

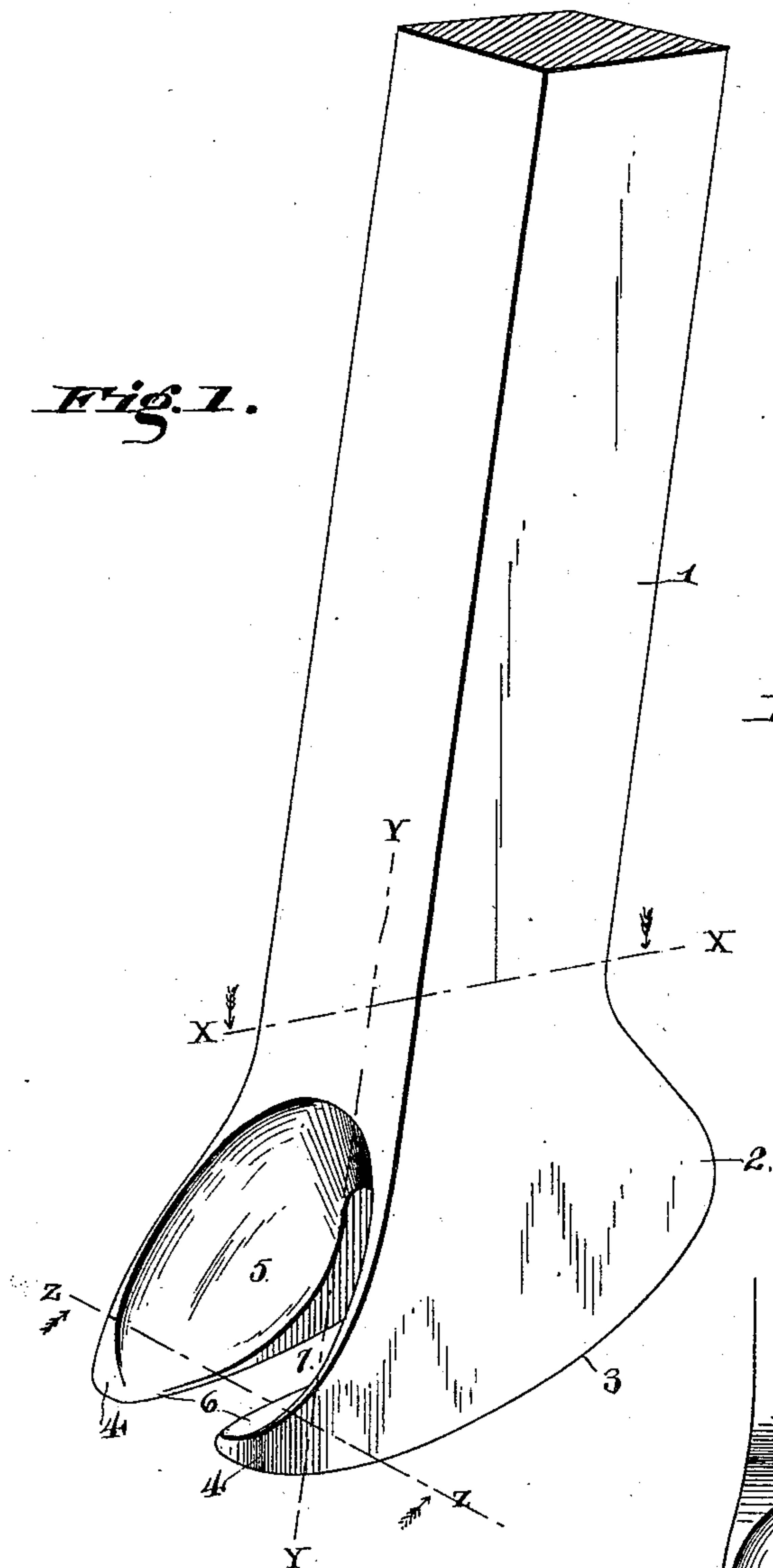
(No Model.)

M. W. SMADES & J. P. ELLSTROM.  
CLAW BAR.

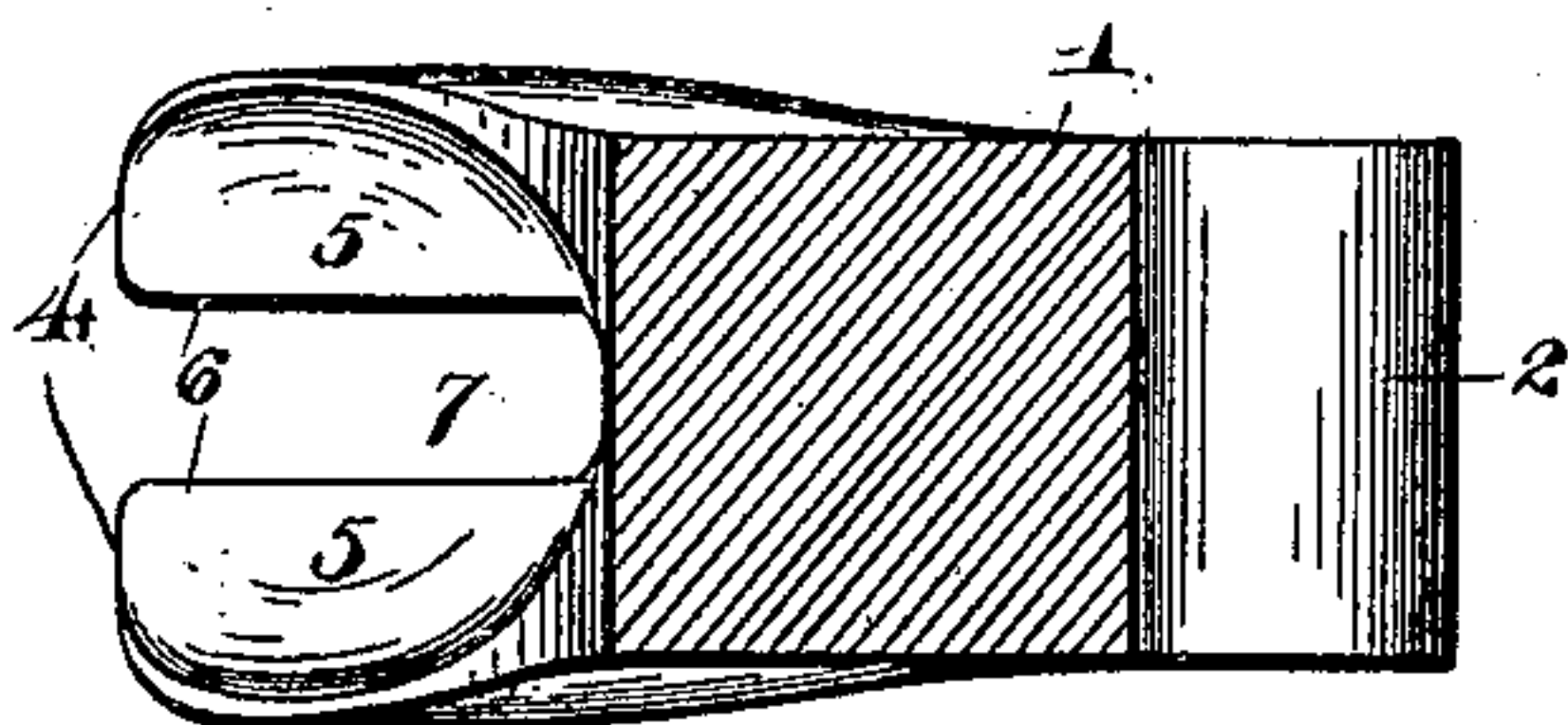
No. 488,581.

Patented Dec. 27, 1892.

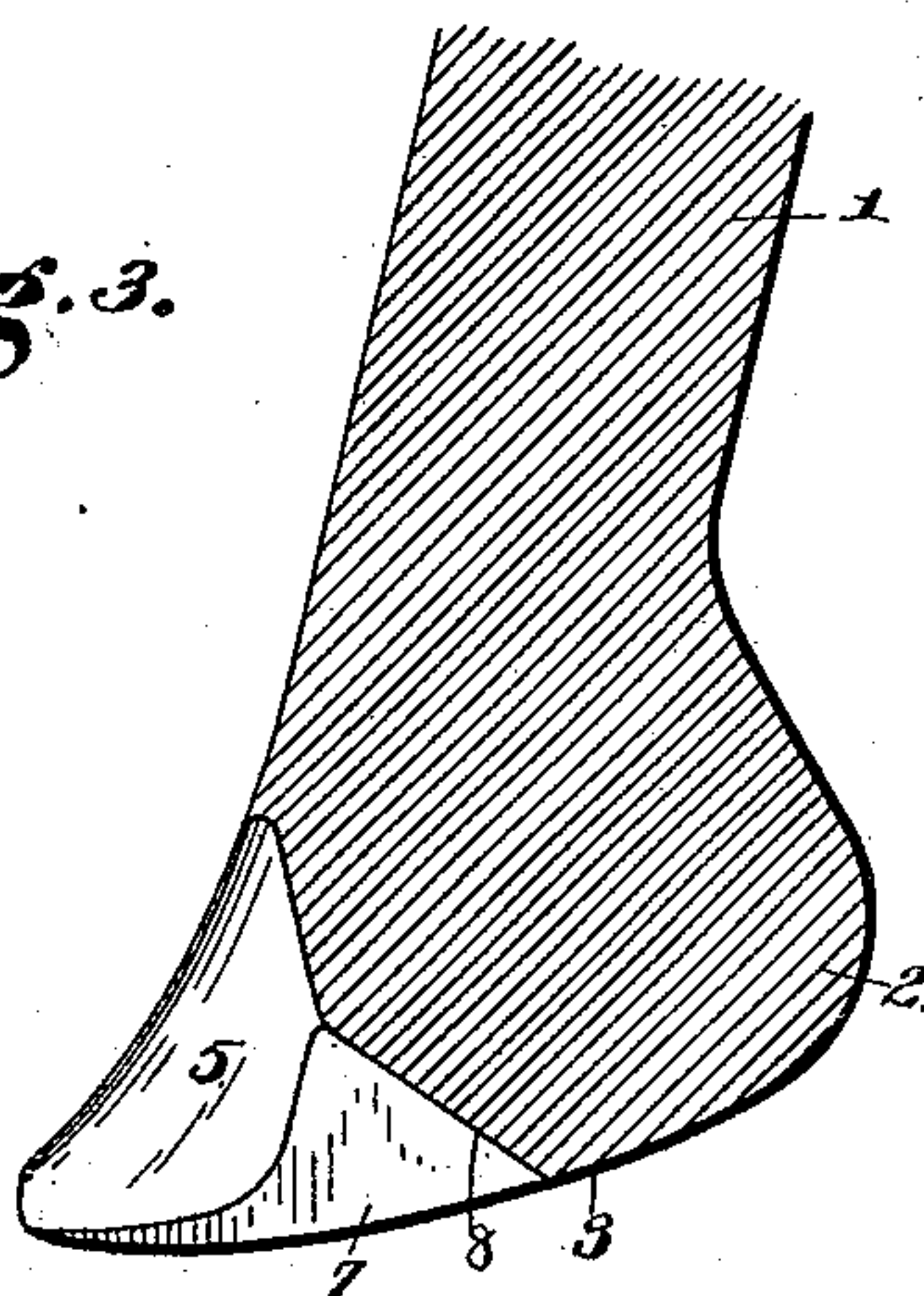
*Fig. 1.*



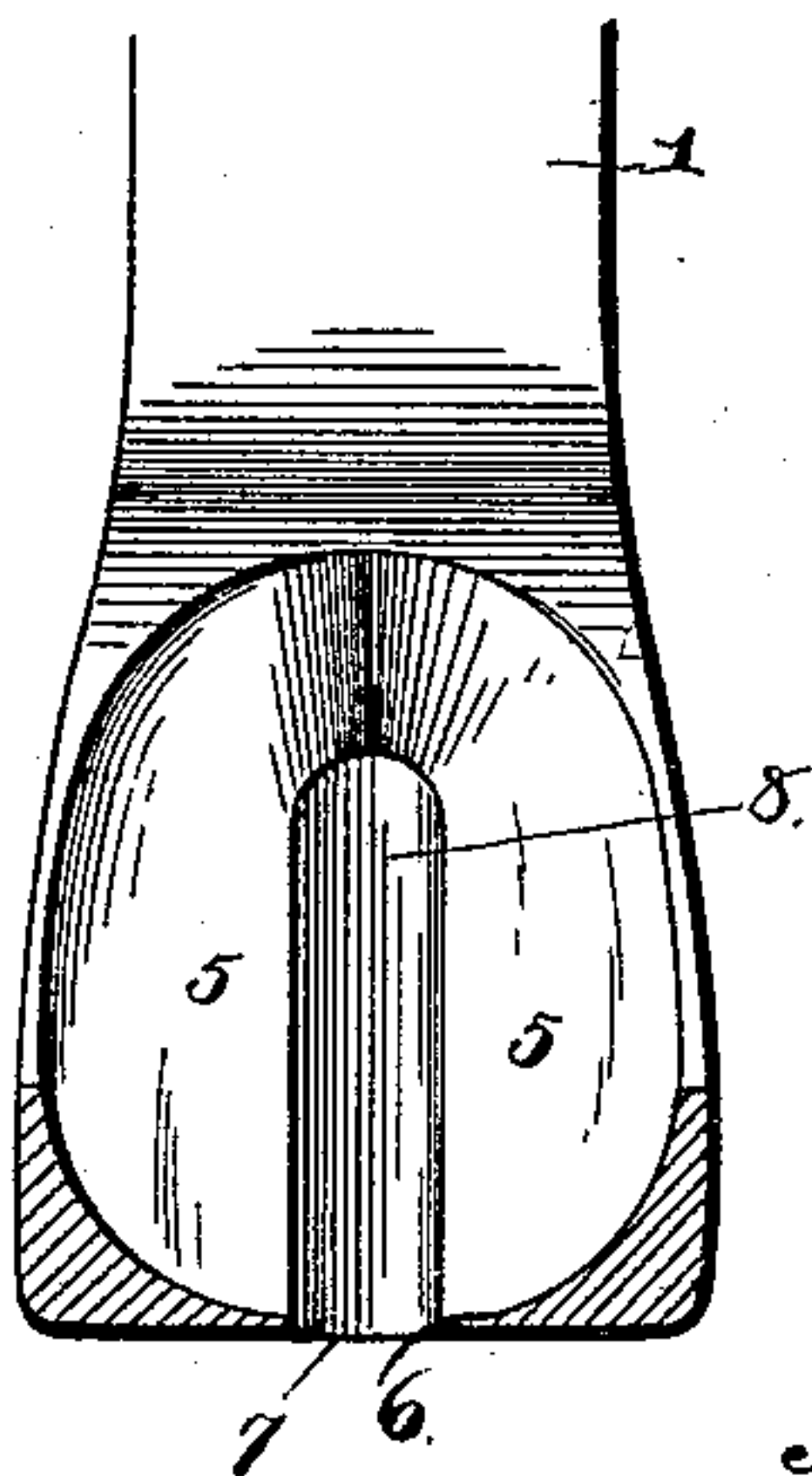
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses

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# UNITED STATES PATENT OFFICE.

MYRON W. SMADES AND JOHN P. ELLSTROM, OF MINNEAPOLIS, MINNESOTA.

## CLAW-BAR.

SPECIFICATION forming part of Letters Patent No. 488,581, dated December 27, 1892.

Application filed March 30, 1892. Serial No. 427,051. (No model.)

*To all whom it may concern:*

Be it known that we, MYRON W. SMADES and JOHN P. ELLSTROM, citizens of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and useful Claw-Bar, of which the following is a specification.

This invention relates to claw-bars, and it consists in the construction and arrangement of the parts thereof as will be more fully hereinafter described and claimed.

The object of this invention is to increase the effectiveness of devices of this character, and at the same time preserve a simple and effective construction and arrangement, which is strong and durable, and convenient in drawing railroad spikes from a driven position.

In the drawings—Figure 1 is a perspective view of the claw-bar embodying the invention. Fig. 2 is a transverse section on the line  $x-x$ , Fig. 1, looking in the direction of the arrows. Fig. 3 is a central vertical section on the line  $y-y$ , Fig. 1, at right angles to that illustrated by Fig. 2. Fig. 4 is a section on the line  $z-z$ , Fig. 1.

Similar numerals of reference indicate corresponding parts in the several views.

Referring to the said drawings, the numeral 1 designates a handle or bar, which terminates in its lower rear side in a heel 2, sloping in a long curve 3 to the under side of the toes 4, in the front part of the claw. The said heel 2 stands outward from the plane of the adjacent side of the handle or bar and is rounded or curved, so that when the device is used in drawing spikes or the like it will have an easy rocking movement on the said heel which acts as a fulcrum. The claw as an entirety increases in cross-sectional thickness from the rear to the front thereof, and also gradually widens from the lower portion of the handle or bar down to the lower edge of the said claw. The toes 4 are formed by cutting away or concaving the lower front portion of the claw, as at 5, and in contour this concavity is approximately circular in form and the metal is sloped down until it is very thin at the inner opposing edges of the toes, as at 6. These parts form the opposite walls of the shank-slot 7, extending through the aforesaid concavity and forming the toes, the metal of

the walls thereof gradually increasing in thickness as the said slot extends rearward. The rear wall of the said slot is inclined from front to rear, as at 8, to thereby produce a square bearing thereof against the shank of the spike or nail being withdrawn by the claw when the same is arranged at an angle of inclination.

The thinnest part of the metal of the toes is located at the front thereof on the inner opposing sides so that the said toes may readily take under the head of the spike without any undue manipulation or force applied to the claw, and as the spike or nail is started the toes can be gradually slipped thereunder. The head of the nail or spike being drawn by the claw occupies a position in the concavity aforesaid and gradually slips to the rear thereof so that the shank may be brought to bear against the inclined wall 8. It will be understood that in this drawing action of the claw, the heel of the same will come into play as a fulcrum, and being extended rearward a considerable distance, a greater purchase can be obtained. The concavity extends rearward of the wall 8 of the slot 7 and gradually inclines downward to the front or ends of the toes.

The advantages of this form of construction are readily apparent to those skilled in the art and need not be further enlarged upon herein.

Having thus described the invention, what is claimed as new is—

In a claw-bar, a handle having a claw at the lower end thereof formed by gradually increasing the thickness of the bar at the extreme lower end in cross and transverse sectional directions by convex curves on the sides and rear or heel and concave at the front, the bottom surface of the claw being gradually curved convexly at an angle of inclination from front to rear and broadened at the toe-end, and the curved line of the bottom continued upwardly in an unbroken plane to form a rocking bearing-surface and terminating in a rear heel from the upper portion of which extends a curve toward the handle, the front portion of the claw being elliptically recessed from the front of the toes and rearward to the upper termination of the concave portion of the front of the claw, said ellipti-

cally-recessed portion decreasing the metal at the toe-portions of the claw and providing inner oppositely-situated thin engaging edges on opposite sides of the spike-slot that are  
5 gradually reduced in thickness toward the front and form abutting outer ends, the said toes being thereby turned inward and merging into the said elliptical recess, the rear portion of the elliptical recess and of the spike-  
10 slot communicating with a rearwardly-inclined wall, and the greatest depth of said elliptical recess being slightly in advance of the upper termination of said rearwardly-inclined wall, the lower termination of said  
15 rearwardly-inclined wall extending through the bottom of the claw at the point of greatest curvature of the under surface of the lat-

ter, said elliptical recess providing for an easy and free movement of the head of the spike being drawn backward toward the rear  
20 inclined wall of the spike-slot and the formation of the heel continuous with the under bearing-surface decreasing the amount of power necessary to withdraw the spike, substantially as described. 25

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

MYRON W. SMADES.  
JOHN P. ELLSTROM.

Witnesses:

I. W. ARNOLD,  
G. E. THAYER.