

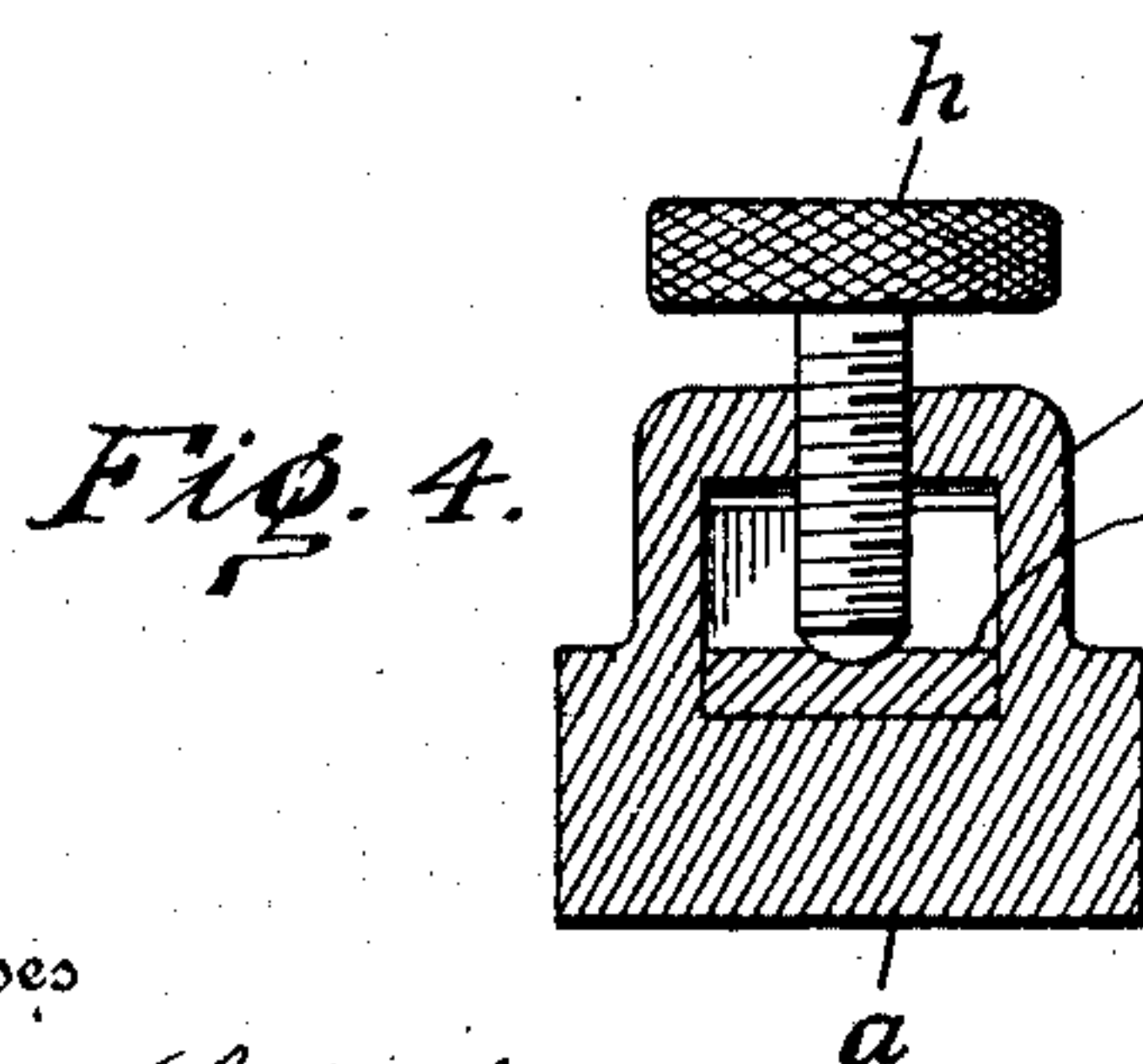
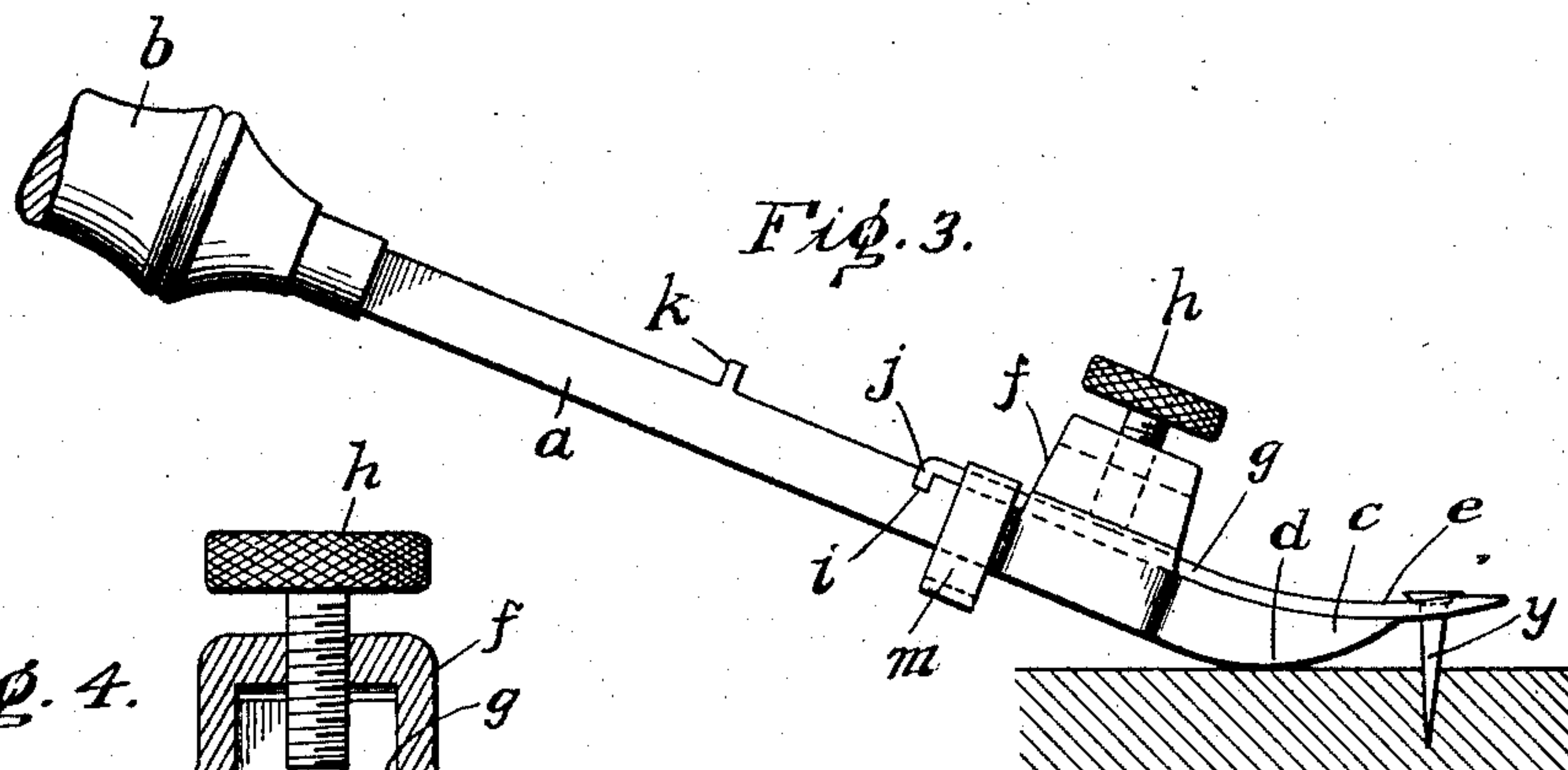
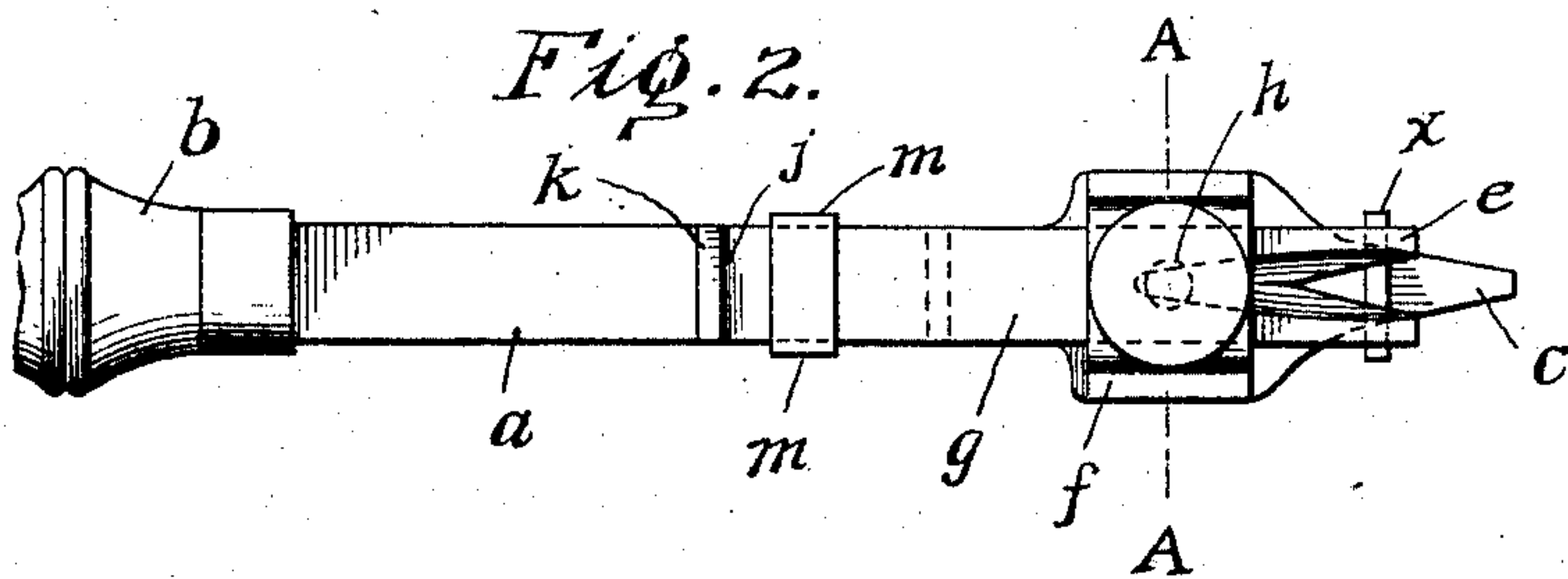
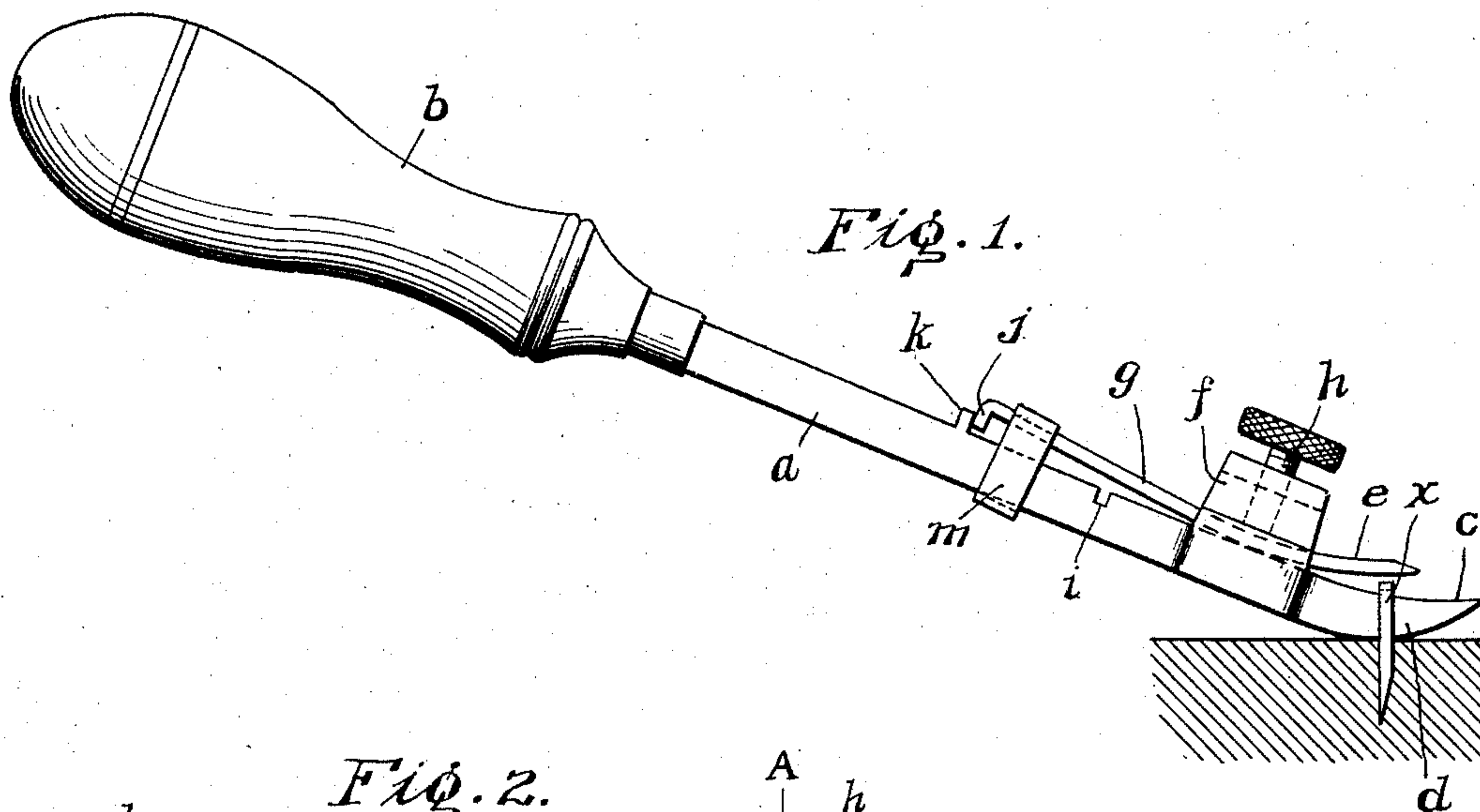
No. 864,223.

PATENTED AUG. 27, 1907.

H. J. BEHR.

COMBINED TACK AND STAPLE EXTRACTING TOOL.

APPLICATION FILED JAN. 9, 1907.



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# UNITED STATES PATENT OFFICE.

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## COMBINED TACK AND STAPLE EXTRACTING TOOL.

No. 864,223.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed January 9, 1907. Serial No. 351,401.

To all whom it may concern:

Be it known that I, HENRY J. BEHR, of the city and county of Philadelphia, State of Pennsylvania, have invented an Improvement in a Combined Tack and Staple Extracting Tool, of which the following is a specification.

It is the object of my invention to provide a single instrument or tool adapted for extracting either tacks or staples.

Staples, being of hoop shape, require a pointed instrument for their extraction, while headed tacks require a forked or bifurcated tool.

In carrying out my invention, I employ a shank which may be provided with a suitable handle and carries a pointed staple extractor and forked tack extractor, one of said extractors being integral with the shank and carrying the fulcrum, and the other extractor being movable longitudinally on the shank and adapted to be projected and retracted beyond the extremity of the other extractor and to be secured in either position. The tool thus becomes either a staple extractor or a tack extractor according to which extracting point is at the end.

The construction employed by me is such that the movable member when clamped in position is so securely held that it is practically as strong for the purpose intended as if it were integral with the shank.

In the preferred embodiment of my invention I make the staple extracting point the fixed extractor which carries the common fulcrum, and the forked tack extractor the movable part. A special advantage results from this in that the tack extractor, when retracted, may act as a guard for the head of the staple, and insure the staples being pulled straight up.

In the drawings: Figure 1 is a side elevation of the preferred form of the tool in use as a staple extractor; Fig. 2 is a plan view of the same; Fig. 3 is a side elevation similar to Fig. 1 but showing the tool adjusted for use as a tack extractor; and Fig. 4 is a transverse vertical section, enlarged, on the line A—A of Fig. 2.

*a* is the tool shank provided with a suitable handle *b*. The shank terminates in a tapered upturned point *c* which constitutes a staple extractor and has a curved under surface forming a fulcrum. The tapered upturned point *c* is adapted to be forced under the head of the staple *x*, and the fulcrum afforded by the curved under surface *d*, as illustrated in Fig. 1, will enable the staple to be extracted with ease in the usual manner.

*e* is a tack extractor having the usual forked or bifurcated end to engage the tack *y*. This also has its under surface curved upwardly at its end, and, when in position for use as a tack extractor may fit upon the upper surface of the staple extracting point *c* as shown in Fig. 3.

The tack extractor is arranged above the shank *b*, and is adapted to be shifted, longitudinally, to project be-

yond the extracting point *c*, when in use as a tack extractor, as shown in Fig. 3, or to be retracted, as shown in Figs. 1 and 2 when the point *c* is in use for extracting staples.

Suitable means must be employed for guiding the member *e* and securing it in projected or retracted position. For this purpose I have shown the shank *a* provided with a yoke *f*, in which the shank *g* of the member *e* is guided, and a clamping screw *h* carried by the yoke and adapted to clamp the member *e* in either adjusted position, as shown in Fig. 1 and Fig. 3.

When the member *e* is projected for use as a tack extractor its forked or bifurcated end should project beyond the end of the point *c*, and to insure the position being accurately obtained with facility, I provide the upper face of the shank *a* with a notch *i* adapted to engage a rib *j* on the member *e*, when the member is projected as shown in Fig. 3. In this position the notch *i* is engaged by rib *j* with the forked end of the member *e* projecting beyond the end of the point *c*. The member *e* is then secured in this position by the clamping screw *h* and is available as a tack extractor. The curved under surface *d* of the point *c* then acts as the fulcrum and as the curved under face of the member *e* fits upon the upper curved face of the point *c* the parts are practically as firm as a unitary tack extractor.

When the tool is to be used for extracting staples, the member *e* is retracted and is clamped in retracted position by the screw *h*.

Some difficulty is experienced in extracting staples with the ordinary extracting point, such as *c*, owing to the liability of the tool twisting in the hand and not maintaining the head of the staple straight so that the two prongs are pulled up straight. To overcome this difficulty, I propose to employ the tack extractor as a guard for the staple extractor point *c*. Owing to the curvature of the point *c* and member *e*, it is obvious that when the member *e* is retracted it will assume a position above the point *c*, and if it is maintained in proper position, as shown in Fig. 2, the tack extractor will act as a guard above the staple extracting point *c*. The head of the staple will lie between the point *c* and the extractor *e* and the twisting or turning of the tool with reference to the head and prongs of the staple will be prevented.

To insure the extractor member *e* assuming this position when it is retracted I provide a stop or rib *k* on the shank *a* to limit the extent of retraction of the member *e*.

To guide the member *e* in its movements I have shown guide pieces *m* on the member *e* embracing the shank *a*.

I claim:

1. A combined tack and staple extracting tool consisting of a shank carrying a pointed member and a bifurcated member, one of said members being fixed to the

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shank, and the other movable longitudinally with reference thereto and adapted to be projected beyond the end of said fixed member and retracted within said end so as to present either member clear for action, and means to secure said movable member in either projected or retracted position.

2. A combined tack and staple extracting tool consisting of a shank having a curved under surface forming a fulcrum carrying a pointed member, and a bifurcated member, one of said members being fixed to the shank, and the other movable longitudinally with reference thereto and adapted to be projected beyond the end of said fixed member and retracted within said fixed end so as to present either member clear for action, and means to secure said movable member in either projected or retracted position.

3. A combined tack and staple extractor consisting of a shank having a curved under surface forming a fulcrum and terminating in an extracting point, a tack extracting member movable longitudinally on said shank and adapted to be projected beyond the end of said extracting point and retracted within said end so as to present either the extracting point or tack extractor clear for action, and means to secure said movable tack extracting member in projected or retracted position.

4. A combined tack and staple extracting tool consisting of a shank carrying a pointed member and a bifurcated member, one of said members being fixed to the shank, and the other movable longitudinally with reference thereto and adapted to be projected beyond the end of said fixed member and retracted within said end so as to present either member clear for action, means to secure said movable member in either projected or retracted position, and means to limit the extent of projection of said movable member.

5. A combined tack and staple extracting tool consisting of a shank carrying a pointed member and a bifurcated member, one of said members being fixed to the shank, and the other movable longitudinally with reference thereto and adapted to be projected beyond the end of said

fixed member and retracted within said end so as to present either member clear for action, means to secure said movable member in either projected or retracted position, and means to limit the extent of retraction of said movable member.

6. A combined tack and staple extracting tool consisting of a shank carrying a pointed member and a bifurcated member, one of said members being fixed to the shank, and the other movable longitudinally with reference thereto and adapted to be projected beyond the end of said fixed member and retracted within said end so as to present either member clear for action, means to secure said movable member in either projected or retracted position, and means to limit the extent of movement of said movable member in either direction.

7. A combined tack and staple extracting tool consisting of a shank terminating in a staple extracting point, a movable tack extractor guided on said shank and having an upwardly curved end, said end assuming a position elevated above the extracting point when said tack extractor is retracted and acting as a guard for the head of the staple, and means to clamp the tack extractor in said retracted position.

8. A combined tack and staple extracting tool consisting of a shank terminating in a staple extracting point, a movable tack extractor guided on said shank and having an upwardly curved end, said end assuming a position elevated above the extracting point when said tack extractor is retracted and acting as a guard for the head of the staple, a stop to limit the retraction of the tack extractor to cause its end to assume said guarding position, and means to clamp the tack extractor in said retracted position.

In testimony of which invention, I have hereunto set my hand.

HENRY J. BEHR.

Witnesses:

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