

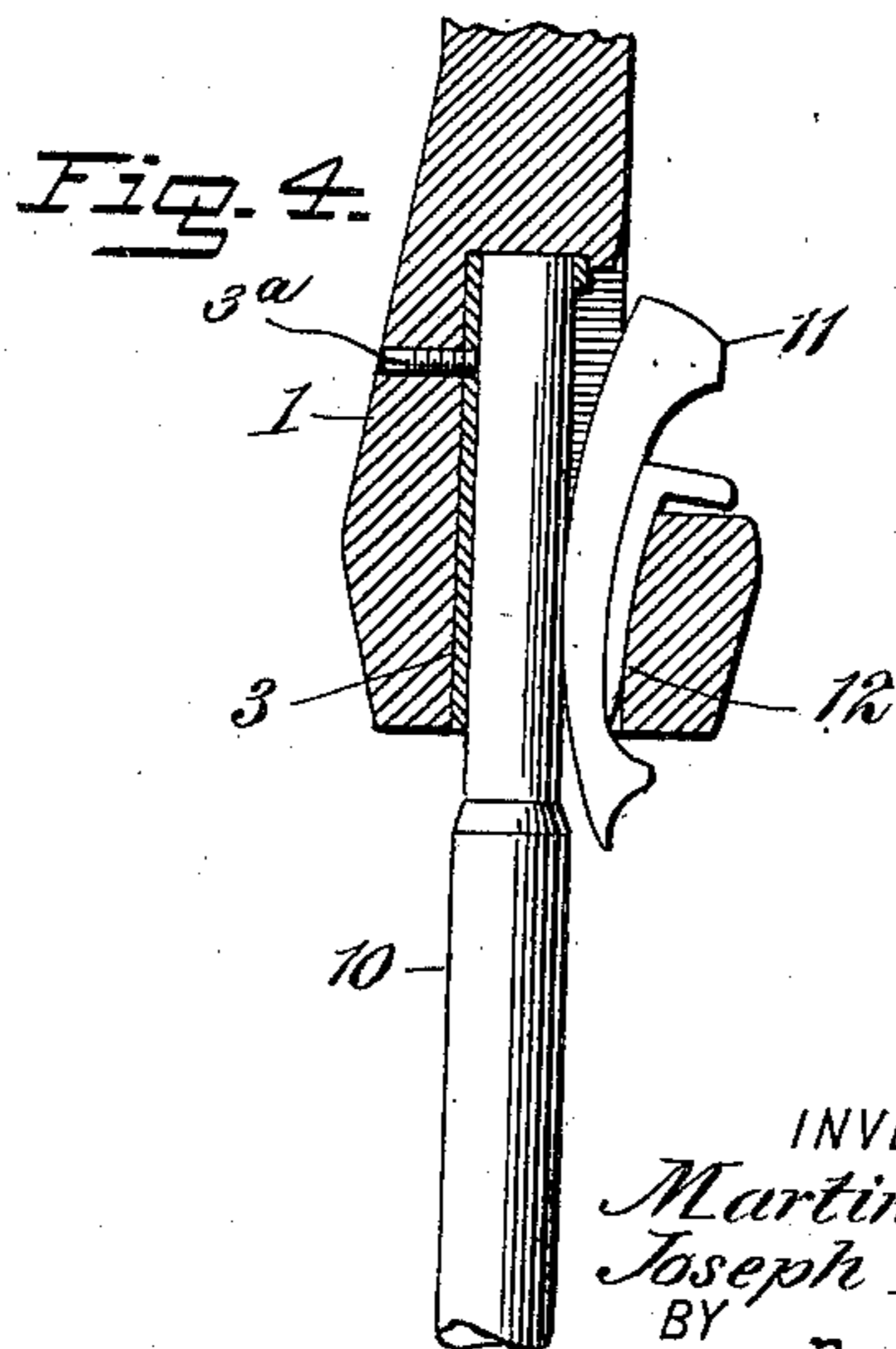
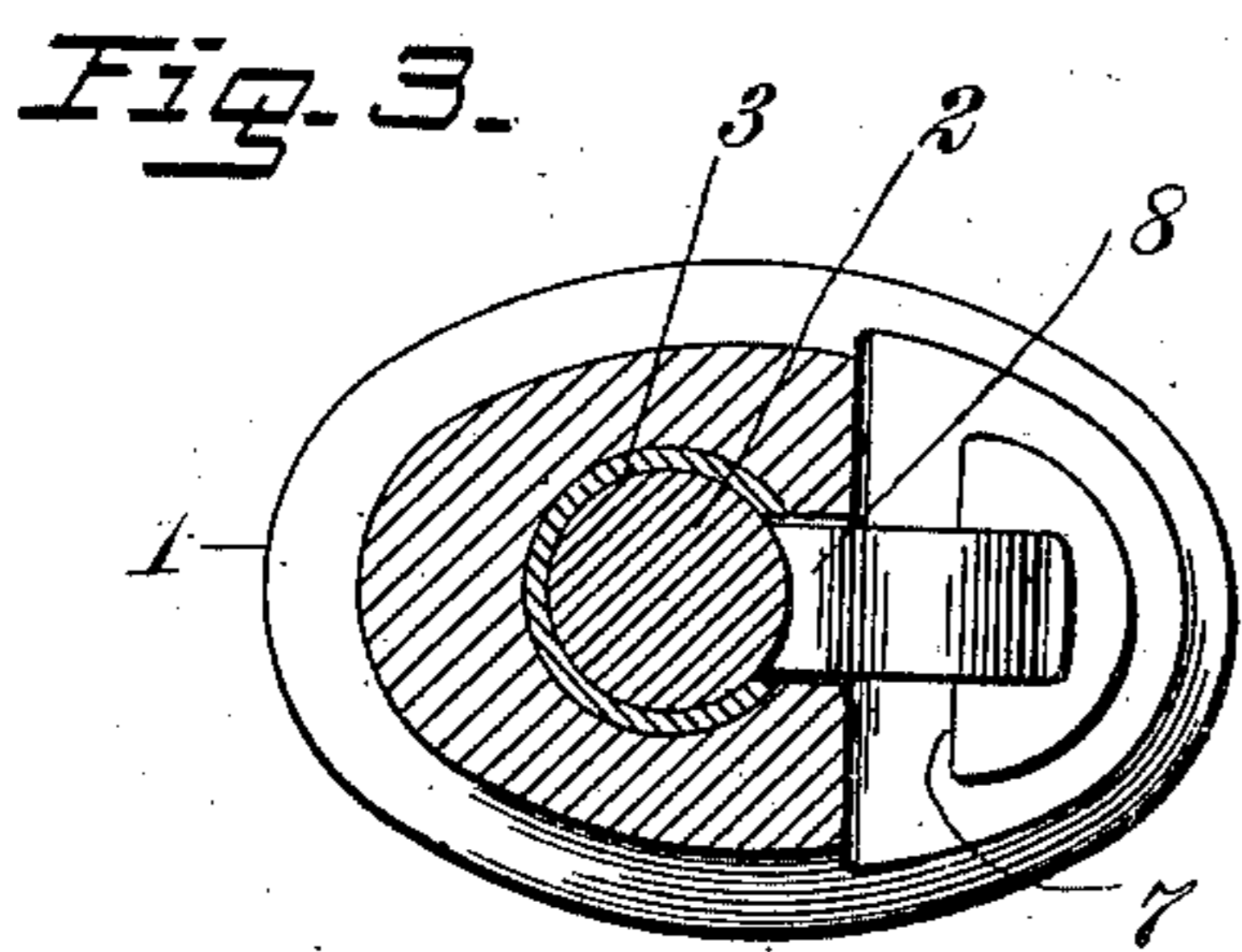
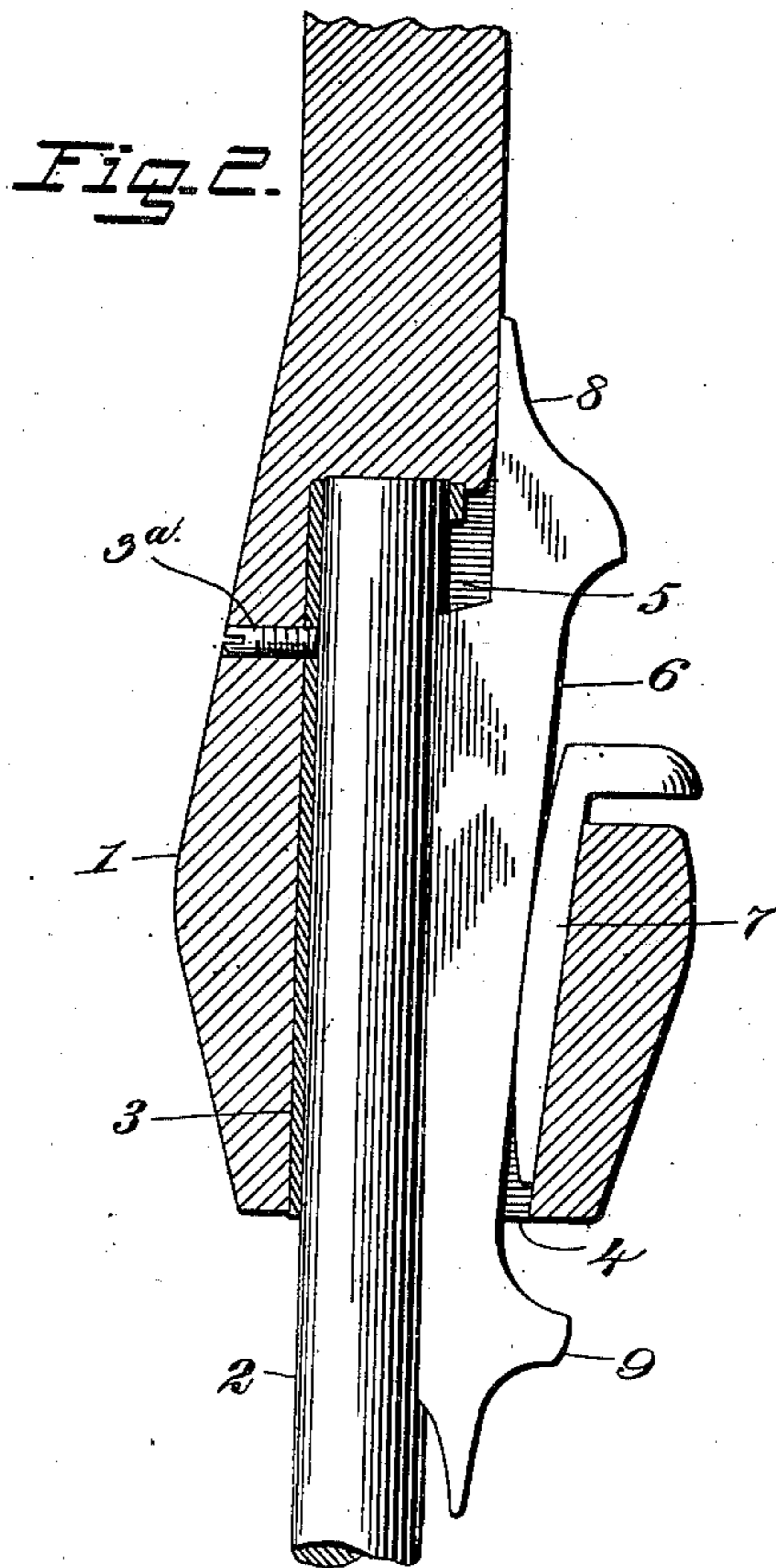
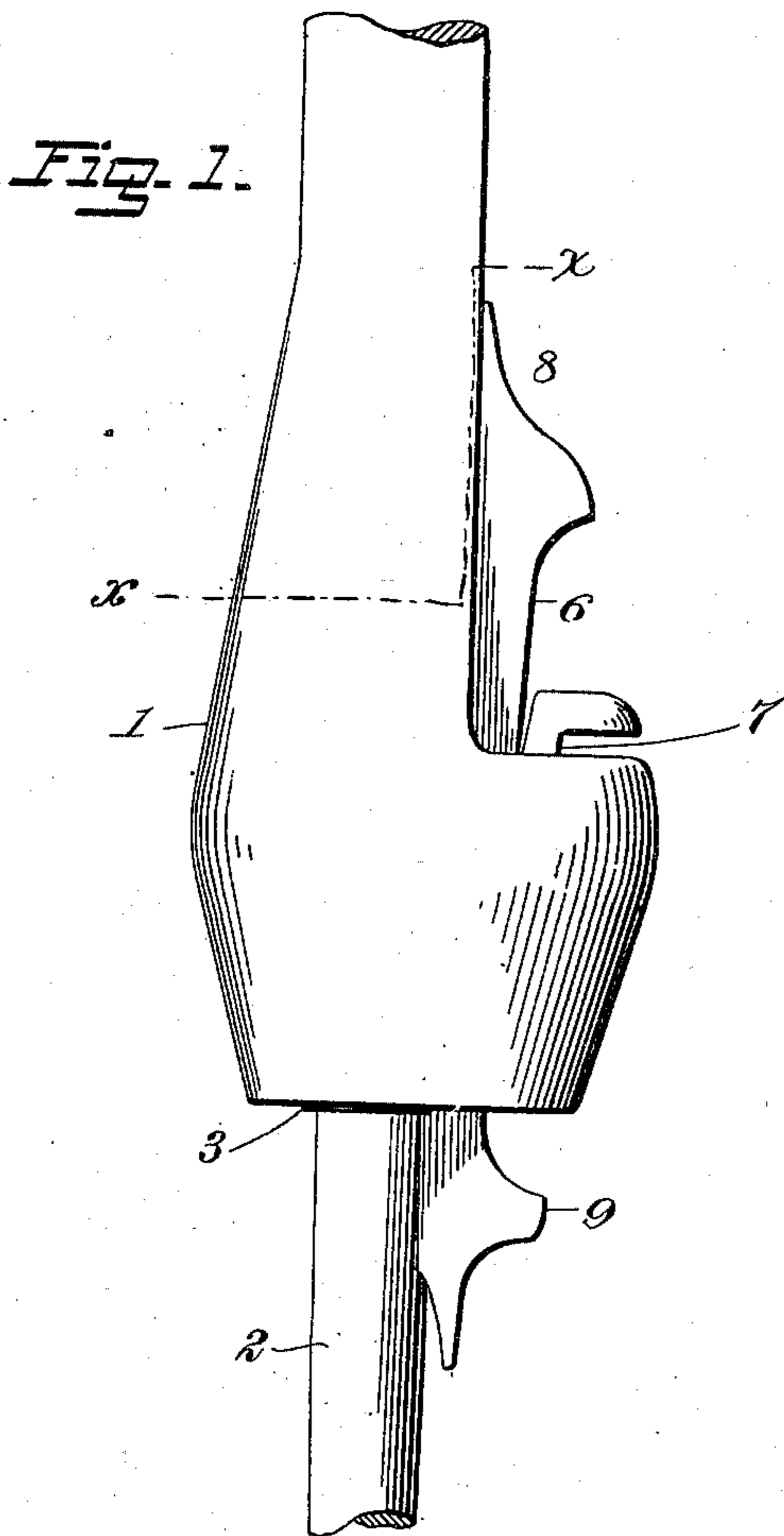
No. 731,383.

PATENTED JUNE 16, 1903.

M. McHALE & J. TRAINER.
CLUTCH.

APPLICATION FILED JULY 16, 1902.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MARTIN McHALE, OF PHOENIX, AND JOSEPH TRAINNER, OF EHOLT, CANADA.

CLUTCH.

SPECIFICATION forming part of Letters Patent No. 731,383, dated June 16, 1903.

Application filed July 16, 1902. Serial No. 115,803. (No model.)

To all whom it may concern:

Be it known that we, MARTIN McHALE, a resident of Phoenix, and JOSEPH TRAINNER, a resident of Eholt, in the Province of British Columbia and Dominion of Canada, both citizens of the United States, have invented a new and Improved Clutch, of which the following is a full, clear, and exact description.

This invention relates to improvements in clutches, the object being to provide a clutch of simple construction and adapted for use for various purposes—such, for instance, as a drill-chuck or for locking together two members of a tripod-leg.

We will describe a clutch embodying our invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a clutch embodying our invention. Fig. 2 is a longitudinal section thereof. Fig. 3 is a section on the line *x x* of Fig. 1, and Fig. 4 is a section showing a slight modification.

Referring to the drawings, 1 designates a socket member adapted to receive a part 2 to be clamped, which in this instance may be a rock-drill. The socket member is provided with a longitudinal bore in which is a metal lining 3, this metal lining at one side having a longitudinal slot, and on this side the bore in the socket member is enlarged at its lower portion, as at 4, and above this enlarged portion there is an outward opening 5. One wall of the enlarged opening 4 is slightly tapered, as clearly shown in Fig. 2. The lining is held in place by means of a screw 3^a.

The clutching device consists of a longitudinally-tapered key 6, which has its engaging surface concaved or conformed to the shape of the part to be held. Engaging with the external wall of the enlarged opening 4 and with the key 6 is a gib 7. This gib is longitudinally tapered and on its side engaging with the key is longitudinally curved. The key 6 of course passes through the slot formed in the lining 3 and engages with the part to be held. At its upper end the key has a projection 8, which bears against the

outer surface of the socket member, so as to prevent any possible tilting or rocking of the key.

In operation after inserting the part to be held—such, for instance, as a drill, as before mentioned—the key is to be slid down and then the gib is inserted and forced in with a hammer or the like, it being provided at its upper end with a head upon which the hammer may strike, and this head will also prevent the gib moving through the socket member. At its end 8 the key 6 has an outward projection or shoulder against which hammer-blows may strike when forcing the key into its clutching position, and on its opposite end the key has an outward projection 9, that may be struck with a hammer to loosen the clutch-key.

In Fig. 4 the device is designed particularly for securing together the two members of a tripod-leg, the lower member of which is indicated at 10. The socket member 1 is similar in all respects to that first described; but in this modification the key 11 is longitudinally curved on both its outer and inner sides, and the gib 12 is also longitudinally curved.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A clutch comprising a socket member having a longitudinal bore, enlarged at the lower part, an outward opening from said bore, above the enlarged portion, a longitudinally-tapered key having an end projection engaging against the upper surface of the socket member, and a gib for forcing the key against the part to be held.

2. A clutch comprising a socket-section having a longitudinal bore enlarged at its lower portion and having an outward opening above said enlarged portion, a metal lining in the bore having a slot at one side, a longitudinally-tapered key adapted to engage in said slot and against the part to be held on the clutch, said key having an outward projection at its lower end, and a gib longitudinally curved.

3. A clutch comprising a socket member having a longitudinal bore enlarged at its lower portion and having an outward open-

ing above said enlarged portion, a metal lining secured in the bore and having a slot at one side, a tapered key adapted to pass into the said slot, the said key having its engaging surface conformed to the contour of the
5 part to be clutched, and a tapered gib for forcing the key against the part to be clutched.

In testimony whereof we have signed our

names to this specification in the presence of two subscribing witnesses.

MARTIN MCHALE.
JOSEPH TRAINNER.

Witnesses:

ARTHUR AIKMAN,
JAMES MOORE.