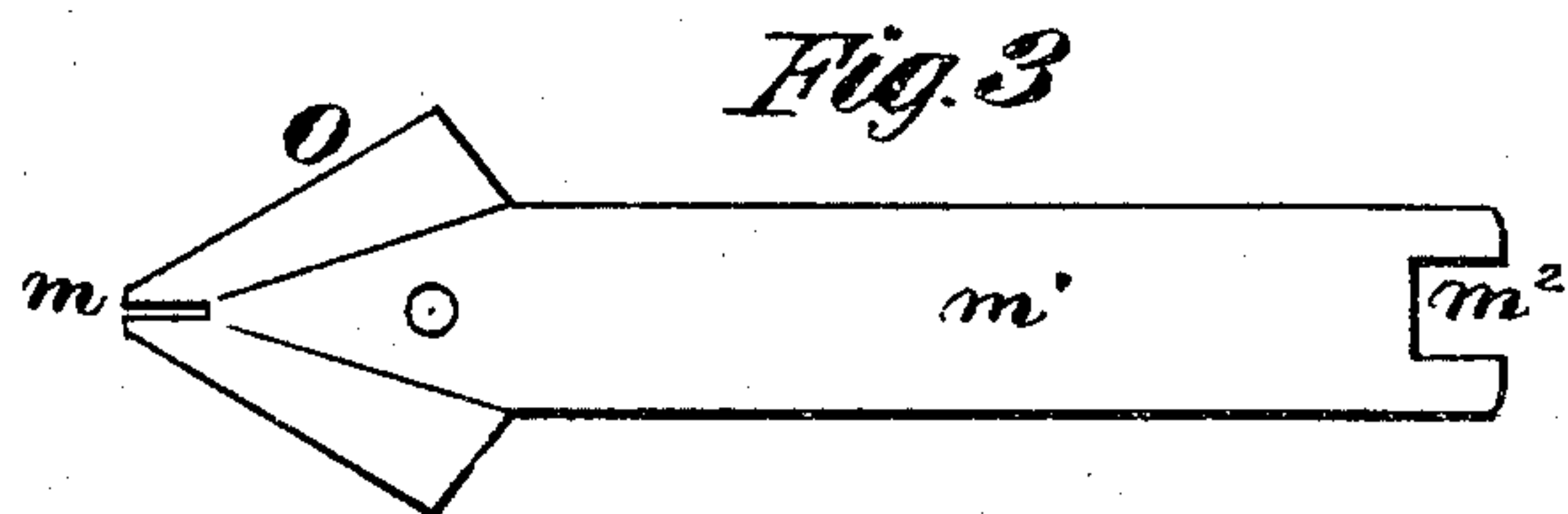
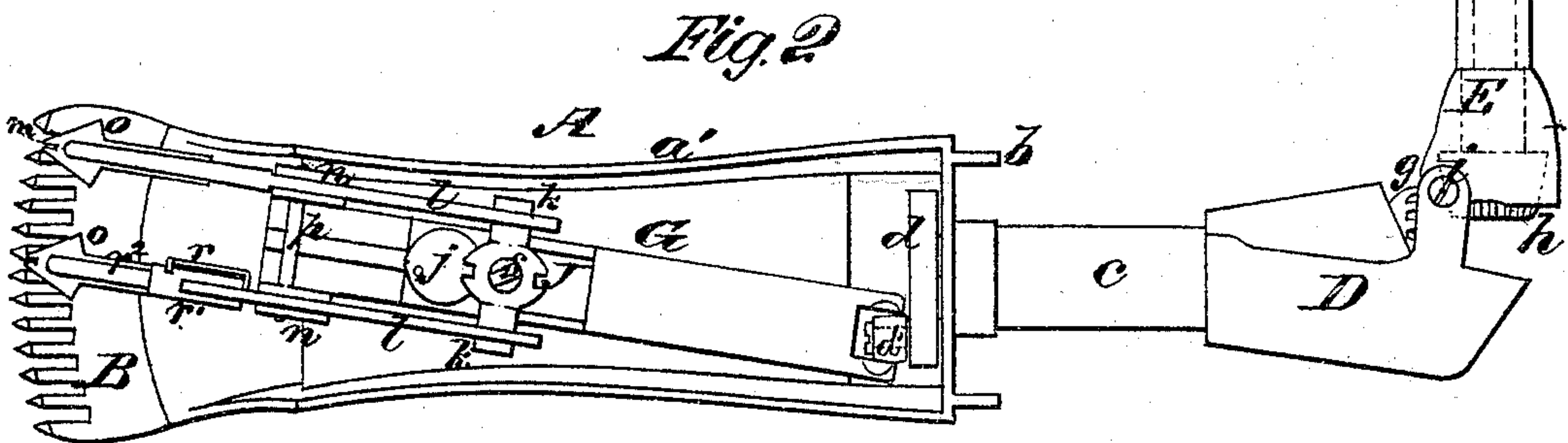
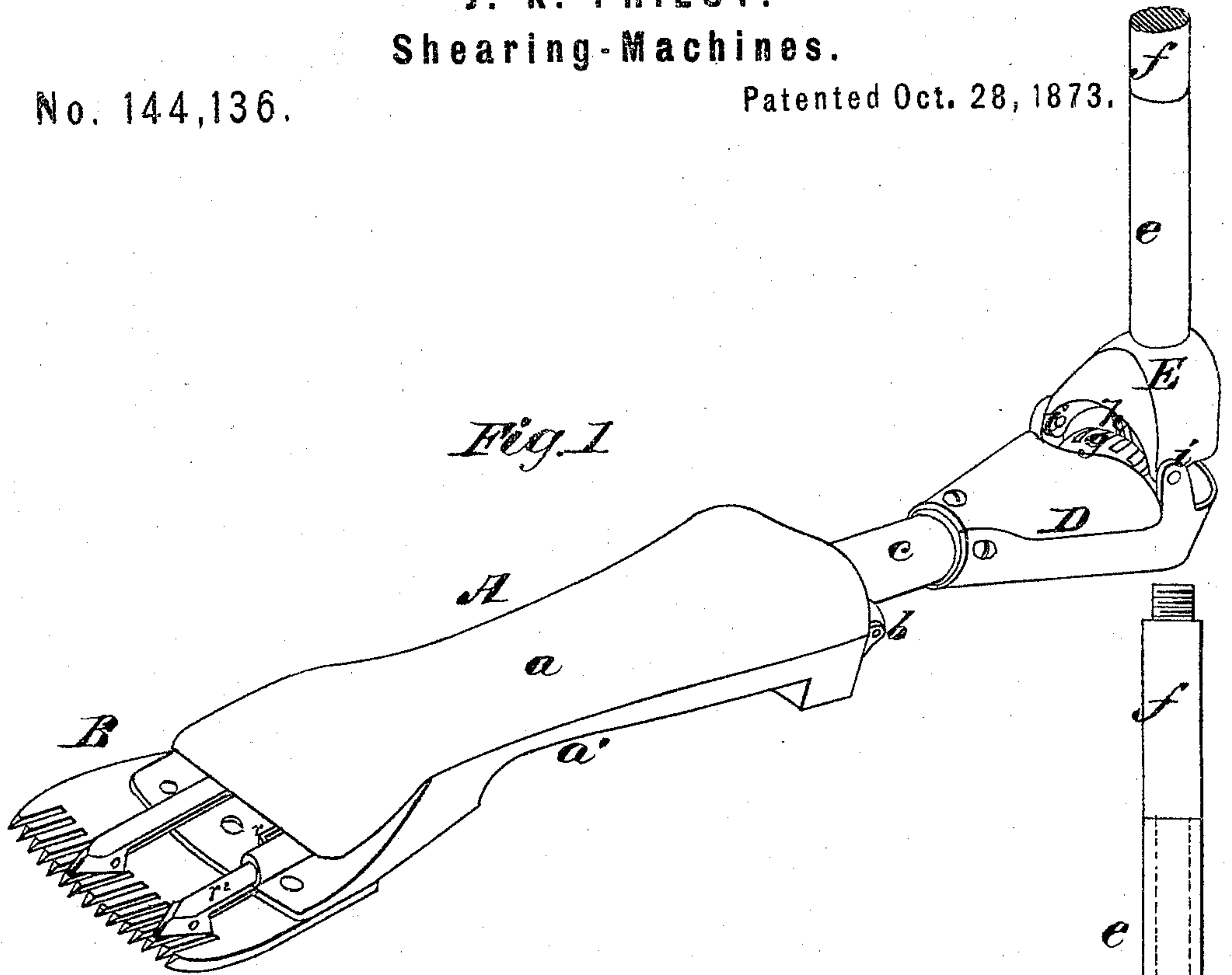


J. K. PRIEST.
Shearing-Machines.

No. 144,136.

Patented Oct. 28, 1873.



Witnesses.
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J. N. Campbell.

Inventor
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Fig. 5

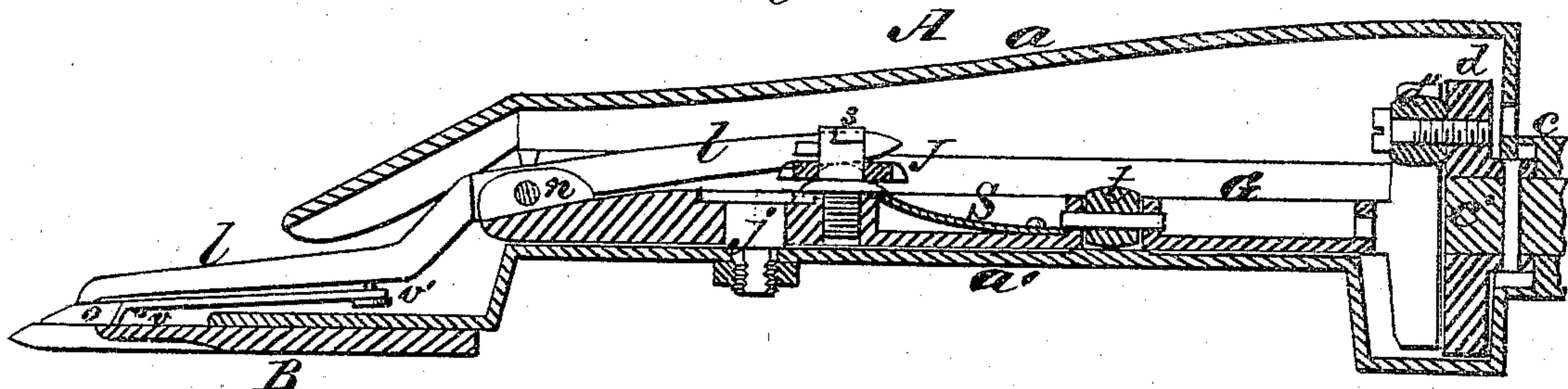


Fig. 6

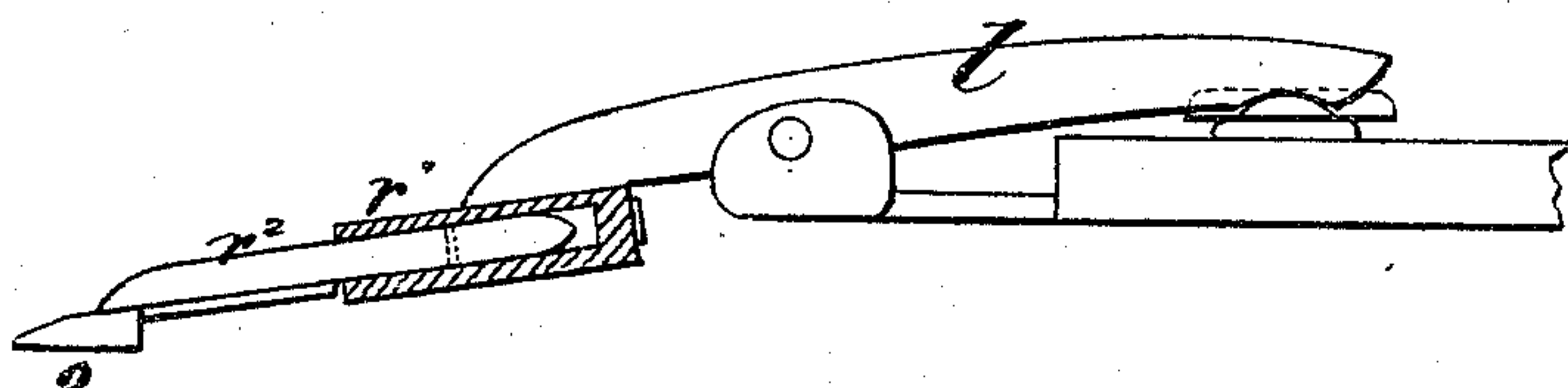
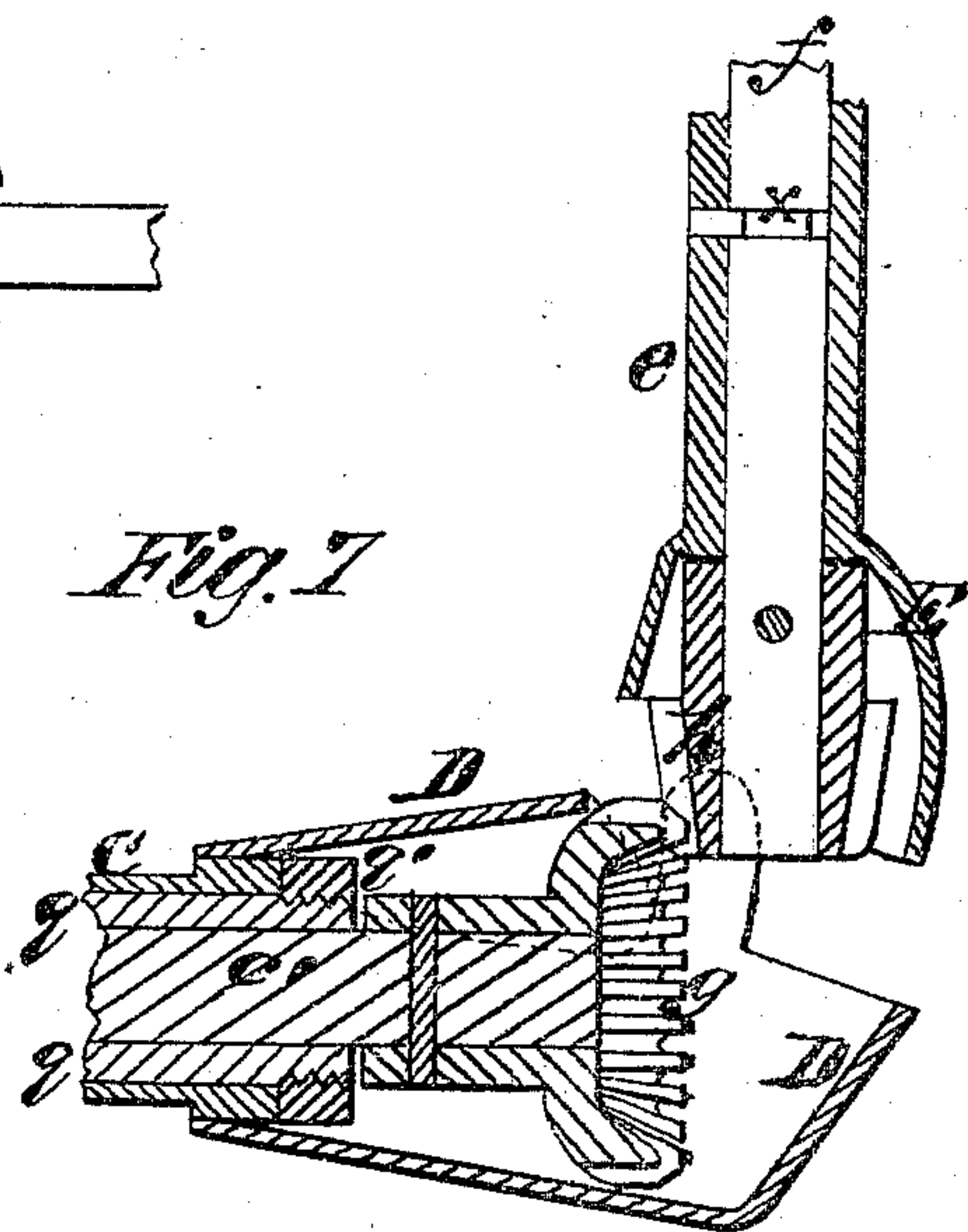


Fig. 8



Fig. 7



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UNITED STATES PATENT OFFICE.

JOSEPH K. PRIEST, OF NASHUA, N. H., ASSIGNOR TO HIMSELF, R. T. SMITH,
JOHN G. BLUNT, AND WILLIAM EARL, JR., OF SAME PLACE.

IMPROVEMENT IN SHEARING-MACHINES.

Specification forming part of Letters Patent No. **144,136**, dated October 23, 1873; application filed
March 26, 1873.

To all whom it may concern:

Be it known that I, JOSEPH K. PRIEST, of Nashua, in the county of Hillsborough and State of New Hampshire, have invented an Improved Device for Clipping and Shearing Wool and Hair; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of the improved device. Fig. 2 shows the interior of the handles. Figs. 3 and 4 show one of the cutters. Fig. 5 is a section taken longitudinally and vertically through the device with the spur-wheels omitted. Fig. 6 shows a mode of attaching a cutter to its pivoted arm. Fig. 7 shows the driving-gear in section. Fig. 8 is a perspective view of the device on which the rear ends of the cutter-arms bear.

Similar letters of reference indicate corresponding parts in the several figures.

My object is to improve shearing devices which are allowed to receive universal motion in the hand of the person using them—first, by applying two or more independently-adjusted cutter-carrying arms to a vibrating bar in such manner that the cutters will be held down squarely upon the comb-blade and allowed to adjust themselves thereto; second, by providing an equalizing-plate as the bearing for the cutter-carrying arms, which plate is adjustable for setting the cutters properly upon their comb-blade; third, by constructing V-shaped cutters with notched points; fourth, by communicating motion to the bar on which are the cutter-arms by means of gears which allow an elbow articulation.

The following description of my invention will enable others skilled in the art to understand it.

The handle A of the device consists of two parts, *a a'*, hinged together and constructed to afford a case for inclosing parts of the mechanism. Inside of this handle, and pivoted to the portion *a'* at *j*, is a bar, G, which receives lateral vibration from an anti-friction wrist-pin, *d'*, fixed eccentrically to a wheel, *d*. This wheel or crank-plate *d* is keyed on a shaft, *c'*,

which passes through a tubular extension, *q*, and carries a spur-wheel, *g*, on its rear end. (Shown in Figs. 1, 2, and 7.) The tubular extension *q* receives upon it a sleeve, *c*, which is allowed to turn around freely, but which is prevented from endwise play by a nut, *q'*. To the sleeve *c* a shell, D, is secured, which, with a shell, E, affords a shield to the wheels *g h*, and prevents hair or wool from clogging them. The shield E is formed on a tube, *e*, and it is connected by joints *i* to ears on the shield D, which joints allow a free elbow articulation. The wheel *g* is constructed with spur-teeth, which also extend, as offsets, beyond one end of the hub on which they are formed, and the wheel *h*, which is an ordinary pinion, is set in the relation shown to this wheel *g*, and is thus free to gear with the outside, end, and even the inside of the teeth thereof, when the shields are properly shaped to permit this extent of universal movement. The shaft *f*, on which is keyed the spur-wheel *h*, passes through the tube *e*, in which it rotates, and has a coupling-screw on its end for connecting it to any suitable driving power. The bar G is provided with an anti-friction roller, *t*, which rolls on the bottom of the handle portion *a'*, and prevents sliding friction when the bar is vibrated. At the front end of the bar G lugs *n n* are formed, to which are pivoted knife-carrying rods *l l*, whose rear ends bear upon the rounded extensions *k k* of an equalizing-plate, J. This equalizing-plate J is applied loosely on a screw-pin, *s*, which is tapped into the bar G, so as to rock on a rounded flanged portion of the pin *s*, and thus accommodate itself to the end of the rods *l l* and press equally against them. The screw *s* is adjustable, and to prevent it working loose a spring, S, is employed, which is secured into a recess in bar G, so as to act against the rounded flange on the screw *s*. Those portions of the rod *l l* which impinge on the extensions of the plate J are scored, as shown in Fig. 6, and rounded laterally, and the rear ends of the rods *l l* are beveled, so as to allow the extensions *k k* of plate J to be readily adjusted under them. The vibrating cutters *o* are produced from V-shaped pieces of steel, notched at their points *m*, and struck

up, as shown in the drawings, so as to present concave bottom surfaces, and two beveled cutting-edges converging to the notched point *m*. The cutting-edges are formed by grinding the plate on a flat surface. The object of notching the cutters at *m* is to allow the plate to be struck up, as described, and to prevent the points of the cutters from locking against the cutting-edges of the teeth on the comb-plate B. The cutters are constructed with shanks *m'*, and so applied to the rods or arms *l* as to allow them to rock laterally, and thereby accommodate themselves flatly to the surface of the comb-plate B, when adjusted thereupon by means of the screw *s* and equalizing-plate J. This rocking movement or adjustment may be allowed by notching and perforating their shanks *m'*, as shown in Fig. 3, and attaching them loosely to the pin *v* and button-head *v'*, as shown in Fig. 5; or a rocking movement may be allowed by means of a round stem, *r*², fitted into a socket-extension, *r*¹, of a rod, *l*, and held therein by the hooked end of a spring; *r*, which is received into a notch in said round stem *r*².

I do not confine myself to either of the above-described modes of allowing the cutters to rock, as other means may be adopted for such purpose.

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

1. Two or more cutter-carrying arms, *l*, pivoted to a laterally-vibrating bar, G, in combination with the rear bearing adjustable equalizing-plate J, substantially as described.

2. The plate J, substantially as described, applied upon the cutter-adjusting device *s* of a shearing or clipping machine, for the purpose set forth.

3. The combination of spring S with the flanged adjusting-screw *s* and a bearing-plate for the cutter-carrying arms *l*, substantially as described.

4. V-shaped cutters, notched at *m*, substantially as described.

5. The shearing or clipping cutter applied to its arm, as described, and finding a flat bearing upon the comb-plate B by rocking free of the arm which carries it, as and for the purpose set forth.

6. The spur-wheel *g*, with its projecting or offsetting teeth, in combination with the pinion *h*, arranged to gear with it and permit the universal movement, as herein set forth.

7. The combination of the gearing *g h*, constructed as described, with the shields D and E, forming the elbow-joint between the driving and the crank shafts of shearing and clipping machines, substantially as described.

JOSEPH K. PRIEST.

Witnesses:

E. P. EMERSON,
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