

No. 861,992.

PATENTED JULY 30, 1907.

W. E. LAUDERBAUGH.

SHAFT KEY.

APPLICATION FILED OCT. 10, 1906.

Fig. 1.

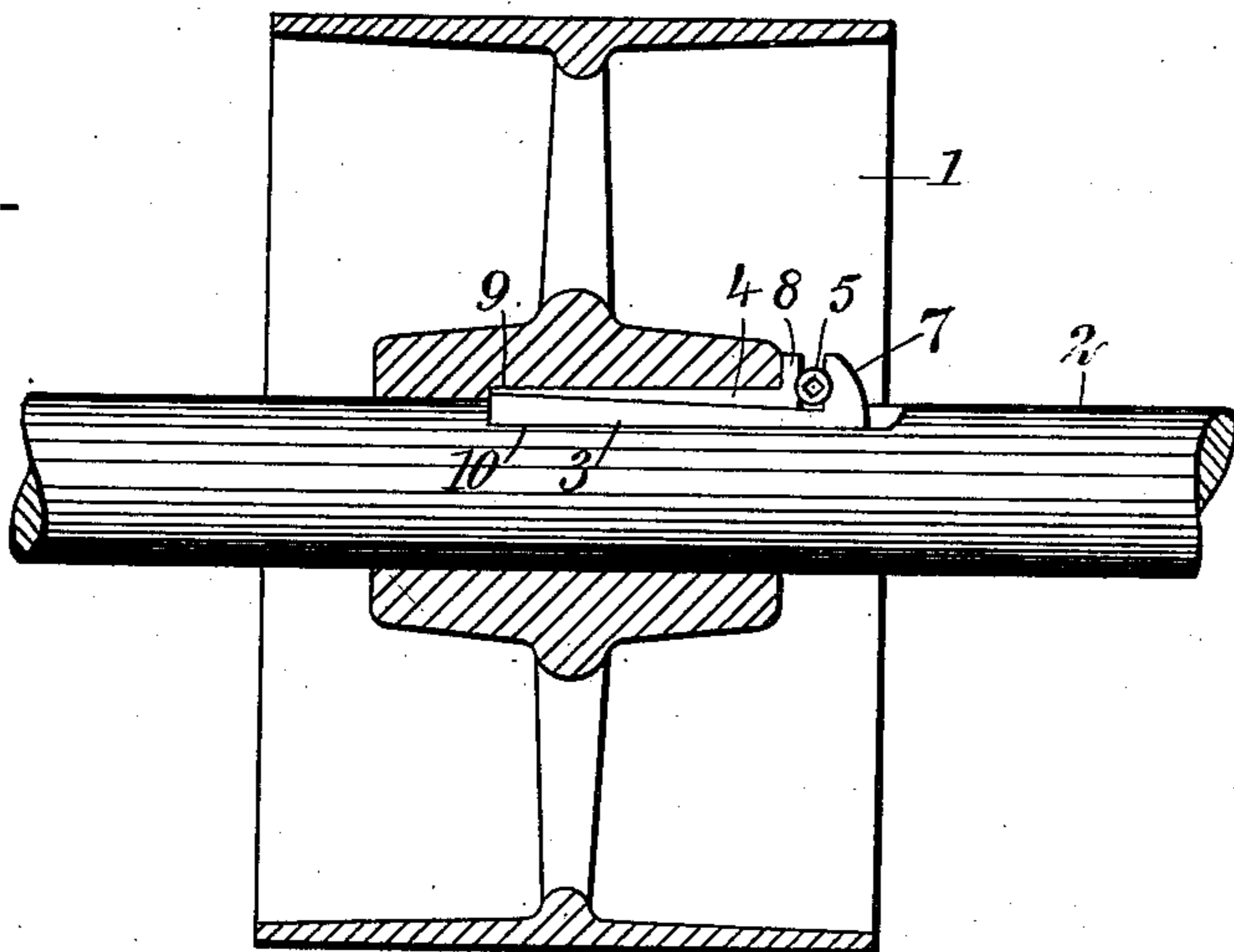


Fig. 2.

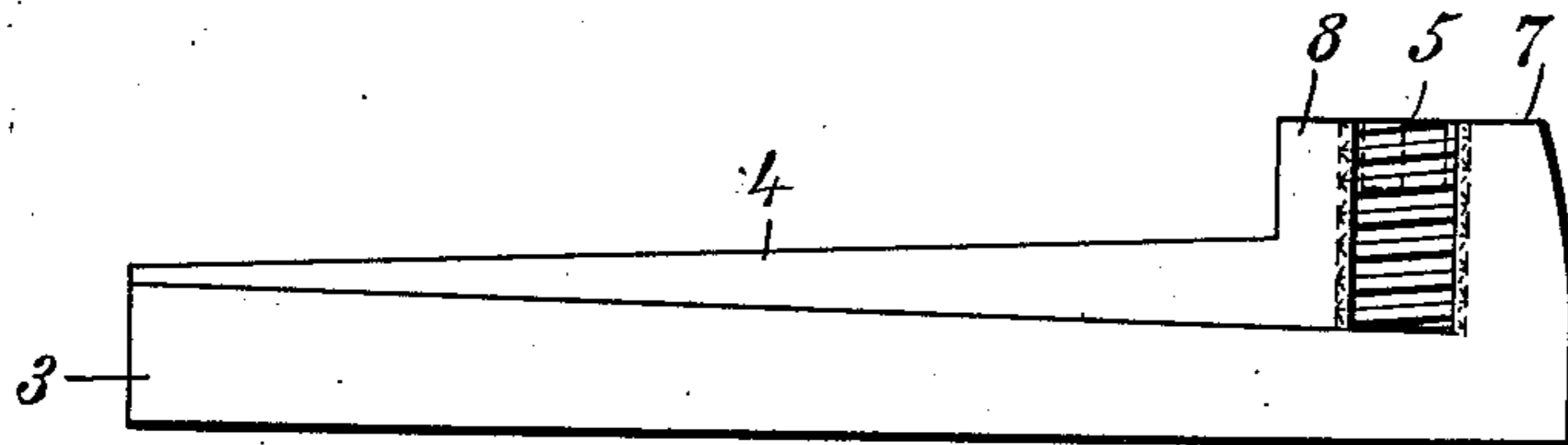


Fig. 3.

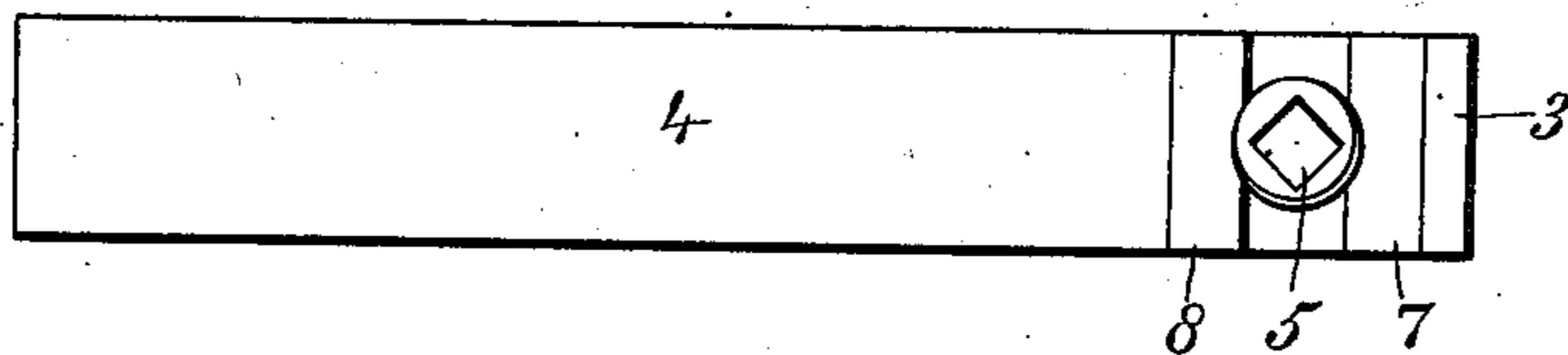


Fig. 4.

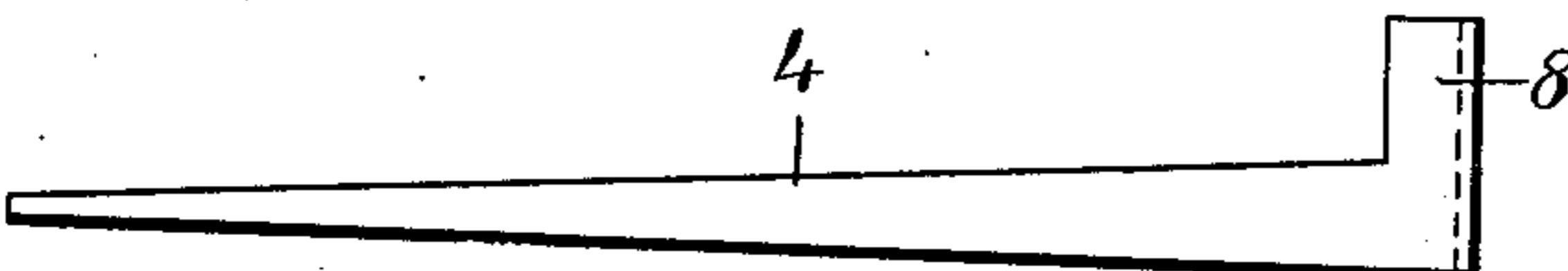


Fig. 5.

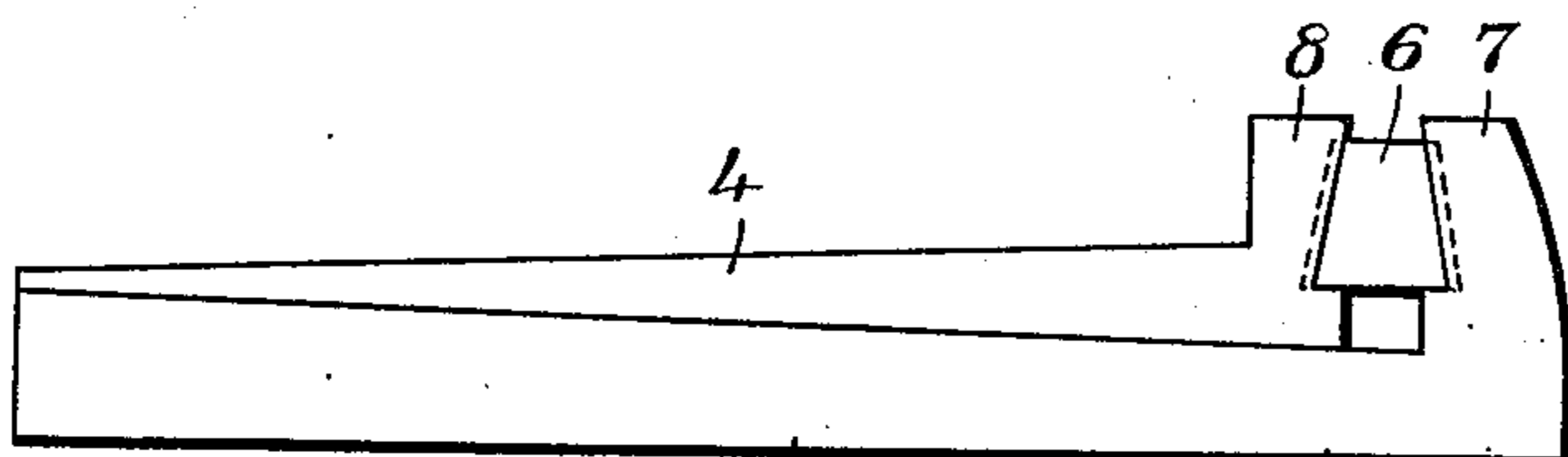


Fig. 6.

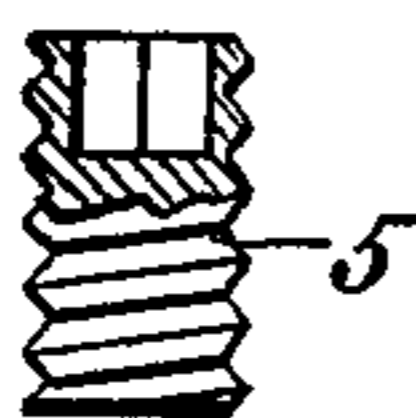
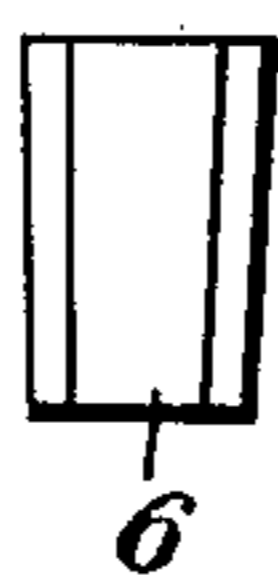


Fig. 7.



WITNESSES
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WILLIAM EDWARD LAUDERBAUGH, OF UTICA, OHIO, ASSIGNOR OF TWO-THIRDS TO HENRY B. WALKER, OF MOUNT VERNON, OHIO, AND LOUIS C. SANDS, OF PITTSBURG, PENNSYLVANIA.

SHAFT-KEY.

No. 861,992.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed October 10, 1906. Serial No. 338,244.

To all whom it may concern:

Be it known that I, WILLIAM EDWARD LAUDERBAUGH, a citizen of the United States, and a resident of Utica, in the county of Licking and State of Ohio, have invented a new and Improved Shaft-Key, of which the following is a full, clear, and exact description.

This invention relates to improvements in keys for securing wheels, cranks, pulleys, and other parts of machinery, to shafts, etc., and the invention consists in providing the main body portion of the key with a reverse taper, that is, instead of tapering from the head end of the key to the point end, it tapers back from the point end towards the head end. A wedge is placed upon the tapered side of the main body of the key and suitable means are provided for holding the key and wedge in a predetermined position. The key as a whole, that is, when assembled ready for use, is slightly larger towards the head end so that it can be driven tight in its seat.

Reference is to be had to the accompanying drawings which form part of this specification, in which drawings like characters of reference indicate corresponding parts throughout the several views, and in which

Figure 1 is a vertical section through a pulley and shaft illustrating the use of my improved key; Fig. 2 is a side elevation of one form of the key; Fig. 3 is a plan view of the form shown in Fig. 2; Fig. 4 is a side elevation of a wedge employed; Fig. 5 is a side elevation of a modified form for the device; Figs. 6 and 7 show two forms of the auxiliary means employed to hold the wedge and key in the desired position.

In Fig. 1, I have illustrated a pulley 1 having a groove 9, and secured to a shaft 2 having a groove 10, by means of my improved shaft key. The key comprises a main body portion 3 having a head 7, and having the upper surface of said body portion inclined toward the head, that is, the thickness of the body portion of the key is less at a point adjacent the head than it is at a point adjacent the opposite end. In connection with this main portion I employ a wedge 4 having a head 8 and being tapered toward the end opposite said head.

In the use of my improved shaft key the wedge 4 is placed on the key body 3, with the head 8 adjacent to the head 7. The key is then driven into place with the head 8 held in its spaced relation to the head 7 in any suitable manner. In Fig. 1 I have illustrated a set screw 5 entering the key from the side and spacing the heads 7 and 8, while in the form illustrated in Figs. 2 and 3 I have illustrated the set screw as being inserted from the upper surface. In the form illustrated in Fig.

5, a dove-tailed wedge 6 is employed and this serves the double purpose of spacing the two heads and also may be employed for forcing them apart. The advantage arising from the employment of my new and improved key consists in the readiness and ease with which it may be removed when desired. To remove the key it is merely necessary to remove the supplemental wedge or set screw, as the case may be, and the wedge 4 may then be loosened by a sharp blow of a light hammer upon the head of key 3. As soon as the key 3 is driven in, the entire key is loosened and may be picked out of the key seat with the hand.

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

1. A shaft key, comprising a main body portion having a head at an angle thereto, the upper surface of said body being inclined toward said head, a second member adapted to rest on the upper surface of said body portion and also having a head at an angle thereto and substantially parallel to the first mentioned head, and means adapted to be inserted between said heads for spacing the same.

2. A shaft key, comprising a main body portion having a head at an angle thereto, the upper surface of said body portion being inclined toward said head, a second member adapted to rest on the upper surface of said body portion and also having a head at an angle thereto, the thickness of said second member being greater adjacent its head and the combined thickness of said body portion and said second member being greater adjacent the heads than at the opposite end thereof, and means adapted to be inserted between the heads for moving one member in respect to the other and spacing said heads.

3. In a device of the class described, a main body portion having a head integral therewith and at an angle thereto, the thickness of said body portion being less adjacent said head than at the opposite end thereof, a second member adapted for engagement with said first mentioned member or body portion and also having a head at an angle thereto, the thickness of said second member being greater adjacent the head than at the opposite end thereof and the combined thickness of the two members being greater adjacent the heads than at the opposite end thereof, and means adapted to be inserted within said heads for moving one of said members in respect to the other and holding the heads in their spaced relation.

4. A device of the class described comprising a shaft having a longitudinal groove therein, a hub surrounding said shaft and having a similar groove, a key for securing said hub to said shaft, said key comprising a main body portion having a head at right angles thereto and the upper portion of said body portion being inclined toward said head, a wedge lying on the inclined surface of said key, said wedge being provided with a head substantially at right angles thereto, and means for spacing said heads.

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

WILLIAM EDWARD LAUDERBAUGH.

Witnesses:

W. C. HOUSER,

HENRY B. WALKER.