

(No Model.)

M. NIELSEN & T. S. THOMSEN.  
KNIFE SHARPENING MACHINE.

No. 598,806.

Patented Feb. 8, 1898.

Fig. 1,

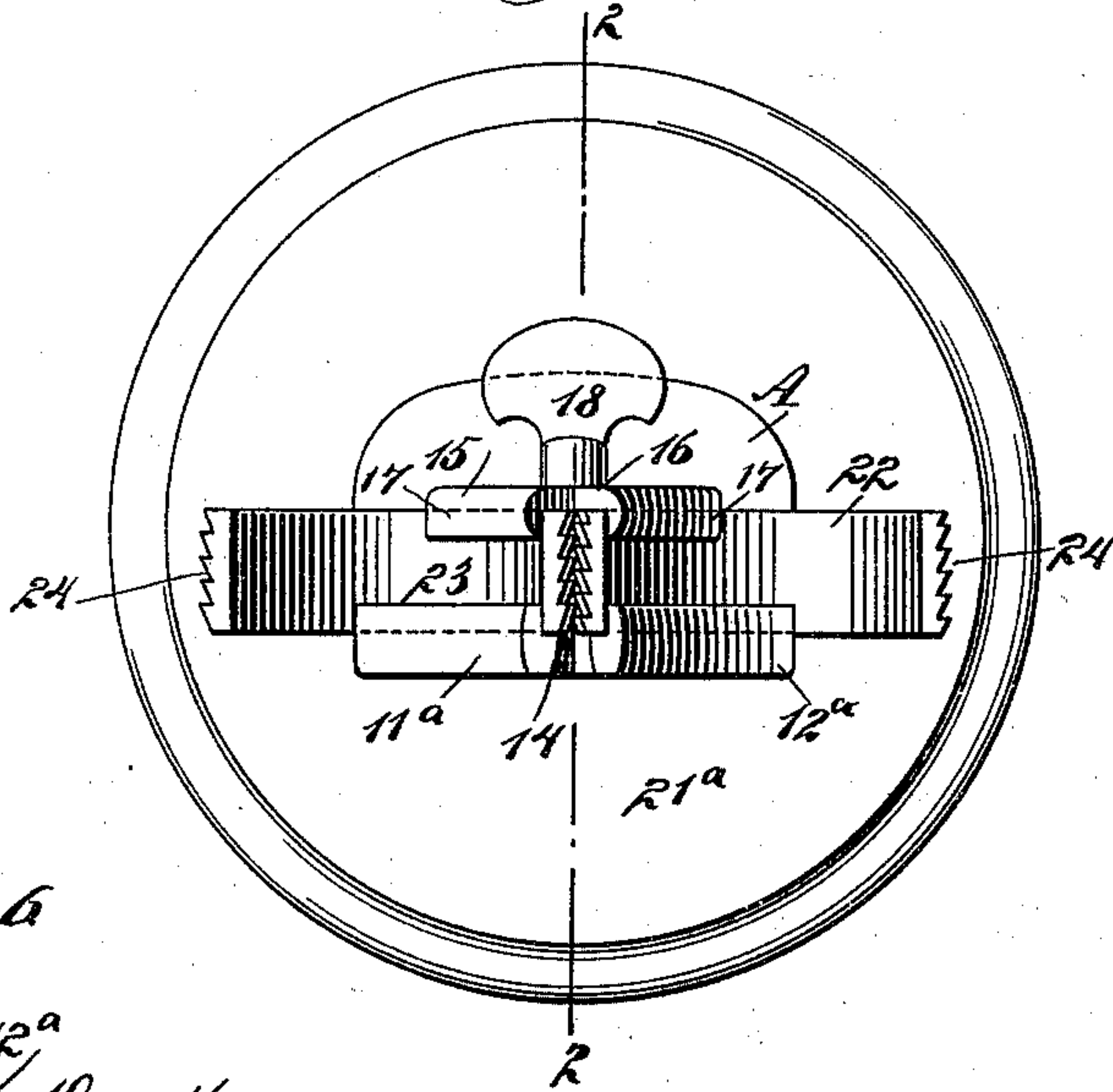


Fig. 6

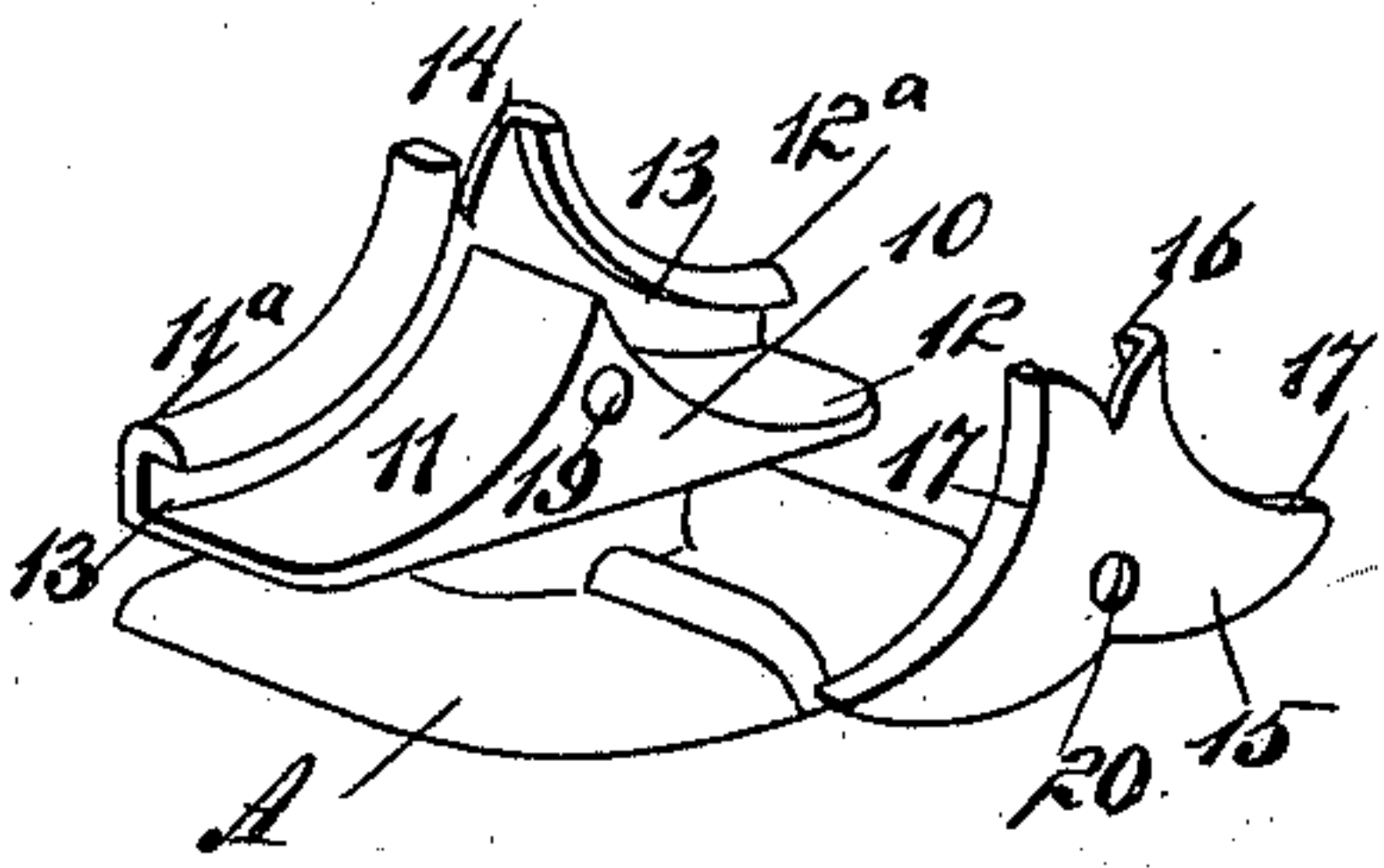


Fig. 2,

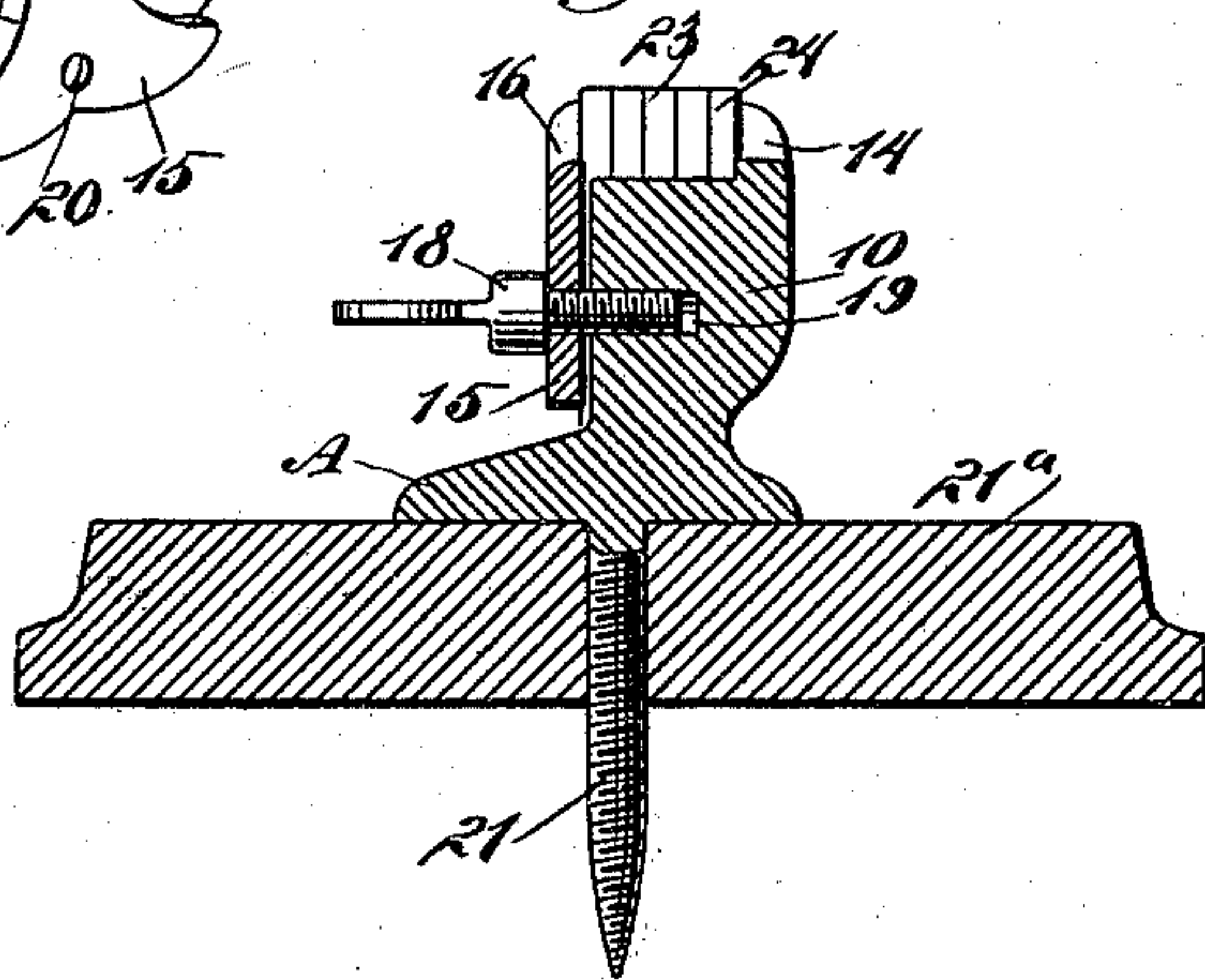


Fig. 5.



Fig. 3,

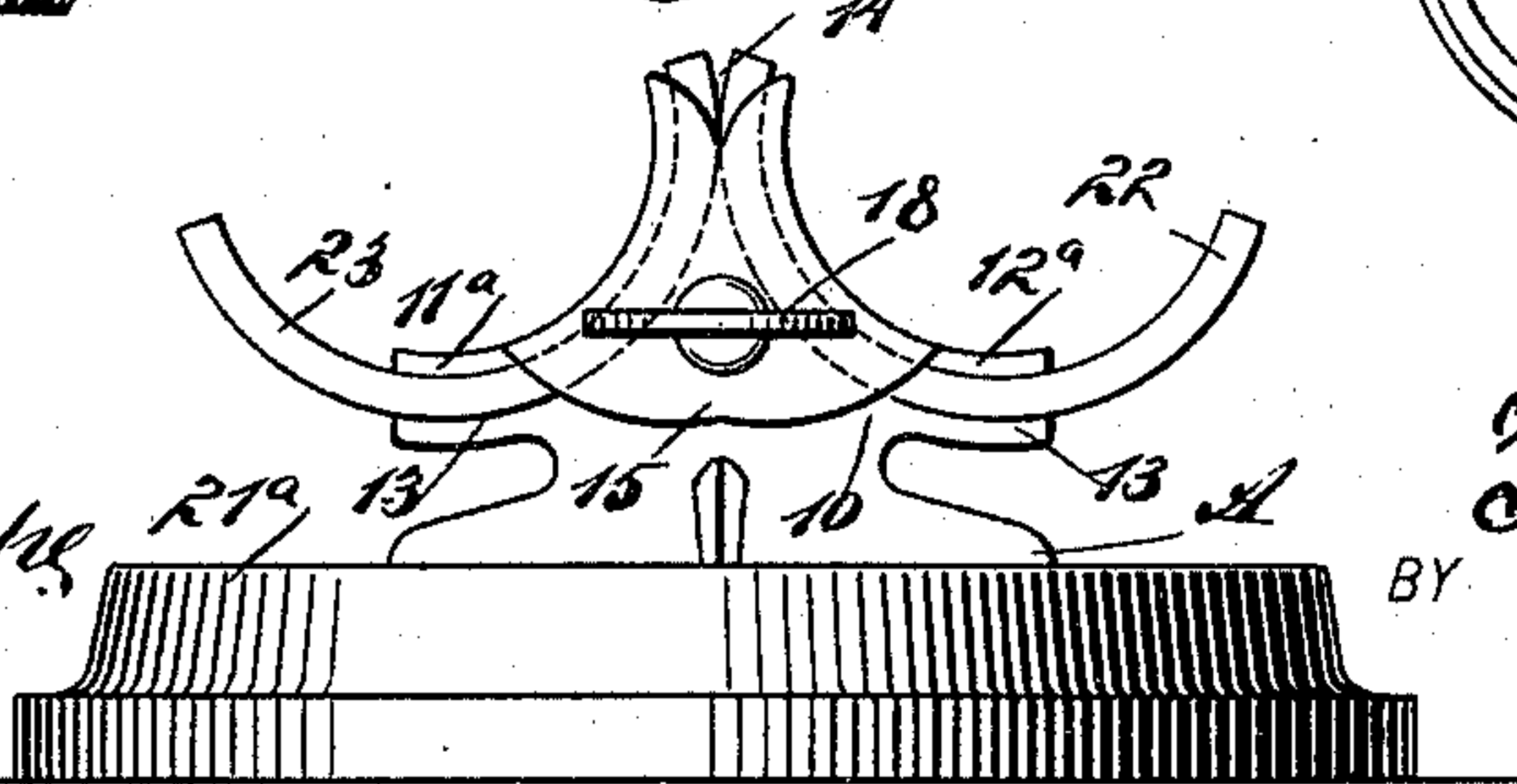
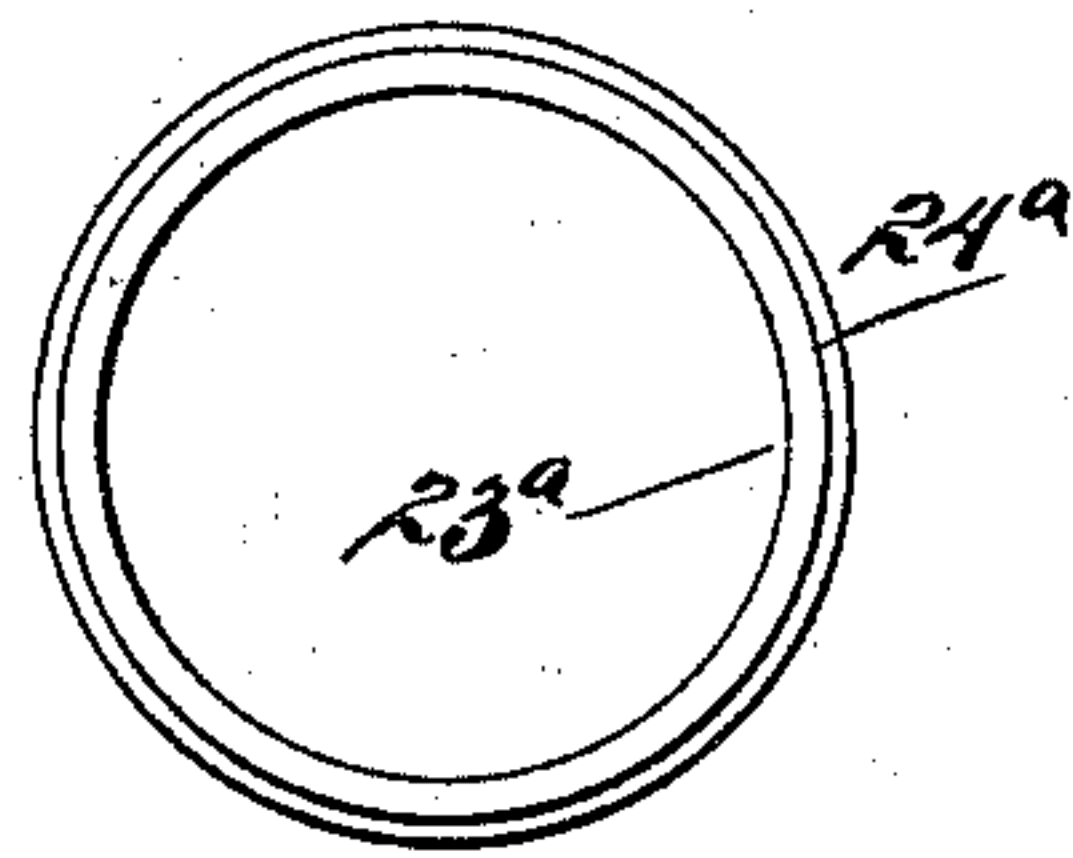


Fig. 4.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

MICHAEL NIELSEN AND THOMAS S. THOMSEN, OF GREENWICH, CONNECTICUT, ASSIGNORS OF ONE-THIRD TO MARTIN BARIFFI, OF PORT CHESTER, NEW YORK.

## KNIFE-SHARPENING MACHINE.

SPECIFICATION forming part of Letters Patent No. 598,806, dated February 8, 1898.

Application filed August 11, 1897. Serial No. 647,877. (No model.)

*To all whom it may concern:*

Be it known that we, MICHAEL NIELSEN and THOMAS S. THOMSEN, of Greenwich, in the county of Fairfield and State of Connecticut, have invented a new and Improved Knife-Sharpening Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a simple, durable, and effective device for sharpening knives, the device being so constructed that a knife may be quickly sharpened by simply drawing the knife between opposing sharpening-jaws.

A further object of the invention is to so construct the sharpening-jaws that as one portion of the jaws becomes dull the position of the said jaws may be shifted to bring new sharpening-faces in position to engage a knife.

Another object of the invention is to so construct the knife-sharpener that the parts may be separated quickly and as readily assembled and whereby the adjustment of the sharpening edges or jaws may be accomplished without detaching any of the parts.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the machine. Fig. 2 is a section taken substantially on the line 2 2 of Fig. 1. Fig. 3 is a side elevation of the device. Fig. 4 is a side view of one of the jaws in a modified form. Fig. 5 is a plan view of the modified form of jaw, and Fig. 6 is a perspective view of the clamp portion of the jaws disconnected.

The clamp-section of the device is practically the body-section, and consists, as shown in Fig. 6, of a base-plate A, to which a head 10 is secured, the upper face of which head is provided with two oppositely-curved track-surfaces 11 and 12, which are brought together at the upper central portion of the head. At one side of each track-surface a flange is produced of like shape as the tracks, the said flanges being designated, respectively, as 11<sup>a</sup>

and 12<sup>a</sup>. In the inner face of each of these flanges a longitudinal groove 13 is made, the bottom walls of which grooves are in the same plane as the track-surfaces 11 and 12. The flanges 11<sup>a</sup> and 12<sup>a</sup> are brought together where the track-surfaces 11 and 12 connect; but where the flanges come together a recess 14 is made, preferably of a V shape.

The side of the head 10 opposite that at which the flanges 11<sup>a</sup> and 12<sup>a</sup> are placed is adapted to be in a measure closed by a cap-plate 15, whose side surfaces are inclined in opposite directions, and each side surface is provided with an inwardly-extending flange 17, and at the top central portion of the cap-plate a recess 16 is made, preferably of the same character as the recess 14, heretofore mentioned. When the cap-plate is placed against the head, the inwardly-extending flanges of the cap-plate will correspond to the inwardly-extending portions of the flanges 11<sup>a</sup> and 12<sup>a</sup>; but the cap-plate is made of such length horizontally that preferably an open space is provided at the end portion of each track 11 and 12 and at one side near said ends. The cap-plate is adjustably held in engagement with the head through the medium of a set-screw 18 or its equivalent passed through an opening 20 in the cap-plate and screwed into a correspondingly-threaded opening 19 in the said head, as shown in Fig. 2. The base-plate A may be and usually is provided with a screw 21 at its bottom, whereby the machine may be safely and quickly attached to a support 21<sup>a</sup> of any desired character.

Two sharpening-jaws 22 and 23 are employed in connection with the clamp. These jaws are held to slide on the tracks 11 and 12, being brought together at a point opposite the opposing recesses 14 and 16. The under, inner, or peripheral face of each jaw is provided with a series of longitudinal teeth 24, the teeth being of angular construction, their straight shoulders being made to face the direction in which the knife is to be drawn, and in sharpening a knife it is drawn between the opposing jaws and through the recesses 14 and 16. Furthermore, the teeth of the opposing jaws are so cut that the teeth of one jaw will enter the space between the teeth of



the opposing jaw. It is obvious that owing to the peculiar formation of these jaws when their upper portions become dull said jaws may be shifted upwardly and inwardly by loosening the set-screw 18, thus presenting new sharpening-surfaces to the knife, and that each jaw may be utilized for sharpening purposes throughout its entire length. Each jaw may be made circular or ring-like, as shown in Fig. 5, instead of semicircular, as shown in Fig. 3, if in practice it is so desired. The clamping-sections of the machine need not be changed to any appreciable extent when the form of the jaws is changed. When a knife is drawn between the two jaws, the metal at the edge of the knife will be shaved off in no such manner as to unduly wear the knife, but only to such an extent as to form a fresh cutting edge on the knife.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A knife-sharpener, comprising a frame having two guiding and holding grooves upon one face thereof, formed as circular segments and with their convex surfaces tangent, cutting-blocks similarly curved having their convex or outer surfaces toothed and fitting said grooves, a clamping-plate having flanges fitting over the inner or concave sides of the cutting-blocks and a clamping-bolt passing through the clamping-plate between the cutting-blocks.

2. In a device for sharpening knives and for similar purposes, a clamp provided with opposing recesses, segmental jaws adjustable in said clamps, the peripheral surfaces whereof are made to face, the said peripheral surfaces being brought together opposite the recessed portions of the clamps, and longitudinal teeth formed upon the opposing peripheral

surfaces of the jaws, for the purpose set forth.

3. In a machine for sharpening knives and for similar purposes, the combination, with a clamp consisting of a head having opposite tracks oppositely curved, grooved flanges at one side of the said tracks, and a flanged cap-plate adjustably attached to the opposite side of the said head, the head and cap-plate being provided with opposing recesses at their upper central portions, of segmental jaws held to slide upon the curved tracks between the flanged surfaces of the cap-plate and head, the inner or opposing peripheral surfaces of the said jaws being toothed, as and for the purpose specified.

4. In a machine for sharpening knives and for similar purposes, the combination, with a clamp consisting of a head having opposing tracks oppositely curved, grooved flanges at one side of the said tracks, and a flanged cap-plate adjustably attached to the opposite side of the said head, the head and cap-plate being provided with opposing recesses at their upper central portions, of segmental jaws held to slide upon the curved tracks between the flanged surfaces of the cap-plate and head, the inner or peripheral opposing surfaces of the said jaws being toothed and the teeth transversely inclined, having straight shoulders facing the direction from which the knife is to be drawn, for the purpose specified.

5. In a knife-sharpening device, segmental toothed jaws, and means for holding said jaws with a portion of their toothed faces in contact, as and for the purpose specified.

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Witnesses:

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