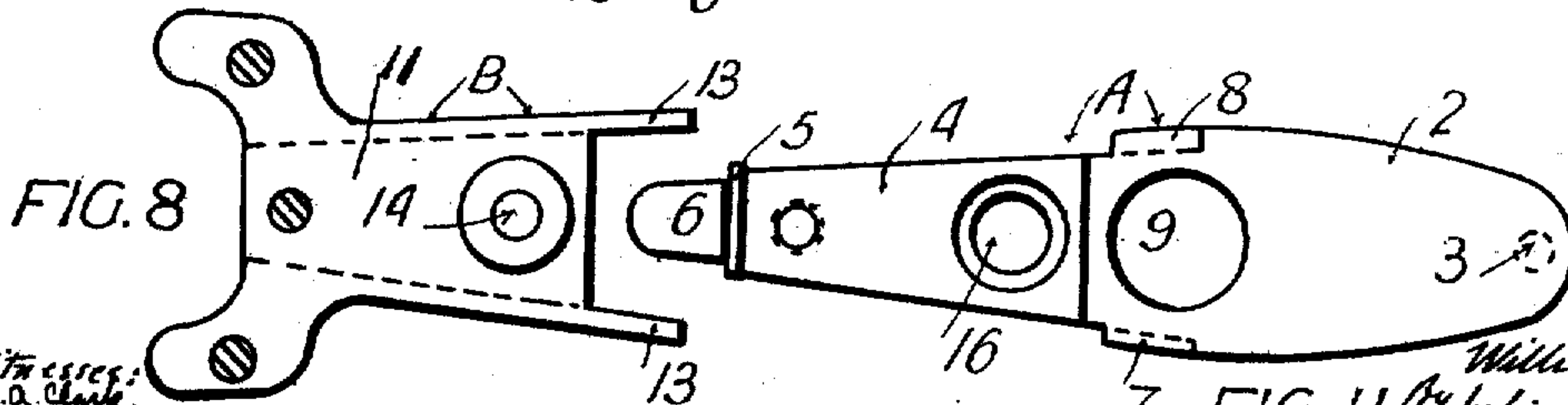
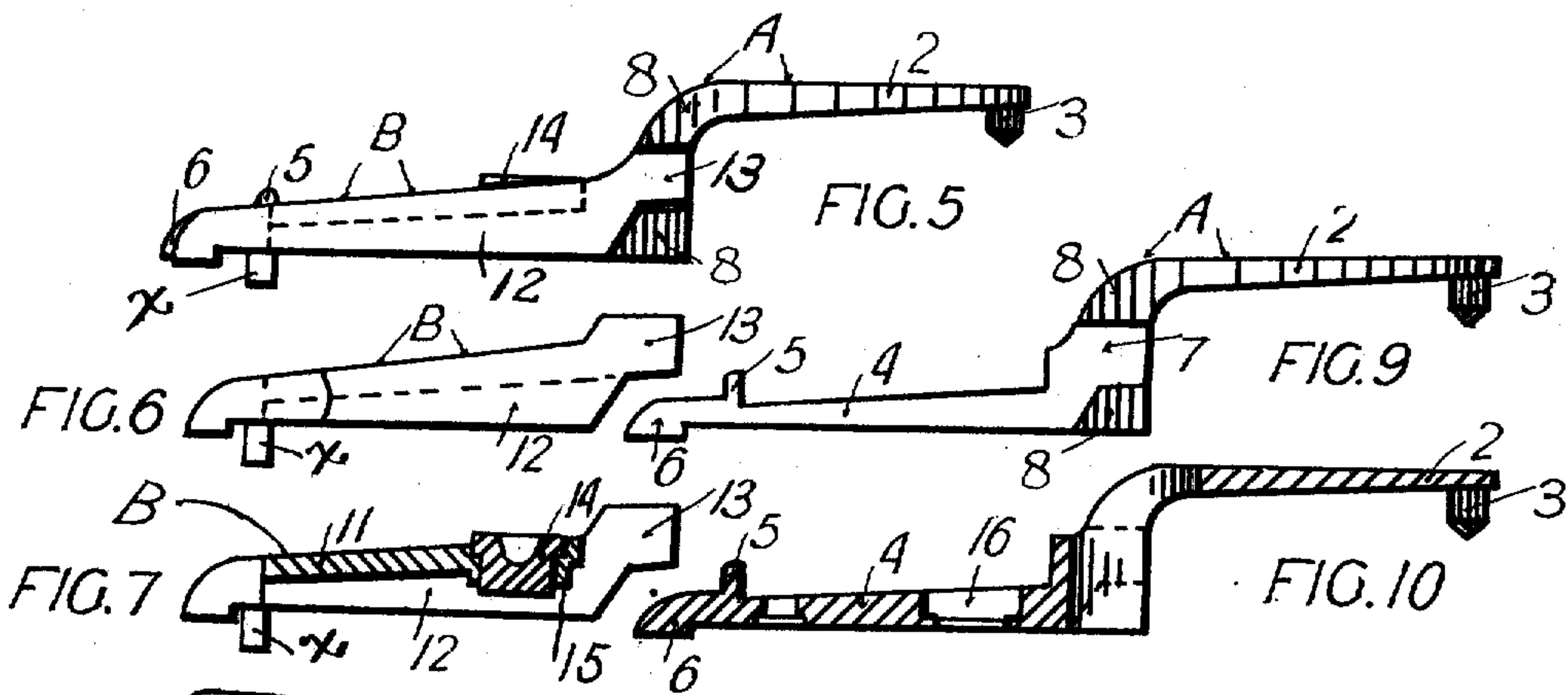
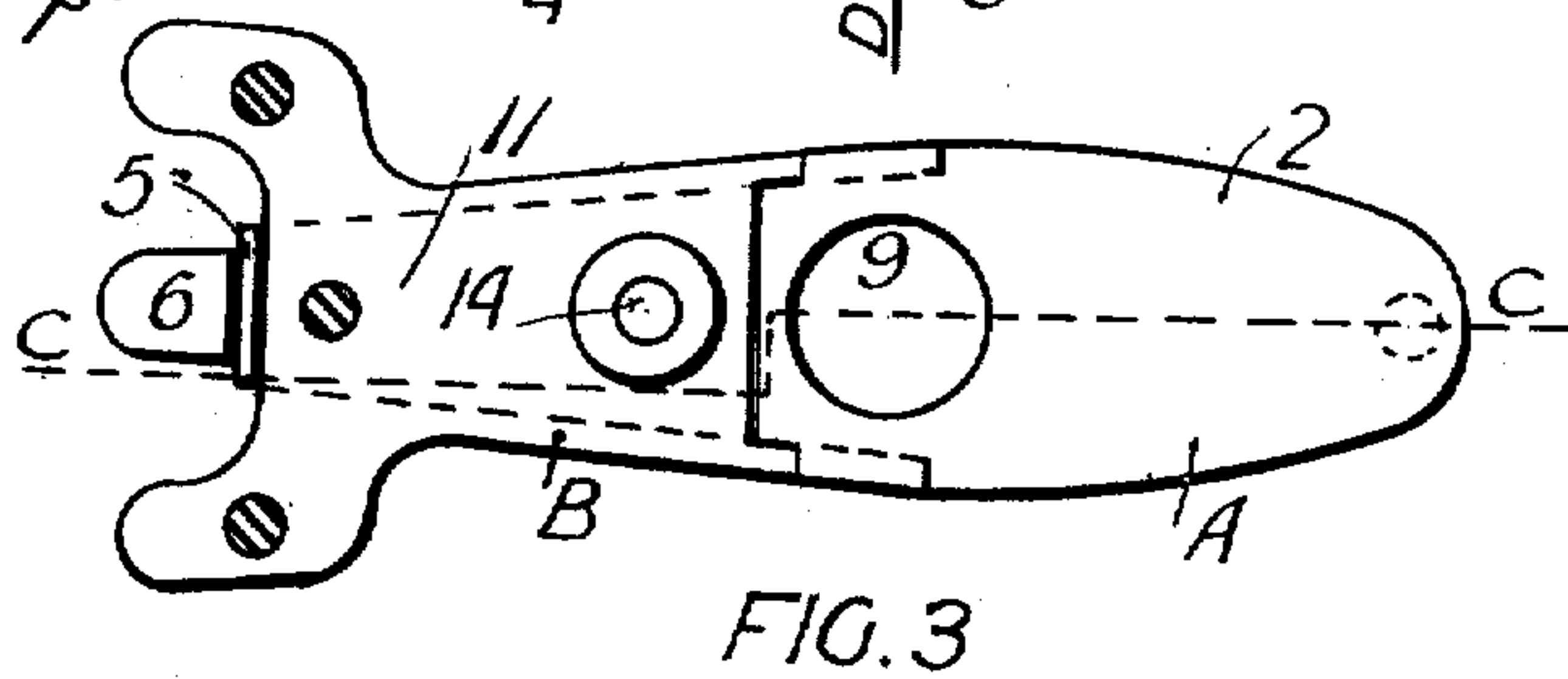
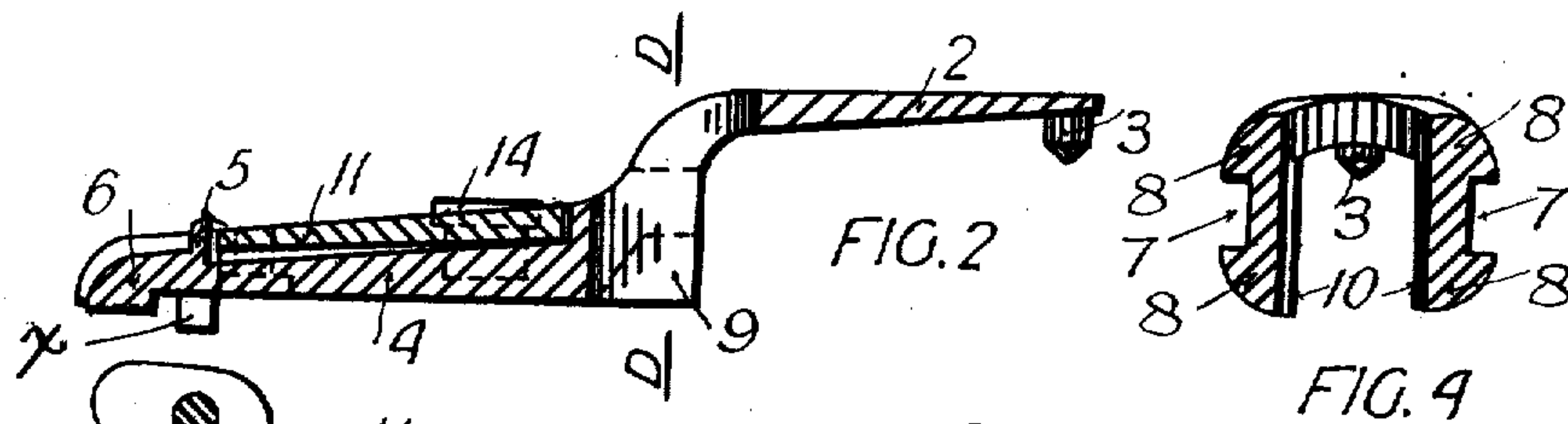
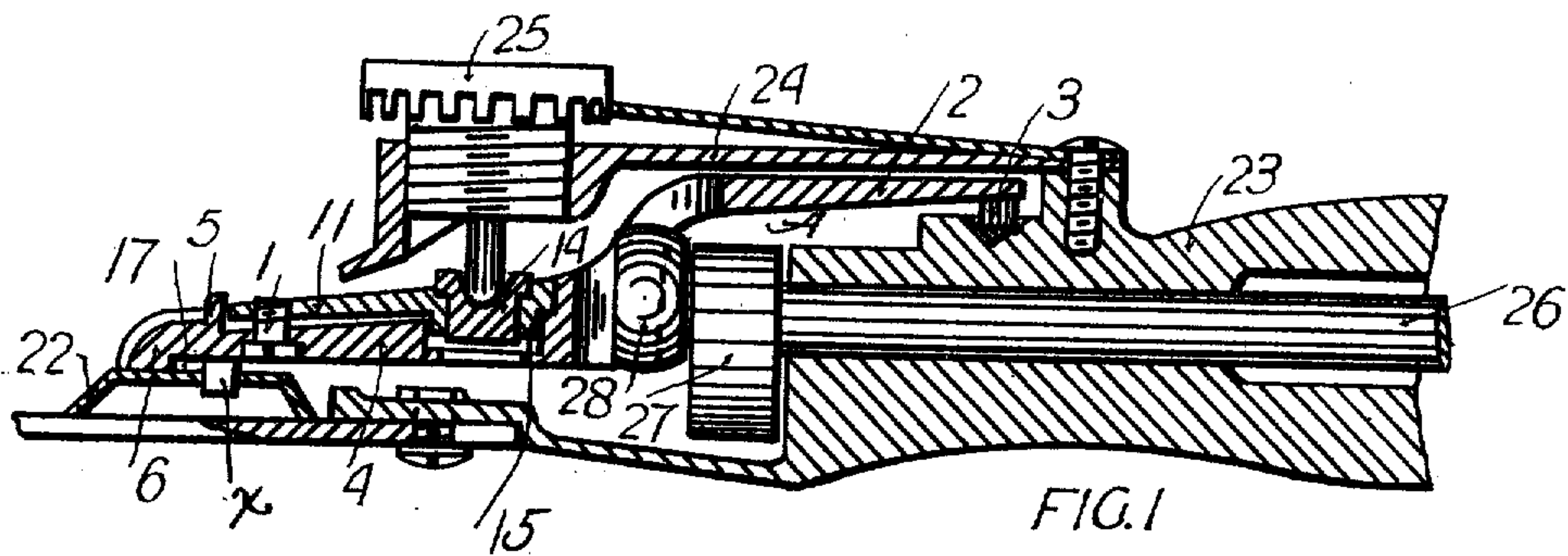


W. SILVER.  
SHEEP SHEARING MACHINE.  
APPLICATION FILED MAR. 25, 1907.

913,064.

Patented Feb. 23, 1909.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

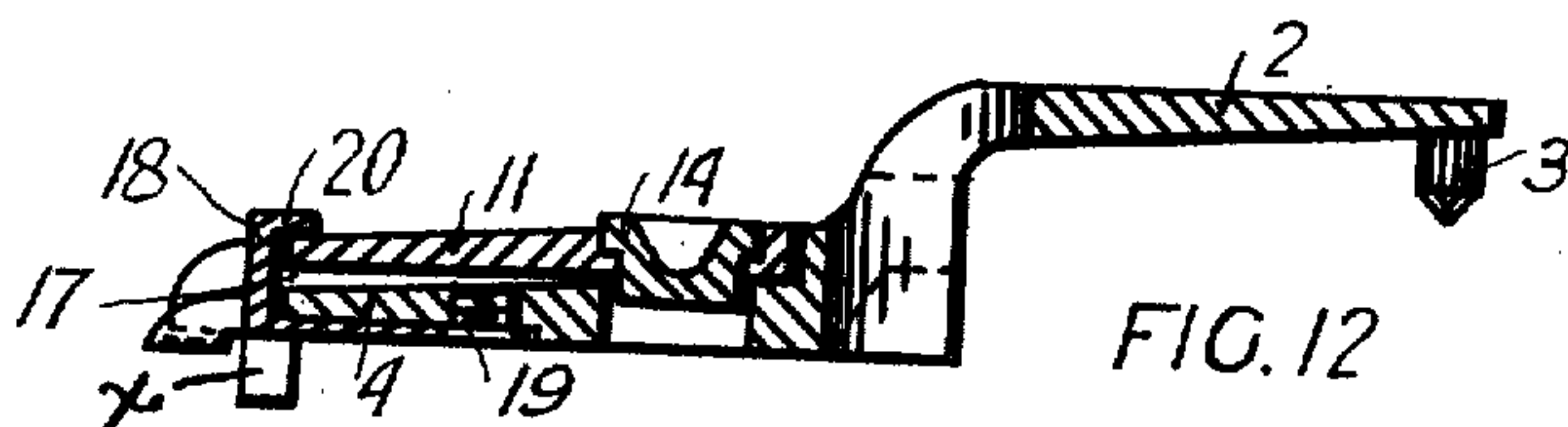


FIG. 12

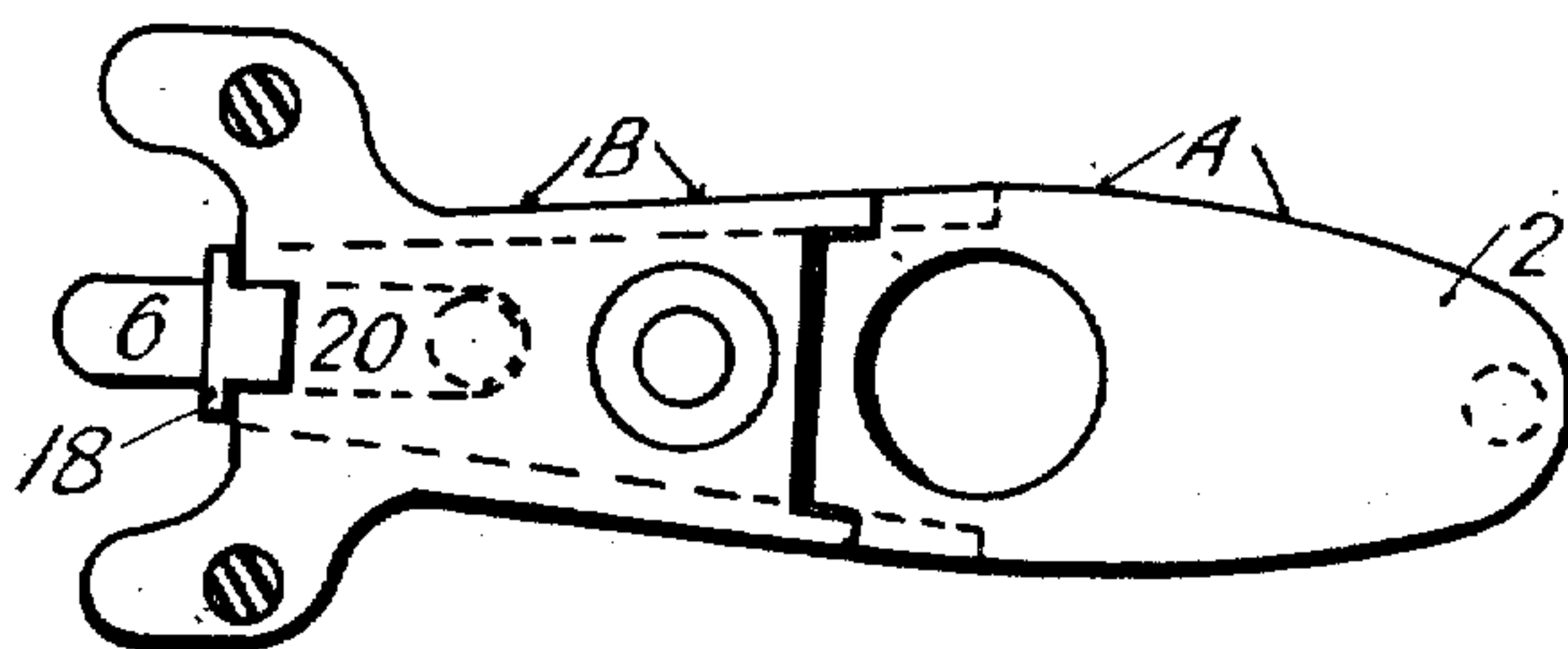


FIG. 13

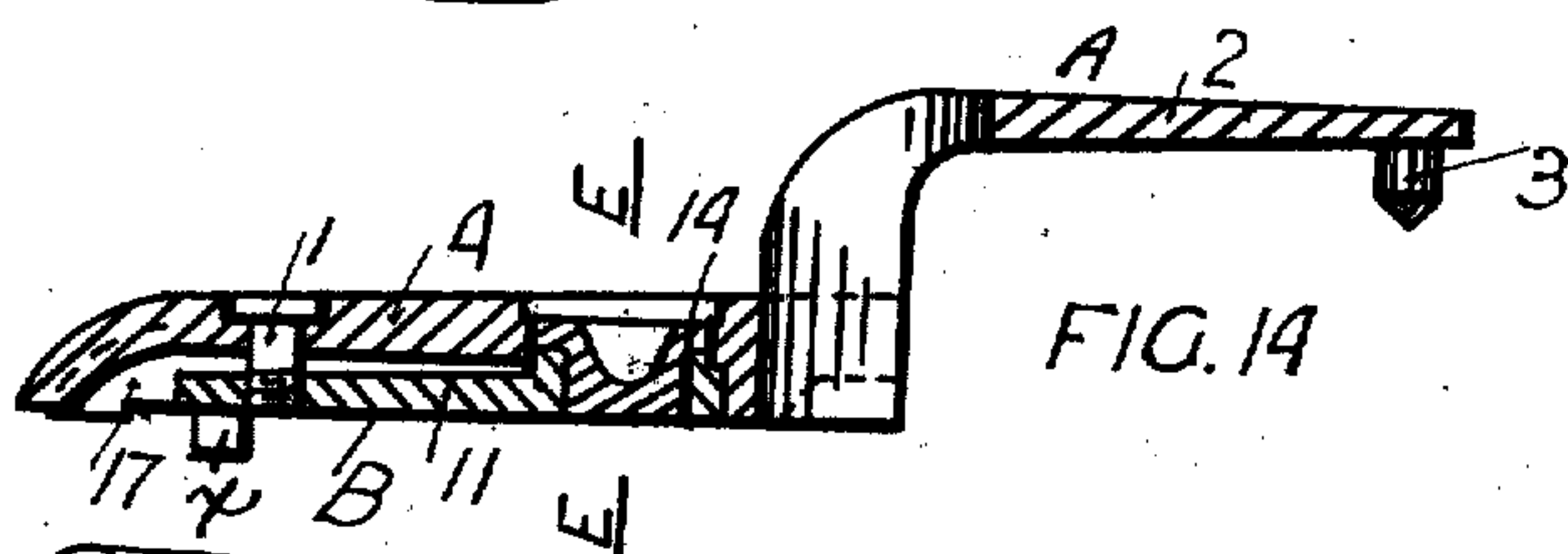


FIG. 14

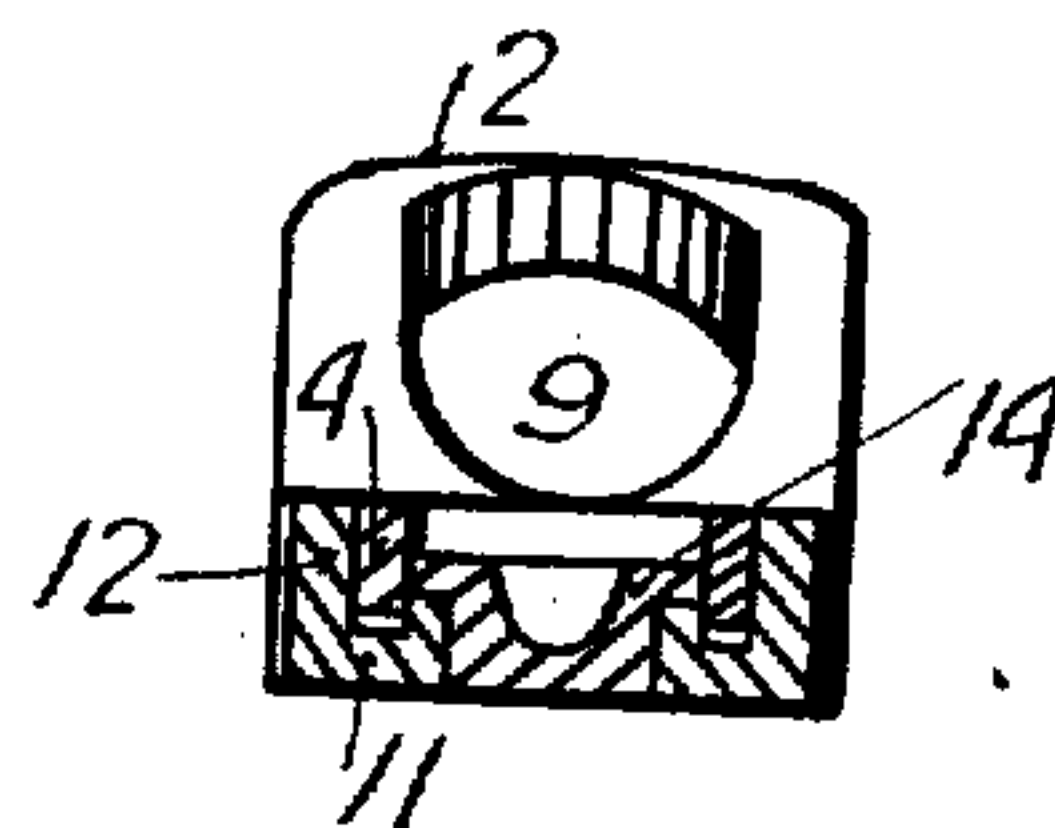


FIG. 16

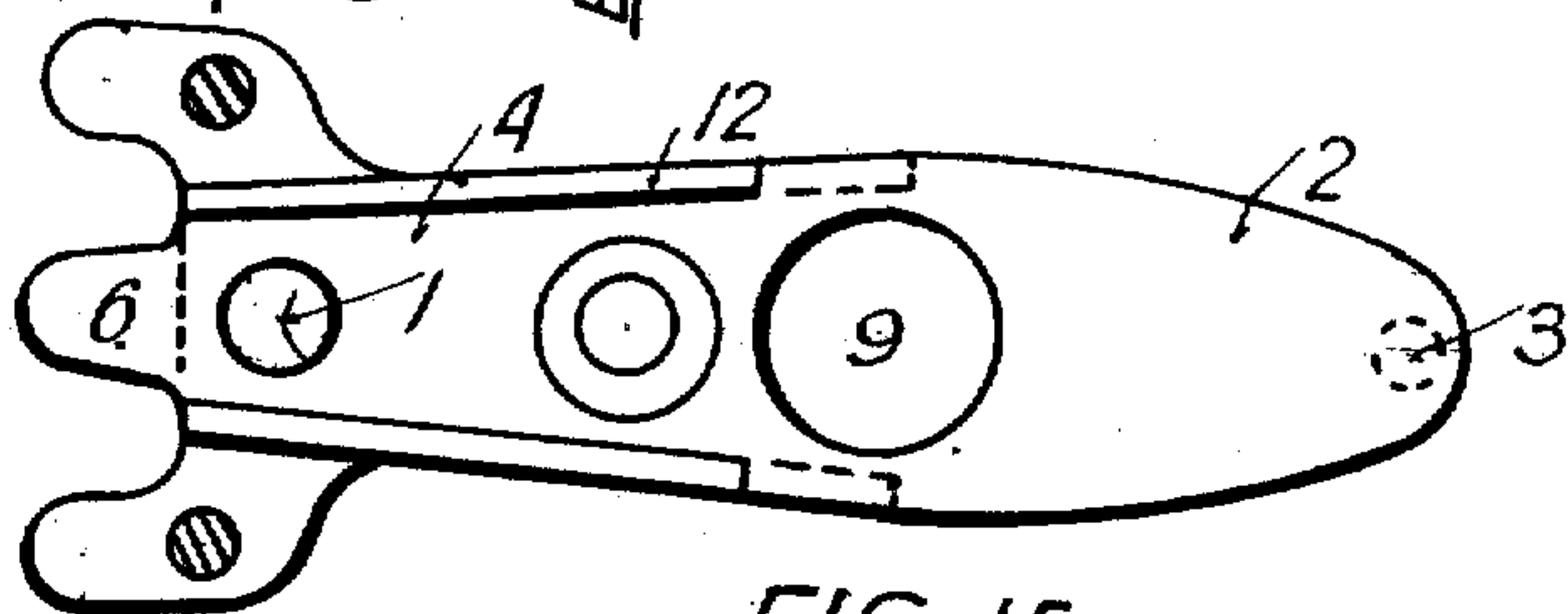


FIG. 15

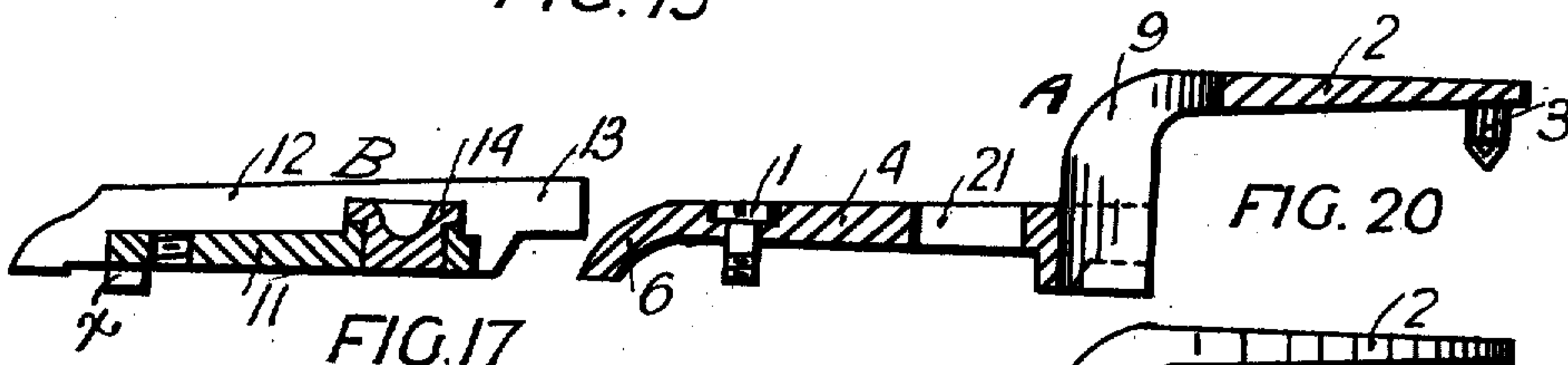


FIG. 17

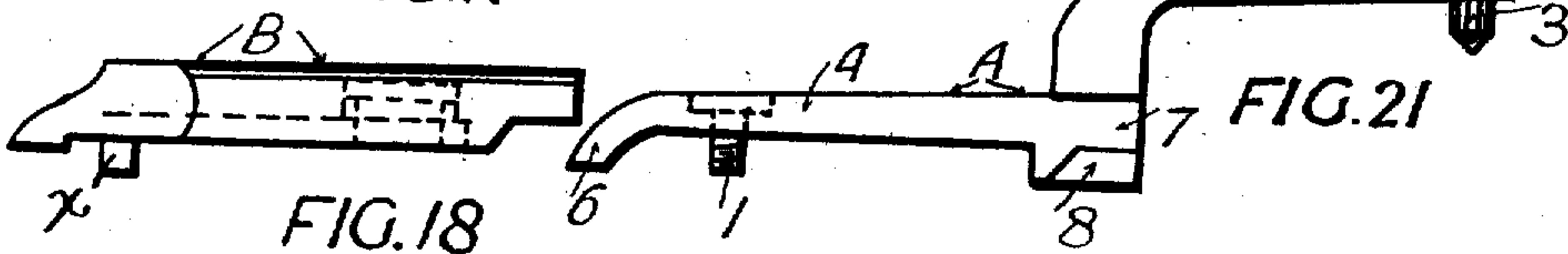


FIG. 18

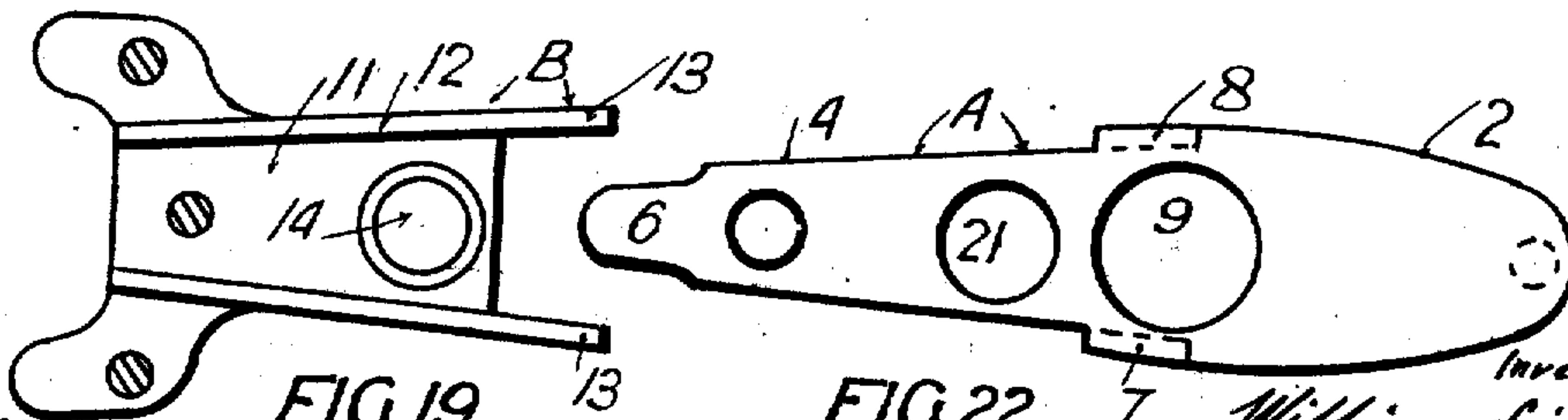


FIG. 19

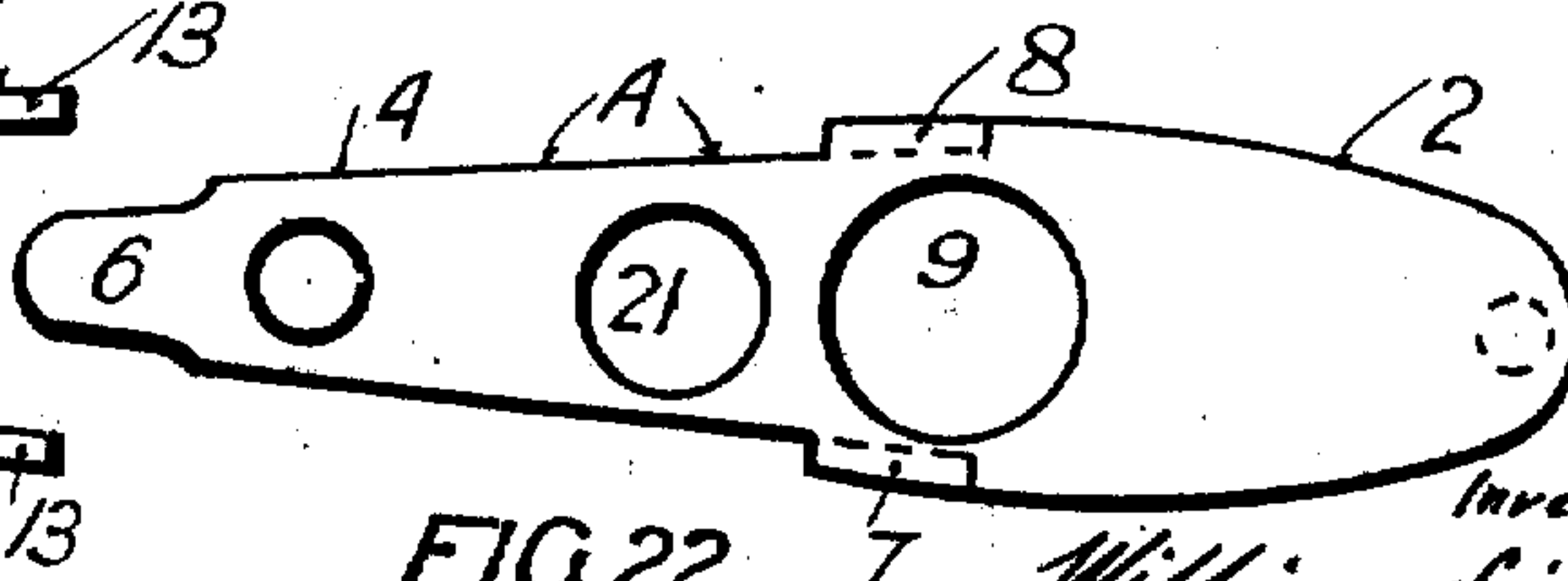


FIG. 20

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# UNITED STATES PATENT OFFICE.

WILLIAM SILVER, OF TAMWORTH, NEW SOUTH WALES, AUSTRALIA.

## SHEEP-SHEARING MACHINE.

No. 913,064.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed March 25, 1907. Serial No. 364,414.

To all whom it may concern:

Be it known that I, WILLIAM SILVER, a subject of the King of Great Britain and Ireland, and residing at Tamworth, in the State of New South Wales, Commonwealth of Australia, have invented new and useful Improvements in Sheep-Shearing Machines, of which the following is a specification.

My present invention relates to that class of sheep-shearing machines in which an auxiliary tension-bar is mounted on the main vibrating lever and said lever mounted on a heel pin, between which heel pin and the fork on its other end power is applied by means of a roller revolving between cheeks in said lever.

The invention consists in certain improved constructions of the tension-bar and lever to facilitate the mounting of the one upon the other, and to facilitate also the distribution of tension, which is in the first instance applied to the tension bar by a tension rocker of the well known type.

The tension bar is made to fit either upon the lever or under it, and is attached thereto by lugs fitting pockets in the lever, and retained in position thereon by means of a raised lip or pap on the forward end of the lever which serves also as a yolk-guard, or alternatively by means of a loose pin which allows rocking freedom between the two parts.

In Figures 1 to 11 of the accompanying drawings, that form of construction is shown in which the tension-bar overlies the lever. Figs. 12 and 13 show a similar construction in which a modified means of locking the tension-bar to the lever is used. Figs. 14 to 19 inclusive represent that alternative form of construction in which the tension-bar underlies the lever.

Referring to the several views of the drawings *seriatim*: Fig. 1 is a longitudinal sectional view, with parts in elevation, of a machine embodying my invention, according to the first-named construction, wherein the tension-bar overlies the vibratory lever. Fig. 2 is a longitudinal section through the tension-bar and lever, taken on line C—C of Fig. 3; Fig. 3 is a plan view of the subject-matter of Fig. 2; Fig. 4 is a cross-section on line D—D of Fig. 2; Fig. 5 is a side elevation of the tension-bar and lever assembled, Fig. 6 is a side elevation of the tension-bar B, Fig. 7 is a longitudinal section of the

same; Fig. 8 is a plan of the same; Fig. 9 is a side elevation of the main bar or lever A; Fig. 10 is a longitudinal section thereof; Fig. 11 is a plan of the same; Fig. 12 is a longitudinal section through the tension-bar and lever, showing a modified means of locking the tension-bar to the lever. Fig. 13 is a plan thereof; Fig. 14 is a longitudinal section of the tension-bar and lever according to the second construction, wherein the tension-bar underlies the lever; Fig. 15 is a plan thereof; Fig. 16 is a cross-section on line E—E of Fig. 14; Fig. 17 is a longitudinal section of the tension-bar B of Fig. 14; Fig. 18 is a side view thereof; Fig. 19 is a plan of the same; Fig. 20 is a longitudinal section of the lever A of Fig. 14; Fig. 21 is a side elevation thereof; Fig. 22 is a plan of the same.

A denotes the main bar or vibratory lever, and B the auxiliary tension-bar, which together may be said to constitute a two-part cutter-bar.

In Fig. 1, 22 is the cutter, 23 the case of the machine, 24 cover thereof, 25 the tension-adjusting screw, 26 the driving shaft, 27 driving disk, and 28 driving roller carried eccentrically on said disk.

9 is the aperture provided in an intermediate portion of the lever A for accommodation of its driving roller 28, and 10 are the cheeks (Fig. 4) against which the roller works.

3 is the heel pin on the rear end of the back portion or rear extension 2 of the lever.

The driving-roller 28 revolving between the cheeks 10 imparts to lever A a vibratory motion about the heel pin 3 as a fulcrum or pivot. The forward portion or tapered tongue 4 of the lever is formed at its forward end with a downwardly-projecting finger-piece 6 which bears upon the middle tine of the cutter. The two outer tines of the cutter receive pressure from the yoke or forked forward end of the tension-bar B which is mounted upon the forward portion 4 of the vibrating lever A in the manner hereinafter described. The forked ends of the tension-bar are provided with dowels which take into holes in the top of the cutter in the well known manner. On the forward end of the lever, behind its finger 6, is an upwardly-projecting flange, lip or pap which closes the mouth of the machine and prevents fouling of the same by admission



of yolk and loose wool between the lever and the tension-bar. At the same time the lip or pap 5 serves as a check or guard-piece to prevent the tension-bar from slipping forward while in work.

The tension-bar B is shown formed as a web 11 with lateral depending flanges 12, and overlies and straddles the tongue 4 of lever A, said flanges 12 being provided for stiffness and embracing the tongue 4 of lever A but loosely so that adjustments will not be interfered with. Said flanges 12 are extended rearward to provide wings 13, giving a bifurcated or forked form to the rear end of the tension-bar. Recesses or cavities 7 are provided on opposite sides of the medial portion of the lever, thereby forming shoulders 8 above and below; and the said wings or rearward extensions 13 of the tension-bar seat in said cavities. The tension-bar is thus held at this point against vertical motion relative to the lever, but there is sufficient clearance or freedom allowed by the seating of the parts 13 in the cavities 7 or between the shoulders 8 to allow ample radial motion of the forward end of the tension-bar to permit adjustment of pressure on the cutter as between the finger 6 on the lever and the fingers on the fork of the tension-bar.

The main lever A and tension-bar B are mounted one upon another by sliding the tongue-piece 4 between the flanges 12 and beneath the web 11, at the same time inserting the wing-extensions 13 into the channels 7 or between the shoulders 8. When the bar B is placed in position as shown in Fig. 1, so long as the tensional pressure is applied the two parts will be held interlocked by the check or guard-piece 5.

Tension is or may be applied by a device of the usual form pressing into a tension foot step bearing 14 which is seated on the tension-bar intermediately of the length of the latter; the tension-bar being provided with an annular flange or boss 15 to give a firm seating to the footstep bearing 14. An aperture 16 is formed in the lever A to provide accommodation for the annular flange or boss 15. Tensional pressure reaches the forks of the tension-bar directly and is thus applied to the outer tines of the cutter; indirectly it is supplied through the lever A and its finger 6 to the middle tine of the cutter. The position of the footstep 14 is such that equable distribution of tension as required in actual work takes place as between all three points of the cutter. Cross adjustment as between the two outer tines is automatic, the lever and bar rolling as one on the heel pin 3.

In order to prevent the parts falling adrift when the machine is opened, a loose pin 1 is used to prevent the separation of the bar and lever while still permitting these two parts a certain freedom relatively

to one another to allow for the necessary settling adjustment. In the construction shown in Figs. 1 to 11 inclusive, the inverted and headed pin or cap-screw 1 enters loosely up through the lever A and is tapped or screwed firmly into tension-bar B, leaving clearance at 17 to allow the parts A and B to move together to that extent to adjust their various bearing points on the cutter; the pin-head and shank having sufficient clearance to allow the parts to work freely.

In the construction shown in Figs. 12 and 13 the pin 1 is dispensed with, but the lip or check 18 is made with a rearwardly extending lug 20 overlying the forward end of the tension bar. The check 18 is in this case secured to the under part 4 of the lever by means of a set pin 19.

As shown in Figs. 14 to 22 the tension-bar B instead of overlying the lever A as in the previous figures is set below the same, and its stiffening flanges 12 are made to extend upwardly. In this construction the tension footstep bearing is set on the web 11 of the tension-bar and an aperture 21 is formed in the lever A to receive its upper end. The screwed pin 1 secures the parts as before described. It is to be noted that this pin is only a check pin and does not convey pressure from the lever to the bar or vice versa.

I claim as my invention and desire to secure by Letters Patent:

1. In a sheep-shearing machine, a cutter-bar comprising a main lever and a forked tension-bar, the main lever being pivoted at its rear end and taking a bearing on the cutter at its forward end, the rear end of the tension-bar being mounted on the lever by winged extensions and shoulder pieces, and capable of vertical settling movement upon the cutter at its forked end, substantially as described.

2. In a sheep-shearing machine, a cutter-bar formed of two parts, the main lever and forked tension-bar, the former being provided with a tongue piece, recesses and shoulder pieces, and the latter with winged extensions, web, flanges, and tension footstep bearing, and adapted to be mounted by its winged extensions upon the main lever, the parts being so constructed as to permit of vertical settling movement at their forward end relatively to one another, substantially as described.

3. In a sheep-shearing machine, the combination of a cutter-bar formed of two parts for the purposes specified, the one having a tapered tongue, yolk-guard, rear extension, channeled recesses, and shoulder pieces, and the other having a forked end, upper web, side flanges and winged extensions, and the tension footstep bearing and locking pin, substantially as described.

4. In a cutter-bar for the purposes speci-



fied, the combination with a main bar or lever adapted to be pivoted to the case of the machine and provided with a tongue extension, yolk guard and center finger, of a forked end, recessed and furnished with winged extensions adapted to be mounted upon the main lever and locked thereto, the lever and forked end being capable of vertical movement relatively to one another substantially as described.

5. In a cutter-bar formed of two parts, the combination of a main bar or lever provided with tongue, rear extension, channeled recesses and shoulder pieces, of a forked end provided with winged extensions, lower web, upwardly projecting side flanges, tension footstep bearing and locking pin, substantially as described.

6. In a cutter-bar comprising a main lever and a fork mounted thereon as described, a flange or lip formed on the main bar and abutting the fork between the arms thereof and adapted to close by sliding over the aperture in the case and to lock the fork in working position on the main bar substantially as described.

7. In a sheep-shearing machine, a main lever fulcrumed at its extreme rear end and terminating at its forward end in a pressure finger acting on the middle tooth of a three-tooth cutter, and a subsidiary tension receiving distributing and adjusting lever mounted on said main lever, a tension device bearing on said subsidiary lever midway of its length, lateral wings on the subsidiary lever fitting pockets in said main lever rearward of said tension device, a forked claw terminating the forward end of said subsidiary

lever and interlocked on said main lever, the fingers of said claw acting on the outer teeth of the cutter.

8. In a sheep-shearing machine, the main lever and a subsidiary tension receiving distributing and adjusting lever mounted thereon as described, a tension device bearing on said subsidiary lever, the latter having lateral wings fitting pockets in said main lever rearward of said tension device and having a forked claw at its front, and a yolk guard formed by a flange or lip on the main lever in front of the claw of the subsidiary lever, said flange or lip constituting also a check or stop to lock the levers together.

9. In a sheep-shearing machine, a cutter-bar fulcrumed at its extreme rear end and having lateral pockets midway of its length, a subsidiary forked lever having wings on its rear ends fitting in said pockets, and a yolk guard and interlocking check on the front end of the main lever taking against the forked jaw of the subsidiary lever.

10. In a sheep-shearing machine, a cutter-bar fulcrumed at its extreme rear end and made with lateral pockets midway of its length, a subsidiary forked lever having wings on its rear ends fitting in said pockets and a loose fitting pin connecting both levers at their forward ends.

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

WILLIAM SILVER.

Witnesses:

C. G. HEPBURN,  
W. J. DAUS.