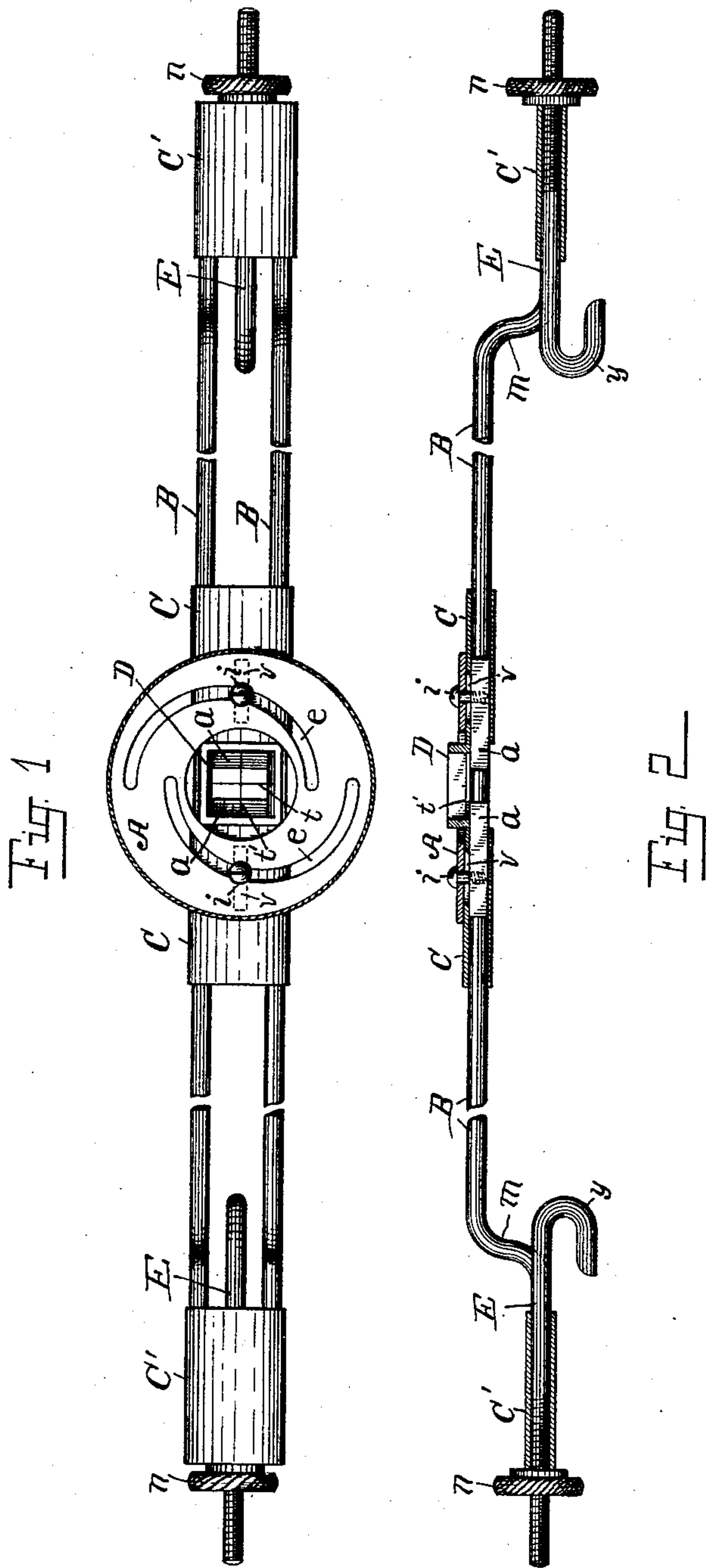


(No Model.)

F. M. SPAULDING.
ALIGNER FOR TYPE WRITING MACHINES.

No. 481,513.

Patented Aug. 23, 1892.



Witnesses:
Walter S. Wood
Edmund S. Mayfield

Inventor.
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UNITED STATES PATENT OFFICE.

FRANK M. SPAULDING, OF KALAMAZOO, MICHIGAN, ASSIGNOR TO EDWARD S. MAYFIELD, OF SAME PLACE.

ALIGNER FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 481,513, dated August 23, 1892.

Application filed December 11, 1891. Serial No. 414,750. (No model.)

To all whom it may concern:

Be it known that I, FRANK M. SPAULDING, a citizen of the United States, residing at Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Aligners for Type-Writing Machines, of which the following is a specification.

My invention relates to a device by the means of which the type in a type-writer may be properly aligned and adjusted. I attain these effects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the entire mechanism, with the rods broken to save space in length. Fig. 2 is a longitudinal section through the center of Fig. 1.

Similar letters refer to similar parts throughout both views.

B is a rod or wire bent or offset near each end, as shown at M, Fig. 2.

C is tubing flattened so as to form a housing between rods B B.

a a are two clamps or plungers so arranged as to play back and forth in the housing or space formed by B B and C C.

A is knurled disk with slots *e e* so arranged as to form a double cam with a round hole in the center to form a bearing to rotate upon.

i i are two screws or pins passing through the slots *e e* in the knurled disk A; also through the slots *v v* in the housing C C, and screwed or fastened in the plungers *a a*.

E E is a rod or wire threaded at one end and bent so as to form a hook at the other, as shown at *y* in Fig. 2.

n n is a knurled nut threaded so as to fit the threaded end of E E.

D is a square tube fastened to the upper surface of the housing C C and rods B B, the four corners forming a bearing for the knurled disk A to rotate upon.

t t are two small wires stretched taut across the lower end of tube D and at right angles to form a center line each way.

Having described the lettered parts of my drawings, I will next describe the working of my invention, so that others skilled in the art to which it appertains may be able to make, use, or operate it.

My device is first placed upon the upper

surface of a type-writer, so as to bring the center lines *t t* of my device in the center of the type-writer, and it is then clamped or fastened to the type-writer by means of the hooked rods E E. By screwing up the knurled nuts *n n* the type are then aligned up and adjusted by throwing up one type at a time and giving the knurled disk A a half-turn, which will force the plungers or clamps *a a* toward each other, forming a vice or clamp in the center of tube D, as shown in Fig. 1, the type being thus fastened or clamped in the center of the type-writer. The screw holding the other end of the type-arm, to which it is fastened, is then loosened, allowing the type-arm to spring into place, and then the screw holding the type-arm is tightened, thereby securing the type-arm in proper position. The knurled disk A' in my device is then turned back, thus forcing the plungers *a a* apart, loosening the type so that it will strike exactly in the center, and so on with the rest of the type around the circle of the type-writer, and then my device can be taken off by unscrewing the knurled nuts *n n*, and the type in the type-writer will be found in perfect alignment.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a type-writer aligner, of a plurality of clamp-plungers connected with the same cam or slotted disk, and by which they are given a movement away from or toward each other when the cam or slotted disk is operated, substantially as set forth.

2. The combination, in a type-writer aligner, of a plurality of clamp-plungers connected with the same cam or slotted disk, and by which they are given a movement away from or toward each other when the cam or slotted disk is operated, and means, substantially as described, whereby the clamp-plungers are guided back and forth, for the purpose set forth.

3. The combination, in a type-writer aligner, of a plurality of clamp-plungers connected with the same cam or disk, with two screws or pins by which they are given a movement away from or toward each other when the cam or slotted disk is operated, and means, substantially as set forth, whereby the clamp-

plungers are guided back and forth and held in position, for the purpose set forth.

4. The combination, in a type-writer aligner, of clamp-plungers, a cam or slotted disk, guide
5 and housing for the clamp-plungers, two rods or wires passing through the housing to form a frame and support for the device, and two

hooked rods having knurled nuts for the purpose of fastening the frame and device to the type-writer, substantially as set forth.

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Witnesses:

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