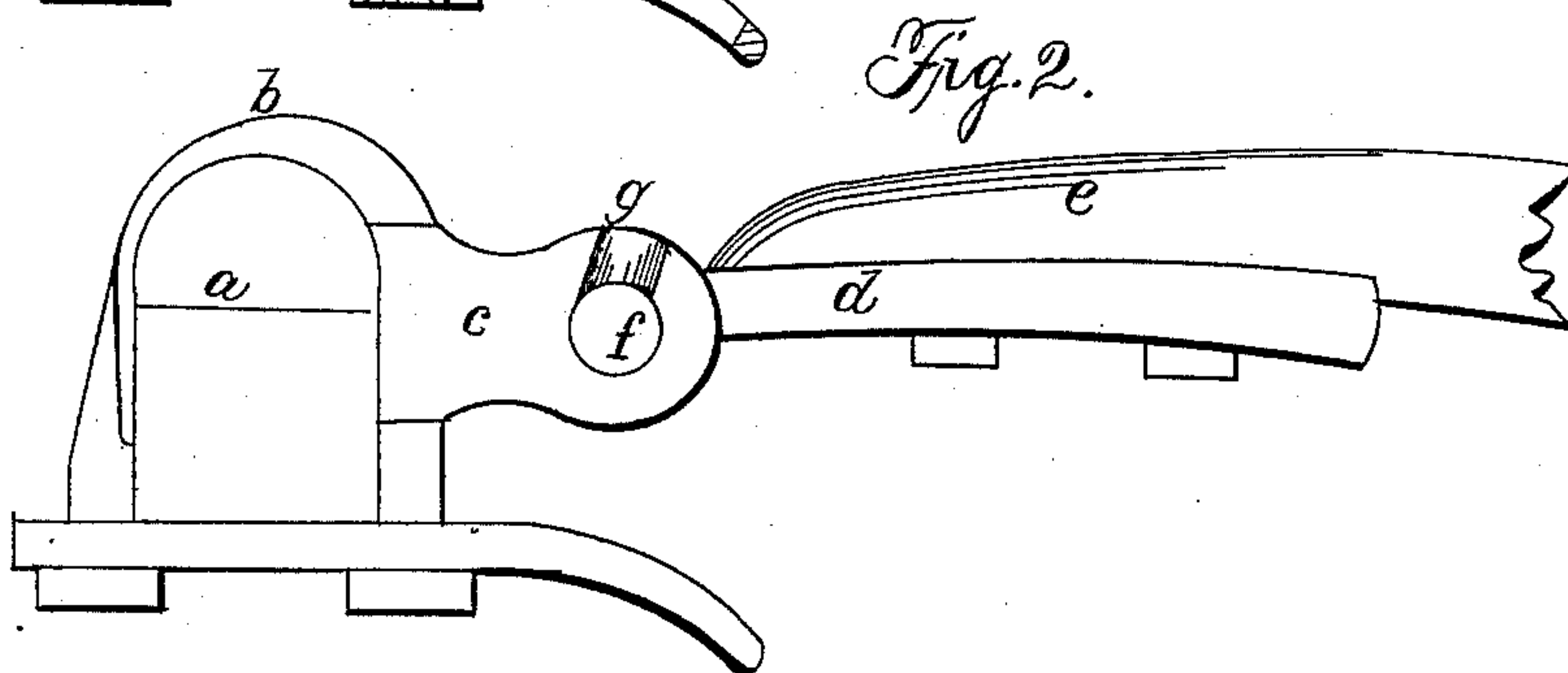
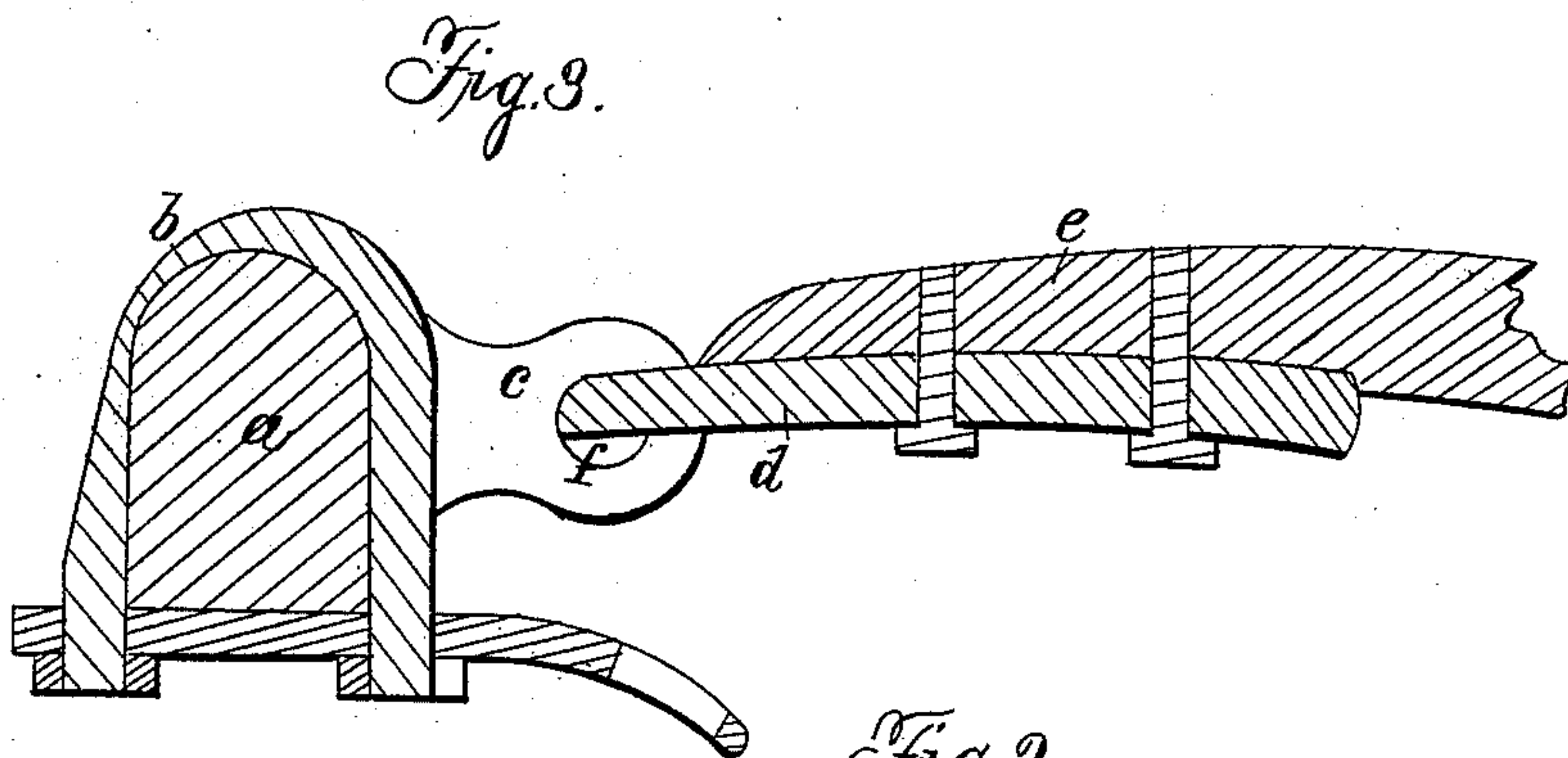
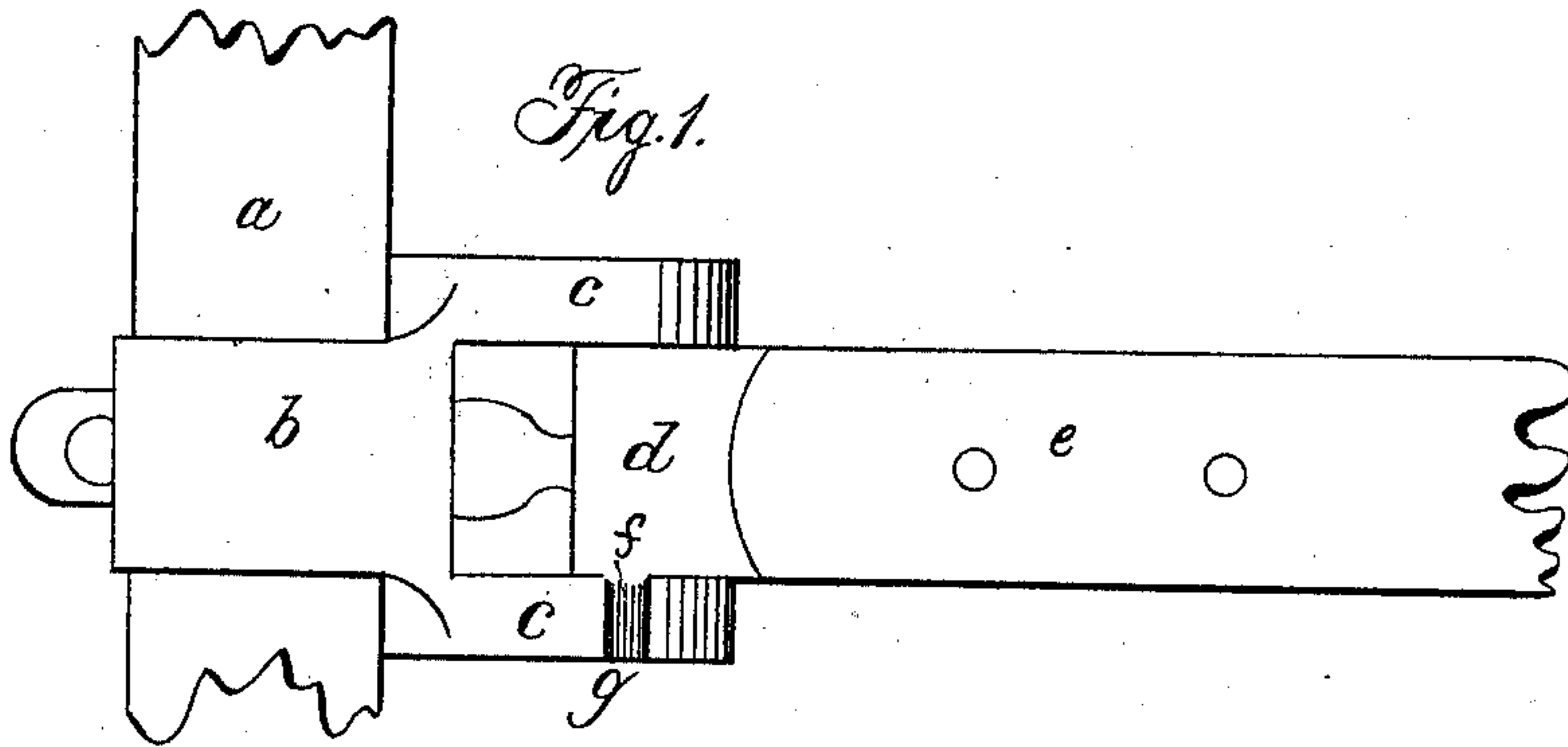


A. E. SMITH.

Thill-Coupling.

No. 16,294.

Patented Dec. 23, 1856.



Witnesses;
W. H. Brown
Joel Wilson

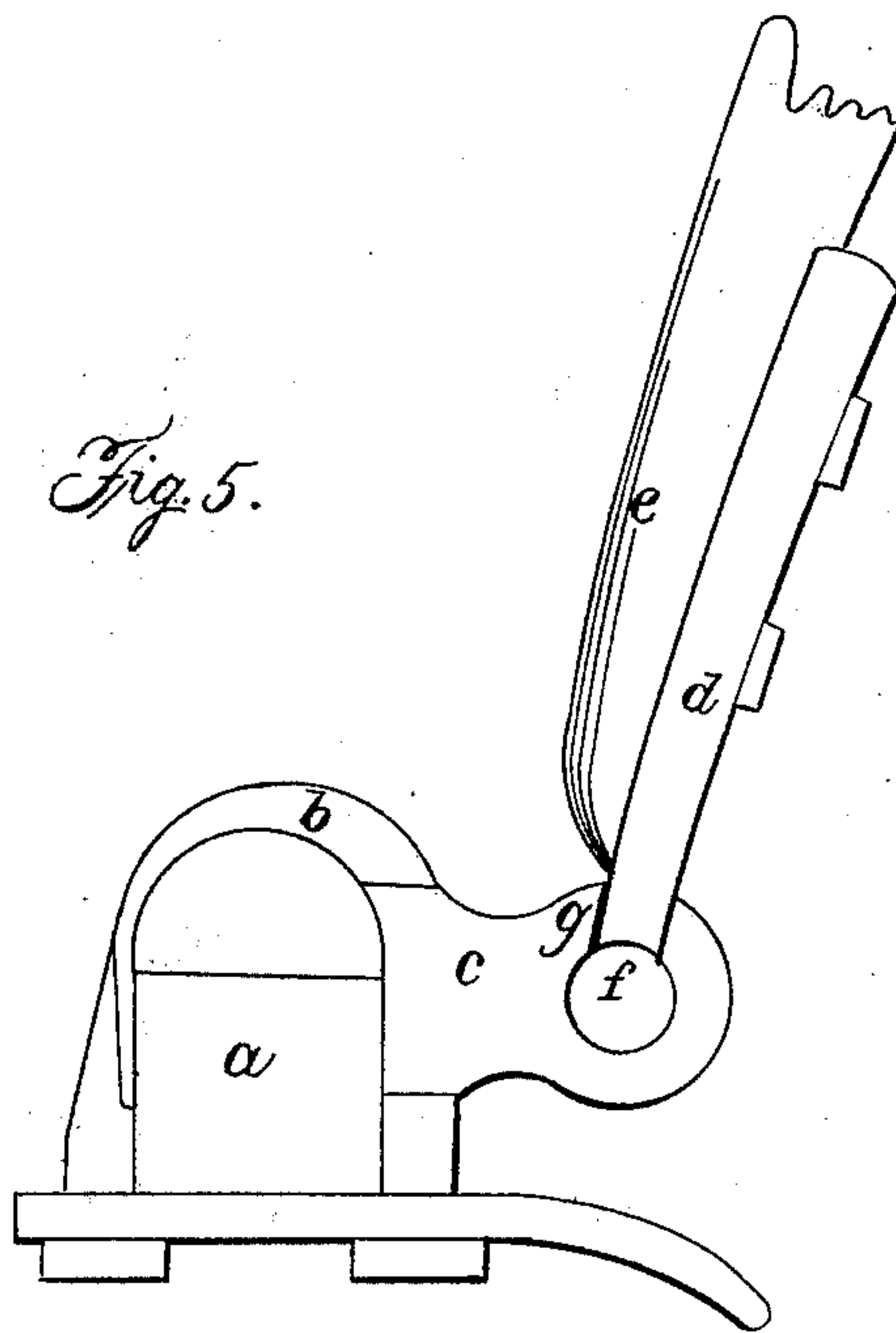
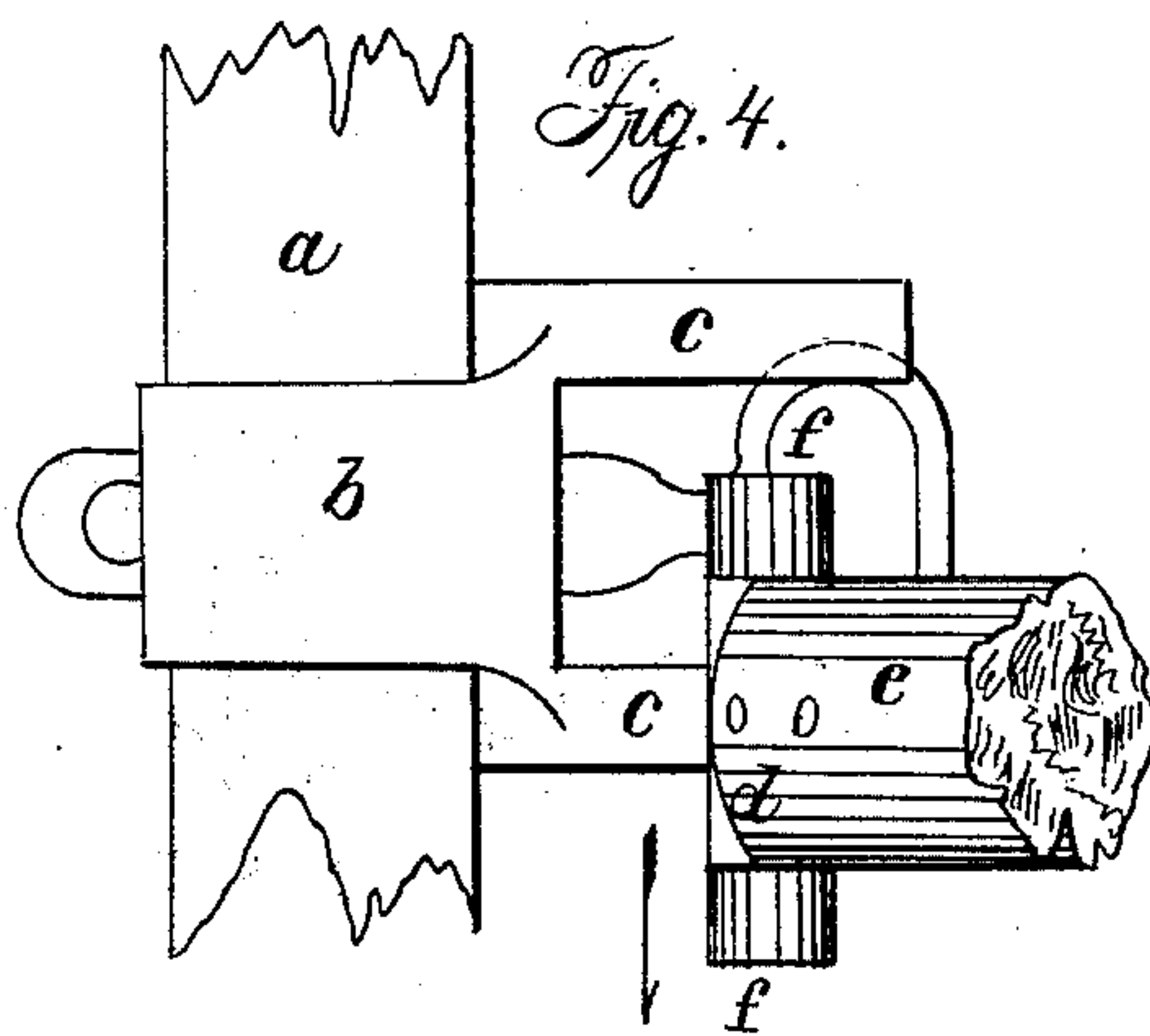
Inventor;
Alfred E. Smith

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Witnesses:

Wm. H. Brown.
Geo. Wilson.

Inventor;

Alexander E. Smith

UNITED STATES PATENT OFFICE.

ALFRED E. SMITH, OF BRONXVILLE, NEW YORK.

MODE OF CONNECTING SHAFTS WITH THE AXLE-TREE.

Specification of Letters Patent No. 16,294, dated December 23, 1856.

To all whom it may concern:

Be it known that I, ALFRED E. SMITH, of Bronxville, West Chester county, in the State of New York, have invented a new and useful Improvement in the Manner of Connecting the Thills or Shafts of One-Horse Carriages with the Axletree; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of the parts in place; Fig. 2 is a side elevation; Fig. 3 a longitudinal vertical section thereof; and Figs. 4 and 5 represent a plan and elevation with the parts in the process of being disconnected.

The same letters indicate like parts in all the figures.

The usual manner of connecting the thills of a carriage with the axle tree is by means of a screw bolt which passes through holes in two ears projecting from a strap or band of iron passing around the axle, and through a hole in a plate of iron attached to the rear end of each thill and fitted between the two ears, the bolt being held in place by a screw nut. There are two serious objections to this mode of attachment; one is that the nuts are very liable to unscrew and the bolts to shake out and liberate the thills, thereby causing serious accidents. And the other is the inconvenience of disconnecting and reconnecting the thills.

The object of my invention is to avoid both of the inconveniences above pointed out. And to these ends my invention consists in combining each of the thills with the metal ears on the axle by means of a journal on each side of the plate of iron on the rear end of the thill, the said journals being fitted to holes in the ears, and one of the ears being provided with a slot made through the top of one of the ears and of less width than the diameter of the journal fitted to the hole in the said ear, but wider than the thickness of the metal plate just around its journals, so that when the thill is lifted up to a nearly vertical position the plate can slide in the slot of the ear to allow the whole to be moved laterally to draw the journals out of the holes in the ears. In this way the

thills can be disconnected by simply lifting them up and sliding them laterally, notwithstanding they cannot be disconnected when in the required position to draw the carriage.

The accompanying drawings represent but one of the thills and its connection with the axle tree, the two being alike, and in the said drawings (a) represents a portion of the axle tree to which is secured, in the usual manner, an iron band (b) provided with two ears (c, c) projecting in front, and at a sufficient distance apart to receive between them an iron plate (d) secured in the usual manner to the under side of the wooden thill (e). From the sides of this plate project two journals (f, f) of greater diameter than the thickness of the plate, and fitted to turn in suitable holes in the two ears (c, c), so that they can turn therein freely, but without too much play. A slot (g), of less width than the diameter of the journals and slightly greater than the thickness of the plate (d) is cut entirely through the upper part of one of the ears, so that when the thill is thrown up in the position represented in Figs. 4 and 5, that is, nearly vertical, the plate (d) will be brought directly in a line with the slot (g) so that it can be carried laterally through the slot to draw the journals out of the holes in the ears and thus disconnect the thills from the axle-tree; but as the slot is not so wide as the diameter of the journals, when the thills are in the position required for drawing the carriage, as represented in Figs. 1, 2 and 3, they cannot be disconnected from the axle-tree. In this way the thills of a carriage can be connected and disconnected without the use of a screw, wrench or other tool, and with greater facility and expedition than by any other known mode, and yet when in use there is no possibility of disconnecting them without breaking the parts, which can be readily made of a strength sufficient to resist any shock to which a carriage may be subjected.

What I claim as my invention and desire to secure by Letters Patent is—

The manner, substantially as herein described, of connecting the thills or shafts of a carriage with the axle-tree by means of journals on the plate attached to each of

the thills, one of the said journals being of greater diameter than the thickness of the plate from which it projects, and the said journals being fitted to holes in the ears, one
5 of which ears is provided with a slot of less width than the diameter of the journal fitted to its hole and large enough to allow the

plate to slide in it freely, for the purpose and in the manner described.

ALFRED E. SMITH.

Witnesses:

WM. H. BISHOP,

PETER T. MARSERES.