Improvements in or connected ith ecraseurs or like instruments for castrating, and for other purposes / [James Arnold].

Contributors

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PROVISIONAL SPECIFICATION.

Improvements in or connected with Ecraseurs or like Instruments for Castrating, and for other purposes.

I, JAMES ARNOLD of the Firm of Arnold and Sons of 31 West Smithfield in the City and County of London, Surgical and Veterinary Instrument Makers, do hereby declare the nature of this invention to be as follows :—

Instruments for castrating and other purposes known as Ecraseurs have been heretofore constructed with a screwed motor shaft, rotated by a handle and caused thereby to traverse a carrier to which the ends of the chain are attached. This carrier has been formed with a nut with which the motor screw is always in engagement, and loss of time and inconvenience is incurred by the fact that the chain can be tightened but slowly by rotating the motor screw. Now the object of my invention is to so construct the instrument as hereafter described, that the chain may be brought closely around the part to be severed or crushed by a quick action, and this having been thus rapidly effected, the action of the motor screw may then immediately be applied for the finish of the operation, without any loss of time, by adjusting the screw or otherwise.

To this end I provide a tubular stem with lengthway slot as usual, but I fit the motor screw with collars or shoulders so that it may have a rotating but not endway motion. The ends of the chain are gripped and held to the carrier in any convenient manner say by a screw, spring, or equivalent means with a terminal knob or handle, and the said carrier I fix or form with a tubular sleeve located within the stem, through which sleeve the motor screw freely passes.

This carrier sleeve is plain on its interior, but is slotted, say on two lateral sides, and above these slots are provided spring teeth formed with partial threads, so that upon the teeth being pressed through the slots the carrier will be locked to the motor screw and be traversed by its rotation.

Over the carrier sleeve is a laterally slotted tube adapted to be slidden lengthways thereon by means of a handle passing through the lengthway slot of the tubular stem ; the slots in the said tube are so arranged that when in one endway position the spring teeth are pressed into engagement with the screw, and when in the other position the teeth are out of engagement.

By apparatus constructed according to my invention the chain may be adjusted into position, and the spring teeth not being in engagement with the motor screw, the carrier may be seized by the knob or handle and the slack of the chain taken up ; this having been done the spring teeth are forced into engagement with the motor screw, by sliding the slotted tube by means of its projecting knob or handle, and the screw may then be immediately and effectively operated to tighten the chain without any loss of time or inconvenience, and it should also be noted that the handle by which the motor screw is operated has no endway or lengthway motion whatever. During an operation with this instrument a further advantage is that should the chain require adjustment or removal the same can be instantly done by simply sliding the knob or handle in the reverse direction.

Dated this 25th day of October 1895.

BREWER & SON,
London and Leeds, Agents for Applicant.

[*Price* 8*d*.]

COMPLETE SPECIFICATION.

Improvements in or connected with Ecraseurs or like Instruments for Castrating, and for other purposes.

I, JAMES ARNOLD, of the Firm of Arnold and Sons of 31 West Smithfield, in the City and County of London, Surgical and Veterinary Instrument Makers, do hereby declare the nature of this invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :—

Instruments for castrating and other purposes, known as Ecraseurs, have been heretofore constructed with a screwed motor shaft, rotated by a handle, and caused thereby to traverse a carrier, to which the ends of the chain are attached. This carrier has been formed with a nut, with which the motor screw is always in engagement, and loss of time and inconvenience is incurred, by the fact, that the chain can be tightened but slowly by rotating the motor screw. Now the object of my invention is to so construct the instrument as hereafter described, that the chain may be brought closely around the part to be severed or crushed by a quick action, and this having been thus rapidly effected, the action of the motor screw may then immediately be applied, for the finish of the operation, without any loss of time by adjusting the screw or otherwise.

I will now fully describe my invention, with reference to the accompanying drawings, wherein

Fig. 1 is a plan view of an ecraseur, constructed with means for rapid adjustment and operation therewith according to my invention, Fig. 2 is a sectional side elevation of the same instrument,

Fig. 3 is a sectional plan view of the device detached, for connecting and disconnecting the chain, wire, or cord, to or from the motor screw, the device being in the connected position;

Fig. 4 is a plan and Fig. 5 a sectional plan of the device, in the disconnected position.

Similar letters of reference refer to like parts in the several figures of the drawings.

According to my invention I provide a suitable stem A (generally tubular and with lengthway slot A^1 therein as usual), and I fit the motor screw B onto or into the stem A with a collar or shoulder C so that it (the screw B) may have a rotating but not endway motion. In the construction shewn the collar C bears between the open end of the tubular stem A, and an end cap D, the latter being attached to the stem A say by a bayonet joint or equivalent fixing ; E is the handle fixed upon the projecting shaft of the motor screw B, the opposite end of the latter bearing against and being centered in the solid end of the stem A. The ends of the chain, wire, or cord F are gripped and held to a carrier G in any convenient manner, say by being sunk therein and secured by a screw, spring, or equivalent means, with a terminal knob or handle G^1, and the said carrier G I fix or form with a tubular sleeve G^2 located within the stem A, through which sleeve G^2, the motor screw B freely passes.

This carrier sleeve G^2 is plain on its interior, but is slotted say on two lateral sides, and within these slots are provided spring arms H having teeth formed with partial threads at H^1 Figs. 3 and 5, so that upon the teeth H^1 being pressed through the slots, as is illustrated at Fig. 3, the carrier G will be locked to the motor screw B and be traversed by its rotation.

Over the carrier sleeve G^2 is a laterally slotted tube J, adapted to be slidden lengthways thereon by means of a handle or equivalent J^1 passing through the lengthway slot A^1 of the tubular stem A ; the slotted parts of the said tube J, are so arranged, that when in one endway position, the spring teeth H^1 as at Figs. 1, 2,

and 3 are pressed into engagement with the screw B, and when in the other positions Figs. 4 and 5 the teeth H^1 are out of engagement, then the locking is effected by sliding the locking button J away from the handle G^1.

By apparatus constructed according to my invention, the chain, wire, or cord F, may be adjusted into position, and the spring teeth H^1 not being in engagement with the motor screw B, the carrier G may be seized by the knob or handle G^1, and the slack of the chain, wire, or cord F taken up; this having been done, the spring teeth H^1 are forced into engagement with the motor screw B by sliding the slotted tube J by means of its projecting knob or button J^1, into the position shewn at Figs. 1, 2, and 3, and the screw B may then immediately and effectively be operated by the handle E to tighten the chain, wire, or cord F without any loss of time or inconvenience, and it should also be noted that the handle E, by which the motor screw B is operated, has no endway or lengthway motion whatever. During an operation with this instrument a further advantage is, that should the chain, wire, or cord F require adjustment or removal, the same can be instantly done by simply sliding the knob or handle in the reverse direction.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is :—

1. In ecraseurs or the like instruments, a motor screwed shaft mounted in or upon a stem, and provided with a handle whereby it may be rotated but does not receive endway motion, in combination with a clutch nut constructed to be capable of engagement with or disengagement from the screw of the motor shaft, the chain, wire, or cord being connected to the said clutch nut, whereby the said chain, wire, or cord is adjusted with a rapid action by sliding the nut, and the latter is readily coupled to the motor screw for the finish of the operation thereby, substantially as set forth.

2. An ecraseur or like instrument having a screwed motor shaft in combination with a clutching device to which the chain, wire, or cord is connected, such device being composed of a sliding sleeve around the motor shaft, a handle from the sleeve to the exterior of the casing stem, spring toothed arms on the sleeve to engage the screw of the shaft, and a movable tube upon the sliding sleeve, having an operating button, whereby the tube may be slidden relatively to the sleeve to cause the toothed arms to take into or release from the motor screw substantially as described.

3. The general arrangement and combination of parts composing the ecraseur or like instrument constructed and acting substantially as and for the purposes described and illustrated with reference to the accompanying drawings.

Dated this 25th day of July 1896.

BREWER & SON,
London and Leeds, Agents for the Applicant.

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A.D. 1895. Oct. 25. N° 20,128.
ARNOLD'S Complete Specification.

FIG: 1.

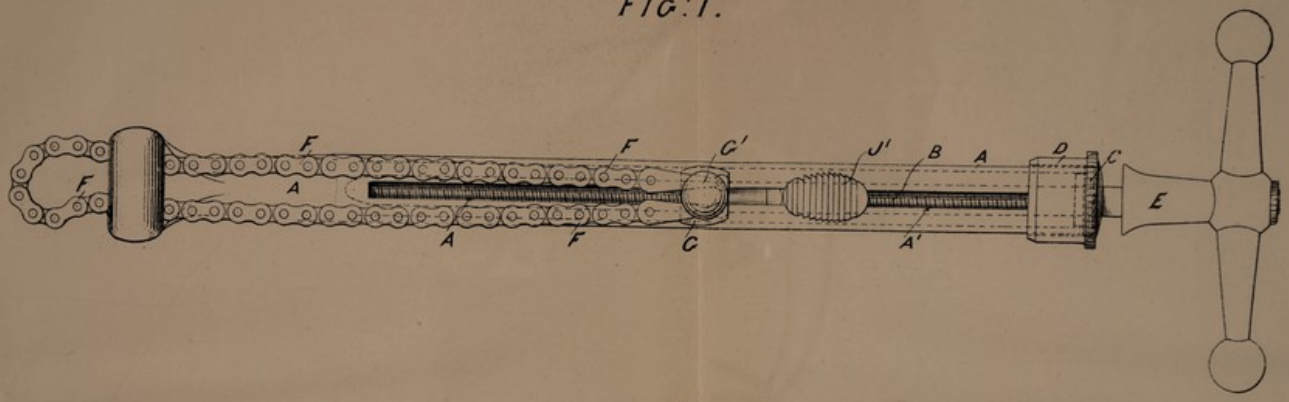


FIG: 2.

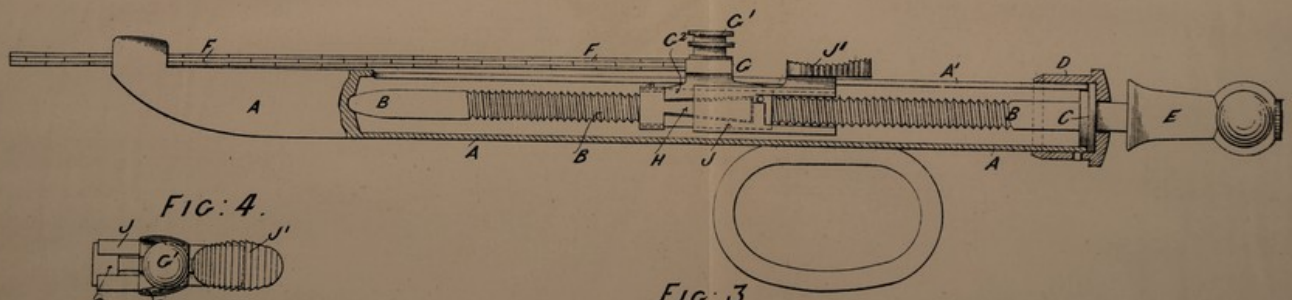


FIG: 4.

FIG: 3.

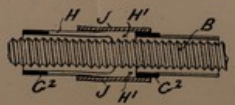
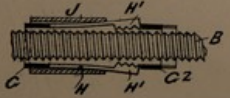


FIG: 5.



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