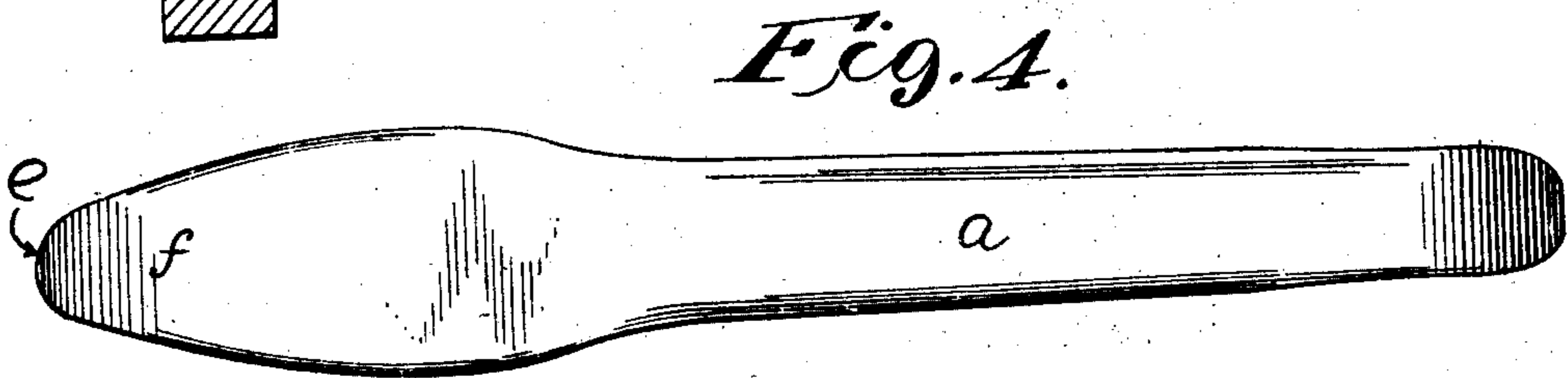
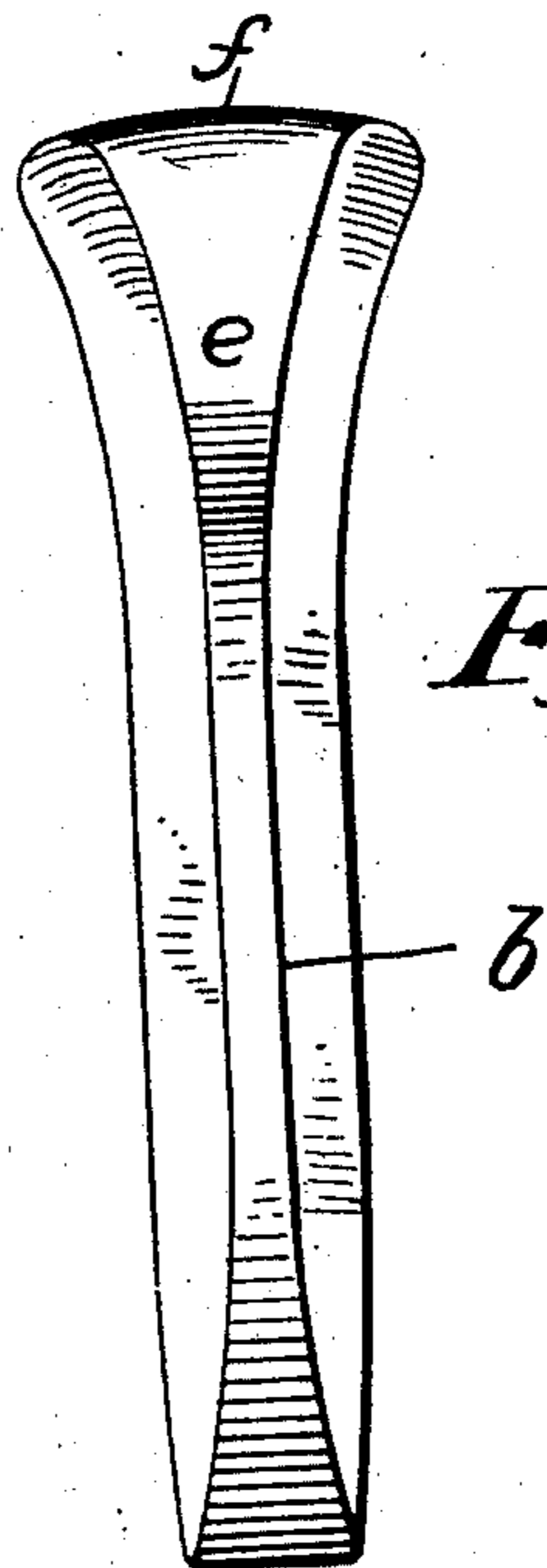
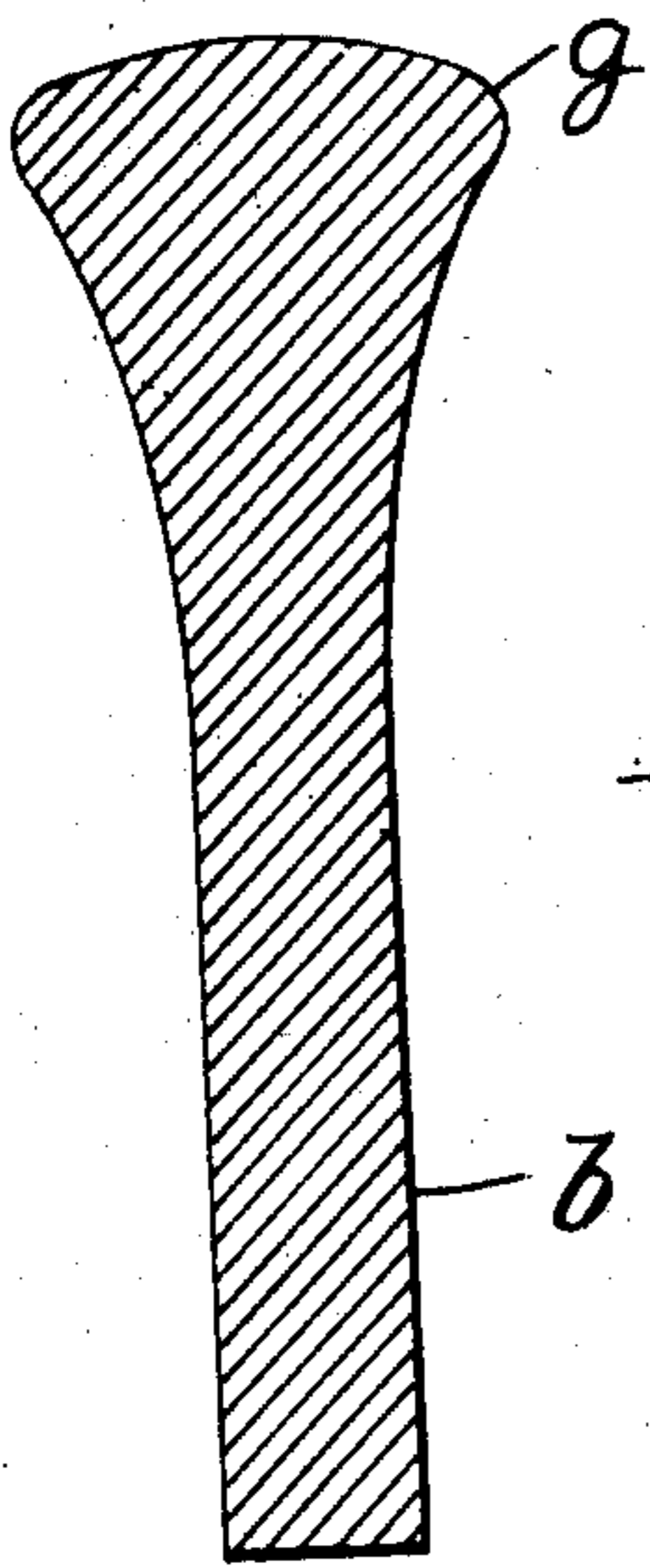
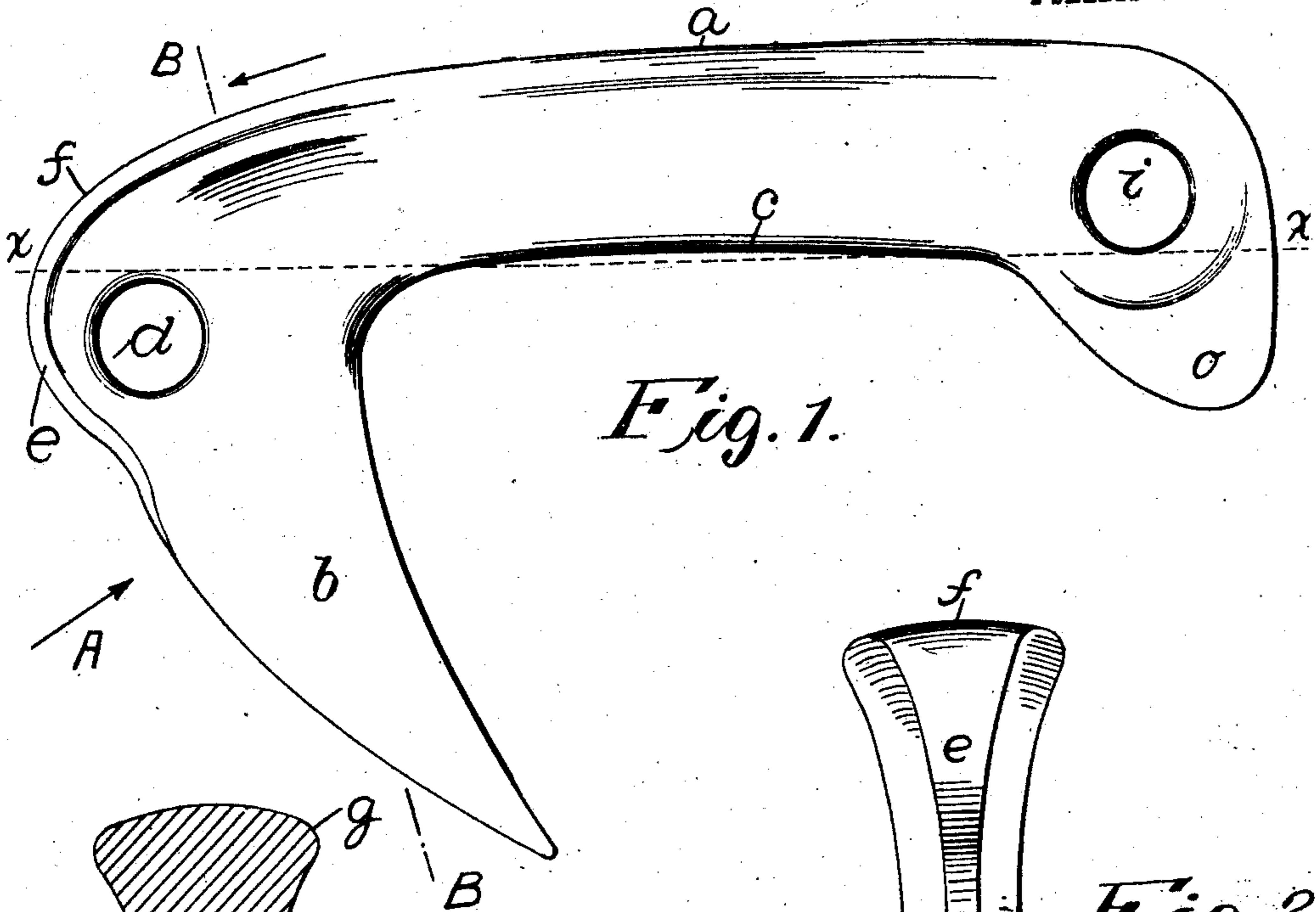


D. W. MURPHY.
LOG GRAB.
APPLICATION FILED JULY 11, 1908.

Patented Oct. 13, 1908.

2 SHEETS—SHEET 1.

901,304.



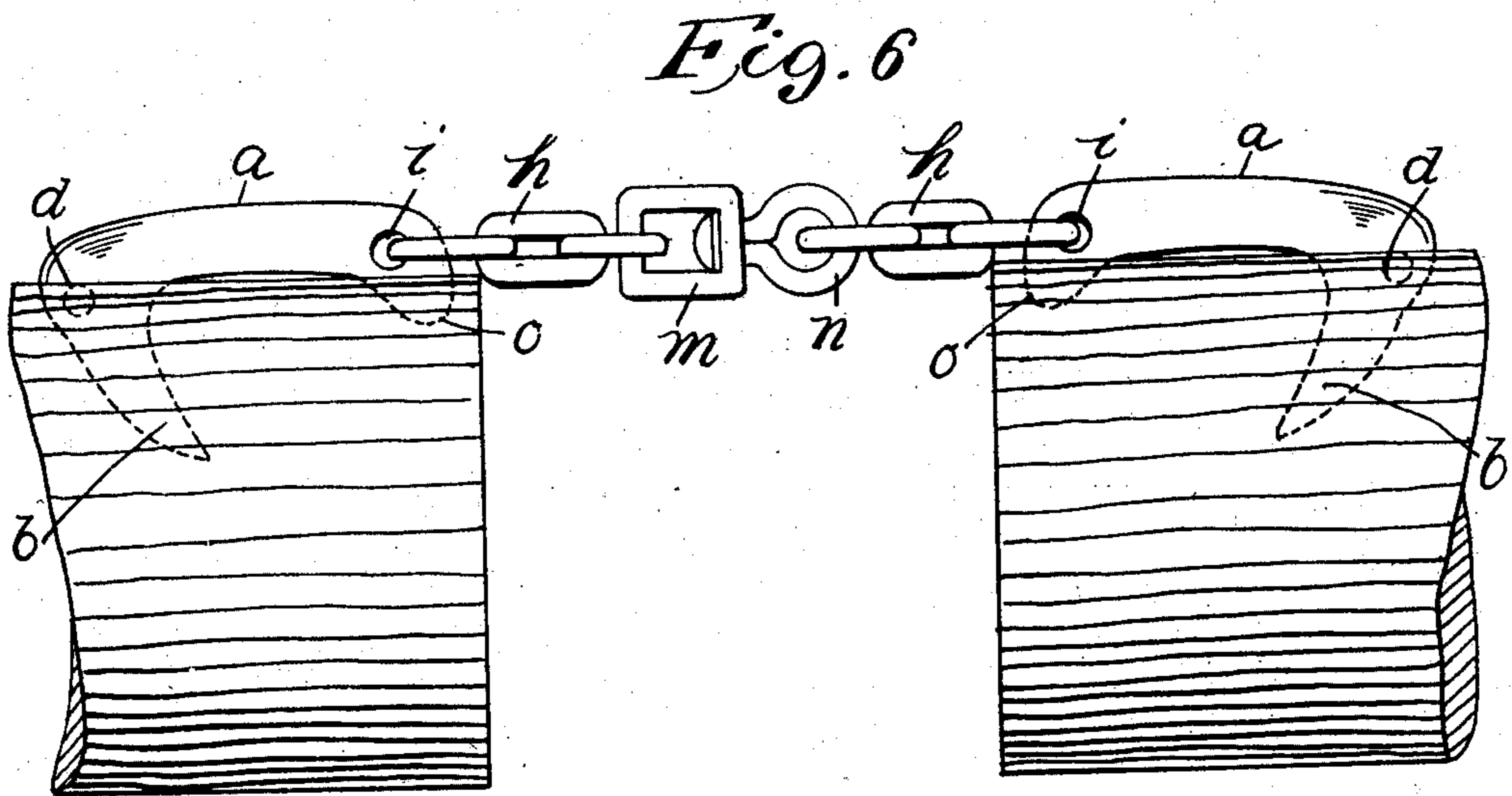
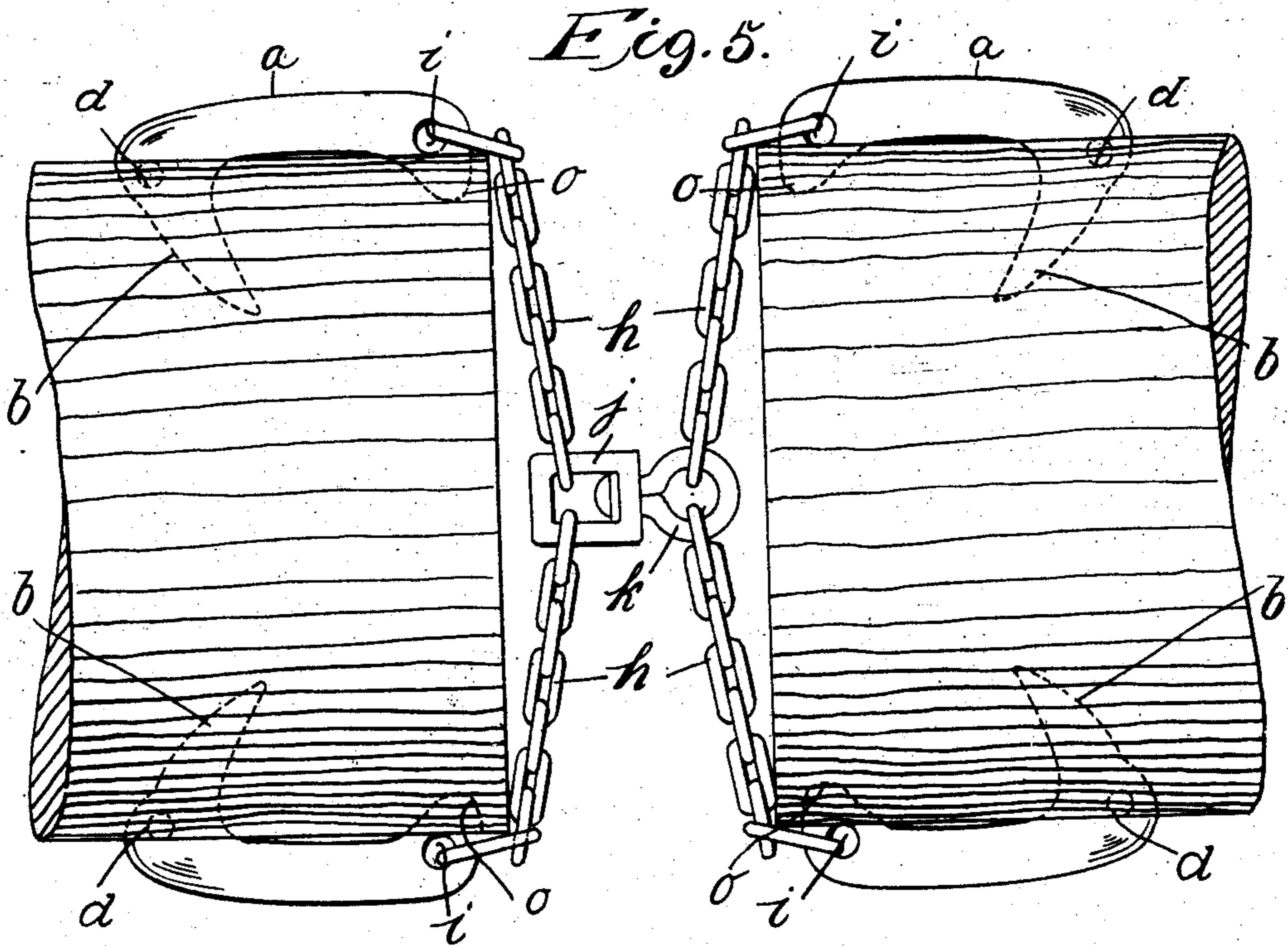
Witnesses:
Harry C. Herzog
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Dennis W. Murphy, Inventor
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Patented Oct. 13, 1908.

901,304.

2 SHEETS—SHEET 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

DENNIS W. MURPHY, OF WARREN, PENNSYLVANIA, ASSIGNOR TO WARREN AXE AND TOOL COMPANY, OF WARREN, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

LOG-GRAB.

No. 901,304.

Specification of Letters Patent.

Patented Oct. 13, 1908.

Application filed July 11, 1908. Serial No. 443,041.

To all whom it may concern:

Be it known that I, DENNIS W. MURPHY, a citizen of the United States, residing at Warren, in the county of Warren and State of Pennsylvania, have invented certain new and useful Improvements in Log-Grabs, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in log-grabs, sometimes called grab-hooks; and an object of my invention is to provide a log-grab which will be simple in construction, comparatively cheap in manufacture and most efficient in use.

Another object of my invention is to provide a log-grab having an eye in its rear or driving-tooth end and which shall be free from the objections heretofore urged against the employment of such an eye, which objections may be stated in substance as follows: First, that if the eye be formed of a size sufficient to permit the introduction of an extracting tool, the structure is materially weakened; and second, that if a small eye be formed, a suitable extracting tool or one of sufficient strength cannot be inserted, and if the extracting tool be inserted in the small eye, the movement of the tool to make it act as a lever will cause the tool to bind in the eye and thereby prevent the use of the log as a fulcrum in effecting the extraction of the driving tooth of the log grab.

A further object of my invention is to provide a log-grab, the rear end of the shank of which shall be free from projections such as an ear and which will, therefore, travel freely over rough ground without becoming entangled with roots and the like.

In the drawings illustrating the principle of my invention and the best mode now known to me of applying that principle, Figure 1 is a side elevation of my new log-grab; Fig. 2 is a front view looking in the direction of the arrow A, of Fig. 1; Fig. 3 is a section on the line B—B of Fig. 1; Fig. 4 is a plan; Fig. 5 shows a four-paw or double-trailer equipped with my new log-grab; and Fig. 6 shows a coupler or single-trailer fitted with my new log-grab.

My new log-grab consists essentially of two main parts,—the shank *a* and the driving tooth *b* formed integral with the rear portion thereof. To define what is meant by the shank, it may be said to be that portion

of the log-grab which lies outside of the log, when the driving tooth is fully driven in position. The lower face of the body-portion *c* of the shank in this case lies practically against the outside of the log, the line of which may be indicated then by the line of dashes *x—x* in Fig. 1. It will be seen that the lower face of the body-portion *c* is substantially flat and will come into close contact with the log, when the tooth is fully driven.

The driving tooth *b* is formed with an eye *d* in its upper portion near the junction of the driving tooth *b* with the end of the shank; and the eye *d* lies just within the rear edge *e* of the driving tooth. By thus locating the eye *d* two advantages are obtained; namely, the eye *d* will lie below the surface *x—x* of the log, when the driving tooth is fully driven; and the latter will have abundant strength near its junction with the shank. By placing the eye in the driving tooth so that it will be sunk below the surface of the log, when the driving tooth is fully driven, a good leverage is obtained for the extracting tool (commonly the spike end of a peavey or like device). The eye being below the surface of the log, the woodsman with a short, quick stab of the peavey forces the spike end of the latter into the eye *d*. In this position it will be seen that the log furnishes a most efficient fulcrum for the peavey, which is not the case when the eye is located in the rear end of the shank and, therefore, lies above the surface of the log, when the driving tooth is fully driven. Thus is overcome one of the objections urged to the employment of an eye in the rear end of a log-grab as set forth in the patent above referred to.

To give strength to the driving tooth, the rear edge portion *e*, extends upwardly as a brace and meets the rear end *f* of the shank *a*. This rear end *f* lies below the plane of the back of the body-portion *c* of the shank *a* and inclines downwardly and rearwardly to meet the rear edge portion *e*, without forming any projecting ear. Since the rear end *f* is thus depressed below the plane of the back of the body-portion *c* of the shank, it is shielded from the blows of the sledge or maul, which fall upon the thickened portion *g* of the back of the shank. Hence, the wall of the eye *d* is shielded from being broken by the heavy blows of the sledge which would otherwise fall upon the shank above the eye

d, during the driving of the log-grab. Again, by making the rear portion *f* of the shank *a* free from any ear or projection in rear, the log-grab does not become entangled with stones, roots and the like projecting from rough ground. For this reason, my new log-grab will travel much more smoothly over rough ground than will a log-grab having a projecting ear in rear of the shank and particularly much more smoothly than a log-grab having a projecting perforated ear in rear of the shank, the perforation or eye in such an ear tending to engage projecting roots and like found in rough wooded coun- tries.

My new log-grab is particularly adapted for use with four-paws and trailers. In Fig. 5 a four-paw or double trailer is shown fitted with my new log-grab, the free end of each of the chains *h*, being linked to one of the log-grabs through the eye *i*, and the other end of each of the chains being connected to the swivel members *j*, *k*, as shown. In Fig. 6 a single trailer or coupler is shown, the chains *h* being connected each to one of the swivel members *m*, *n*, and themselves connecting the two log-grabs. In Fig. 5 the log-grabs are driven in the sides of the log, while in Fig. 6 the log-grabs are driven in the top of the log. The front or draft end of the shank *a* is provided with the usual spur *o*.

It will be observed from the foregoing that by locating the eye *d* in the driving tooth and thereby insuring that it will be forced into the log when the driving tooth is fully driven, the eye is kept out of engagement with roots, rough stones and the like which by their engagement with the eye would tend to loosen the log-grab and to stop the trail of logs in their movement over the surface of the ground. Again, another advantage of this location is that a most excellent leverage for the peavey is obtained, the log being in posi-

tion to form a most efficient fulcrum for the peavey. Again, by depressing the rear end of the shank below the general level of the back of the body portion, the log-grab is enabled to travel much more smoothly and the rear wall of the eye *d* is thrown into a position where it is sheltered from the blows of the maul during the driving of the tooth *b*. Again, where the shank is reduced and extended in rear of the driving tooth to form an ear and the latter is then perforated, the ear is not only in a bad position to afford leverage for the extracting tool but its construction is essentially weak. These defects are overcome by the construction hereinbefore described and shown in the accompanying drawings.

I claim:

A log grab consisting of a shank and a driving tooth integral therewith; said tooth being formed with an eye which lies below the rear end of said shank and within the rear edge portion of said tooth; said rear edge portion joining the rear end of said shank without the formation of an ear at the point of junction and serving as a brace; the back of said rear end above said tooth lying below the plane of the back of the body portion of said shank and inclining downwardly and rearwardly towards said tooth to shield the wall of said eye from the blows of the maul; and the rear end of said shank being free from an ear extending in rear of the rear edge portion of said tooth.

In witness whereof I have hereunto set my hand at said Warren in the presence of the two undersigned witnesses this sixth day of July, 1908.

DENNIS W. MURPHY.

Witnesses:

HERMAN J. TEMPLETON,
W. A. KINNEAR.