E. Schlanker.

Oliver.

No. 23,400. Patented Mar. 29, 1859.

Fig: 1.

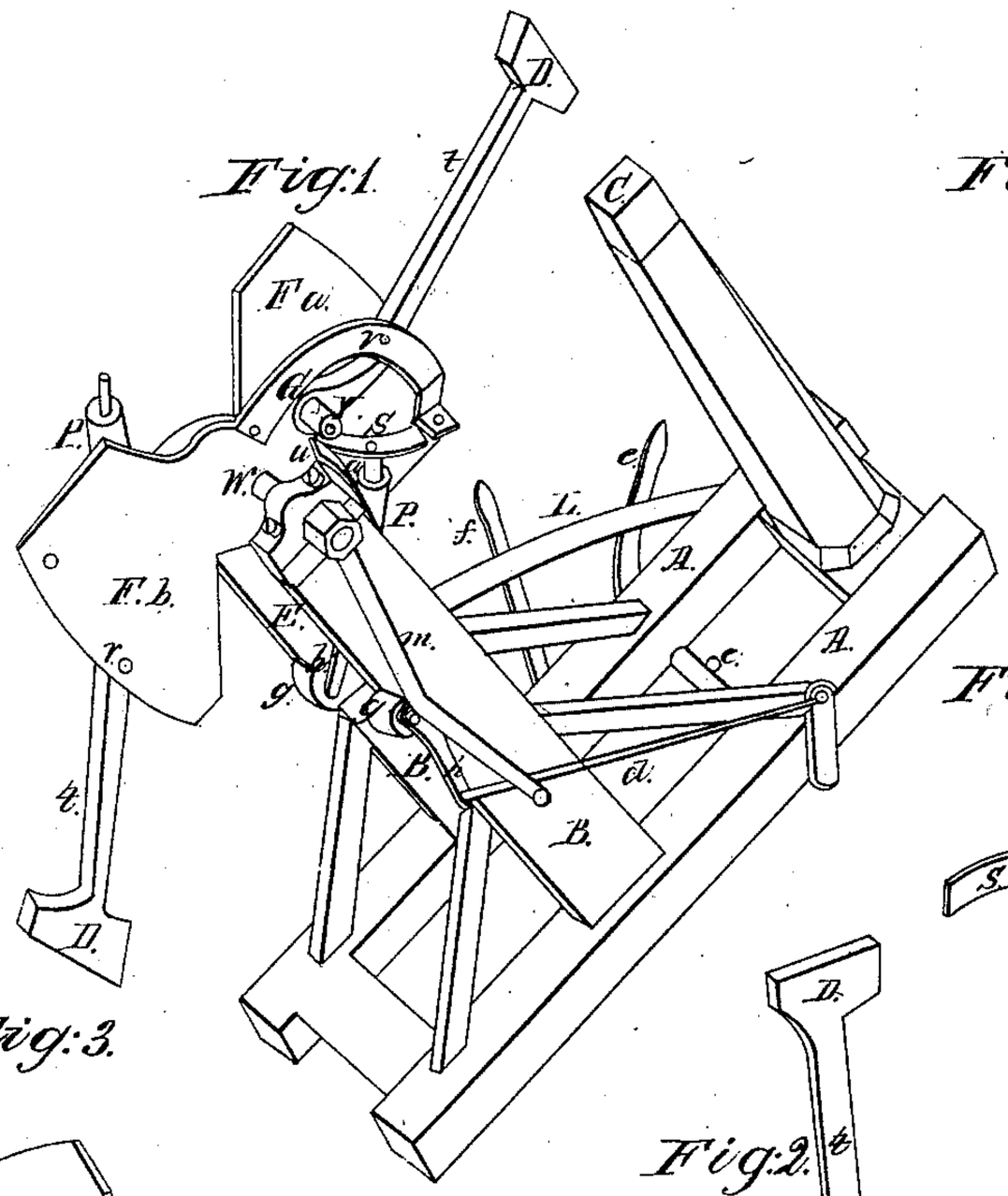


Fig: 7.

Fig: 9.

Fig: 8.

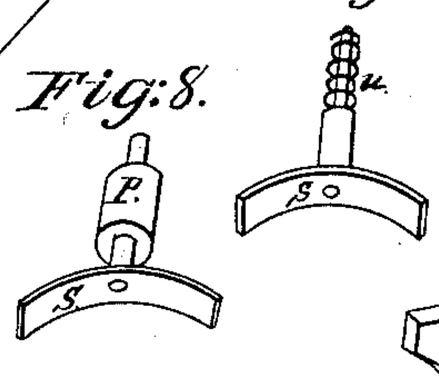


Fig: 3.

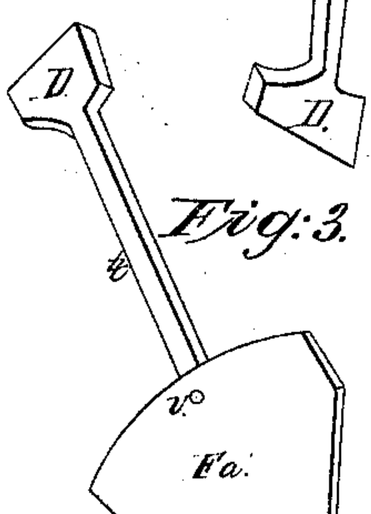


Fig: 2.

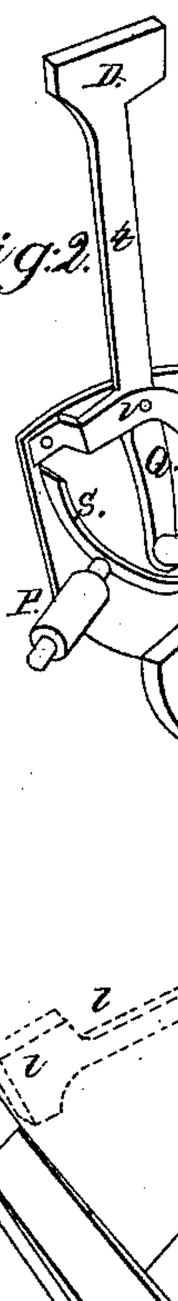


Fig: 6.

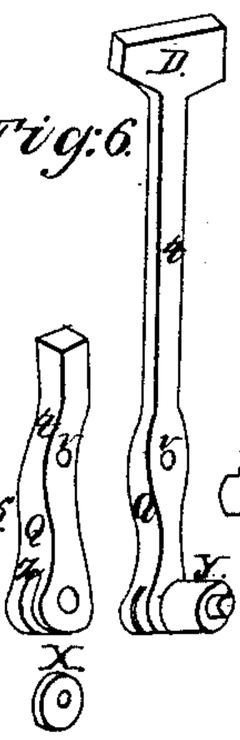


Fig: 5.

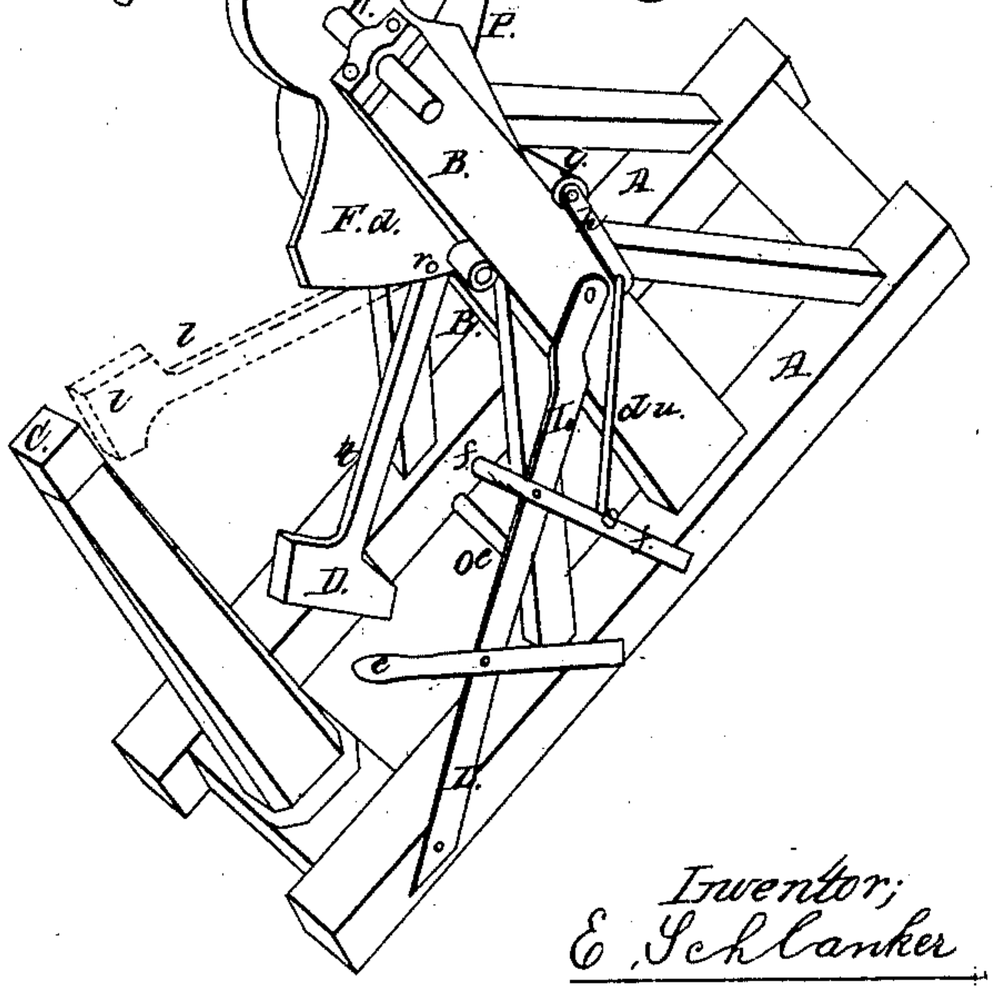
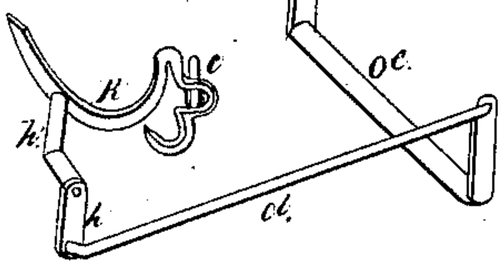


Fig: 4



Witnesses;
E J Ford
Con A Waldron Jr

Inventor;
E. Schlanker

UNITED STATES PATENT OFFICE.

E. SCHLANKER, OF BUFFALO, NEW YORK.

FORGING-MACHINE.

Specification of Letters Patent No. 23,400, dated March 29, 1859.

To all whom it may concern:

Be it known that I, E. SCHLANKER, of Buffalo, in the county of Erie, in the State of New York, have invented a new and Improved Mode of Operating and Controlling the Hammer or Hammers of a Revolving Forging-Machine; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, like letters referring to like parts in all the drawings.

Figure 1 and Fig. 2 are side perspective views of the whole machine. The other figures are detached sections of the same as illustrated in the drawings.

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

The duplicate face plates F^a, F^b are united at the center and so formed as to allow the hammer arms *t t* to be placed upon a line with each other and I support them upon the inner faces of the plates F^a F^b by the center pins *v*, *v*, as seen in Fig. 3. I locate the hammer face plates F^a F^b with their adjuncts upon the standards B B of frame A A, as also represented in Fig. 1 and at the extremities of that portion of the hammer shafts *t t* extending from the center pins *v v* toward the center or driving shaft, *w*, wrists are attached to the hammer shafts at right angle to the same, and the friction rollers *y y* are inserted upon the wrists as well as the friction rollers X X are located within the mortises Z Z; as seen in Figs. 5 and 6. The tubes P P are affixed each to the duplicate face plates F^a F^b, and I retain the cams *s s* with their center shafts, and the spiral springs *u u* inserted; as seen in Fig. 8, Fig. 9 and Fig. 3, and so located upon the face plates F^a F^b, as to hold the hammers D D in their different positions.

The support plates G G are so curved or bent as to be fastened to the face plates F^a F^b at their extremities, and embrace the center pins *v v* of the hammers D D or shafts *t t;* as seen in Fig. 3 and Fig. 2. Upon the interior of each side of the standards B B are placed the sections E E, with their attachments, viz., the curved cams R R, crank boxes *g g*, cranks *h h*, one guide plate *a* upon the right; as seen in Fig. 1 and connecting rods *d* and *du*, one of each may be seen in Fig. 7 as otherwise illustrated in Fig. 1 and Fig. 2.

The cams R R are held to the sections E E by their center pins *c c*, and the cranks *h h;* by their boxes *g g*.

The cranks *h h* take bearing upon the cams R R as seen in Fig. 7, and Fig. 4, as also represented in the detached sections; and parts of the same as seen in Fig. 1 and Fig. 2. Fig. 2 gives plainer parts than that, as seen in Fig. 1, showing the stay bar L L, levers *e* and *f f*, lever shaft *e* and *oe* extending underneath the frame A A, as before referred to, in Fig. 4. The lever *f f* is curved to the crank *h* by the rod *du*.

Operation, viz: As the hammers D D are set in revolution, and come in contact with the anvil C, each alternately and by the continued motion of the face plates F^a F^b the hammers D D and shafts *t t* are contracted to and within a smaller circle, so as to pass the anvil C; at the same time that portion of the hammer shafts Q Q extending toward the center shaft W, which I use as a shorter lever, in operating and controlling the greater lever or levers *t t* of the hammer shafts, in connection with the spring cams S S, crank cams R R and guide plate *a;* as being attached to the face plates F^a F^b, and standard sections R R, one of which sections may be seen in Fig. 7, viz., the operation as seen in Fig. 2. As the hammer D strikes the anvil C the wrist and friction roller *y* presses the spring cam S back passing the center of the cam S to the opposite end of the same; as seen in Fig. 1, and the position of the hammer D and shaft *t* is represented by the dotted lines in Fig. 2. The hammer or hammers are held in this position until they come in contact with the crank cams R R and the guide plate *a;* at this moment and point of the circle described by their movement, the hammer or hammers are moved upon a straight line with each other as before striking the anvil C. The crank cams R R are moved to or from the contact of the friction rollers *y y* (being held by their center pins *c c*) by the cranks *h h* and lever connections *c*, *oc*, *d*, *f*, and *du* as before stated; so that one or both hammers may strike the anvil C, by the pressure of the crank cams R R upon the friction rollers *y*, *y* and by relieving one or both of the crank cams R R one or both hammers avoid the contact of the anvil.

Fig. 4 illustrates the connection and bearing of the crank upon the crank cam R without the crank box *g*. The curved stay or sup-

port bar G G one of which may be seen in Fig. 3, where the face plate with other parts are turned over which is used to support and retain the hammers by the center pins *v v* to the plates F^a F^b. The lever bar L is used to fix the levers *c* and *f* in the different position taken in effecting the crank cams R R and consequently the operation of the hammers.

I am aware of D. Noyes's of Abington revolving forging machine of Mass. and of attaching the hammer or hammers each by a pivot to a revolving disk or crank so as to revolve therewith and controlling the position thereof by stops attached to the face of the disk or crank and of drawing the hammer or hammers lengthwise of the anvil, which I disclaim as being original in principle, but defective in operation by the use of the stops, affixed to the disks or imaginary crank.

What I claim as my improvements and desire to secure by Letters Patent are, viz:

1. That portion of the hammer shafts Q Q from the center pins *v v* extending toward the driving shaft W, to be used as a lever in controlling the hammers D, D, the center pins *v v* being the fulcrums, in connection with the wrists and friction rollers *y y* and X X the location and position of the spring cams S S upon the duplicate face plates F^a F^b.

2. The sections E E and the independent operating crank cams R R, guide plate *a*, cranks *h*, *h*, levers *e* and *f* connecting rods *d* and *du*, as described in the foregoing specification.

E. SCHLANKER.

Witnesses:
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