To all whom it may concern:

Be it known that I, ROBERT POCOCK MESSENGER, of Copenhagen, Denmark, have invented certain new and useful Improvements in Pencil-Sharpening Instruments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to means for sharpening pencils, crayons, and the like, and has for its object the providing of an improved instrument by which lead and crayon pencils, crayons, etc., can be sharpened more quickly and efficiently than with a knife, more cleanly in use, and pointed more in accordance with the desires of the user than is possible with machines now provided for the purpose of sharpening pencils which usually make a blunt point. With the improved instrument in question the flat point desired by draftsmen and the extremely sharp point necessary for book-keepers can be made while cutting away only the minimum amount of wood from the pencil.

A further object of this invention is to utilize safety razor blades, both flexible and double edged, and stiff single edged types, which are now thrown away when too dull for shaving while being amply sharp for cutting the wood and lead of pencils, etc.

In combining a safety razor blade with the instrument above mentioned and herein described I provide an efficient, simple, safe, and cheap sharpening device which can be used without soiling the fingers and without unduly scattering the chips.

These objects are accomplished by providing a holder with a handle to which the safety razor blade is easily attached and detached, said holder being of such shape as to permit of easy manipulation, accurate guiding of the pencil, and moreover, to be perfectly safe to use in the hands of careless people and children. Furthermore, inasmuch as there are thousands of used safety razor blades available at little cost, it is possible always to have a cutting instrument with a keen edge, whereas the blades and cutting devices of knives and pencil sharpening machines are frequently dull and require considerable trouble or expense to sharpen or renew.

The invention is illustrated on the accompanying sheet of drawings in which:

Figure 1 is a top or plan view of an ordinary flexible safety razor blade made of very thin spring steel, having three holes for fastening to the holder, and having two parallel cutting edges.

Fig. 2 is a transverse sectional view of the same.

Fig. 3 is a top or plan view of an ordinary stiff safety razor blade with single cutting edge having a reinforcement on the top edge.

Fig. 4 shows an end view of the same.

Fig. 5 shows a top or plan view of the complete pencil sharpening instrument holding a flexible safety razor blade with double cutting edges in a perfectly flat or horizontal position, and a pencil occupying the approximate position for sharpening.

Fig. 6 shows a side elevation of the same.

Fig. 7 shows a lengthwise cross section of the same.

Fig. 8 shows a side elevation of an alternative method of holding the flexible blade bent up or concaved transversely only.

Fig. 9 shows a lengthwise section but with the flexible blade held in a further alternative position with its transverse section straight and longitudinally bowed down from the handle.

Fig. 10 shows a lengthwise section, but with the flexible blade held in reverse position to that in Fig. 9.

Fig. 11 shows a top or plan view of an alternative holder arrangement for the flexible blade by which the instrument is rendered simpler and a greater portion of the cutting edges utilized inasmuch as the blade can be reversed end for end.

Fig. 12 shows a side elevation of the same.

Fig. 13 shows a lengthwise section of the same.

Fig. 14 shows a top or plan view of a holder adapted for use with a single-edged stiff blade.

Fig. 15 shows a side elevation of the same.

The various novel features of the invention will be apparent from the following description and accompanying drawings, and will be particularly set forth in the appended claims.

The instrument shown in Figs. 5, 6, and 7, consists of a top member 1, slightly wider than the flexible blade 8, with two bottom...
members 9, a supporting stud 7, a handle 4, two knurled thumb screws 5, and a knurled nut 6 for securing the handle 4 to the supporting stud 7. The double-edged flexible blade 8 (Figs. 1 and 2) is held between top member 1 and bottom members 9, and the whole fastened together by the thumb screws 5, which pass through holes in the top member 1 and holes 24 and 25 in flexible blade 8, and screw into corresponding tapped holes in bottom members 9. The top member 1 consists of a flat plate with approximately rectangular notches 2 and 3 cut midway between the ends on both front and rear edges.

The center portion between the notches forming a bar into which the supporting stud 7 is fastened, and serving as a means for covering up the unused center hole 23 in flexible blade 8. The notches described expose a sufficiency of the blade 8 for sharpening, while the remainder is covered up and protected from injuring, or injury, insomuch as the top member 1 is slightly wider than the blade 8.

The identically shaped bottom members 9 have their inside ends bent down at right angles and are kept from moving from their respective positions by the upward extremities 10 or the bent down portions holding against the edges of top member 1. These extremities 10 also serve as guards to prevent the fingers being cut by the exposed portions of the blade edges, when the instrument is picked up or handled in a careless manner. The space between the two bottom members 9 is wide enough to admit a large pencil to freely pass between, and the two portions bent down at right angles serve as guides for said pencil during the operation of sharpening, as they keep the same in easy contact with the portion of the cutting blade 8 exposed by the notches 2 and 3 in top member 1. The handle 4, fastened to the supporting stud 7 by the nut 6, is of any convenient size, length and shape, preferably knurled on the rounded surface, and as it swivels on the stud 7 when the nut 6 is loosened, can be secured at any angle relative to the cutting edge, convenient to the user. The position of this handle is such that the line of force applied to operate the instrument is approximately parallel with the top plane of the cutting blade 8.

The ordinary position of the handle 4 for cutting is shown in solid lines at X, and two alternative positions in dotted lines at Y and Z. It is also possible to secure the handle 4 in any intermediate or opposite position. That at Y is approximately that of an ordinary knife handle parallel to the long axis of the blade, and permits of operating the instrument in a like manner, and furthermore permits of folding the instrument in a compact manner for packing. The position at Z is the reverse position of the handle, for utilizing the opposite cutting edge of the blade 8.

The ordinary operation of the instrument is to hold the handle 4 with the end resting in the palm of the right hand, with the thumb and forefinger on the knurled thumb screws 5. The pencil is held in position with the left hand, resting pencil on some convenient object, at the proper cutting angle between the guiding portions on bottom members 9, and the wood and lead cut by a forward or pushing movement of the instrument similar to the movement employed in sharpening a pencil with a carpenter’s chisel. The pencil is gradually rotated with the left hand as cutting proceeds. As before explained, when the handle is at Y the cutting action is similar to that employed when using an ordinary knife.

Inasmuch as I do not wish to limit myself to the exact construction and arrangement of the blade as shown in Figs. 5, 6 and 7, I show various alternative methods of holding the blade 8 (each method having certain advantages in use or construction over the plane method) and also a variation in the construction of the holder, and same are now described.

In Fig. 8 an alternative method of holding the flexible blade 8 is shown, inasmuch as the top and bottom members are made with the transverse section bent in a semicircular position while the longitudinal section is plane, thus forcing the flexible blade 8 to assume a like position (similar to that of a blade held in a Gillette razor holder) thereby giving greater stiffness to the cutting edge, but needing a slight change in the angle at which the instrument is held when sharpening pencils. Otherwise the construction is the same as that shown in Figs. 5, 6, and 7.

In Fig. 9 another alternative position of holding the blade 8 is shown. In this case the top member 11 is bent in a semicircular or convex position longitudinally while the transverse section is plane. The surfaces of the bottom members 12 are formed to correspond and the result is to hold the flexible blade in a like position and to give greater stiffness to the cutting edge. Otherwise construction is the same as that shown in Figs. 5, 6, and 7.

In Fig. 10 still another alternative position of holding the blade 8 is shown, this being the reverse of that shown in Fig. 9, but for the same purpose of giving greater stiffness to the cutting edge. Otherwise the construction is identical with that shown in Figs. 5, 6 and 7, excepting that it is necessary to insert the thumb screws 5 from the bottom side and to screw them into tapped holes in top member 13.

It should be understood that either or all of the above methods of holding the flexible
double-edge blade 8 come within the scope of this invention and do not depart from the spirit thereof. It should be further understood that other minor alterations in the shape of various parts and arrangement thereof can be made without affecting same.

In Figs. 11, 12 and 13, a simpler form of holder is shown embodying similar principles to that shown in Figs. 5, 6, and 7, but constructed with fewer parts, thereby making the instrument simpler to manufacture and easier for the user to assemble. This holder consists of top member 15 slightly wider than the flexible blade 8, bottom member 16 also slightly wider than blade and handle 17 and knurled nut 6. The approximately rectangular shaped notches 19 and 20 or openings in the top member 15 are placed to one side of the center and at opposite ends front and rear. The lower member 16 has similar but deeper corresponding notches 21 and 22 (4, e. extending farther to the longitudinal center) to the top member 15, and in combination therewith serve to expose a sufficiency of the blade 8 for cutting. Upwardly extending ears 29 at the four corners of the lower member 16 hold the top member 15 and blade 8 in place. The portions of the edges of the blade not used for cutting are covered up, thus protecting both blade and user from injury. The top member 15 has small projections 28 on each side of the rectangular notches 19 and 20 which serve to keep the fingers from accidental contact with the exposed cutting edges. The handle 17 has a threaded end 18 bent at approximately right angles to the shaft, said threaded end passing first through a hole in the center of the bottom member 16, then through the center hole 23 in flexible blade 8 (Fig. 1) and finally through a hole in the center of the top member 15, the whole being secured in place by knurled nut 6 which screws onto the threaded end of handle 18, and clamps the flexible blade firmly between the top and bottom members forcing the blade to assume a similar shape, and also holds the handle in any suitable angular position. As will be seen, this obviates the use of additional thumb screws, the two end holes 24 and 25 in blade 8 not being utilized in this construction, they being covered up by portions of the top member 15. Inasmuch as no thumb screws are available, the top member 15 has the end portions 26 and 27 bent up to serve as gripping points for the thumb and forefinger when it is desired to hold the instrument in that manner.

It should be understood that any of the flexible blade positions as described in Figs. 7, 8, 9 and 10, can also be used in this construction by so forming the top and bottom members. Furthermore the use of this type of holder does not alter the spirit of this invention inasmuch as the principles involved are identical, and it is evident that still further modifications in detail can be made without departing from said principles.

A form of instrument is shown in Figs. 14 and 15 which is suitable for holding to blades with a single cutting-edge of the so-called "stiff" type, which are not held in a bent position in the safety razor holder. Such a blade 30 is shown in Figs. 17 and 18, consisting of a flat blade having a reinforcement 31 at the top (non-cutting) edge. There are other similar blades with and without the reinforcement on the market, but it is assumed that illustrating one of these "stiff" blades will be sufficient to include them all within the scope of this patent.

The holder portion 32 of the instrument consists of a piece of sheet metal bent in such a manner as to almost completely envelop the blade 30—31. Preferably the left side of said holder 32 is provided with approximately rectangular notches 34 and 35 cut in both upper and lower portions, but that in the lower portion 39 is deeper. i.e. extends farther to the rear. Said notches 34 and 39 expose a sufficiency of the edge of the blade 30 for sharpening pencils and the like while protecting the remaining portion from injury or injury by the downward extending front edge 40 of the holder 32. The blade 30—31 is held within the upper and lower portions of the holder 32 simply by the pressure exerted by the springing together of said portions, and the blade can be inserted from either end. Furthermore, when desired, the blade can be turned over (reversed end for end) so that an additional portion of the cutting edge can be utilized. A part of the lower portion of the holder 32 to the side of the notch 39 is punched out and bent down at right angles to serve as a guide 41 for the pencil to slide against during the operation of sharpening. A threaded stud 35 is fastened approximately in the center of the top portion of the holder 32 and this serves as a support for the handle 38, same being clamped in any desired position by knurled nut 6. Forwardly extending projections 33 on the top portion of the holder 32 serve to keep the fingers from accidental contact with the exposed portion of the blade.

It is obvious that departures can be made from the construction shown for the single cutting edged stiff blade without affecting the spirit of the invention. For instance the handle instead of being adjustable may be made rigid.

What I claim as new is:

1. A pencil sharpening instrument comprising a casing having substantially coextensive upper and lower sides between which may be clamped an edged blade, and a handle adjustably secured to the casing.
which latter is notched to expose the blade to permit application of a portion of its edge to a pencil.

2. A pencil sharpening instrument comprising a casing with relatively separable sides to embrace and substantially coextensive with an insertible blade, one side member having marginal lugs to position the parts, the casing provided with a notch or notches exposing one edge or opposite edges of the blade, and a handle extending from one side of the casing.

3. A pencil sharpening instrument comprising a casing having substantially coextensive upper and lower sides between which may be clamped an edged blade, and a handle adjustably secured to the casing, which latter is notched to expose the blade to permit application of a portion of its edge to a pencil.

4. A pencil sharpening instrument comprising a casing having substantially coextensive upper and lower sides between which may be clamped an edged blade, and a handle adjustably secured to the casing, which latter is notched to expose the blade to permit application of a portion of its edge to a pencil.

5. A pencil sharpening instrument comprising a casing having substantially coextensive upper and lower sides between which may be clamped an edged blade, and a handle adjustably secured to the casing, which latter is notched to expose the blade to permit application of a portion of its edge to a pencil.

6. A pencil sharpening instrument comprising a casing to envelop a separable blade and notched to expose the cutting edge or edges of the blade for application to a pencil, and a handle connected to the casing and adjustable angularly thereto on an axis substantially perpendicular to the blade.

In testimony whereof I affix my signature.

ROBERT POCOCK MESSENGER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."