

A. CRAIG.

RAZOR STROP OR DEVICE FOR STROPPING RAZORS OR BLADES.

APPLICATION FILED AUG. 20, 1907.

Fig. 1

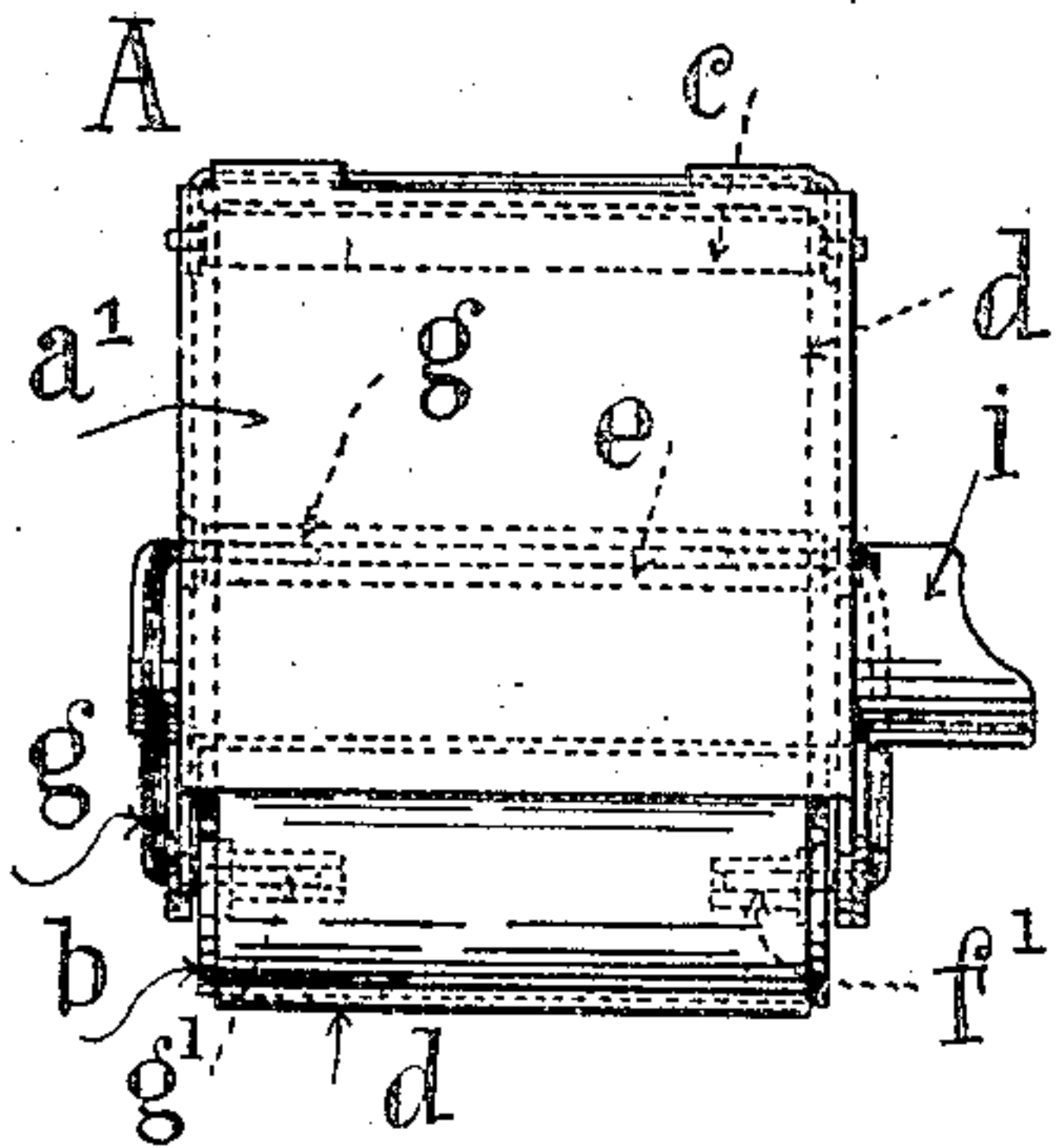


Fig. 2

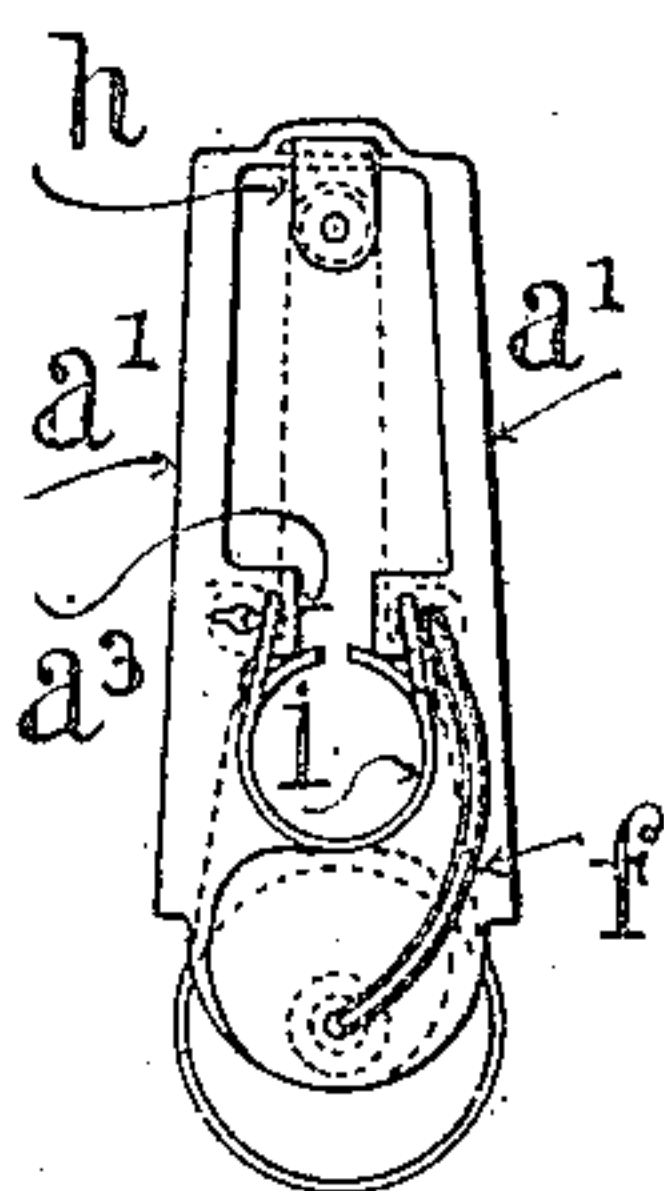


Fig. 3

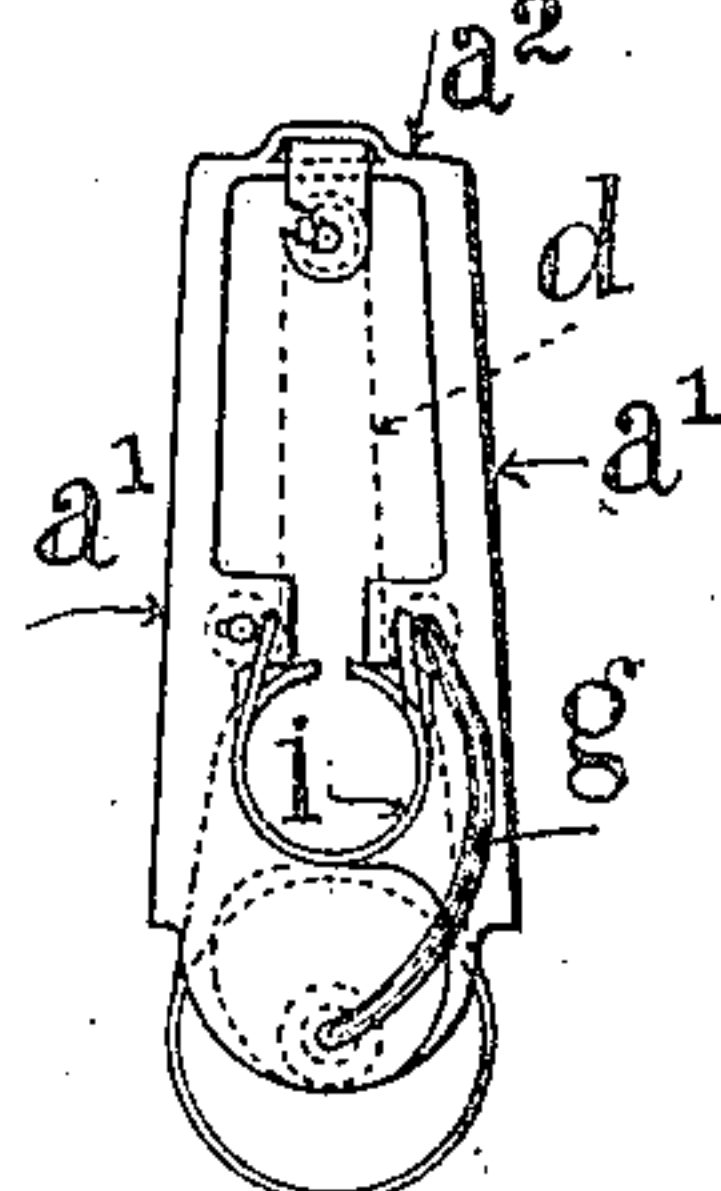


Fig. 4

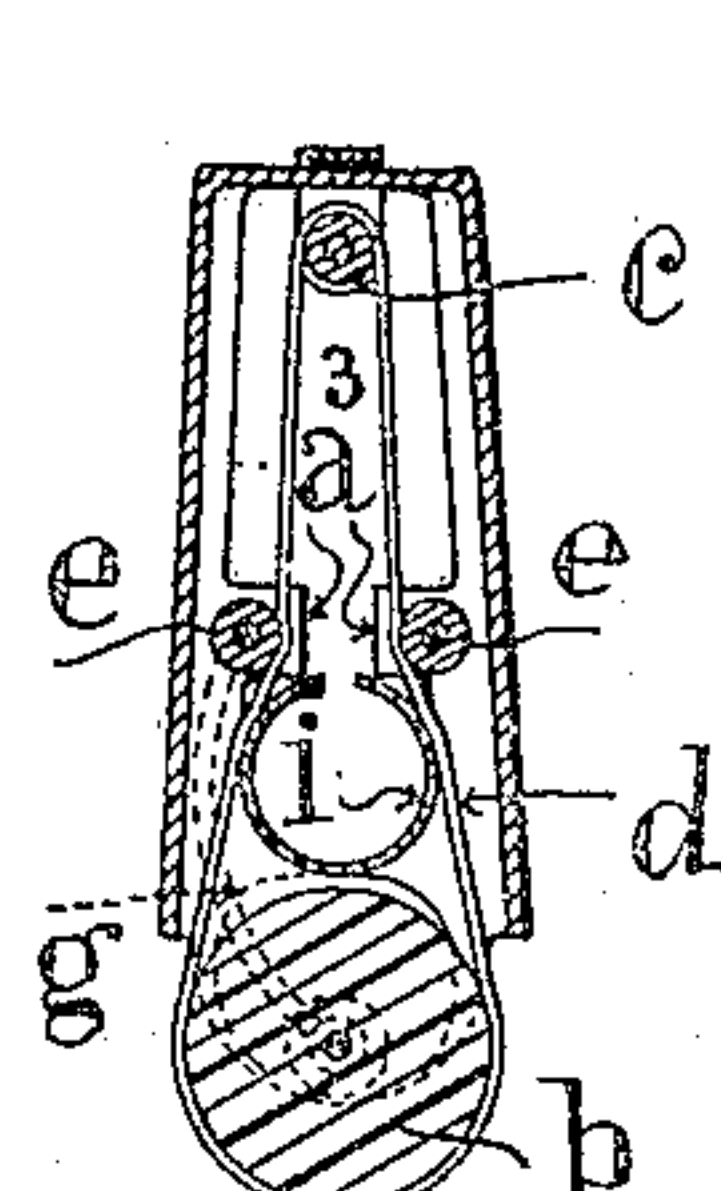


Fig. 5

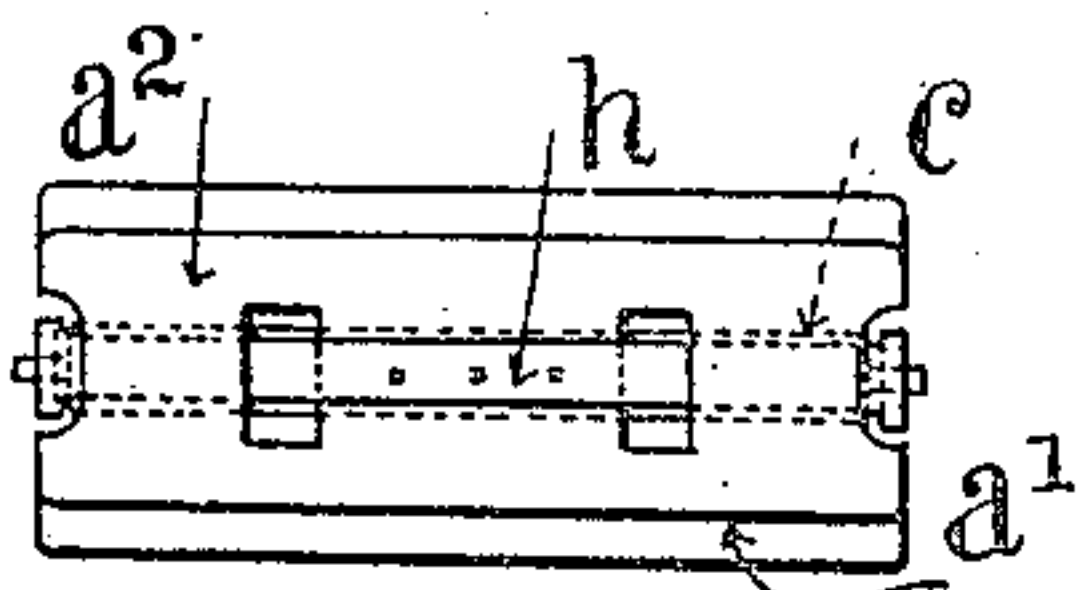


Fig. 7

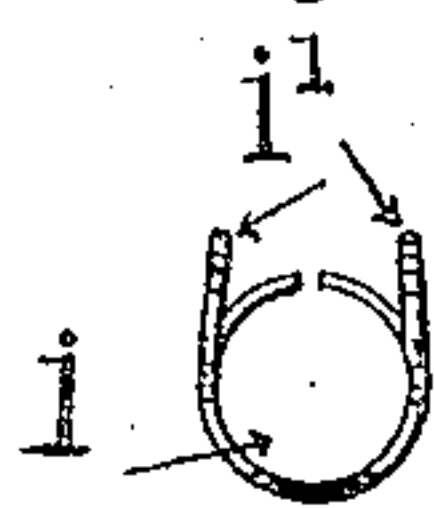


Fig. 8

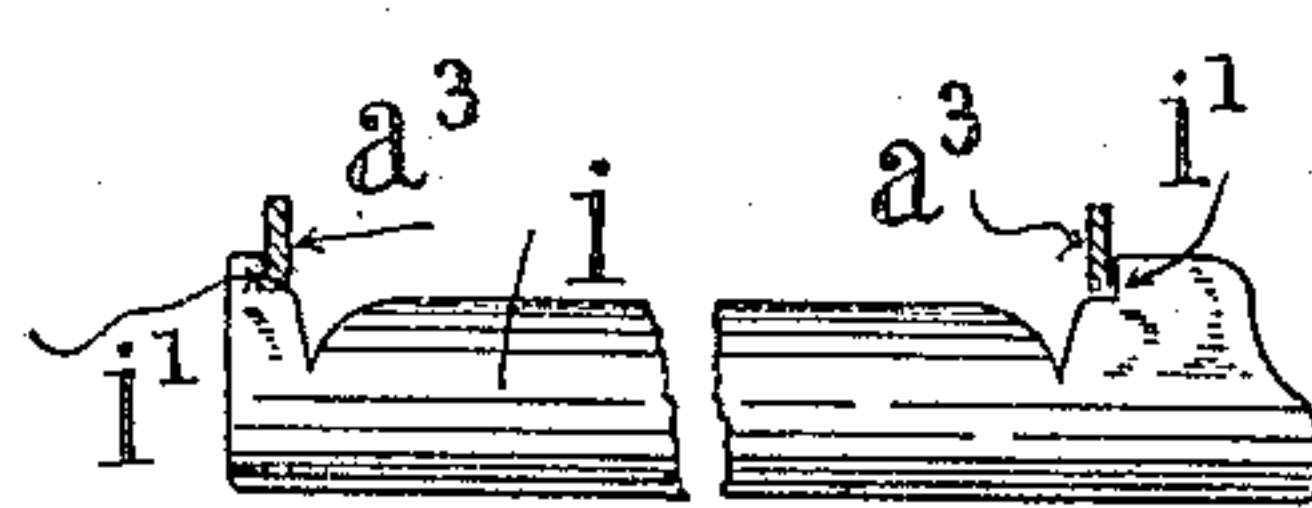


Fig. 6

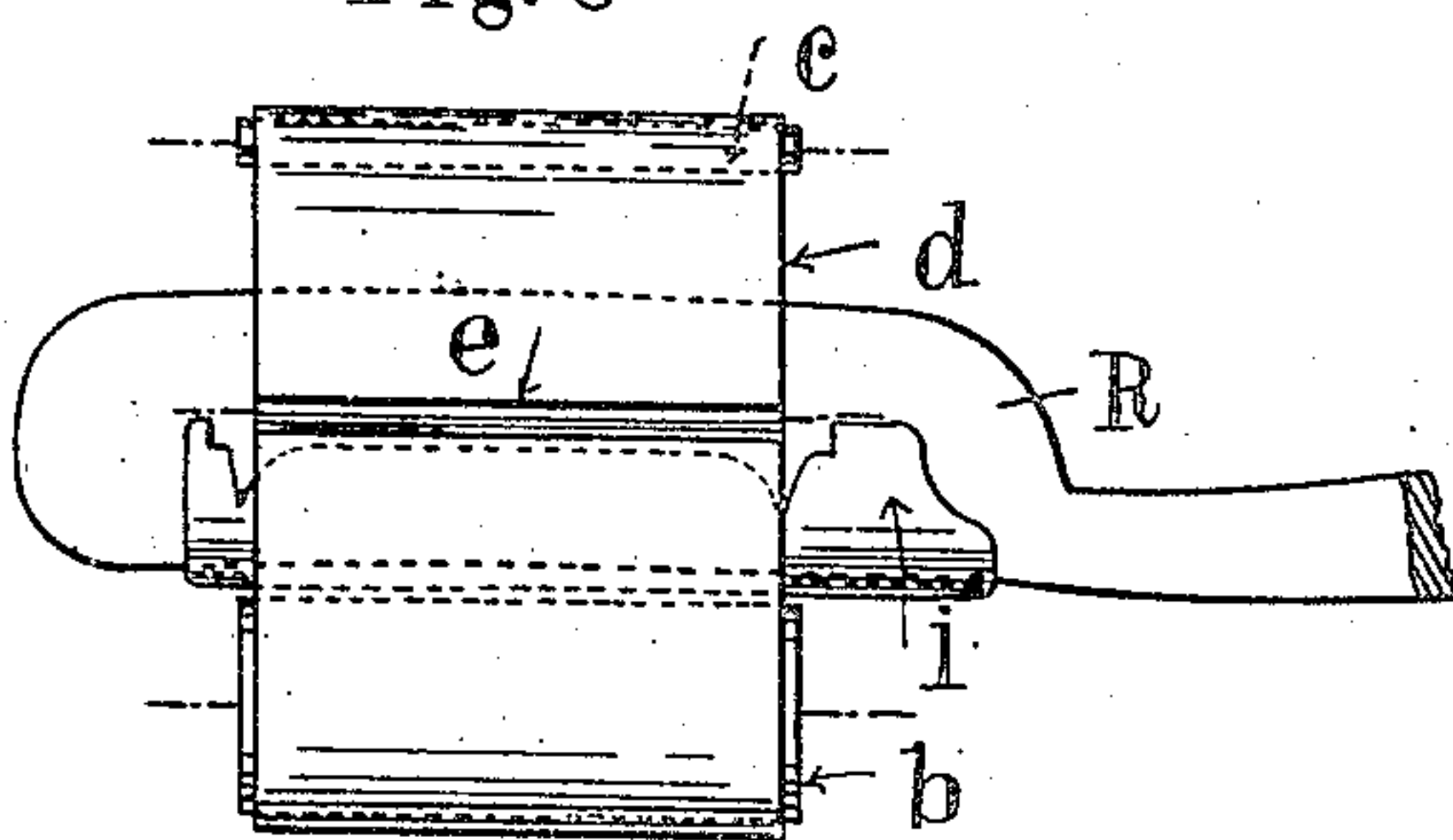


Fig. 9

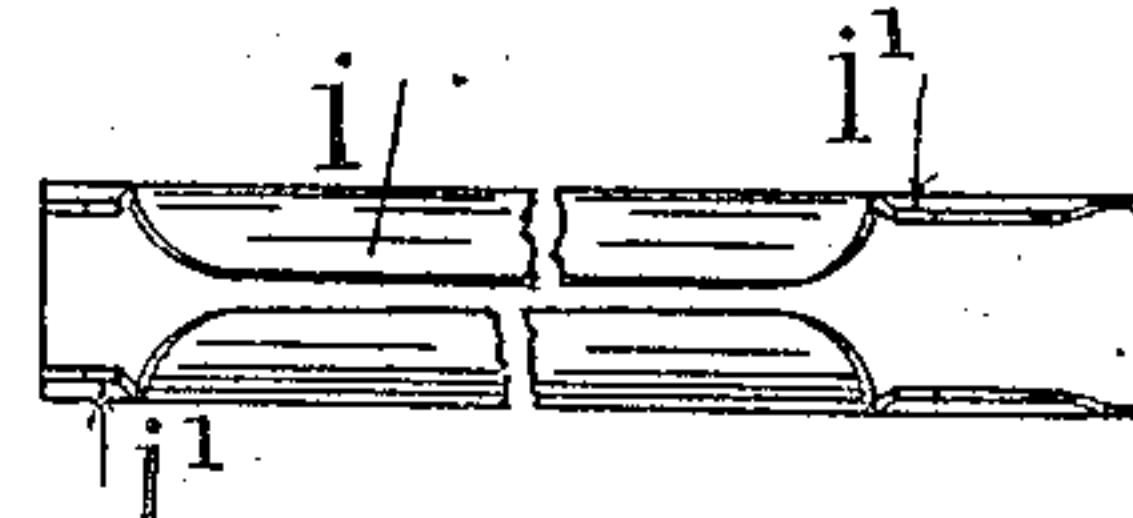


Fig. 10

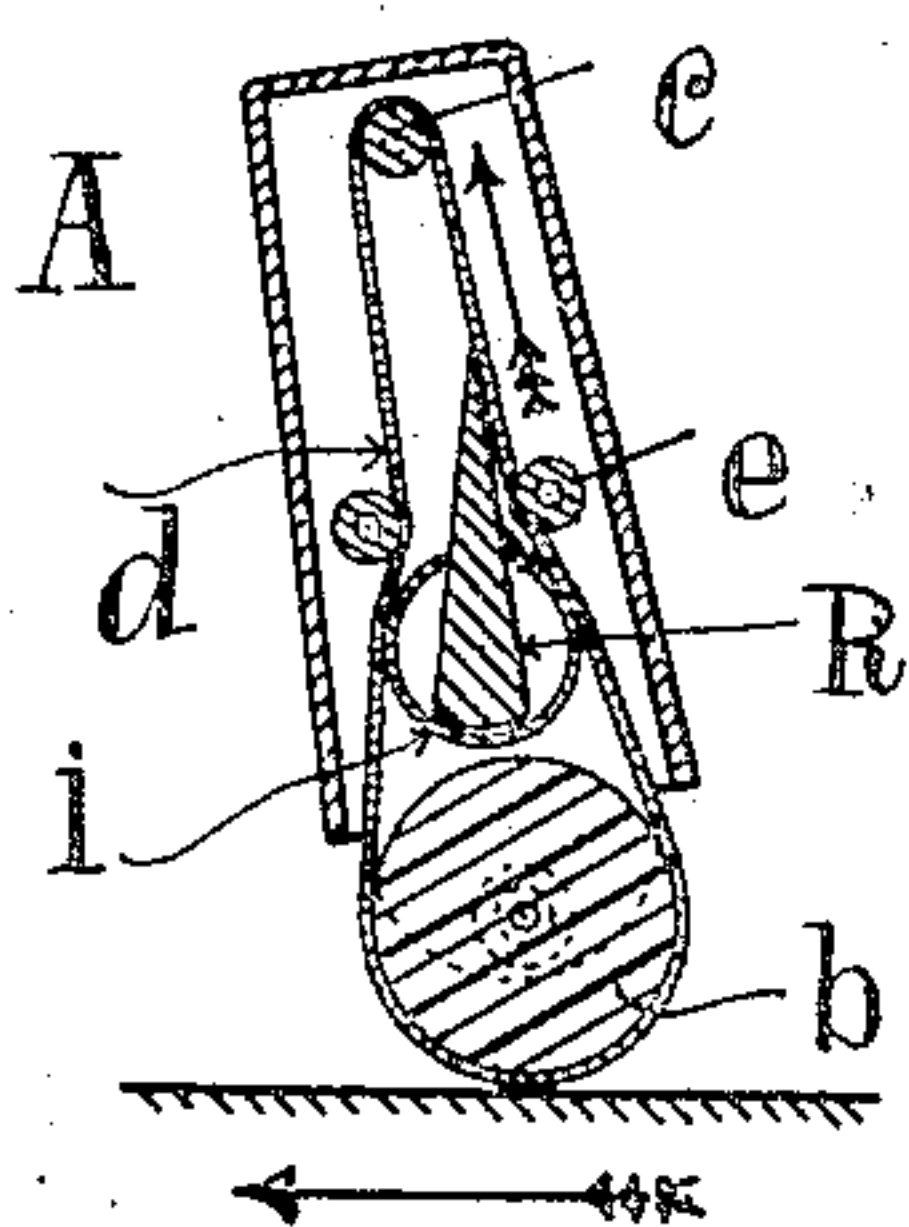


Fig. 11

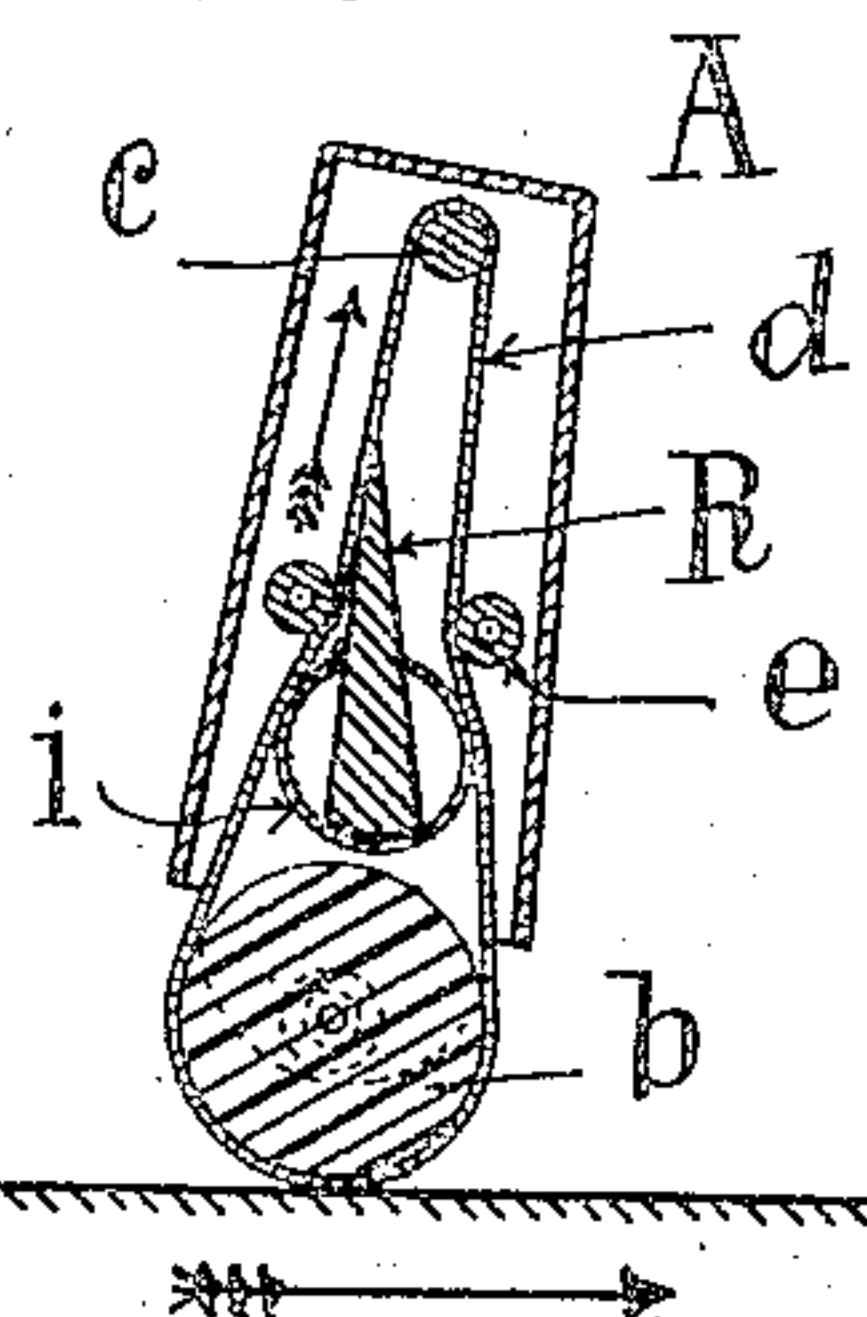


Fig. 14

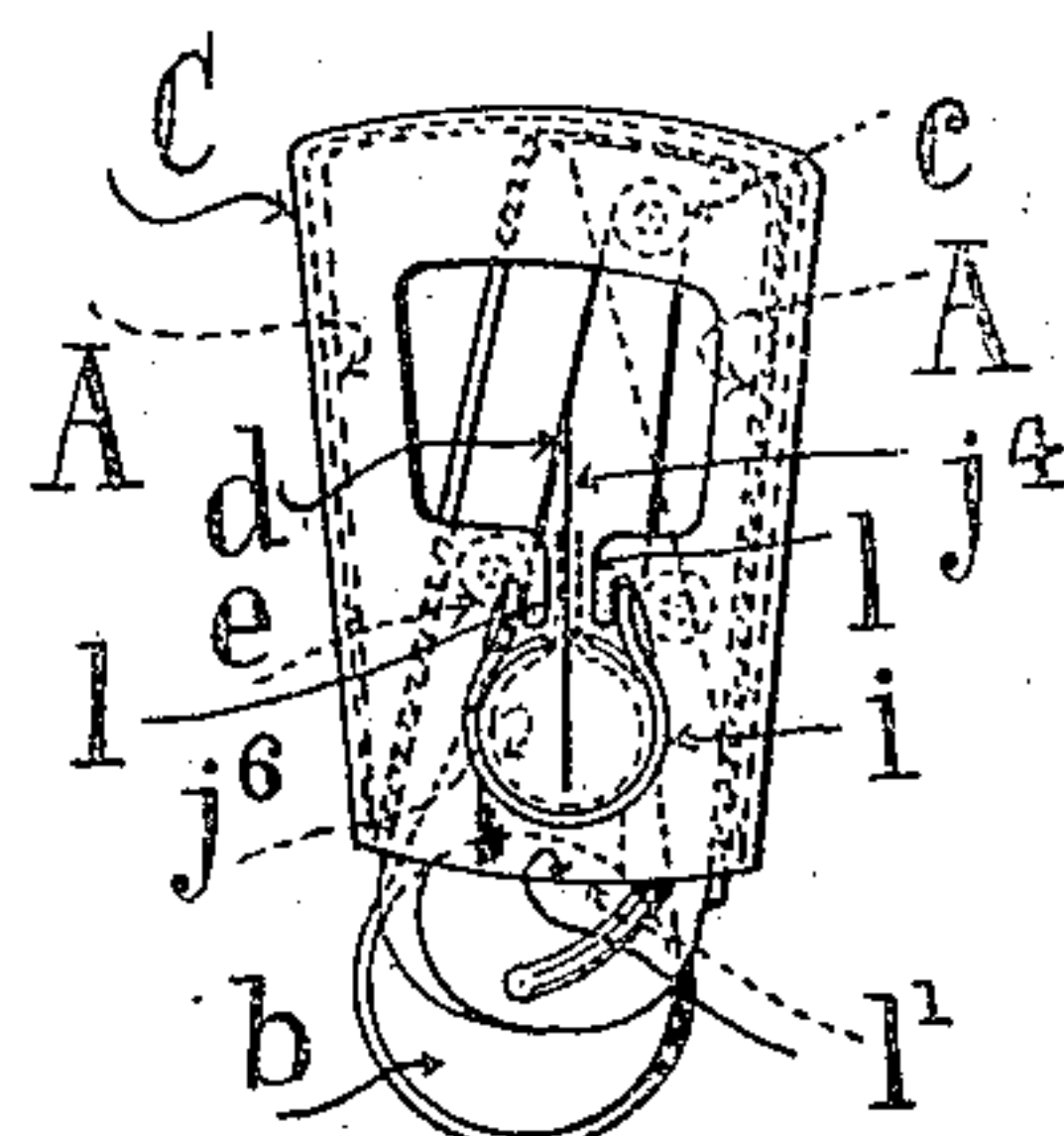


Fig. 15

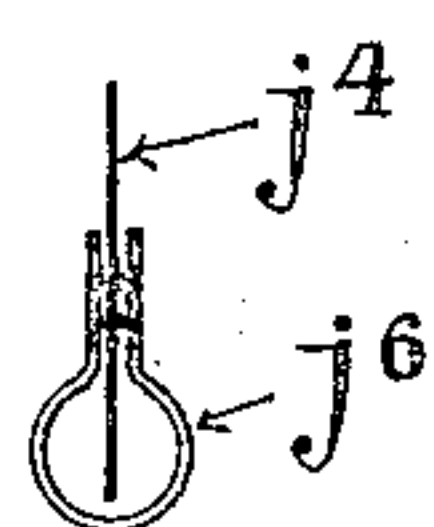


Fig. 13

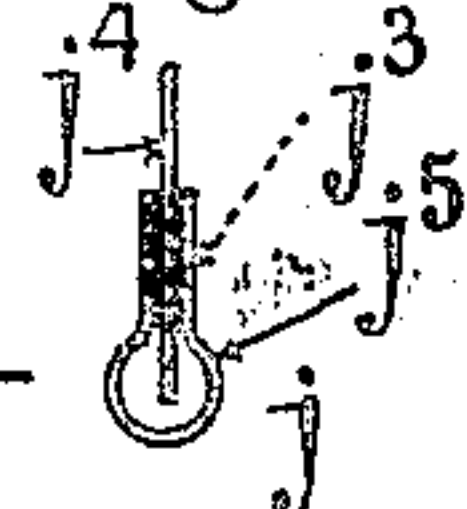
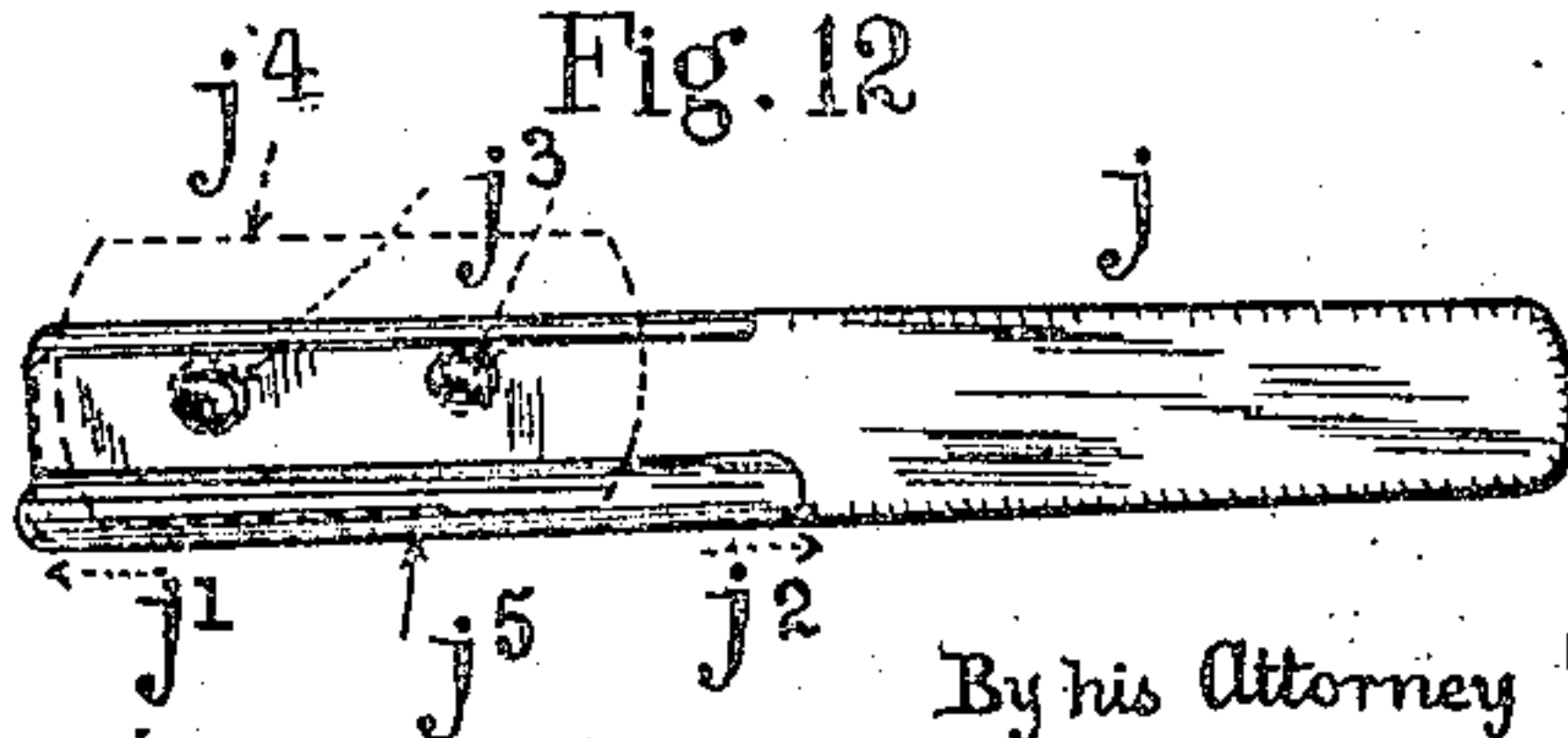


Fig. 12



WITNESSES.

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*Alexander Craig.*

By his Attorney

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# UNITED STATES PATENT OFFICE.

ALEXANDER CRAIG, OF BLACKLEY, ENGLAND.

RAZOR-STROP OR DEVICE FOR STROPPING RAZORS OR BLADES.

No. 878,528.

Specification of Letters Patent.

Patented Jan. 14, 1908.

Application filed August 20, 1907. Serial No. 389,329.

*To all whom it may concern:*

Be it known that I, ALEXANDER CRAIG, a subject of Great Britain, residing at 48 Moston Lane, Blackley, Manchester, in the county of Lancaster, England, hair-dresser, have invented new and useful Improvements in Razor-Strops or Devices for Stropping Razors or Blades, of which the following is a specification.

My said invention relates to a razor strop for stropping razors on a new system involving the use of an endless band or strop, of any suitable material, which is carried by or contained within a compact contrivance. The band or strop is so supported or carried that it can be frictionally or otherwise rotated to effect the stropping, and the design is such that the razor blade can be quickly inserted in position for stropping and just as readily removed, while the device cannot be actuated to have harmful effect on a razor edge but only used advantageously. I provide a holder or sheath or device to receive and support the razor blade or back while the strop is in use and the edge is being acted upon by the endless band, and such holder or sheath may be a detachable contrivance. The endless band or rotatable strop is supported on one or more small drums or spindles, or on a drum and spindle, and is tensioned in any convenient way, and additional rotatable spindles or parts suitably sustained may guide, deflect, or tension the endless band or rotatable strop. Adjustable or other stops or buffers may be fitted to limit the canting movement of the blade when inserted, so that the edge cannot suffer by coming into contact with the frame when the strop is in use.

I will now describe in detail and with the aid of the attached drawing a form of stropping device in accordance with my invention.

On the said drawings:—Figure 1 shows a side elevation of the stropper. Fig. 2 is a front end elevation. Fig. 3 is a rear end elevation. Fig. 4 is a section. Fig. 5 shows in plan view a form of spring support for the top roller or spindle. Fig. 6 is a diagram indicating the more or less essential elements of the stropper, and shows a razor blade in position in the sheath. Figs. 7, 8 and 9 are respectively end, side, and plan views of the holder or sheath. Figs. 10 and 11 are sectional diagrams indicating that (when the stropper is actuated) the blade is automatic-

ally canted to bring the edge against the ascending length of the band. Figs. 12 and 13 show a form of sheath or holder to receive and hold a "Gillette" or other thin blade to enable such blade to be sharpened in the new stropper. Fig. 14 illustrates the application of an enveloping holder to hold the sleeve and yet permit the stropper device to move or vibrate to the supported blade. Fig. 15 indicates a carrier or support with thin safety blade.

In the form of razor strop shown, I use a small or compact casing or frame A preferably a metallic casing having two sides  $a'$   $a'$  with turned-in edges and a top  $a^2$ , which casing can be readily bent or fashioned from sheet metal. The casing of whatever material is designed to slip on the blade, that is, to give access to the razor blade from one end. Towards the base of the frame a small drum or roller  $b$  is located and journaled in the frame ends or otherwise supported so as to be capable of revolving. Towards the top of the casing, and in the example shown shrouded thereby, a spindle or roller  $c$  is arranged, and between the drum  $b$  and spindle  $c$  the endless band or strop  $d$  runs, and other small stays or rollers such as  $e$   $e$  may serve as additional guides or deflecting means.

The strop  $d$  may be of leather or other suitable substance or material and the required tension may be obtained in any convenient manner. In the stropper shown steel wires or springs  $f$   $g$  support the drum or roller  $b$  and the small rolls  $e$ ,  $e'$ . The spring  $f$  has its lower bent end  $f'$  turned into a small metallic bearing in roller  $b$  while the upper horizontal length passes through  $e$  and has its end riveted-up in one of the check-pieces or stops  $a^3$  projecting from the metallic sides  $a'$ . The extremity  $g'$  of the spring  $g$  likewise engages or fits in a bearing in the opposite end of roller  $b$  while its upper horizontal length passes through the other roll  $e$  and has its extremity riveted-up in another check-piece  $a^3$  at the opposite end of the casing  $a$ , as the drawing clearly shows. It is thus obvious that the springs  $f$   $g$  form axles upon which rollers  $b$  and  $e$   $e$  rotate.

The top  $a^3$  of the casing or frame is fashioned to form or receive a resilient support for the small roll  $c$  and in the drawing this support takes the form of a flat steel spring  $h$  with turned-down extremities bored to receive the reduced extremities of the roll  $c$ .



The steel spring is firmly held and the required amount of flexibility secured by passing the spring below, above, and again below, the wall  $a^2$ , as Figs. 1 and 5 indicate.

5 The holder or sheath for receiving and supporting the razor R may well consist of a split sleeve or sheath  $i$  and may be made detachable and have notches or projections to engage the frame, or other interlocking means to lock or hold the sleeve firmly in position. In the drawing, projections  $i'$  are formed on the sleeve and when the sleeve is in position such projections abut against and engage the check-pieces or stops  $a^3$ . The middle portion of the sheath  $i$  is bent-in or curved on either side and the split is expanded when the razor is thrust in. Whether the sleeve or sheath is fixed or detachable it is so disposed that when the razor is inserted therein the razor lies between the inner faces of the endless band  $d$  in an approximately mid-position. With the razor in position, and the handle thereof serving as a handle for the whole device the drum  $b$  with supported band is rubbed on the hand, the knee, or a table, or other smooth surface, and, when this occurs, the casing is naturally canted against the blade and the band is rotated so as to rub against the edge of the blade and travel in a forward direction upwards from the edge. This is an important point, it being a peculiarity of the construction, that, to effect rotation of the band, the device is automatically canted into such a position that the edge of the razor lies against the face of the band which is ascending. Rubbing the device from right to left brings alternate sides under the influence of the strop in regular sequence, but, whichever way the razor lies, the band is ascending when stropping takes place. This important characteristic of the stropper I seek to illustrate by the two sectional diagrams Figs. 10 and 11.

45 I may design the sleeve or holder that the razor shall enter from one side in preference, and in the drawing the razor is intended to be inserted at the right-hand side Fig. 1.

I may construct the sleeve or holder so that if the razor blade is introduced at the wrong end the sleeve will ultimately bind on the blade and prevent same being pushed too far.

The check-pieces or stops  $a^3$  serve the additional purpose of preventing the razor blade being pressed too far sidewise obviating any risk of damage to the edge by contact with the frame walls.

When it is desired to renew the stropping band  $d$  the extremities  $f'$   $g'$  of the springs  $f$   $g$  are sprung out, and the roll  $e$  disengaged from its support, which done the old band can be removed and a new one introduced.

To enable my contrivance to be used for sharpening the thin blades of safety razors,

I may provide and sell with the stropper a hafted or handled clamp such as  $j$  made of sheet metal, split from  $j'$  to  $j^2$ , such clamp being punched to produce holes and small flanges at  $j^3$   $j^3$  to fit the usual holes in the thin blade  $j^4$  when the halves are pressed together. The base of the clamp is shaped at  $j^5$  to fit the sleeve or sheath  $i$  in the stropper, the pushing of the clamp into the sleeve or sheath  $i$  keeping the halves together so that the device  $j$  serves to take and hold the thin safety blade while being stropped.

As a modification I may fit the stropper device with a holder or casing C which envelops and contains the stropper save the friction drum  $b$  such holder engaging by fangs  $l$  and encircling portions  $l'$  a sleeve  $i$  and rigidly housing same. The construction is such that the stropper casing can vibrate in the holder or casing C with result that the traveling band  $d$  is brought against a razor blade when held in an upright position in the sleeve  $i$ . The thin blade such as  $j^4$  is inserted in a clamp or carrier such as  $j^6$  (Fig. 15) and this clamp is used to hold the blade in the sleeve  $i$ . The blade being rigidly held in the sleeve  $i$  in a more or less vertical position its edge is brought under the action of the band  $d$  as it rotates and as the stropper device is vibrated from side to side.

I declare that what I claim is.

1. A razor stropper comprising a casing, an exposed drum mounted in connection therewith, a spindle contained therein, a rotatable endless band between said drum and spindle, and means for supporting the razor to be stropped, as set forth.

2. A razor stropper having a casing, an exposed drum journaled at the foot thereof, a spindle contained in said casing, an endless rotatable band around said drum and spindle, and a sheath or sleeve for receiving the razor and secured to said casing, substantially as described.

3. A razor stropper consisting of a casing, a revoluble exposed drum located at the foot, a spindle, a support for said spindle, an endless flexible band between spindle and drum, additional spindles or guiding means for said band, a sheath or sleeve disposed and held between the stretches of said band, substantially as set forth.

4. A self-contained razor stropper having a casing, an exposed drum located at the foot of said casing, a spindle located at the top, a flexible support for said spindle, an endless stropping band intermediate of said drum and spindle, and a removable sheath or sleeve acting as a razor support, substantially as described.

5. A self-contained razor stropper having a casing, an exposed drum journaled at the base of said casing, a spindle located at the top, a flexible spindle support, an endless stropping band around said drum and spin-



dle, additional guide rolls, springs for the drum and guide rolls, and a sheath or sleeve for supporting the roller to be stropped, substantially as described and shown.

5 6. A gearless self contained razor strop comprising a casing open at its lower end, a drum supported in said casing, and project-  
ing beyond the lower end of the casing, a  
spindle supported in the upper end of said  
10 casing, an endless band supported by said

drum, and spindle, and means for holding a razor between said bands.

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

ALEXANDER CRAIG.

Witnesses:

RICHARD IBBERSON,  
ALFRED YATES.