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PATENTED AUG. 18, 1908.

F. N. L. WILLETT.

SHEEP SHEARS.

APPLICATION FILED SEPT. 9, 1907.

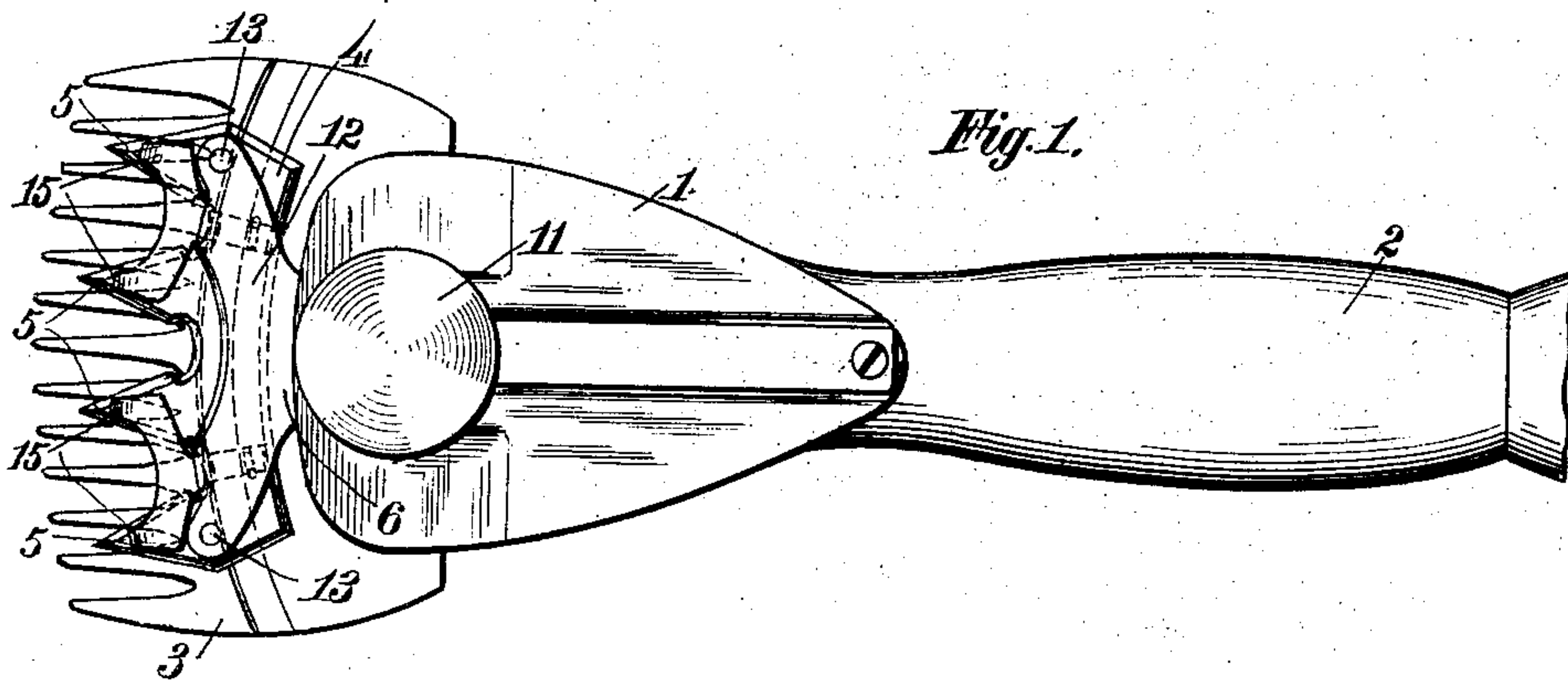


Fig. 1.

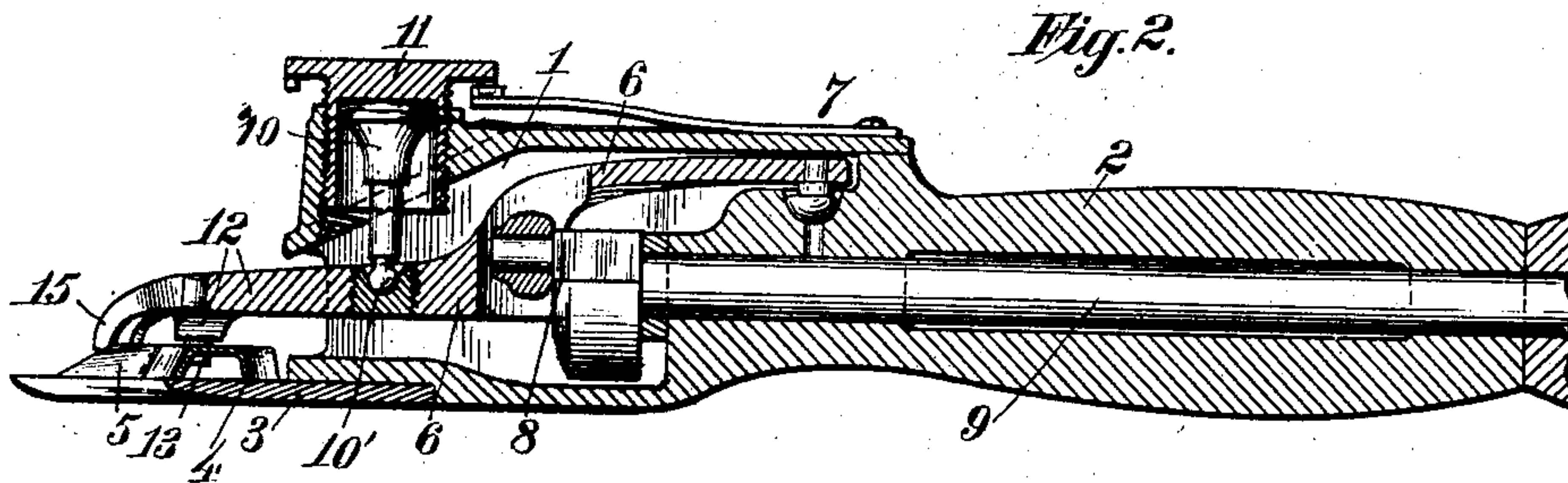


Fig. 2.

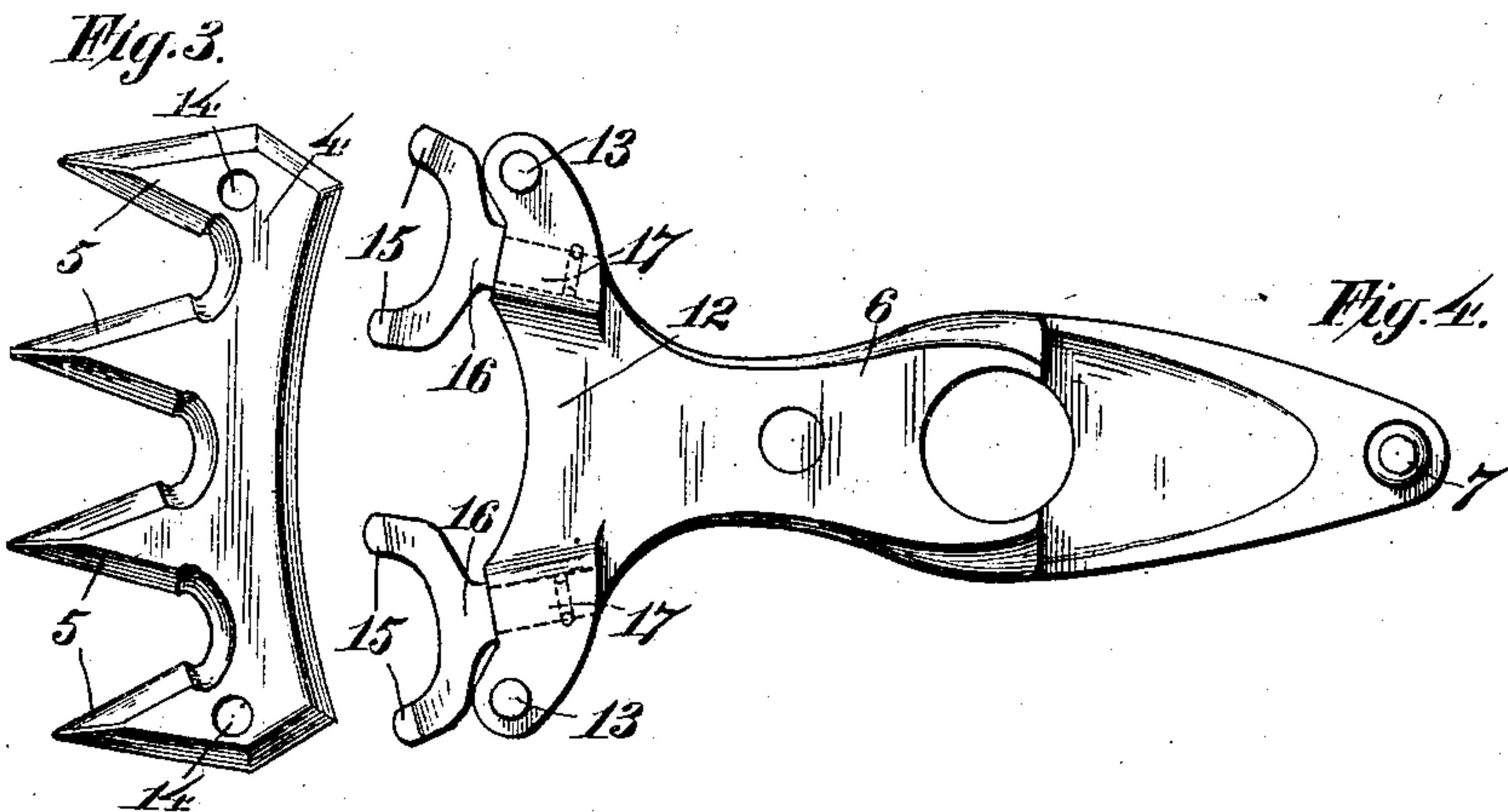


Fig. 3.

Fig. 4.

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# UNITED STATES PATENT OFFICE.

FRANK N. L. WILLETT, OF AURORA, ILLINOIS.

## SHEEP-SHEARS.

No. 896,497.

Specification of Letters Patent.

Patented Aug. 18, 1908.

Application filed September 9, 1907. Serial No. 391,933.

*To all whom it may concern:*

Be it known that I, FRANK N. L. WILLETT, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Sheep-Shears, of which the following is a specification.

My invention relates to sheep shears and particularly to that class thereof which are hand directed and power driven. Devices of this character include a comb or stationary cutter fixed to a casing or housing, a vibrating cutter, a vibrating lever for operating said cutter and means for applying pressure to the vibrating cutter to hold the same in close contact with the stationary cutter.

More particularly my invention relates to the connection between the vibrating lever and the vibrating cutter.

The object of my invention is to provide sheep shears with a suitable connection between the vibrating lever and vibrating cutter, which connection shall be of such improved construction that it will not readily become worn or loosened in use.

A further object is to provide, in sheep shears, means for exerting a uniform pressure upon each of the blades of the vibrating cutter, and which will continue to exert a uniform pressure while in use.

Other objects will appear hereinafter.

With these objects in view, my invention consists generally in the improvements in sheep shears hereinafter fully described and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification and in which,

Figure 1 is a top plan view of a sheep shearing machine embodying my invention in its preferred form, Fig. 2 is a vertical longitudinal section of the same taken on the plane of its longitudinal axis, Fig. 3 is a plan view of the vibrating cutter, and Fig. 4 is a bottom plan view of the vibrating lever.

In the drawings, I have illustrated a sheep shearing machine of a conventional or familiar type, and it is to be understood that my invention as set forth in the appended claims is not limited in its use to the particular form of sheep shears illustrated in the drawings but is applicable to any form of sheep

shearing machine wherein the vibrating cutter is driven by a vibrating arm or lever.

Referring to the drawings, 1 indicates the customary housing terminating in the handle portion, 2. Securely fixed to the bottom of the housing is the comb or stationary cutter, 3.

4 indicates the vibrating cutter having the four cutting plates, 5, and 6 the vibrating lever. The lever, 6 is fulcrumed at the ball and socket joint, 7 and is driven by a crank or eccentric, 8 fixed upon the end of the shaft, 9. The lever, 6 is attached to the cutter, 4 in the manner hereinafter described, and pressure is applied thereto by means of the dolly-pin, 10 and the tension screw, 11.

In sheep shearing machines, it is essential that a considerable and uniform pressure be applied to each of the several blades of the vibrating cutter. In such machines wherein but two or three blades were employed on the vibrating cutter, which are now obsolete, little or no difficulty was experienced in securing the proper pressure or tension. However, in modern machines, wherein the vibrating cutter is quite wide and is equipped with four blades, considerable difficulty has been experienced in securing the proper and uniform tension. Various devices have been resorted to for this purpose but so far as I am aware all heretofore devised have been more or less unsatisfactory. On account of the width of the vibrating cutter it is necessary to apply the pressure to each of its blades and to have the pressure uniform upon each. The difficulty heretofore experienced has been to provide a suitable connection between the vibrating lever and the vibrating cutter, and at the same time to provide means for exerting a uniform pressure upon the several blades of the cutter. Devices have been devised employing means for exerting a uniform pressure upon the blades; but, in such devices the connection between the vibrating lever and the cutter has been made through these pressure devices. These, in practice, have been found very unsatisfactory inasmuch as the rapid vibration of the cutter soon causes the connection to wear, and in a short time the pressure upon one or more of the blades is lessened. I have discovered that the vibrating cutter should be connected to the vibrating lever independently of the presser members and that this connection should be of such a character as



to permit all pressure to be applied through the medium of the presser members.

Referring to the drawings, it will be noticed that the head, 12 of the lever, 6 is broadened until it is practically coextensive in width with the cutter, 4, and in the ends of the head, 12 I provide the studs, or pins, 13 which enter holes, 14 in the cutter, 4. These transmit the vibratory motion of the lever to the cutter.

15 indicate presser fingers each adapted to bear upon its respective blade, 5. These are arranged in pairs and each pair is pivotally mounted in the head, 12, of the vibrating lever, 6. To this end each pair of fingers are connected by a yoke, 16 having a stem, 17 by which it is mounted in the head. The stems, 17 are preferably arranged in lines extending radially from the fulcrum point of the lever. It will be observed that the lever, 6 is free to swing or turn upon a longitudinal axis defined by the ball and socket joint, 7 and the ball, 10' on the end of the dolly-pin, also the presser members are free to turn upon the pivot stems, 17 except as limited by the cutter blades. Hence, all pressure exerted by the dolly-pin will be transmitted uniformly through the fingers, 15 to the several blades. The presser fingers 15 extend sufficiently below the plane of the bottom of the head, 12 to prevent the head from contacting or exerting pressure upon the cutter, 4. This is clearly illustrated in Fig. 2. It is evident that any wear upon the connection between

the lever and the vibrating cutter will not effect the pressure upon the blades but said pressure will remain uniform upon the several blades at all times.

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

In a device of the class described, a stationary cutter and a vibrating cutter having a plurality of blades in combination with an operating lever pivotally mounted at one end and having a head at the opposite end substantially coextensive in width with said vibrating cutter a dolly-pin impinging against said lever intermediate of its ends, means arranged between said dolly-pin and the pivot end of said lever for operating the same, a pair of pins depending from the ends of said head, said vibrating cutter having a pair of holes to receive said pins, a plurality of presser fingers arranged in pairs and pivotally connected to said head and adapted to engage respective blades of said cutter, the pressure of the dolly-pin being transmitted to said cutter entirely through the medium of said presser fingers substantially described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK N. L. WILLETT.

Witnesses:

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