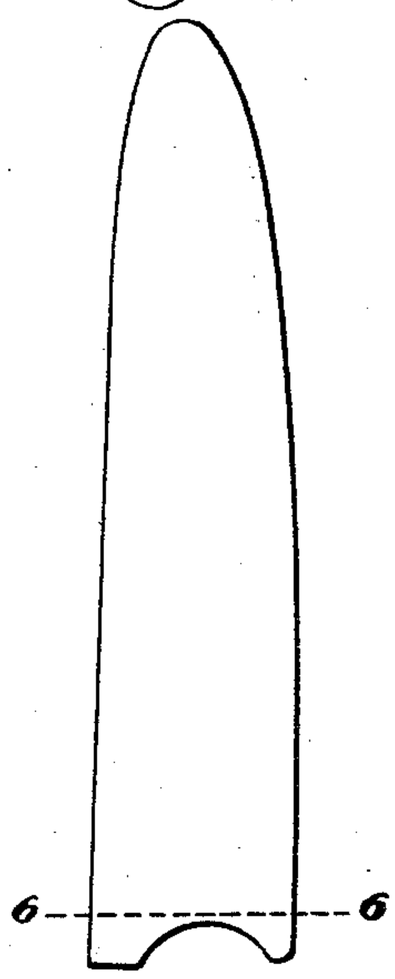
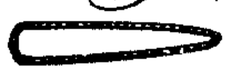


Fig. 6.



Witnesses,
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Inventor,
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By, Offield, Towle & Linthicum
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(No Model.) 2 Sheets—Sheet 2.

C. H. TRUAX.

SURGEON'S KNIFE.

No. 459,056. Patented Sept. 8, 1891.

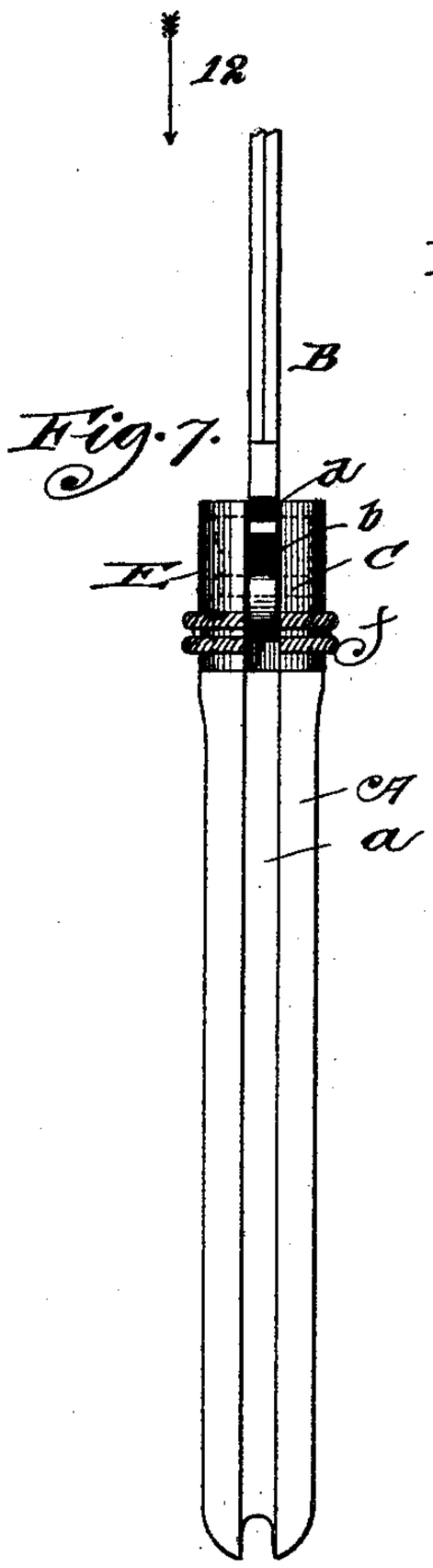

Fig. 7.

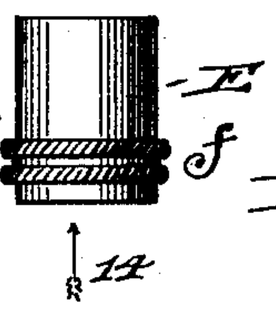

Fig. 11.

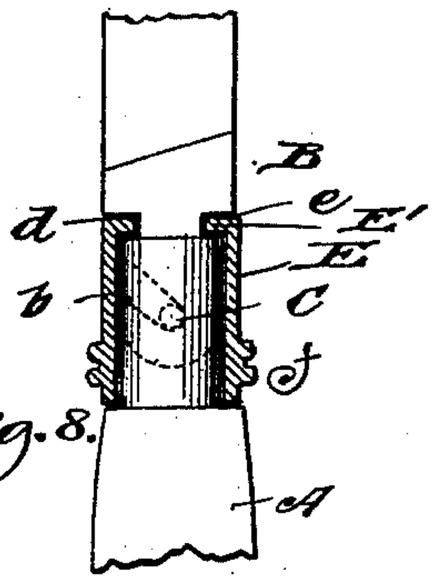

Fig. 8.

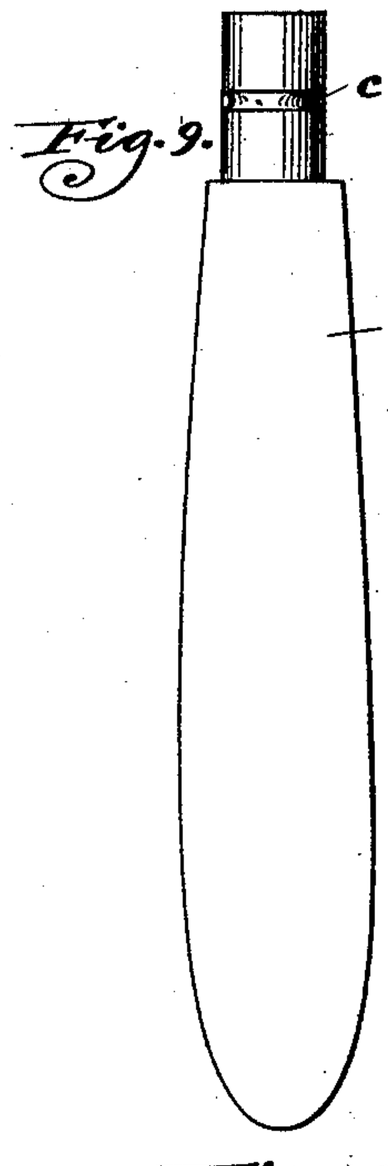

Fig. 9.

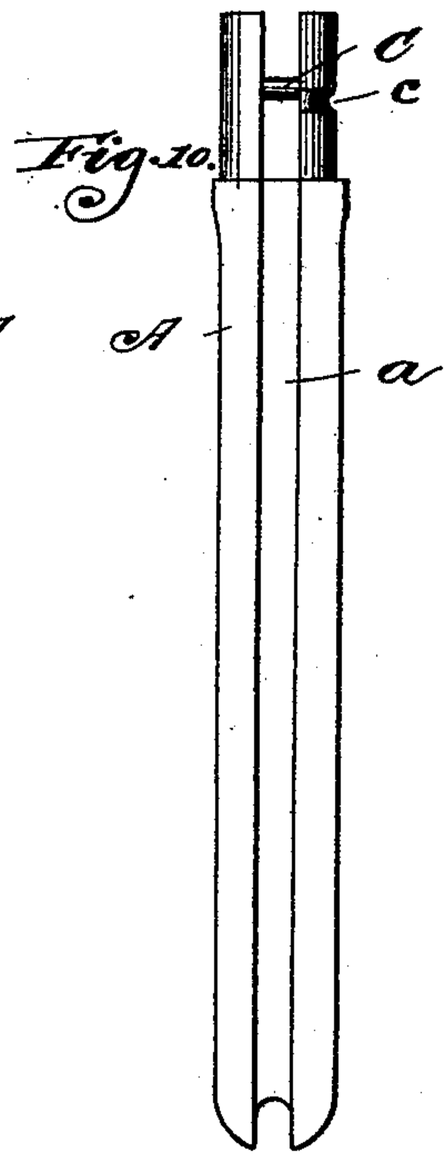

Fig. 10.

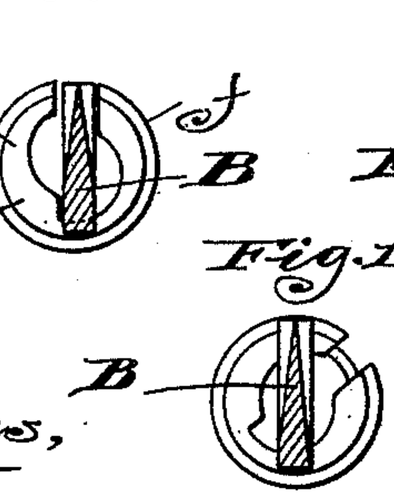

Fig. 12.

Fig. 14.

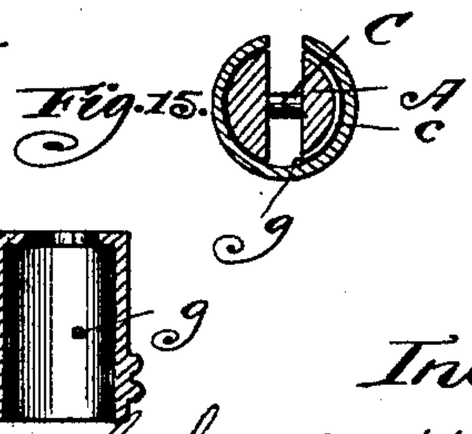

Fig. 15.

Fig. 13

Fig. 16.

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Inventor,
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By Offield Towle & Linthicum
Attys.

UNITED STATES PATENT OFFICE.

CHARLES H. TRUAX, OF CHICAGO, ILLINOIS.

SURGEON'S KNIFE.

SPECIFICATION forming part of Letters Patent No. 459,056, dated September 8, 1891.

Application filed May 25, 1891. Serial No. 393,936. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. TRUAX, a citizen of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Knives, of which the following is a specification.

My invention relates to that class of knives which are adapted to be folded, and particularly to a surgeon's knife, which is so constructed that its blade may be rigidly affixed in position for use and readily detached or disconnected from the handle, so as to permit of its thorough cleansing.

In carrying out my invention I construct the blade and handle so that the blade may be folded, its base entering a slot in the handle, while its point may be covered by a sheath, and when the blade is open or extended it is securely locked in the extended position by a rotatable locking-ferrule. The blade has at its base a radial notch or slot which is adapted to engage a fixed stud or pin in the handle, and transverse notches or shoulders which are engaged by a cam-flange of the ferrule when the latter is rotated, so as to lock the blade in its extended position. The ferrule has a longitudinal slot therein to permit of the blade being folded into the handle, and is provided also with a pin or stud which is adapted to enter a circumferential groove in the handle to prevent the ferrule from slipping off when the blade is folded into the handle. The end of the ferrule is fashioned into a cam which engages a shoulder on the blade, and when turned tightly beneath said shoulder draws the fixed pin of the handle tightly into the locking side or notch of the blade, thereby rigidly affixing the blade to the handle.

In the accompanying drawings, Figure 1 is an edge view of the knife in the folded position with the sheath covering the point thereof. Fig. 2 is a side elevation of the same. Fig. 3 is a side elevation of the knife with the blade fastened in position for use, a portion of the handle being broken away. Fig. 4 is a side elevation of the blade separated from the handle, and Figs. 5 and 6 are detailed views of the sheath. Fig. 7 is an edge view of the handle, looking into the slot thereof, with the blade extended partially broken away. Fig. 8 is a cross-section through the ferrule, showing the blade affixed to the handle, both blade and handle being broken away. Fig. 9 is a view of the handle with the ferrule removed. Fig. 10 is an edge view thereof. These two latter views being designed to show particularly the circumferential locking-groove in the handle. Fig. 11 is a detail view of the ferrule. Fig. 12 is an end view of the part shown in Fig. 7, looking in the direction indicated by the arrow. Fig. 13 is a similar view showing the ferrule turned to the locking position. Fig. 14 is an end view of the ferrule, looking in the direction indicated by the arrow in Fig. 11. Fig. 15 is a cross-section through the ferrule and end of the handle above the fixed locking-pin thereof, and Fig. 16 is a sectional elevation of the ferrule.

In the drawings, A represents the handle of the knife, which may be cast, stamped, or of swaged form, and which is longitudinally slotted, as at *a*, for the reception of the base of the blade B, which in the instance shown is longer than the handle. The handle has its inner end bifurcated, and a pin C is secured to the members thereof transversely of the slot. One of the members has a circumferential groove *c* therein. The blade has its base or shank provided with a radial notch *b* and its edges above the radial notch also transversely cut away or notched, as at *d e*. The radial notch *b* is adapted to receive the pin C of the handle.

In order to affix the blade to the handle, a split ring or ferrule E is employed, one side of this ferrule being slotted longitudinally, as shown. The upper end of the ferrule has an internal flange E′, which is adapted to enter the transverse notches *d e*, and the ferrule being rotated so as to bring said flanges to their seats within these transverse notches the blade is prevented from closing when in use.

In order to render the blade rigid in the handle, the transverse pin C should be drawn tightly to its seat in the bottom of the radial slot or notch, and for this purpose I make the flange E′ slightly cam-shaped—that is, beveled from the slot—and I prefer also to provide the ferrule with a milled or knurled bead, as shown at *f*, so that said ferrule may be turned tightly to place, and the beveled or cam face of the flange E′, being forced beneath the shoulder on the upper side of the notch *d*, will tend to draw the pin C closely to its

seat in the bottom of the radial notch *b* in the blade and at the same time prevent the blade from closing.

The blade may be readily folded by turning the ferrule so that its slot shall register with the slot of the handle, and to prevent the ferrule from withdrawing from the handle while in this position I provide it with a pin or stud *g* on its interior, which is fitted to the circumferential groove *c* of the bifurcated shank.

When it is desired to clean the knife, the ferrule is turned as in the position for closing the blade, and then the blade being partially closed it may be disengaged from the pin, and by turning the ferrule so that its pin *g* enters the slot or bifurcation of the handle-shank the ferrule may be slipped off and all of the parts readily and thoroughly cleansed.

The valuable feature of this knife consists in a peculiar construction whereby the parts may be easily assembled and rigidly fixed in position for use and yet be readily separated for the purpose of cleansing them, thus providing an efficient antiseptic instrument.

I claim—

1. A knife having a slotted handle and a detachable blade, the handle being provided with a transverse pin and a blade with a radial notch to receive said pin, and a slotted ferrule embracing the shank of the handle and the base of the blade and adapted to be rotated, whereby to lock the blade in its extended position, substantially as described.

2. A knife having a blade detachably connected to a slotted handle by means of a pin secured transversely of the slot and the blade having a notch to receive the pin, and a ferrule longitudinally slotted and adapted to embrace the shank of the handle and the base of the blade to lock the blade in its extended position when rotated, said ferrule having a locking projection on its interior adapted to traverse a groove in the handle during the rotation of the ferrule, whereby its separation from the handle is prevented when the blade is closed, substantially as described.

3. A knife having a slotted handle with a bifurcated shank, a pin fixed in the bifurcation transversely to the slot, a blade having a notch at its base forming a seat for the pin, shoulders or notches formed transversely of its edges at the base, and a ferrule adapted to embrace the bifurcations and having a cam-flange adapted to enter the transverse notches of the blade and by its rotation to lock the blade in its extended position, substantially as described.

CHARLES H. TRUAX.

Witnesses:
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