

No. 785,925.

PATENTED MAR. 28, 1905.

A. WHITEHEAD.

LOOM SHUTTLE.

APPLICATION FILED JAN. 24, 1905.

Fig. 2.

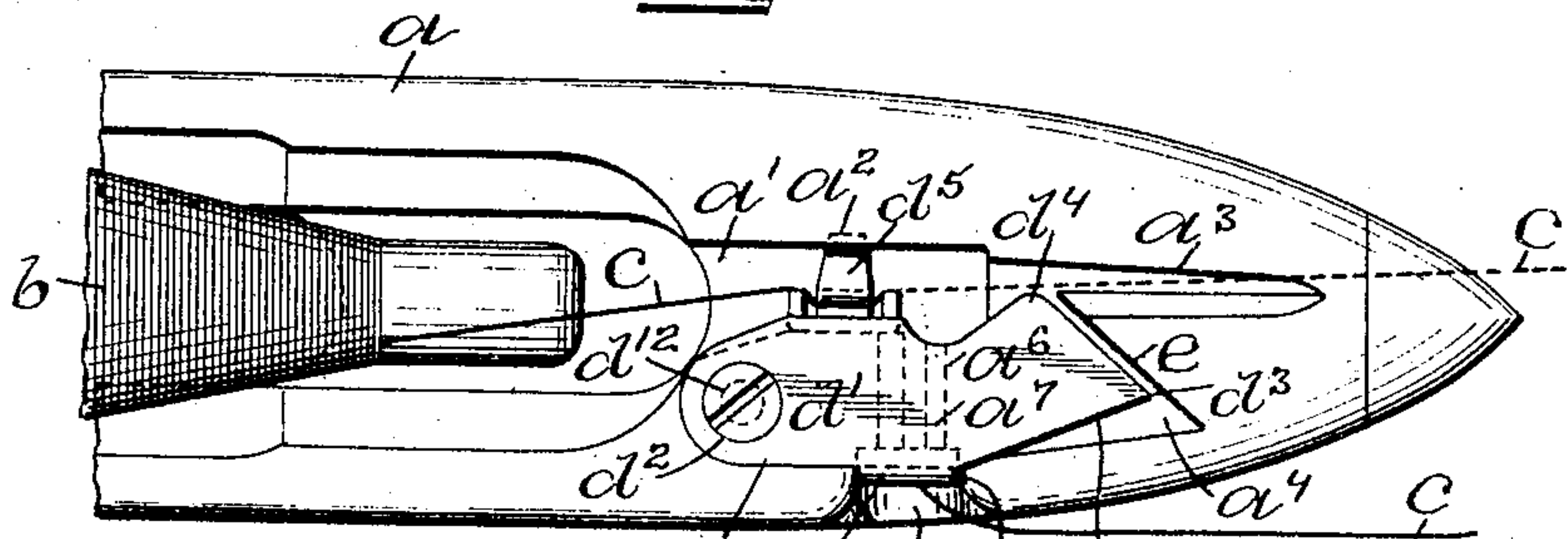
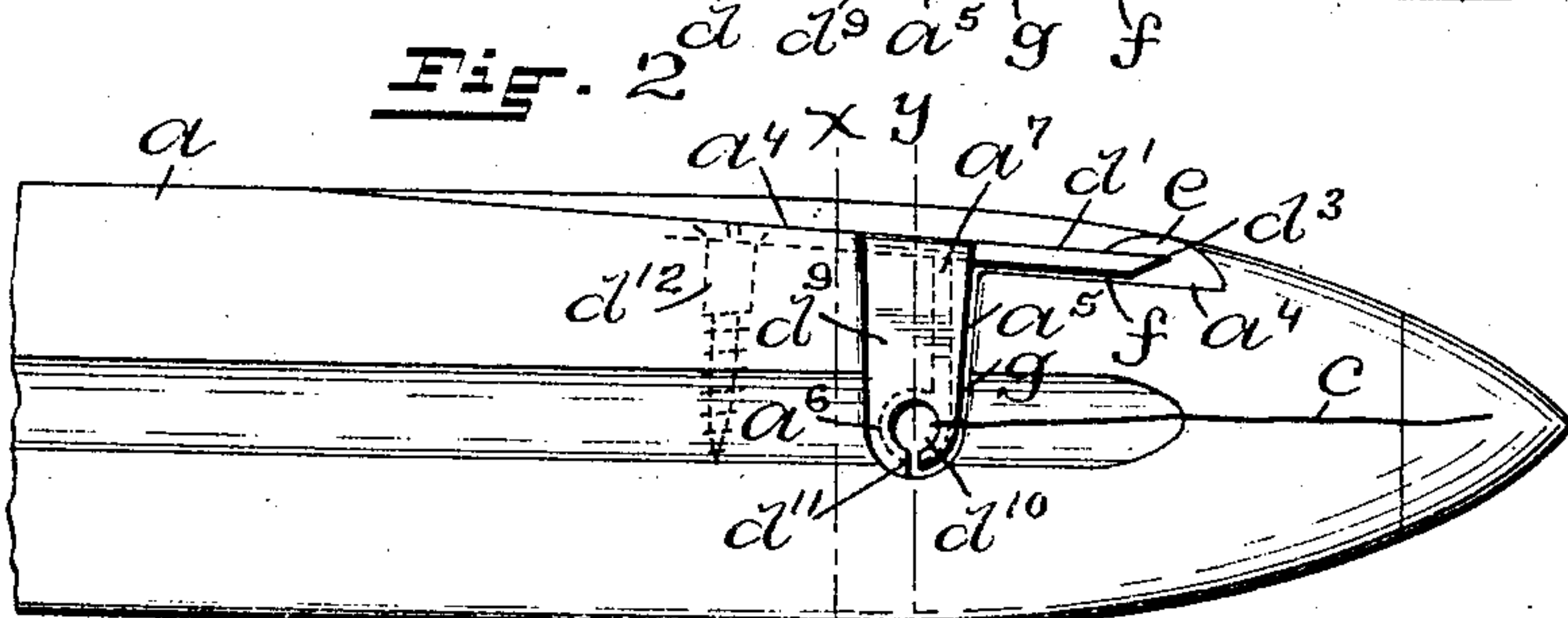


Fig. 2



Fif. 3.

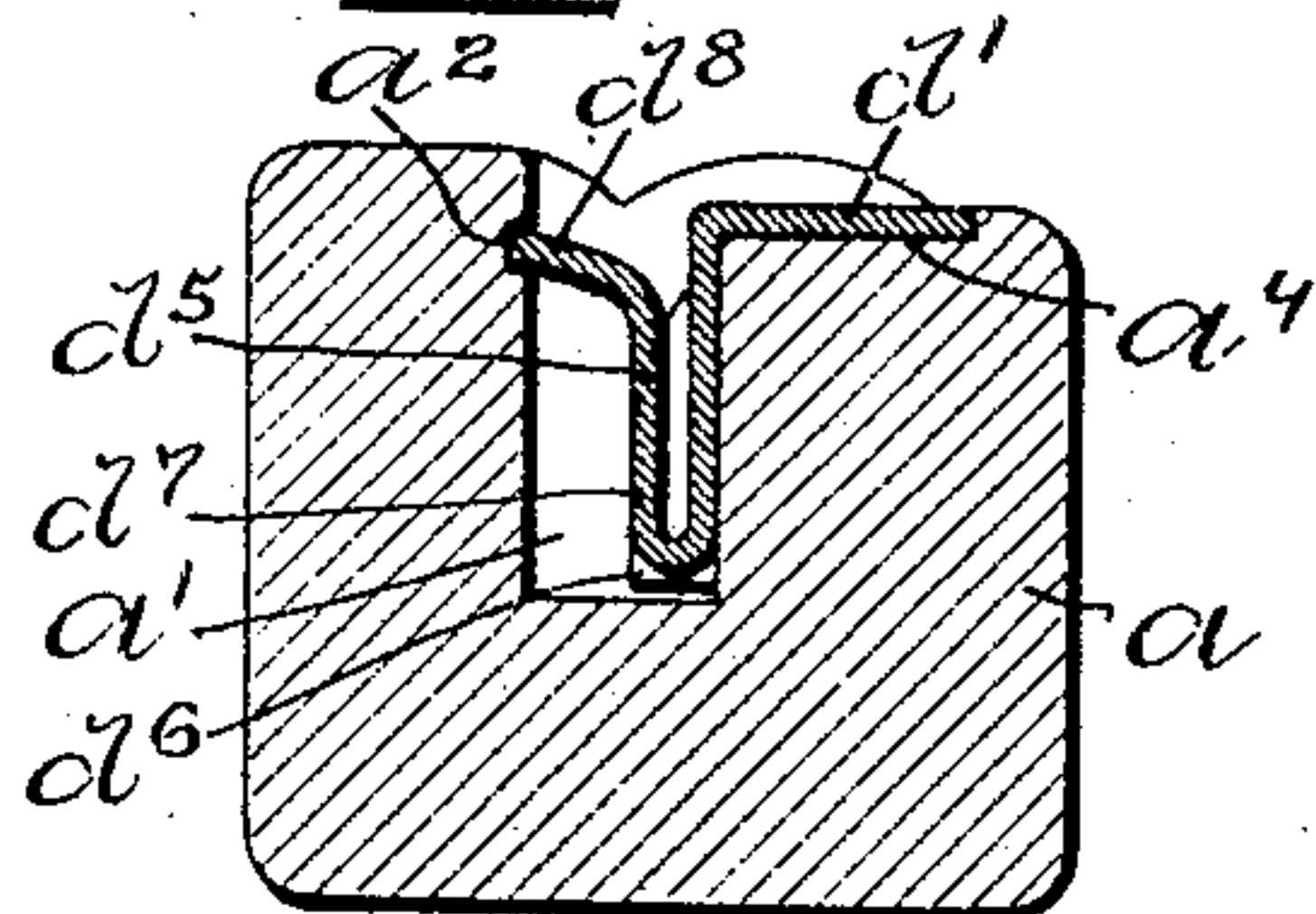


Fig. 4

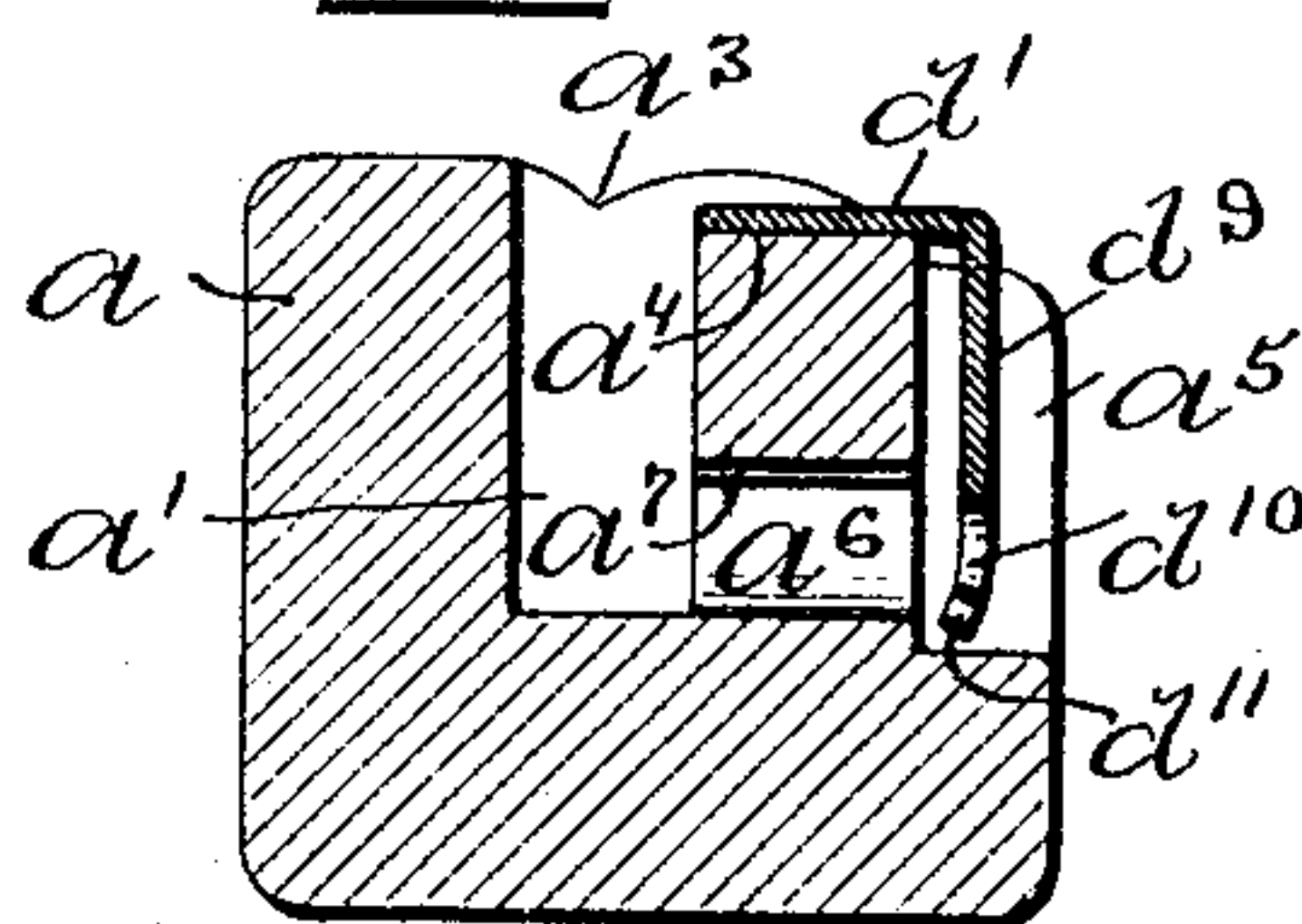


Fig. 5.

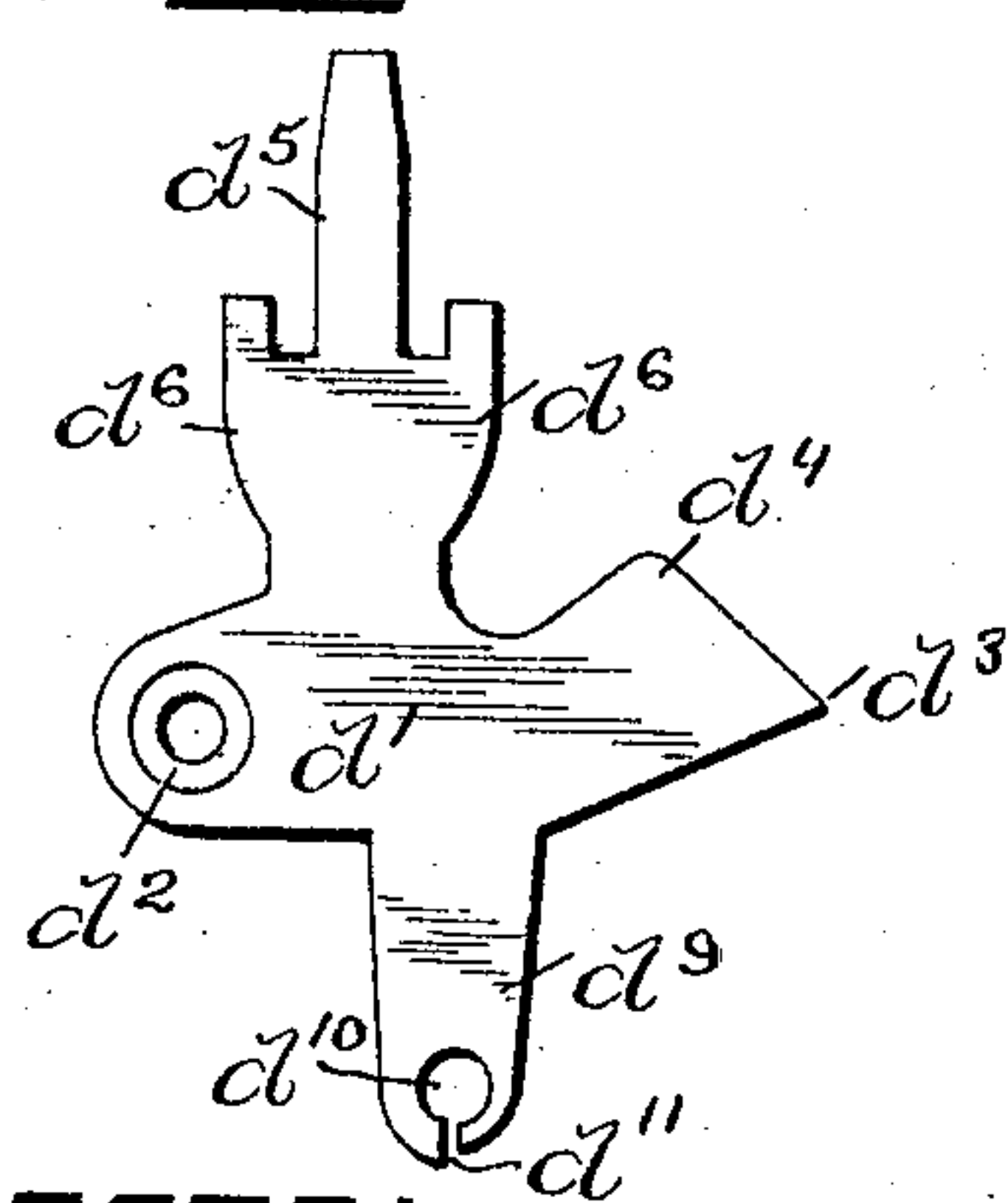


Fig. 6

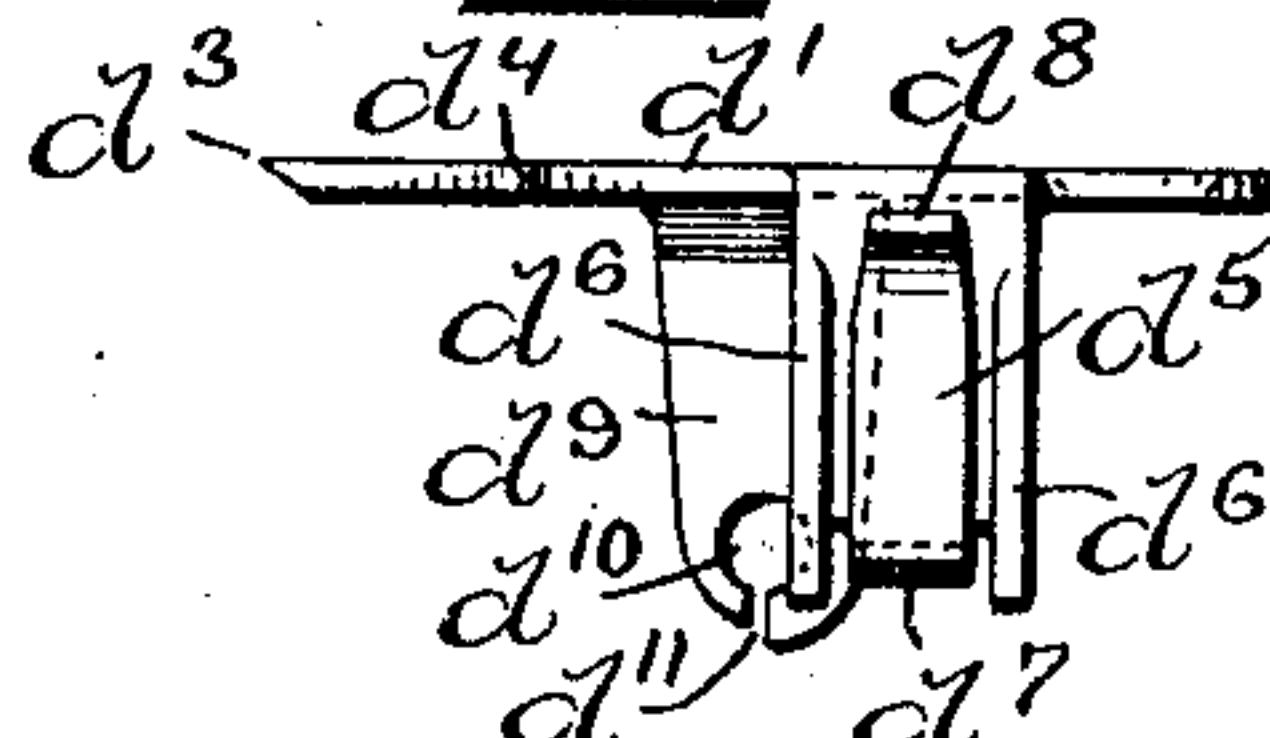
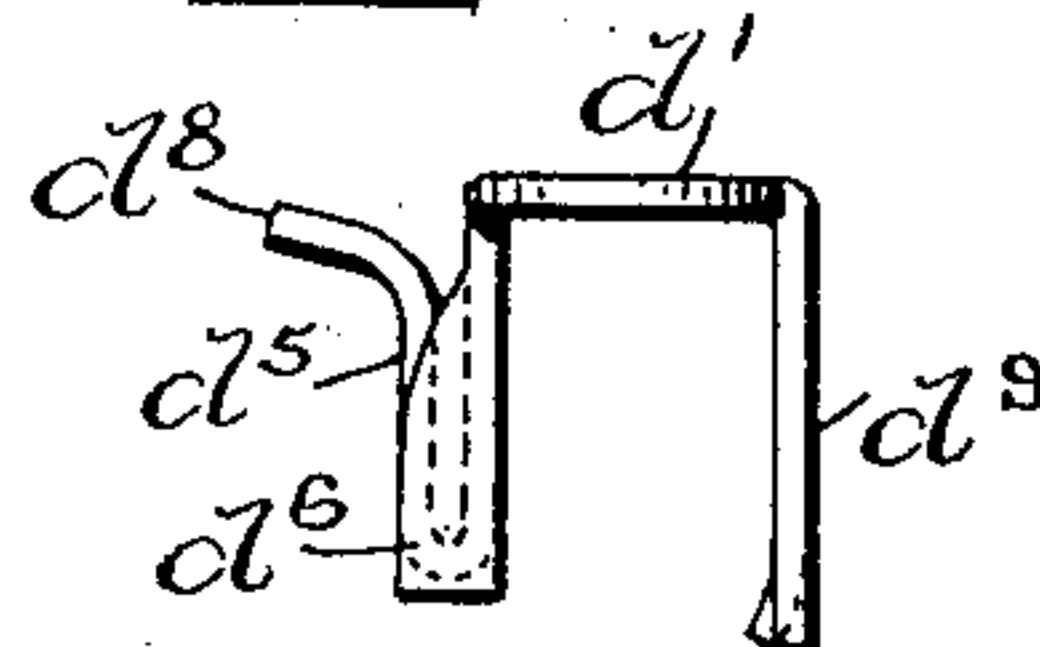


Fig. 7.



WITNESSES:

Chas. W. Luther Jr
Ada E. Hagerty.

INVENTOR:

Alfred Whitehead
 by Joseph A. Miller Jr.
 ATTORNEYS

UNITED STATES PATENT OFFICE.

ALFRED WHITEHEAD, OF FALL RIVER, MASSACHUSETTS.

LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 785,925, dated March 28, 1905.

Application filed January 24, 1905. Serial No. 242,537.

To all whom it may concern:

Be it known that I, ALFRED WHITEHEAD, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Loom-Shuttles, of which the following is a specification.

This invention has reference to an improvement in loom-shuttles, and more particularly to an improvement in threading devices for loom-shuttles.

The object of my invention is to provide a loom-shuttle with a mechanical threading device for threading the shuttle without suction.

Further objects of my invention are to simplify the construction and reduce the cost of threading devices for loom-shuttles; and I accomplish these objects by constructing the threading device of sheet metal.

My invention consists in the peculiar and novel construction of a mechanical threading device for loom-shuttles, as will be more fully set forth hereinafter.

Figure 1 is a top plan view of the delivery end of my improved loom-shuttle, showing the weft-thread from the bobbin in the position for entering the threading device in broken lines and the position the thread would assume after the thread has passed through the threading device to thread the shuttle in full lines. Fig. 2 is a side view of Fig. 1, showing the thread coming from the aperture in the threading device forming the delivery-eye of the shuttle. Fig. 3 is a transverse sectional view through the shuttle and threading device, taken on line X X of Fig. 2. Fig. 4 is a transverse sectional view through the shuttle and threading device, taken on line Y Y of Fig. 2. Fig. 5 is a face view of the sheet-metal blank from which the threading device is formed. Fig. 6 is a rear view of the threading device formed from the blank shown in Fig. 5, and Fig. 7 is an end view of the threading device.

In the drawings, *a* indicates the delivery end of a loom-shuttle; *b*, the end portion of a bobbin in the shuttle; *c*, a weft-thread, and *d* my improved threading device. The shuttle *a* has the oblong cavity *a'*, extending from the usual bobbin-cavity toward the point of the shuttle and from the top of the shuttle downward to

a point slightly below the center line of the shuttle; the notch *a²* in the rear side wall of the cavity *a'*, as shown in Figs. 1 and 3; the groove *a³* in the top of the shuttle, extending from the cavity *a²* toward the point of the shuttle; the depressed portion *a⁴* in the top of the shuttle, shaped to receive the flat body of the threading device *d*; the recess *a⁵* in the side of the shuttle, shaped to receive the delivery-eye arm of the threading device; the transverse hole *a⁶*, extending from the oblong cavity *a'* to the recess *a⁵* on a line with the delivery-eye of the shuttle, as shown in Fig. 4, and the slot *a⁷*, extending from the cavity *a'* to the recess *a⁵* and from the depressed portion *a⁴* to the transverse hole *a⁶*, as shown in broken lines in Figs. 1 and 2. Otherwise the shuttle may have the construction of any of the well-known forms of loom-shuttles.

My improved threading device *d* is formed from the sheet-metal blank shown in Fig. 5 to have the flat body portion *d'*, in the fixed end of which is the screw-hole *d²*. The free end of the body portion extends toward the point of the shuttle and is shaped to have the tension-arm *d⁵* is formed on the rear of the flat body portion *d'* by first bending up the wings *d⁶* *d⁶* at right angles to the arm, then bending the arm downward and upward to form the loop *d⁷*, and then outward to form the upwardly-curved end *d⁸*, as shown in Figs. 3, 6, and 7, and a delivery-eye arm *d⁹* is formed on the front of the flat body portion by bending the arm downward at right angles, as shown in Figs. 4 and 7. This arm has the aperture *d¹⁰* in the end forming the delivery-eye of the shuttle, and the slot *d¹¹*, extending from the aperture downward through the end of the arm, as shown in Figs. 2 and 6.

The threading device *d* is placed on the depressed portion *a⁴* of the shuttle in a position for the tension-arm *d⁵* to extend downward into the cavity *a'*, the curved end *d⁸* entering the notch *a²* in the rear side wall of the cavity, and the delivery-eye arm *d⁹* to extend downward in the recess *a⁵* in the side of the shuttle, and the whole secured by the screw *d¹²* through the screw-hole *d²*, as shown in Fig. 1. With the thread-guide secured in its

operative position, a space e is formed between the free end of the thread-guide and the wall formed by the depressed portion a^4 , a space is formed between the under side of the free end of the thread-guide and the depressed portion a^4 , and a space g is formed between the edge of the delivery-eye arm d^9 and the right-hand edge of the recess a^5 , as shown in Figs. 1 and 2, for the entrance of the weft-thread c .

10 In the operation of my improved threading device for loom-shuttles the thread c is carried by hand through the cavity a' and the groove a^3 , as shown in broken lines in Fig. 1, thus bringing the thread in a position to enter the

15 tension-arm d^5 . The thread is now caught under the rounded corner d^4 of the threading device, which brings it into the space e , then under the point d^3 of the threading device, through the space f , down through the slot d^7

20 in the shuttle and the space g , and up through the slot d^{11} into the aperture d^{10} , forming the delivery-eye of the shuttle when the shuttle is threaded. The thread now comes from the bobbin b through the cavity a' , over the wings

25 $d^6 d^6$ and between the loop d^7 of the tension-arm d^5 , through the transverse hole a^6 in the shuttle, and out through the aperture d^{10} , forming the delivery-eye of the shuttle.

By the use of my improved threading device on loom-shuttles the shuttle is quickly and positively threaded without suction and a more durable and inexpensive threading device is provided than has heretofore been done.

35 Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a loom-shuttle, a threading device formed from sheet metal to have a flat body portion, a tension-arm, and a delivery-eye

arm all formed integral, a shuttle having a depressed portion for the body, a cavity for the tension-arm, and a recess for the delivery-eye arm of the threading device, and means for securing the threading device to the shuttle, as described. 40

2. In a loom-shuttle, a threading device d formed from sheet metal to have the flat body portion d' , the screw-hole d^2 , the pointed end d^3 , the rounded corner d^4 , the tension-arm d^5 having the wings $d^6 d^6$, the loop d^7 , and the curved end d^8 , and the delivery-eye arm d^9 having the aperture d^{10} and the slot d^{11} all formed integral, as described. 45

3. The combination with a loom-shuttle a having the cavity a' , the notch a^2 in the side wall of the cavity, the groove a^3 , the depressed portion a^4 , the recess a^5 , the transverse hole a^6 , and the slot a^7 , of a threading device d having the flat body portion d' , the screw-hole d^2 , the pointed end d^3 , the rounded corner d^4 , the tension-arm d^5 having the wings $d^6 d^6$, the loop d^7 and the curved end d^8 , and the delivery-eye arm d^9 having the aperture d^{10} and the slot d^{11} all formed integral from sheet metal, the shuttle and threading device being shaped to form the space e , the space f , and the space g for the entrance of a weft or filling thread, and means for securing the threading device d to the shuttle a consisting of the screw d^{12} , as described. 50 55 60 65

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 70

ALFRED WHITEHEAD.

Witnesses:

ADA E. HAGERTY,
CHAS. H. LUTHER, Jr.