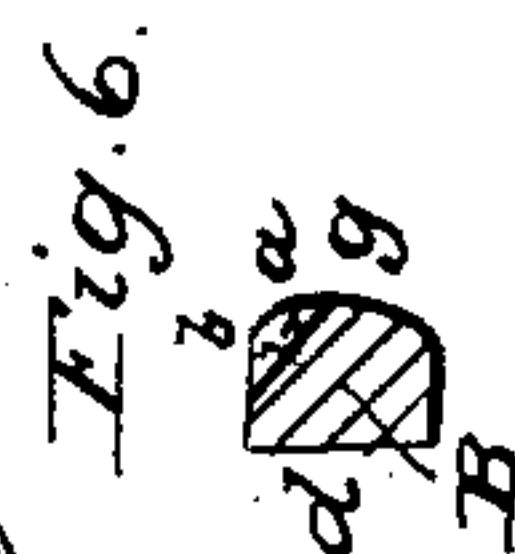
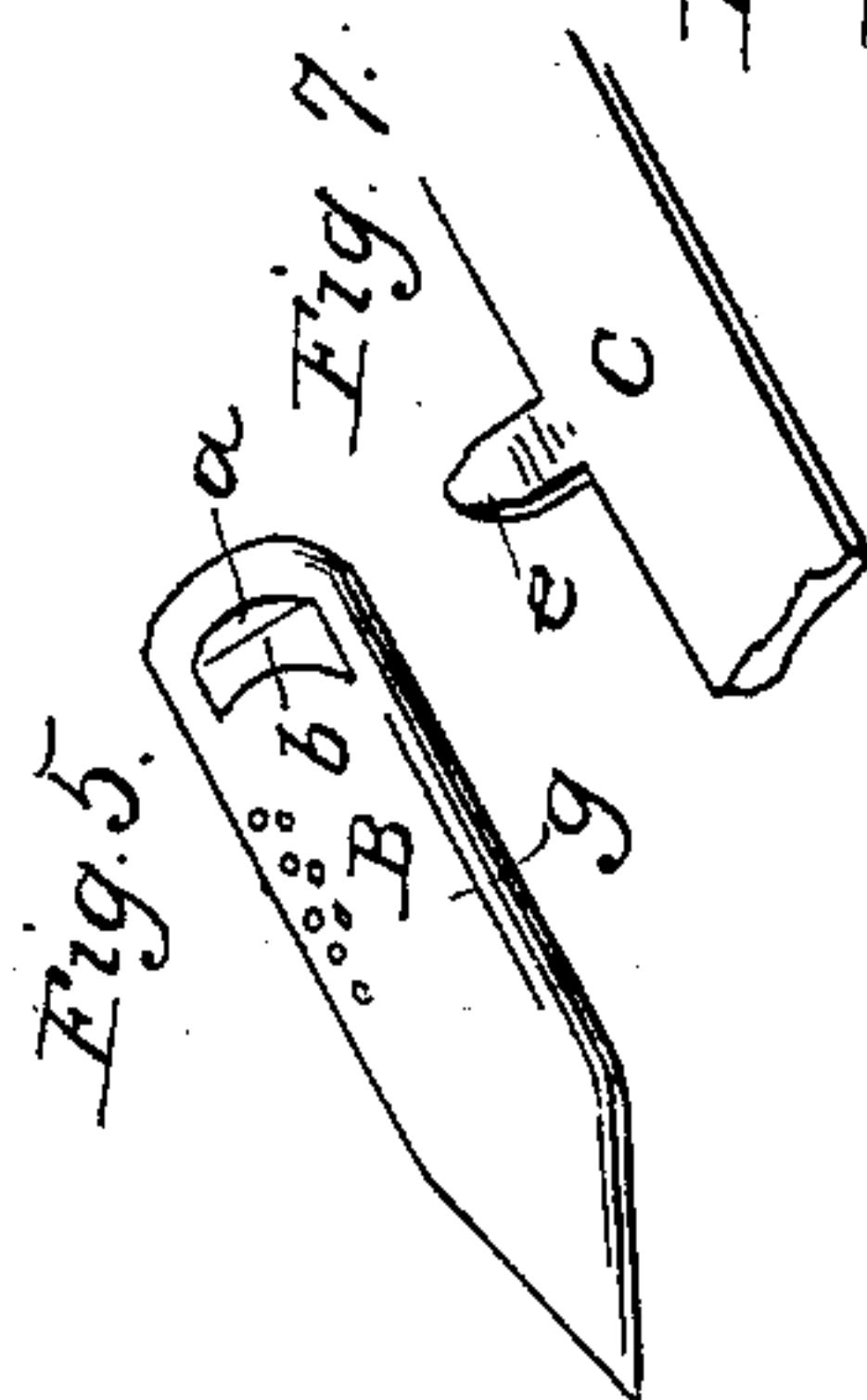
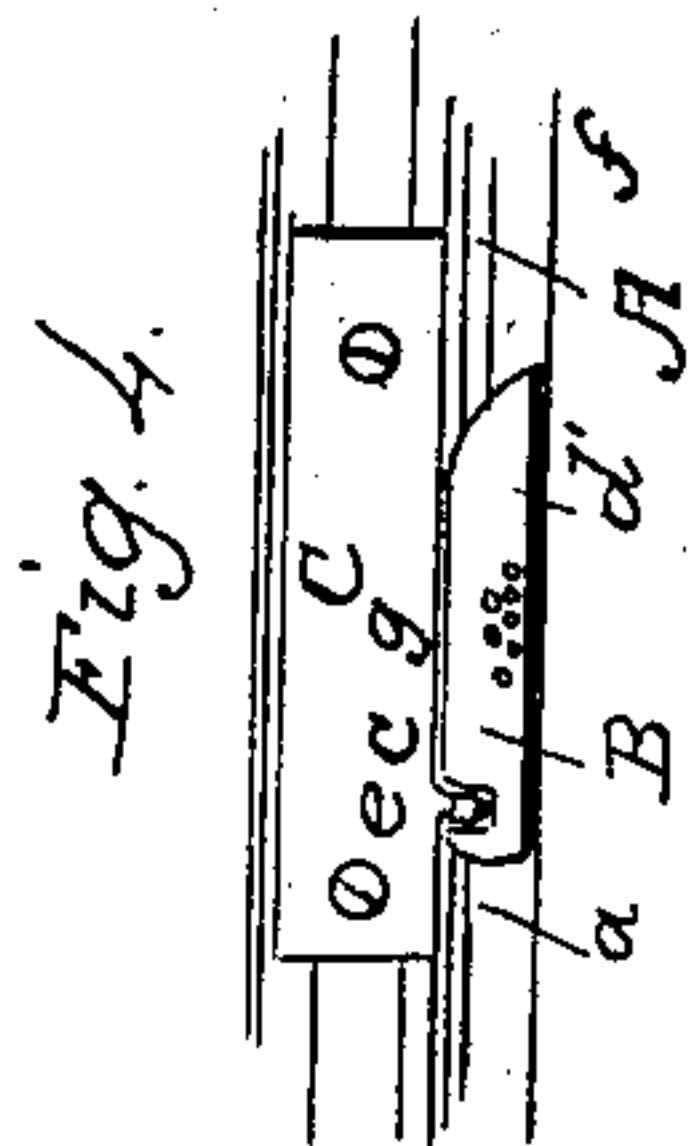
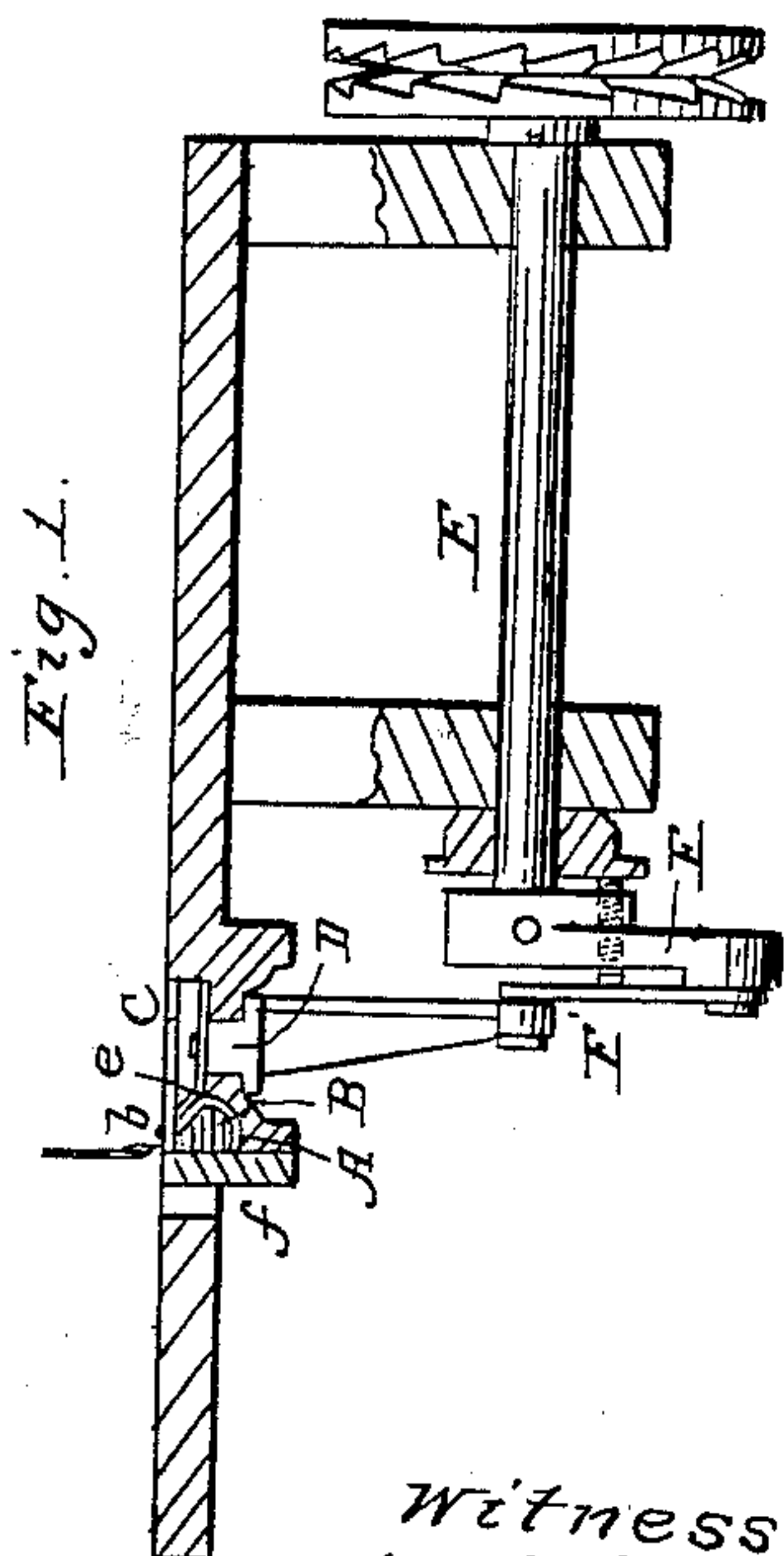
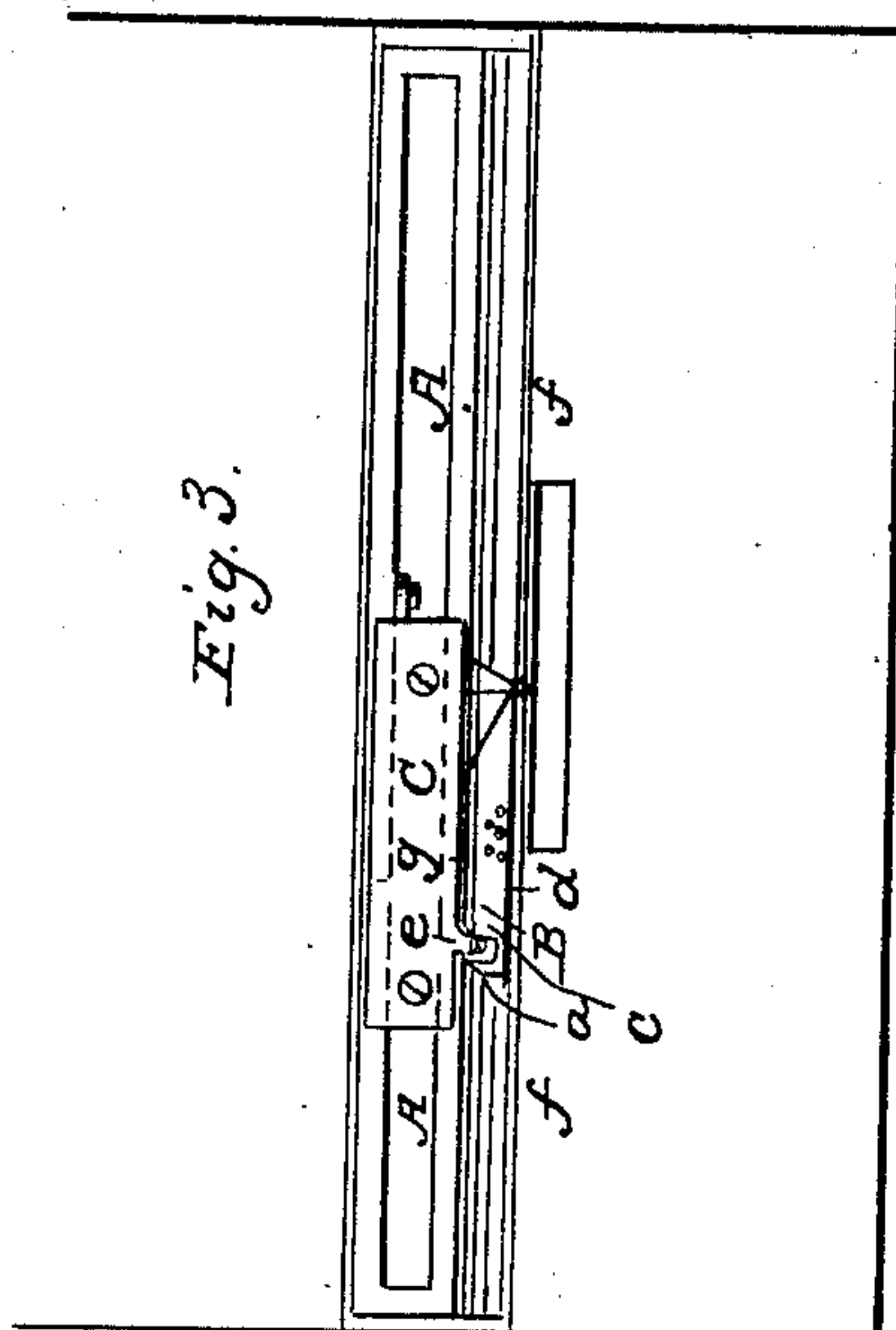
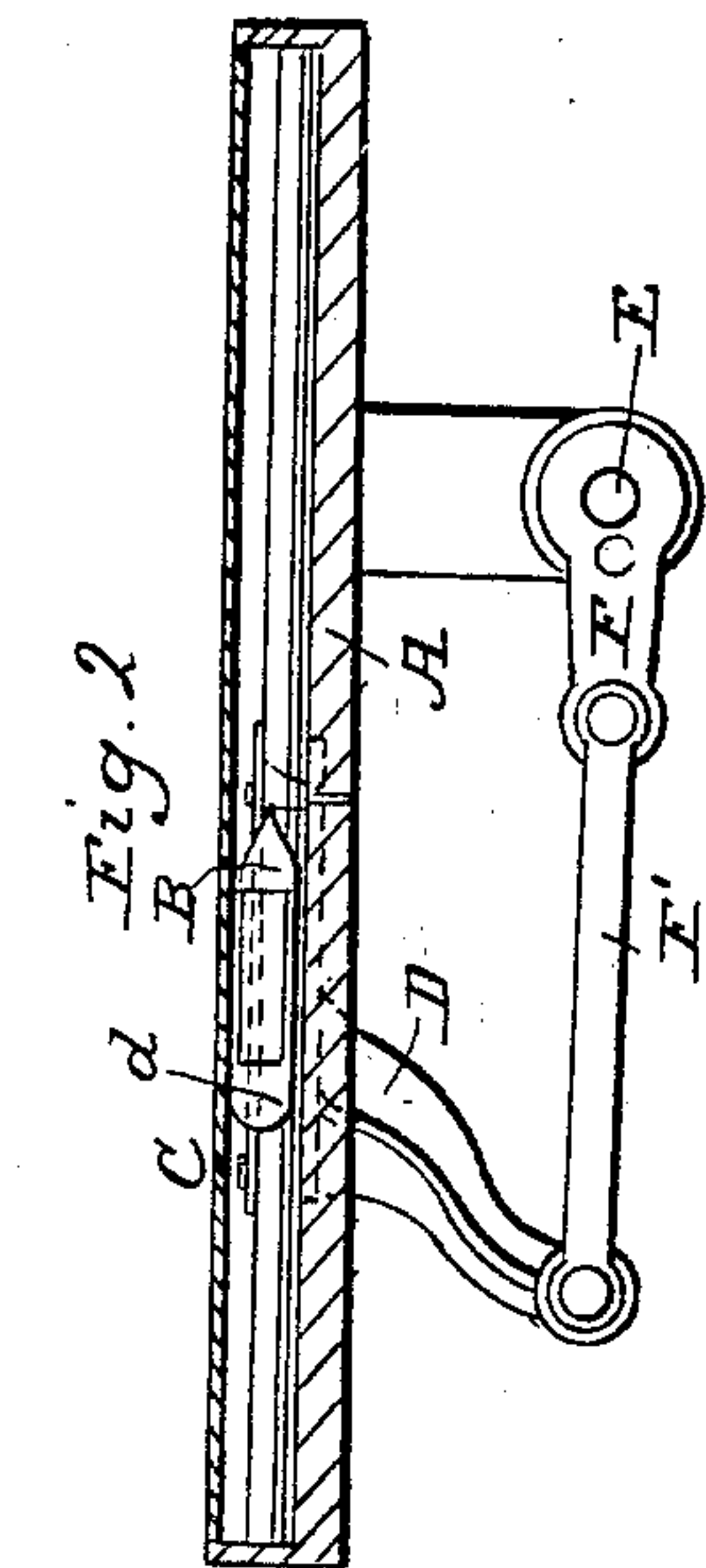


L. PLANER.
Sewing Machine.

No. 24,847.

Patented July 19, 1859.



Witnesses:
A. S. Spencer
J. H. Coombs

Inventor:
Louis Planer

UNITED STATES PATENT OFFICE.

LOUIS PLANER, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND JOSEPH AUGER, OF SAME PLACE.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 21,847, dated July 19, 1859.

To all whom it may concern:

Be it known that I, LOUIS PLANER, of the city, county, and State of New York, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 exhibits a transverse vertical section of the bed-plate, shuttle-race, and shuttle of a sewing-machine, and a side view of the shuttle-driving mechanism. Fig. 2 exhibits a longitudinal vertical section of the shuttle-race, a face view of the shuttle, and a front view of the shuttle-driving mechanism. Fig. 3 is a plan of the shuttle-race, the shuttle, and shuttle-driver. Fig. 4 is a view of similar character to Fig. 3, but showing the shuttle at a different stage of its movement. Fig. 5 is a perspective view of the shuttle. Fig. 6 is a transverse section of the butt of the same. Fig. 7 is a perspective view of part of the driver.

Similar letters of reference indicate corresponding parts in the several figures.

My invention relates to the driving of the shuttle of a sewing-machine by means of a driver having but a single horn or finger operating on or near the butt of the shuttle; and it consists in an improved construction and arrangement of the notch provided in the butt of the shuttle and an improved mode of applying the driver, whereby the loops of the needle-thread are allowed to slip freely and without obstruction over the heel of the shuttle, and the shuttle is prevented flying up out of the shuttle-race in case of the accidental omission of the covering-plate.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is the shuttle-race; B, the shuttle; C, the shuttle-driver; D, the driver-carriage; E, the mainshaft; and F, the crank on the main shaft for operating the carriage D, to which it is connected by a rod, F'. All the above parts but the shuttle and driver are of ordinary or well-known construction. The shuttle B is also of the form in common use, except that it has in its butt a peculiarly-constructed notch, *a b c*, exhibited wholly or in part in Figs. 1,

3, 4, 5, and 6. This notch is entirely within the upper half of the shuttle, and very near the heel thereof, which is made of the usual rounded form. The bottom *b* of the said notch is in the form of a plane, which, in the direction of the length of the shuttle, is parallel with the face *d* thereof, but which is inclined at about forty-five degrees in a direction transverse to the said face *d*, as shown in Figs. 1 and 6, in which figures the section of the shuttle is taken through the said notch. The side *a* of the said notch which is next the heel of the shuttle is square with the face *d*, or nearly so, but slightly rounded at its junction with the exterior of the shuttle. The side *c* of the said notch which is farthest from the heel of the shuttle has such an inclination as to give an increasing width to the notch from the upper part downward, and is beveled inwardly to give it an increasing width toward the bottom *b*.

The shuttle-driver C has its single horn or finger *e* so constructed and arranged as to enter loosely into the notch *a b c* of the shuttle from the back of the shuttle-race, and extends not more than half-way across the shuttle, as illustrated in Figs. 1, 3, and 4. The said horn or finger, acting nearer to the back *g* than the face *d* of the shuttle, tends to draw the butt-end of the shuttle away from the face *f* of the race, as illustrated in Fig. 3, in driving the shuttle forward, and to draw the point away from the said face *f*, as illustrated in Fig. 4, in driving the shuttle back, and so prevents the shuttle hugging the face *f* of the race. The peculiar bevel of the face *c* of the notch causes the horn or finger *e*, in driving the shuttle forward, to lift its butt-end, and so prevent it hugging the bottom of the race.

The more important results obtained by my mode of constructing the notch and applying the driver are, first, that the driver partly covering the butt of the shuttle, which is the portion that always flies up in case of the race being accidentally uncovered, constitutes a guard to the shuttle, is effectually prevented flying out of its place in the race and damaging the machine; and, second, that the notch *a b c*, which receives the driver, is entirely within the upper half of the shuttle, leaving intact the lower half, against which the loop draws in passing the butt, and preserving the usual rounded form of the heel of the shuttle, so that

no obstruction is offered to the passage of the loops over the butt. In effecting these two results my improvement overcomes two difficulties which seem to present themselves in the invention of E. Howe, Jr., patented August 24, 1858, while it retains all the advantages of that invention.

I do not claim the driving of the shuttle by a driver with a single horn or finger operating in a recess at or near the heel of the shuttle, as that is covered by the patent of E. Howe, Jr., dated August 24, 1858; but

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the peculiarly-constructed notch *a b c*, which is confined to the upper half of the shuttle and leaves the lower half intact, with a driver having a single horn or finger, which, entering the said notch, constitutes a guard to prevent the flying up of the heel of the shuttle, substantially as herein described.

LOUIS PLANER.

Witnesses:

R. S. SPENCER,
J. W. COOMBS.