

(No Model.)

F. HAYES.

COMBINED KNIFE AND SCISSORS SHARPENER.

No. 543,552.

Patented July 30, 1895.

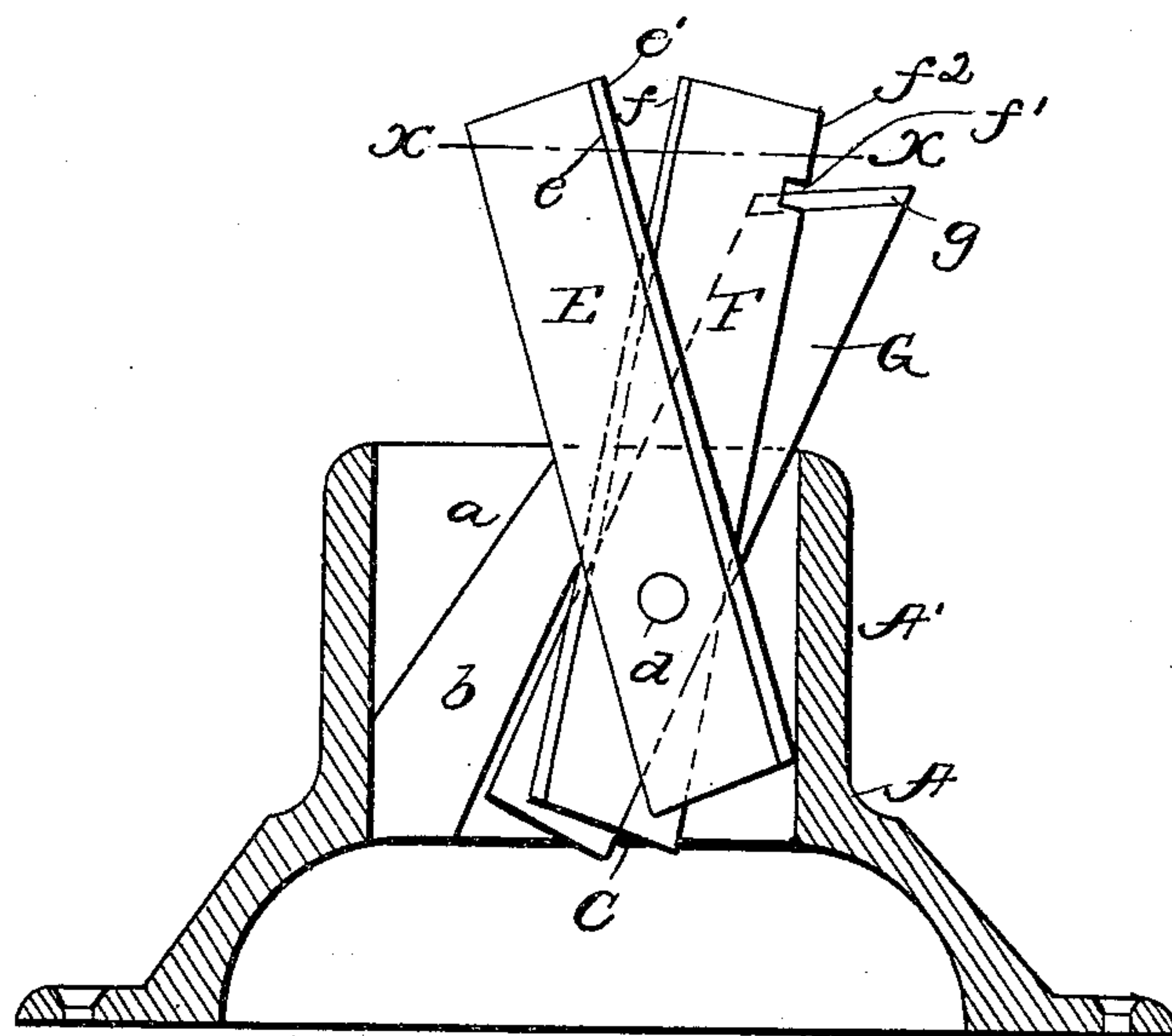


Fig. 1

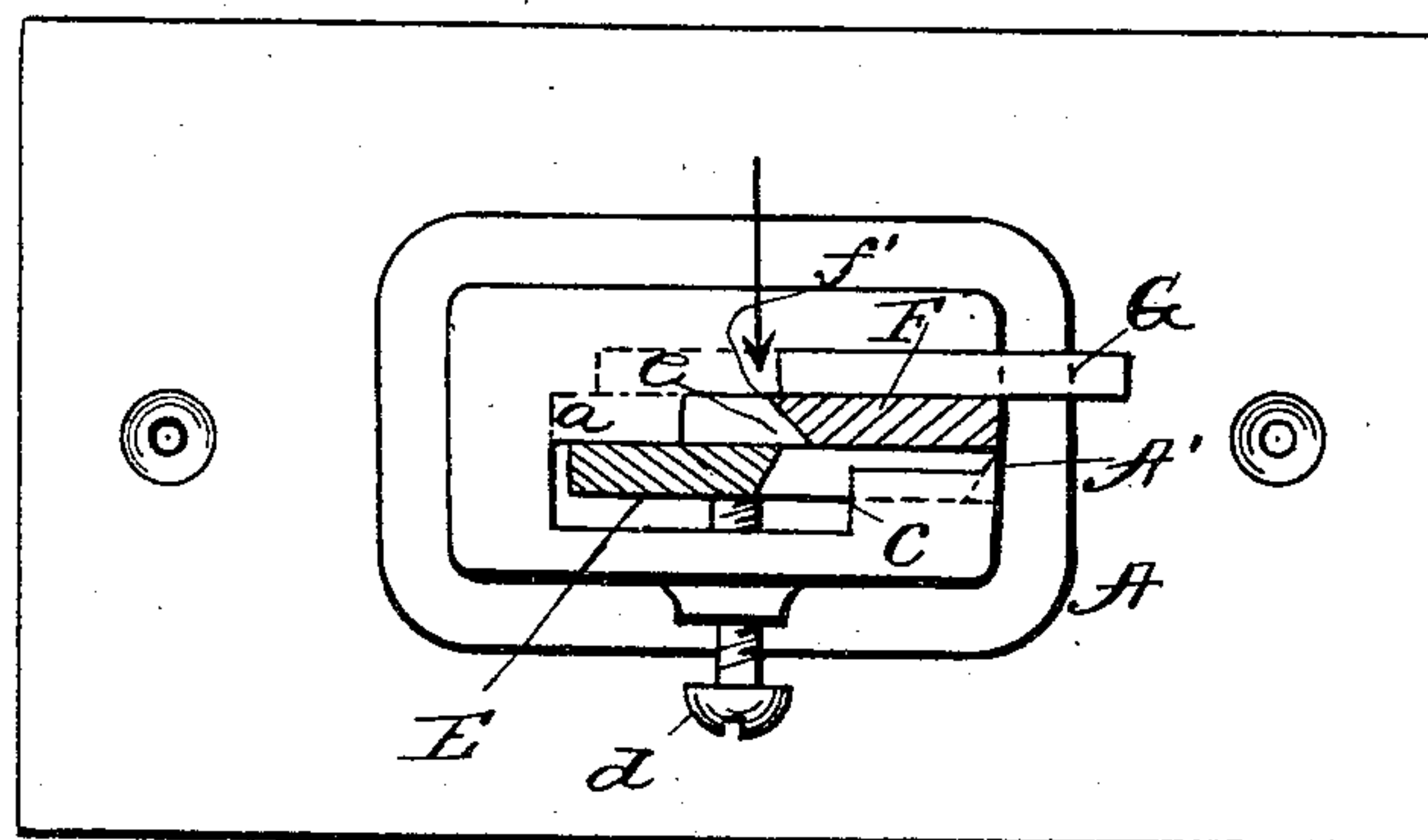


Fig. 2.

Witnesses

J. M. Fowler Jr.
David Luan

Frederick Hayes

Inventor

By J. H. Hueston

Attorney

UNITED STATES PATENT OFFICE.

FRIEDERICK HAYES, OF PHILADELPHIA, PENNSYLVANIA.

COMBINED KNIFE AND SCISSORS SHARPENER.

SPECIFICATION forming part of Letters Patent No. 543,552, dated July 30, 1895.

Application filed April 8, 1895. Serial No. 544,979. (No model.)

To all whom it may concern:

Be it known that I, FRIEDERICK HAYES, a citizen of the United States, residing at Philadelphia, county of Philadelphia, State of Pennsylvania, have invented certain Improvements in a Combined Knife and Scissors Sharpener, of which the following is a specification.

My invention relates to combined knife and scissors sharpeners, and particularly to that class in which crossed blades are employed.

The character and effect of my improvements are fully described in connection with the accompanying drawings, and are specifically pointed out in the claims.

Figure 1 is a sectional elevation of my improved device, showing the three sharpening-blades in proper relative position. Fig. 2 is a plan view showing the knife-sharpening blades in cross-section on the line xx of Fig. 1.

A represents the supporting-frame, which may be of any desired design for ornamental effect, the only essential being that the head A' shall be provided with an oblong socket or recess for the shanks of the several sharpening-blades hereinafter described, and with means—such as a screw d —for clamping the blades to the frame.

E and F are two similar blades of steel, which may be of uniform width and thickness throughout. The adjacent edges e and f , respectively, are beveled from one end to the other, and in placing them in position in the socket-head A' of the supporting-frame they are arranged so that the beveled edges will form opposite sides of the crotch at the intersection of the crossed blades, and, further, so that the cutting or acute edges e' and f' of the beveled blades will be located in different planes, one only lying in the contact-plane of the plates, as is most clearly shown in Fig. 2. The purpose and effect of this arrangement will be described later.

In connection with the blades E and F, I employ a third, marked G on the drawings. This blade is cut obliquely at one end, which is also beveled, as shown at g , and set transversely with respect to the blade F, so as to project beyond the outer edge of the latter. This outer edge of the blade F is shaped at the upper end, as indicated at f^2 , to serve as

a guide for the scissors-blade, the flat face of which is intended to be pressed against it while the cutting-edge is drawn over the beveled edge g of the sharpening-blade G. A notch f' is also formed in the outer edge of the plate F at the level of the beveled edge g , and the latter is set at any desired angle with relation to the guiding edge f^2 .

To facilitate the adjustment of the blades E, F, and G to different cutting-angles and the proper clamping of the same, I provide offsets a , b , and c on the walls of the oblong socket of the supporting-frame as guides and supports for the several blades, which are thus limited in their extreme movements and more firmly held when adjusted and clamped by means of the screw d .

In sharpening a knife-blade, the angle of the crotch $e' f'$ having first been set to suit, the blade is drawn in the direction indicated by the arrow in Fig. 2, thus subjecting both sides of the knife at different points to the cutting or abrading action of the edges $e' f'$. To finish the operation the direction of the movement of the knife-blade is reversed so as to be the opposite of that indicated by the arrow, thus changing the previous cutting action to a rubbing or polishing action, owing to the obtuseness of the angle at which the beveled blades thus act upon either side of the knife-blade. In the case of scissors the single sharpening-blade G operates upon the edge of the scissors-blade while the latter is guided by contact with the edge f^2 of the adjacent knife-sharpening blade, the notch f' serving to insure free abrading action at the cutting-edge of the scissors-blade.

Having thus fully described my invention, I do not desire to limit myself to the exact construction shown; but

What I claim is—

1. In a knife and scissors sharpener the combination with two crossed blades and a third blade arranged to co-operate with one of said crossed blades, of a supporting frame having a socket for the shanks of said blades with offsets therein for separately guiding the same, and a screw arranged to clamp or release the blades, substantially as set forth.

2. In a knife sharpener the combination with a supporting frame and clamping device, of two crossed blades having their inner edges

beveled so as to provide one acute edge in the contact plane of the crossed plates and another acute edge in the outer plane of the opposite plate, substantially as and for the purpose set forth.

3. In a knife and scissors sharpener the combination of a knife sharpening blade having a notch formed in its outer edge below the top thereof, and a scissors sharpening blade having the beveled edge thereof ar-

ranged transversely to said notched edge, with mechanism for adjustably supporting the same, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRIEDERICK HAYES.

Witnesses:

E. C. RHOADS,

A. C. SNYDER.