

JAUIP Summer IP Seminar

Group Work: Drafting Patent Claims

Exercise No. 1

You will be aware of the type of a drawing instrument, e.g. compass or divider, having two legs joined together at one end by a rivet or screw forming a pivot allowing the legs to be adjusted to give a desired spacing of operative elements, e.g. a pencil point or centering needle. Such an instrument is satisfactory only so long as the pivot connection remains tight. This is so even with the type of an instrument shown in the accompanying Fig. 1 having its manipulating handle 1 on a yoke 2 through the limbs 2a together to apply clamping action on the pivoted ends of the instrument legs 5.

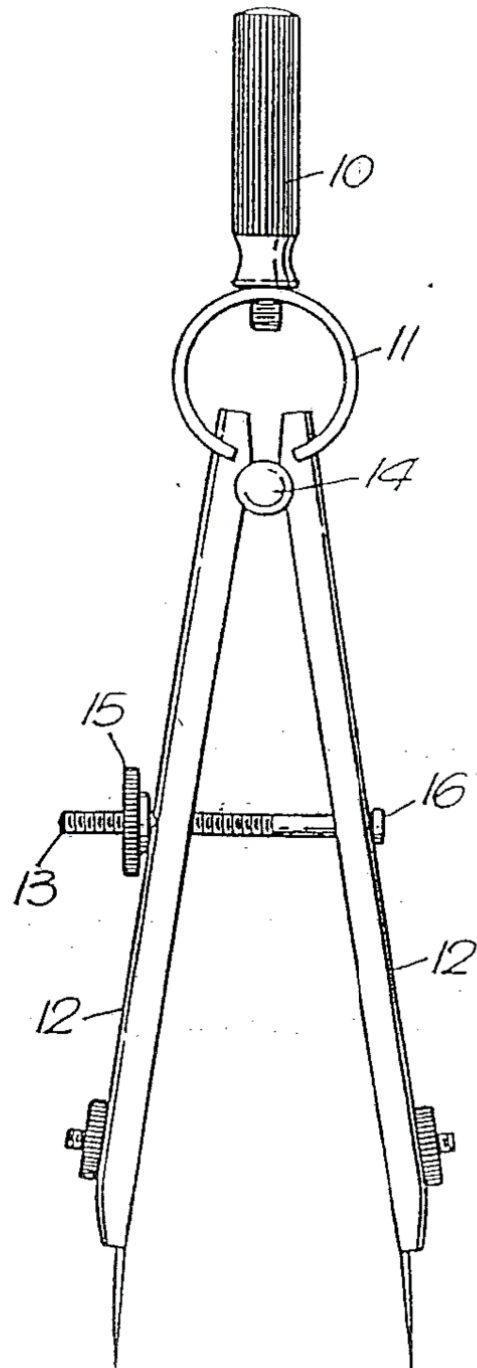
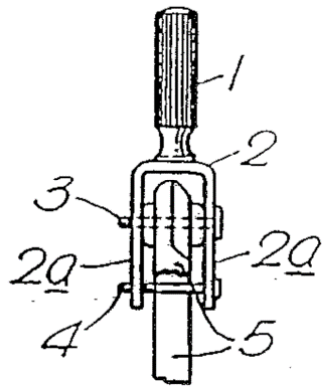
Your client has devised an instrument, shown by Fig. 2, which does not rely on such pivoting so avoiding the above disadvantages, but also allows finer adjustment of the spacing of the operating elements. This is achieved by provision of a strong C-spring 11, on which the manipulating handle 10 is mounted, which spring 11 has its free ends engaged in notches in the ends of the instrument legs 12 beyond mutually-facing recesses forming seats for a cylindrical piece 14 constituting a fulcrum¹ for the legs 12. The ends of the piece 14 are flanged to prevent its inadvertent detachment. The legs 12, at a position between the fulcrum and their free ends, are joined by a screw rod 13 carrying an adjusting nut 15 rotation of which causes variation of the leg spacing. Clearly, the spring 11 applies a force on the legs on one side of the fulcrum so that the legs on the other side of the fulcrum press strongly on the nut 15 and on the head 16 of the screw rod 13.

Draft an independent claim and dependent claims which do not cover prior art shown in Fig. 1 for your client's invention.

¹ The support, or point of rest, on which a lever turns in moving a body.

Fig. 2.

Fig. 1.



Exercise No. 2

Your client advises you of a new paper clip he has designed, which is described in the accompanying Document A. Your client advises that he was formerly manufacturing a sheet metal paper clip as shown in Drawing B. This paper clip comprises a rectangular tongue 2 which attaches, at 3, to a perimeter frame 4. The tongue 2 is then bent upwardly through the perimeter frame 4 so that the attachment portion 3 is below the plane of the perimeter frame and the free end 5 of the tongue is above the plane of the perimeter frame.

In use, the tongue 2 is forced downwardly through the perimeter frame 4 and the clip 1 is then pressed over a sheaf of papers 6, with the reverse bent tongue 2 resiliently trapping the papers against the back of the perimeter frame.

Your client advises you of a relevant prior art patent, which is Patent C (see the accompanying description and drawings) over which his new clip is an improvement in that, in use, the directly opposed pairs of spikes are driven by spring pressure between the tongue and the frame to firmly grip all the papers in a sheath and, when not in use, all the spikes are guarded.

Prepare a set of claims for your client's improved paper clip.

DOCUMENT A

Invention

Fig. 1 is a plan of a stamped metal sheet, to form a paper clip;
Fig. 2 is an under-plan of a finished sheet metal paper clip; and
Fig. 3 is a perspective illustration of the finished paper clip of Fig. 2.

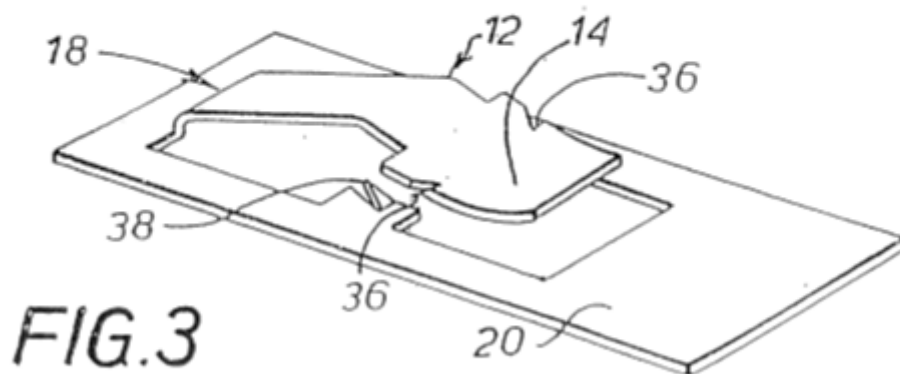
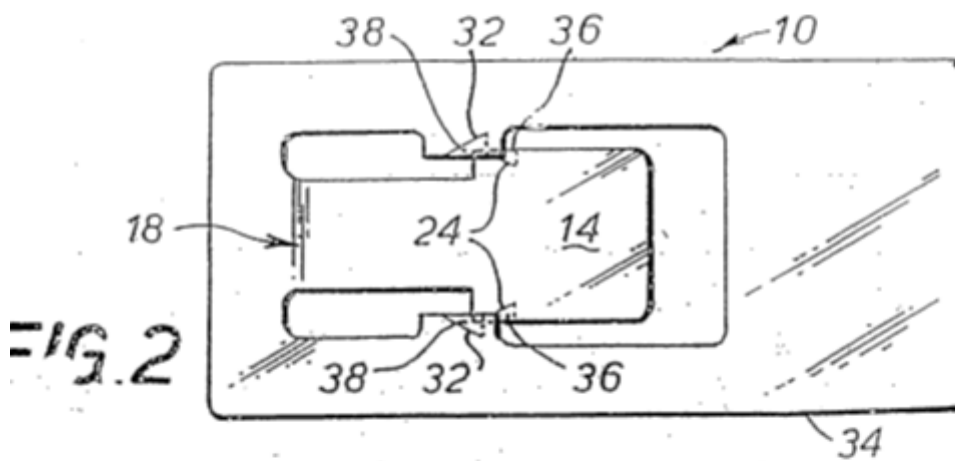
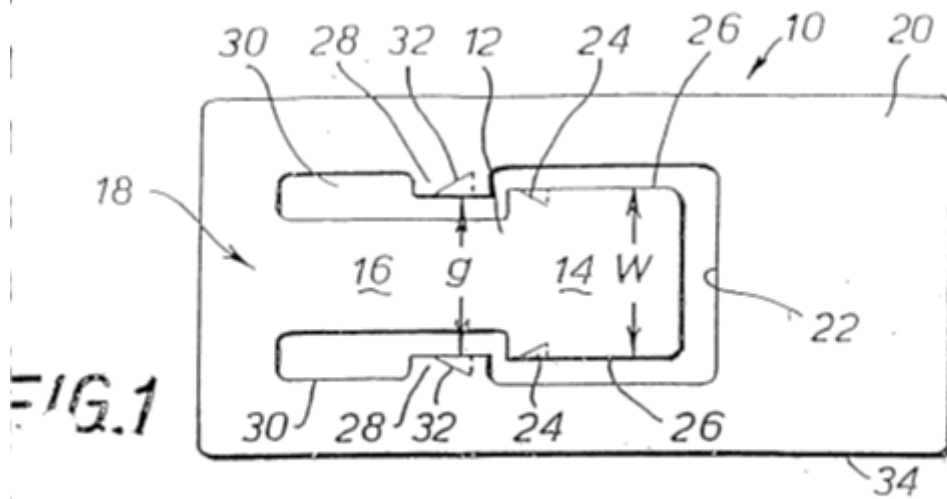
As shown by Figs 1 and 2, a rectangular blank 10 of half hard type 304 stainless steel is stamped to have a central tongue 12, having a spatulate (spatula-shaped) end part 14 and a waisted part 16 which attaches, by a junction 18, to a perimeter frame 20. The inner profile 22 of the perimeter frame generally complements the outer profile of the central tongue. A slot 24 is cut in each side 26 of the tongue spatulate portion 14 and is angled away from the junction 18. The perimeter frame has an ear 28 in each side 30 which projects towards the tongue waist 16. A slot 32 is cut in each ear 28 and is also angled away from the junction 18. In an alternative, unillustrated form of a clip, the front end of the perimeter frame may be omitted.

The width w of the tongue spatulate end 14 is wider than the internal gap g between the frame ears 28. All the above shaping can be performed by a simple stamping operation, which can also shape the outer frame profile 34.

The tongue portions adjacent the angled slots 24 are bent downwardly to form triangular spikes 36 (see Fig. 3) and the frame portions adjacent the angle slots 32 are bent upwardly, again to form triangular spikes 38; in either case, the angle of slots 24 and 32 ensure that the spikes 36 and 38 are reversely directed, back towards the junction 18 between the tongue 12 and the perimeter frame 20 (i.e. away from the free, forward end 14 of the tongue).

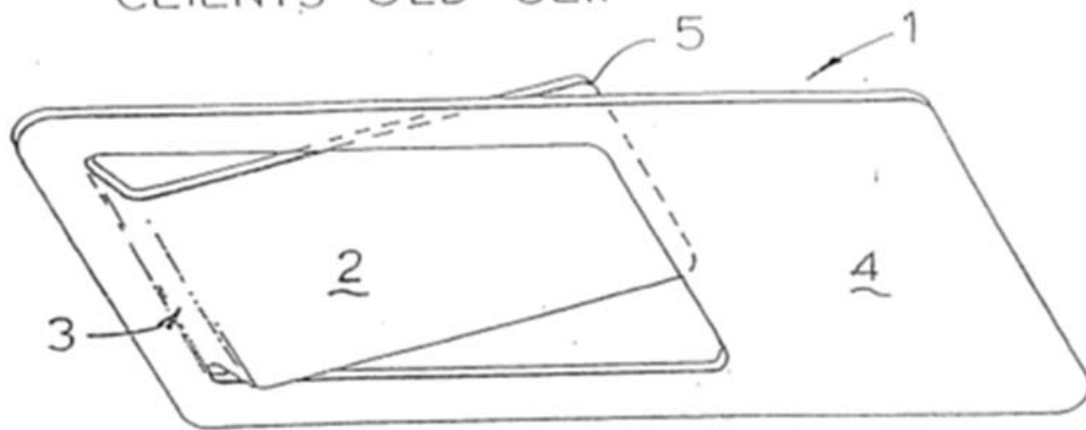
The tongue 12 is then bent upwardly so that the waisted portion 16 arches above the plane of the perimeter frame 20 and the spatulate portion 14 then curves back towards and finally away from the plane of the frame at its free end (see Fig. 3). This switchback bending of the tongue 12 has the effect of shortening its length so that each tongue spike 36 is close to and opposes a frame spike 38. When not in use, tongue spikes 36 contact frame ears 28 and the waisted portion 16 arches over frame spikes 38.

DOCUMENT A - DRAWINGS



DRAWING B

CLIENTS OLD CLIP



PERSPECTIVE UNDERVIEW

SIDE ELEVATION IN USE



PATENT C

PAPER CLIPS

This invention relates to paper clips and it particularly relates to such clips made from sheet metal.

Conventional sheet metal paper clips, which are usually formed by stamping, rely on the friction between the metal surface of the clip and the paper. Usually, the clip's metal surface is of large area and quite smooth; resulting in a poor grip.

It is an object of the present invention to provide a sheet metal paper clip which has an improved grip.

According to the present invention, a sheet metal paper clip has paper engaging barbs upstanding from a surface of the clip.

Also according to the present invention, a sheet metal paper clip comprises a central tongue integral with a perimeter frame and barbs depending from the central tongue.

In a preferred embodiment of the present invention, each barb is reverse directed towards the junction between the tongue and the frame to thereby improve the grip on sheaves of paper.

The above and other features of the present invention are illustrated, by way of example, in the Drawings, wherein:-

Fig. 1 is a plan of a stamped, sheet metal paper clip; and

Fig. 2 is a perspective illustration of the clip of Fig. 1.

As shown, rectangular metal blank 10 is stamped to have a central rectangular tongue 12 which attaches, by a junction 14, to a perimeter frame 16; which stiffens the clip. The inner profile 18 of the perimeter frame generally complements the outer profile of the central tongue. A slot 20 is cut in each side 22 of the tongue 12 and is angled away from the junction 14. All the above shaping can be performed by a simple stamping operation, which can also shape the outer frame profile 24.

The tongue portions adjacent the angled slots 20 are bent downwardly to form triangular barbs 26 (see Fig. 2); the angle of slots 20 ensure that the barbs 26 are reversely directed, back towards the junction 14 between the tongue 12 and the perimeter frame 16 (i.e. away from the free, forward end 28 of the tongue.)

The tongue 12 is then bent upwardly so that it is above the plane of the perimeter frame 16 (see Fig. 2).

In use, a clip is pressed over a sheaf of papers with the free, forward end 28 of the tongue riding up over the top sheet of paper and, when the clip has been fully pressed home, the barbs are driven by spring pressure between the tongue and the frame to firmly grip the papers. Grip on the sheets could be improved by providing further barbs.

PATENT C

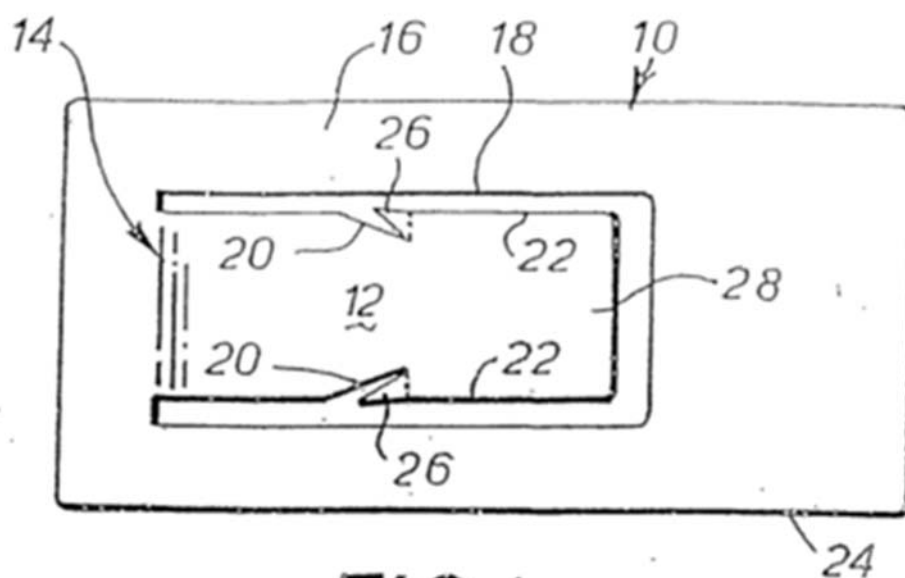


FIG. 1

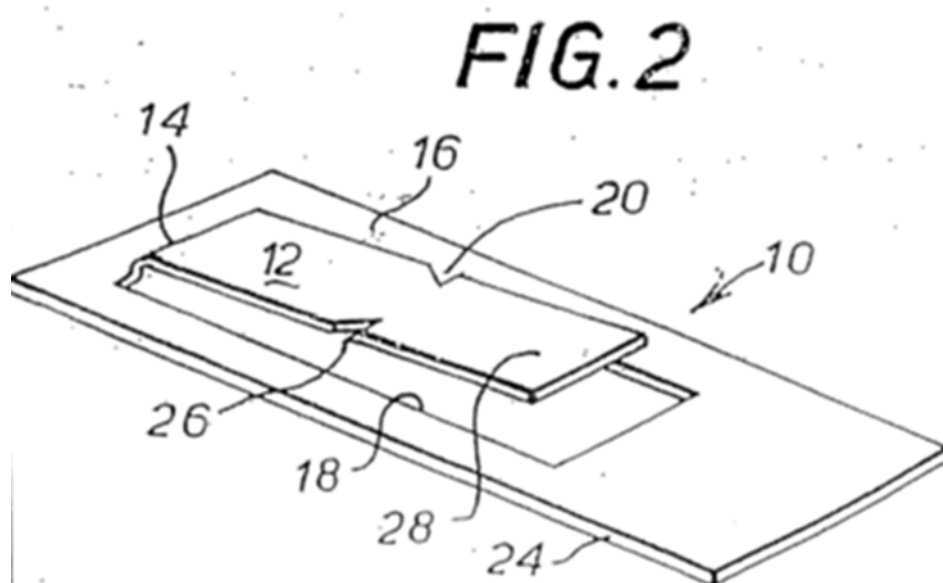


FIG. 2