

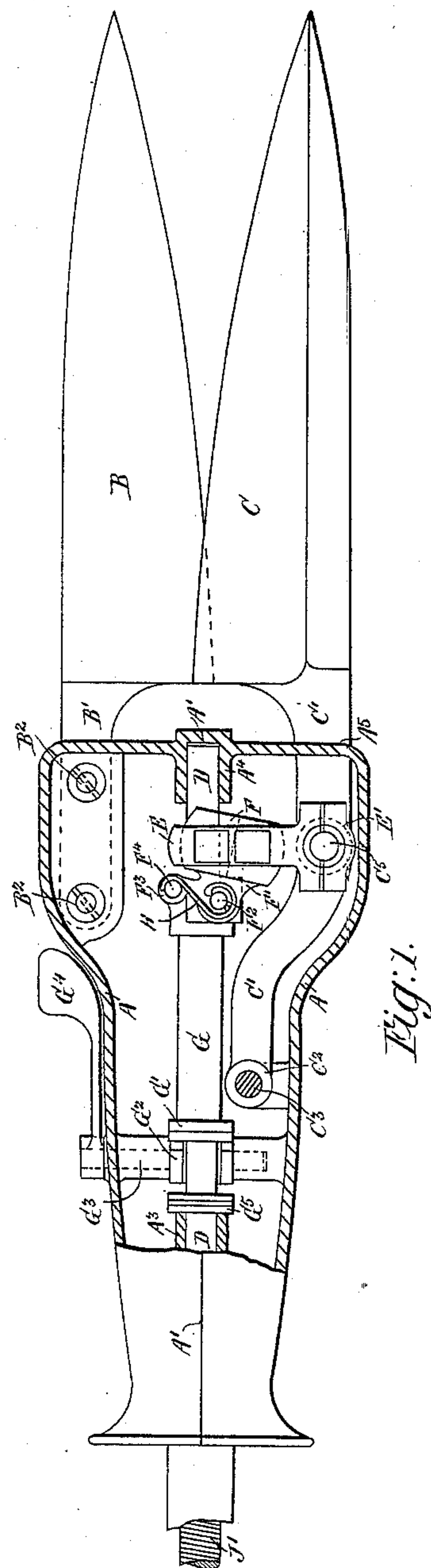
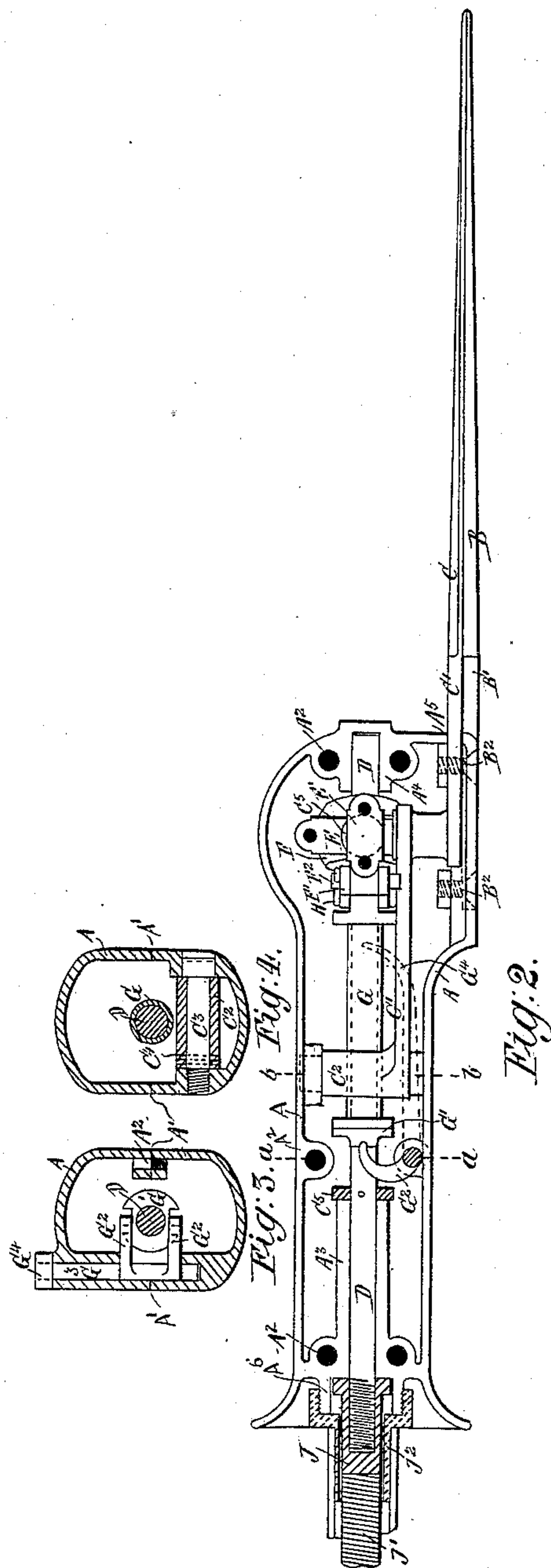
(No Model.)

2 Sheets—Sheet 1.

V. PETHERICK.
SHEEP SHEARS.

No. 405,500.

Patented June 18, 1889.



Attest:
O. E. Foulter
C. H. Hallahan

Inventor
Vernon Petherick,
by *[Signature]*
his attorney

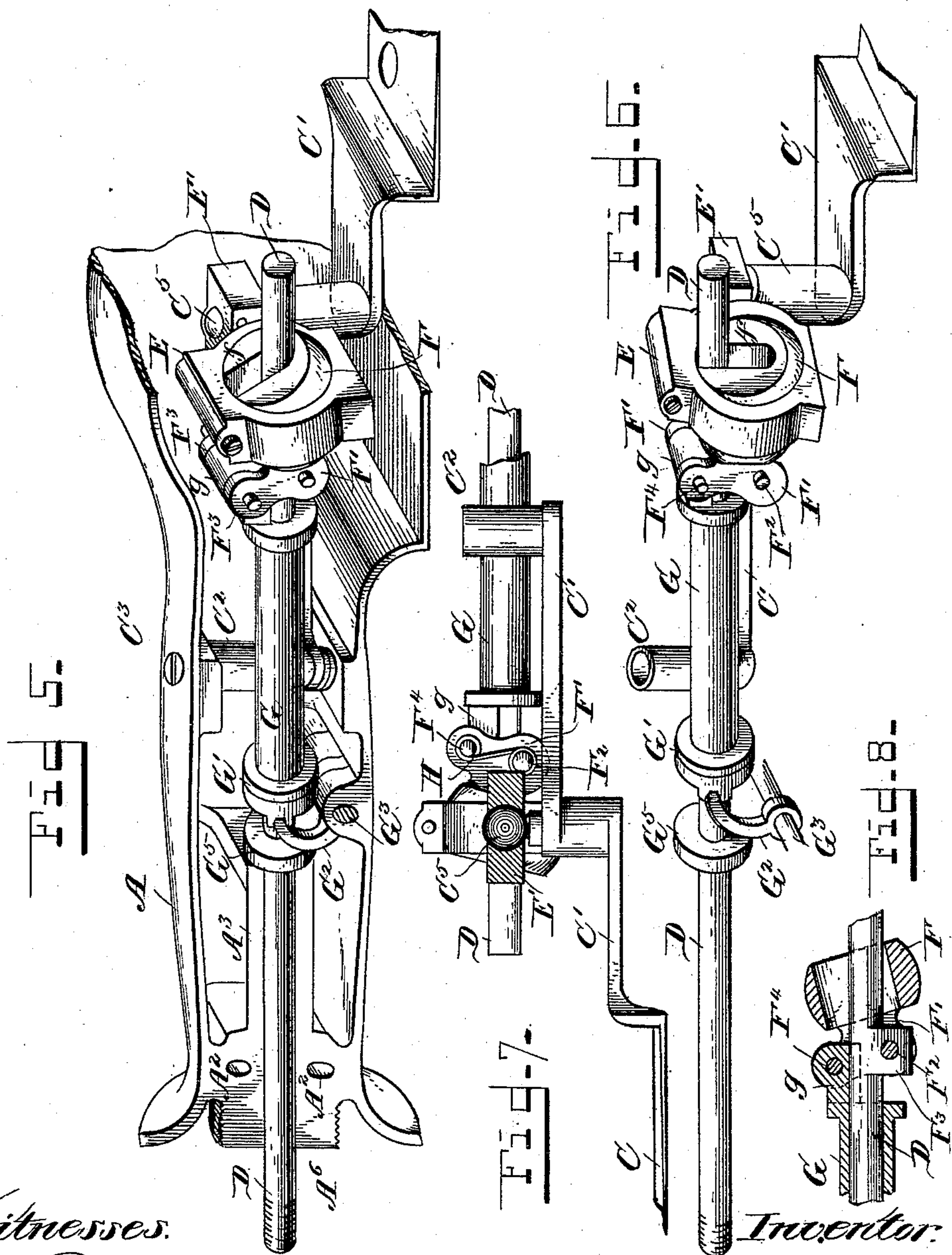
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2 Sheets—Sheet 2.

V. PETHERICK.
SHEEP SHEARS.

No. 405,500.

Patented June 18, 1889.



Witnesses.
J. Thomson Cross.
M. W. C. Rouzee

Inventor:
Vernon Petherick
per *Alvin J. [Signature]*
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UNITED STATES PATENT OFFICE.

VERNON PETHERICK, OF BRISBANE, QUEENSLAND.

SHEEP-SHEARS.

SPECIFICATION forming part of Letters Patent No. 405,500, dated June 18, 1889.

Application filed November 9, 1887. Serial No. 254,700. (No model.)

To all whom it may concern:

Be it known that I, VERNON PETHERICK, engineer, a subject of the Queen of Great Britain, residing at Brisbane, in the colony of Queensland, have invented an Improved Sheep-Shearing Machine, of which the following is a specification.

This invention of an improved sheep-shearing machine relates to a type of machine having cutters or blades similar to those used in the ordinary spring-bow shears now commonly used by shearers.

In carrying out this invention the shears or blades are attached to a hollow handle or casing, in which is assembled the requisite mechanism for imparting motion to one of the blades, leaving the other stationary and secured to the casing by screws, so that it can be easily removed for sharpening or other purposes. If desired, motion may be imparted to both of the blades, although I have shown in my drawings a machine in which motion is imparted to only one blade, the other being stationary. At the back end of the handle or casing and connected with the main spindle therein is a coupling which is attached to a flexible shaft, through the medium of which the necessary motion is imparted to the machine. A thumb-lever is arranged at the side of the casing, by pressing which the operator is enabled to regulate the stroke of the moving blade while the machine is at work and is being guided over the back of a sheep, and, further, by releasing such thumb-lever the blade may be stopped while the mechanism within the casing is still in action, such motion being brought about by an adjustable eccentric of peculiar construction, which, together with the whole of the mechanism, is hereinafter fully described.

The attached drawings illustrate my improved sheep-shearing machine.

Figure 1 shows a plan of it with part of the casing broken away to exhibit the essential portions of the mechanism, and Fig. 2 shows it by a longitudinal sectional elevation. Fig. 3 is a transverse section at line *a a*, Fig. 2; and Fig. 4, a transverse section at line *b b*, Fig. 2. Fig. 5 is an isometric view of the mechanism for reciprocating the movable blade, the one-half of the casing shown being

partly broken away together with the stationary blade, the mechanism being shown as thrown out of operation. Fig. 6 is a like view of the essential portion of the operating mechanism, showing the same in its position of greatest stroke. Fig. 7 is a side view from the off side of a portion of the mechanism, showing the connections of the movable blade therewith as well as its fulcrum-pin; and Fig. 8 is a sectional detail view of the actuating-sleeve and a portion of the driving-shaft.

A is the hollow handle or casing; B, the fixed blade, and C the movable blade. The casing A is made in halves jointed longitudinally at A', and secured together by the screw-pins A², such joint passing centrally through the tubular bearing A³ and the socket-bearing A⁴, which together support the main spindle D. The stem B' of the fixed blade is secured by the countersunk headed screws B² in a suitable recess formed in the under face of the casing A. The movable blade C has its stem C' set or cranked, as shown. Said stem passes through a suitable slot A⁵ in the end of the casing, and at its end within the casing it has a tubular eye or bearing C², which is centered on the screw-pin C³, screwed into such casing. Movable washers C⁴ are provided at the under side of the bearing C² to allow for the adjustment of the shears as their faces wear. A vertical spherical-headed pin C⁵ is also formed on the stem C' within the casing, and this spherical head receives the end bearing E' of an eccentric-strap E, to which motion is imparted by an adjustable eccentric F, attached to the main spindle D. This adjustable eccentric has lugs or ears F' projecting from its rear face, and the driving-shaft is provided with a flat boss projecting radially therefrom, the actuating-sleeve G being likewise provided with a boss or bearing *g*, Figs. 5, 6, 7, and 8, projecting from its forward end, said lugs F' being pivoted to the bosses of the shaft and sleeve by means of pins F² F⁴, respectively, as shown.

H are springs secured to the pin F² and pressing on pin F⁴ with the tendency to force the sleeve G toward the back of the machine. The sleeve G slides upon a feather, key, or other similar device on the spindle D, and

bearing against it at its back end is a collar G' loose upon the spindle D, and this collar has gaps in it to receive the ends of two curved lever-arms G², formed on a transverse spindle G³, provided with suitable bearings in the casing A, and having the thumb-lever G⁴ secured on its end outside of the casing, by means of which said lever the regulation of the stroke of the moving blade is effected.

G⁵ is a fixed collar on spindle D, bearing against the inner end of the tubular bearing A³, and its purpose is to retain the spindle in its place within the casing. The back end of spindle D is screwed to receive a coupling J, to the outer end of which is secured the flexible shaft J', while the casing A has a screwed ferrule A⁶ at its back end to receive the coupling J² at the end of the tubular flexible covering for the shaft. The eccentric F, before referred to, has also a spherical surface, and it has a suitable hole f, Figs. 5 and 6, formed in it to allow of its vibrating freely on the spindle D from a position where its center coincides with the center of the spindle to the position shown in Figs. 1 and 6, when the greatest possible stroke is given to the movable blade C, the stem C' of which is made of a suitable section to allow of its having the necessary spring or elasticity while at work.

When the faces of the blades wear, the stem of the movable blade is slightly lowered by taking out the screw-pin C³, and either removing one of the thin washers C⁴ or reducing it slightly in thickness, and then replacing the screw-pin C³ and screwing it down, as before.

The mode of operation is as follows: Motion is imparted through the medium of a flexible shaft to the main spindle D of the machine, the casing or handle of which is held in the hand of the operator, and he, by forcing down the thumb-lever G⁴, places the adjustable eccentric at its position to give the requisite stroke to the moving blade. By guiding the shears over the back of a sheep the wool is clipped or shorn off in the ordinary manner. When the thumb-lever G⁴ is released, the springs H bring the center of the adjustable eccentric F immediately to a position which coincides with the center of the main spindle D, and so no motion whatever is imparted to the movable blade although the main spindle be still in motion.

It will be obvious that, if preferred, motion may be imparted to both of the blades instead of to one only, as herein described, by duplicating the adjustable eccentric and its appurtenant parts, and having both blades pivoted in the casing, as described, and connected with such eccentrics.

Having thus described the nature of my invention and the manner of performing same, I would have it understood that what I believe to be new, and therefore claim, in my improved sheep-shearing machine is—

1. The herein-described animal-shears, consisting, essentially, of a pair of shear-blades,

a handle therefor divided in two sections along its axial line, each section having semi-cylindrical bearings in said axial line, and a mechanism contained within the handle for reciprocating one of the blades, comprising an eccentric connected with such blade and a driving-shaft mounted in said bearings and adapted to operate the eccentric, substantially as and for the purposes specified.

2. In animal-shears in which the cutters consist of a pair of shear-blades, the herein-described mechanism for imparting a reciprocating motion to such blades, which consists of a driving-shaft, an eccentric mounted on said shaft, a shear-blade provided with a crank-arm pivoted on a fixed pivot, and an eccentric-strap encompassing the spherical bearing-face of the eccentric and provided with a lateral arm for connecting the eccentric with the crank-arm of the shear-blade, substantially as and for the purposes specified.

3. In animal-shears in which the cutters consist of a pair of shear-blades, the herein-described mechanism for imparting a reciprocating motion to such blades and regulating the amplitude of such motion, which consists of a driving-shaft, an eccentric having a spherical bearing-face and provided with an elongated diametral opening or slot through which said shaft passes, a shear-blade provided with a crank-arm pivoted on a fixed pivot, an eccentric-strap encompassing the spherical bearing-face of the eccentric and having a lateral arm for connecting the eccentric with the crank-arm of the shear-blade, and a shifting device for shifting the position of the eccentric on the shaft, substantially as and for the purposes specified.

4. In animal-shears, the combination, with a handle, a pair of shear-blades whereof one is fixed to the handle and the other provided with a crank-arm pivoted at its end within said handle, of mechanism for imparting a reciprocating motion to the blade and for regulating the amplitude of such motion contained within the handle and consisting of a driving-shaft, an eccentric hinged to vibrate on said shaft, said eccentric having a spherical bearing-face and a diametral slot, through which the shaft passes, an eccentric-strap encompassing the spherical bearing-face of the eccentric and having a lateral arm for connecting said eccentric to the crank-arm of the shear-blade, and a shifting-rod connecting with the eccentric and operating to shift the position thereof on the shaft, substantially as and for the purposes specified.

5. The combination, substantially as herein described, with the crank-arm C', pivoted at C³ and having the spherically-headed pin C⁵, and the driving-shaft D, of a spherical eccentric mounted on said shaft, and an eccentric-strap provided with a lateral arm, in which is formed a spherical bearing for said pin C⁵, for the purposes specified.

6. The combination, substantially as here-

in described, with the crank-arm C', pivoted
at C³ and having the spherically-headed pin
C⁵, and the driving-shaft D, provided with a
boss projecting radially therefrom, of a spher-
5 ical eccentric provided with a diametral slot,
through which the shaft passes, said eccen-
tric being hinged to the radial boss of said
shaft, so as to vibrate thereon, a shifting-rod
hinged to the eccentric and adapted to vi-
10 brate the same on the shaft, and an eccentric-
strap provided with a lateral arm in which is
formed a spherical bearing for the corre-
sponding head of the pin C⁵, substantially as
and for the purposes specified.

15 7. The combination, substantially as here-
in described, with the crank-arm C', pivoted
at C³, and having the spherically-headed pin
C⁵, and the driving-shaft D, provided with a

boss projecting radially therefrom, of a spher-
ical eccentric provided with a diametral slot 20
through which the shaft passes, said eccen-
tric being hinged to the radial boss of said
shaft, so as to vibrate thereon, an eccentric-
strap encompassing the spherical eccentric
and provided with a lateral arm having a 25
spherical bearing for the corresponding head
of the pin C⁵, a tubular shifting-rod mounted
on the driving-shaft, a hinged connection be-
tween said rod and the eccentric, and a shift-
ing-lever connected with the tubular rod to 30
actuate the same, for the purposes specified.

VERNON PETHERICK.

Witnesses:

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CHARLES EDWARD GRAHAM.