

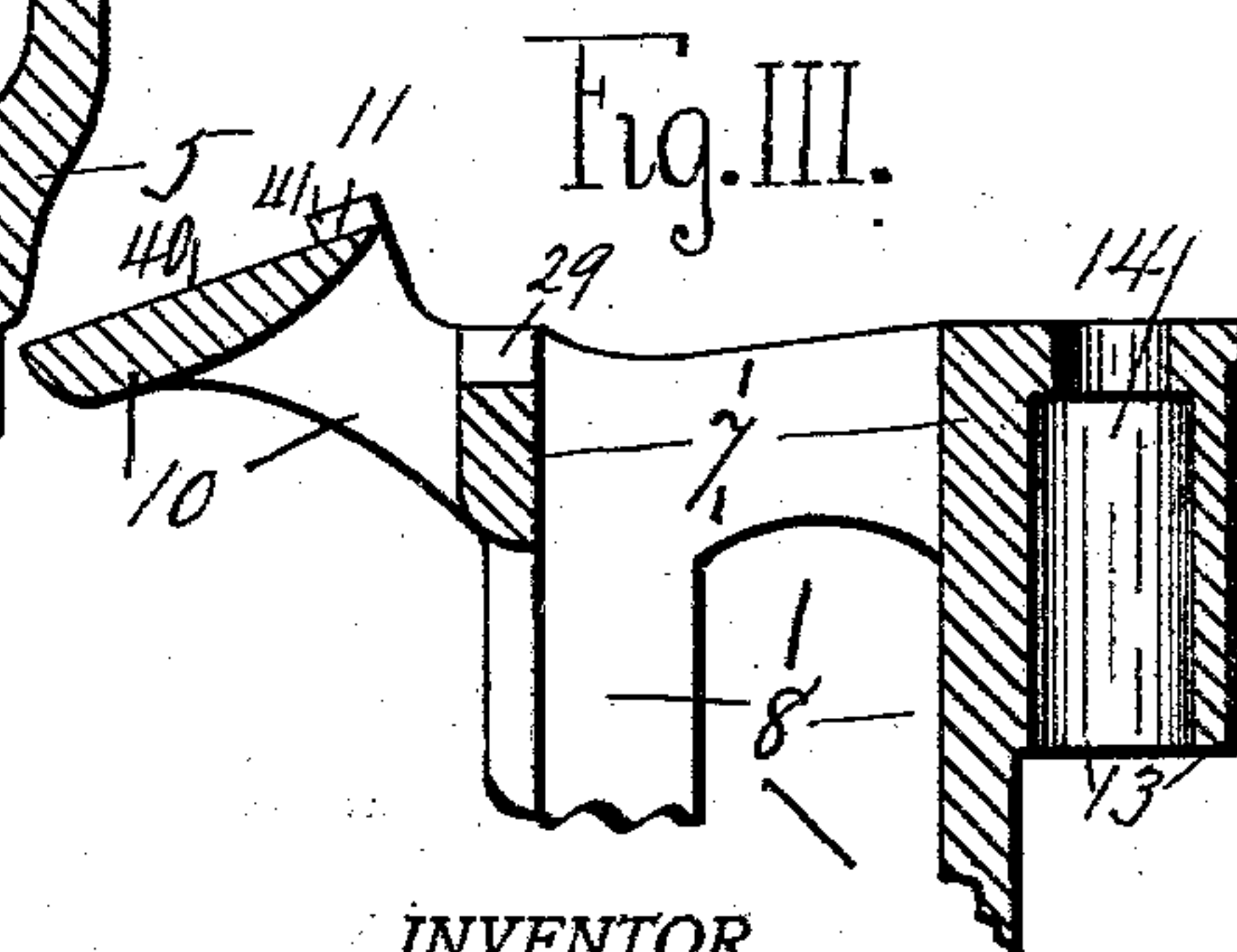
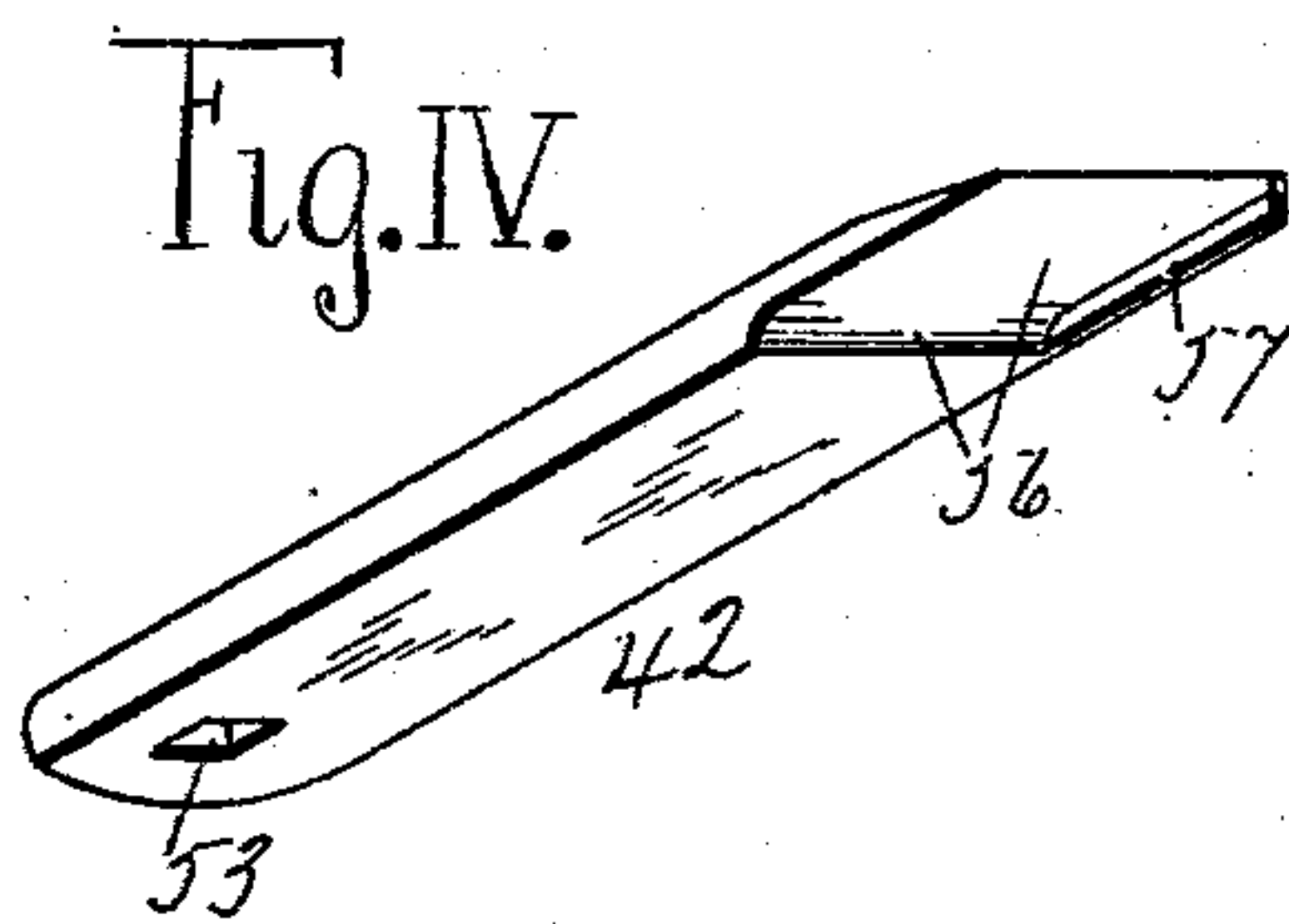
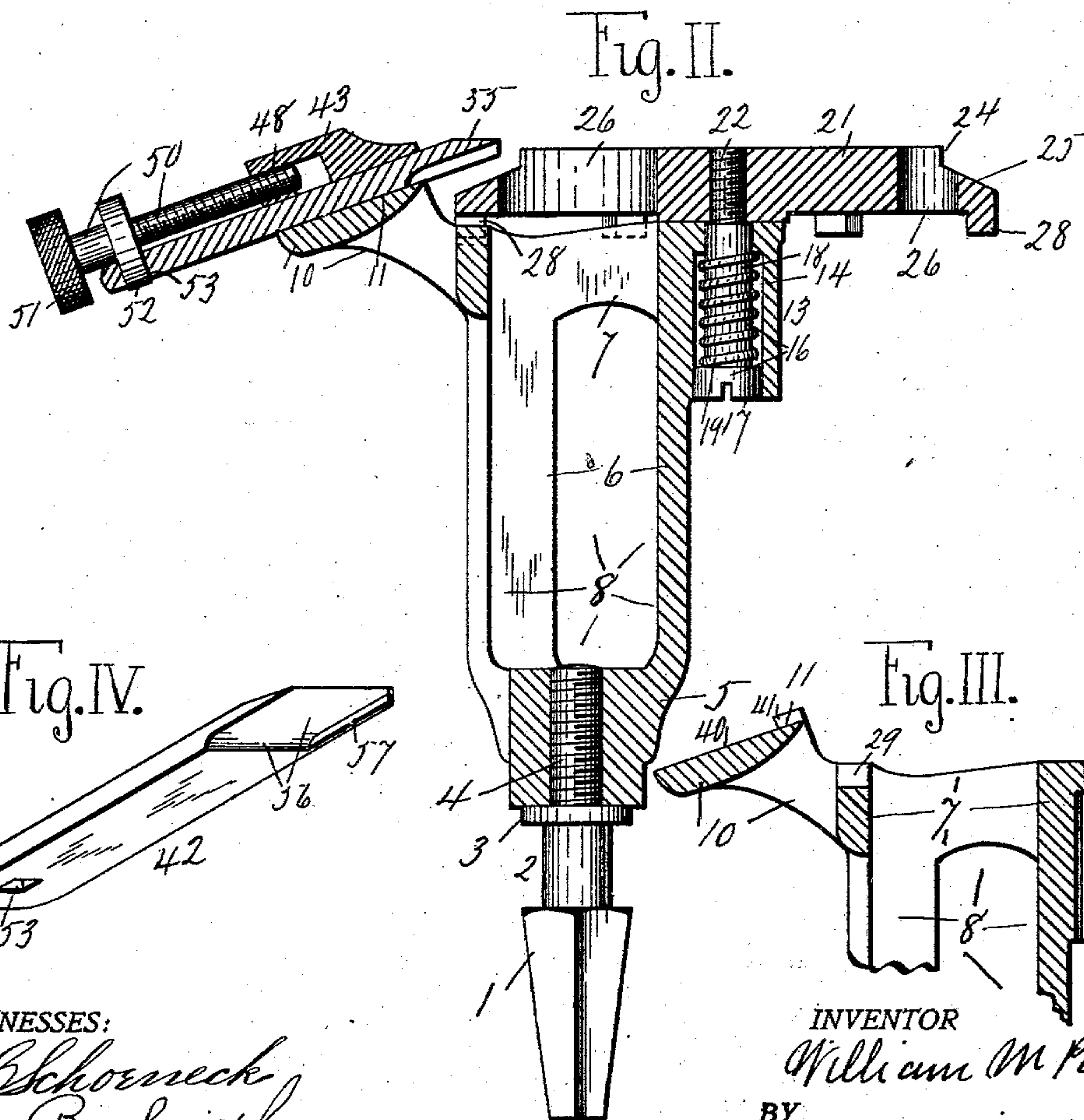
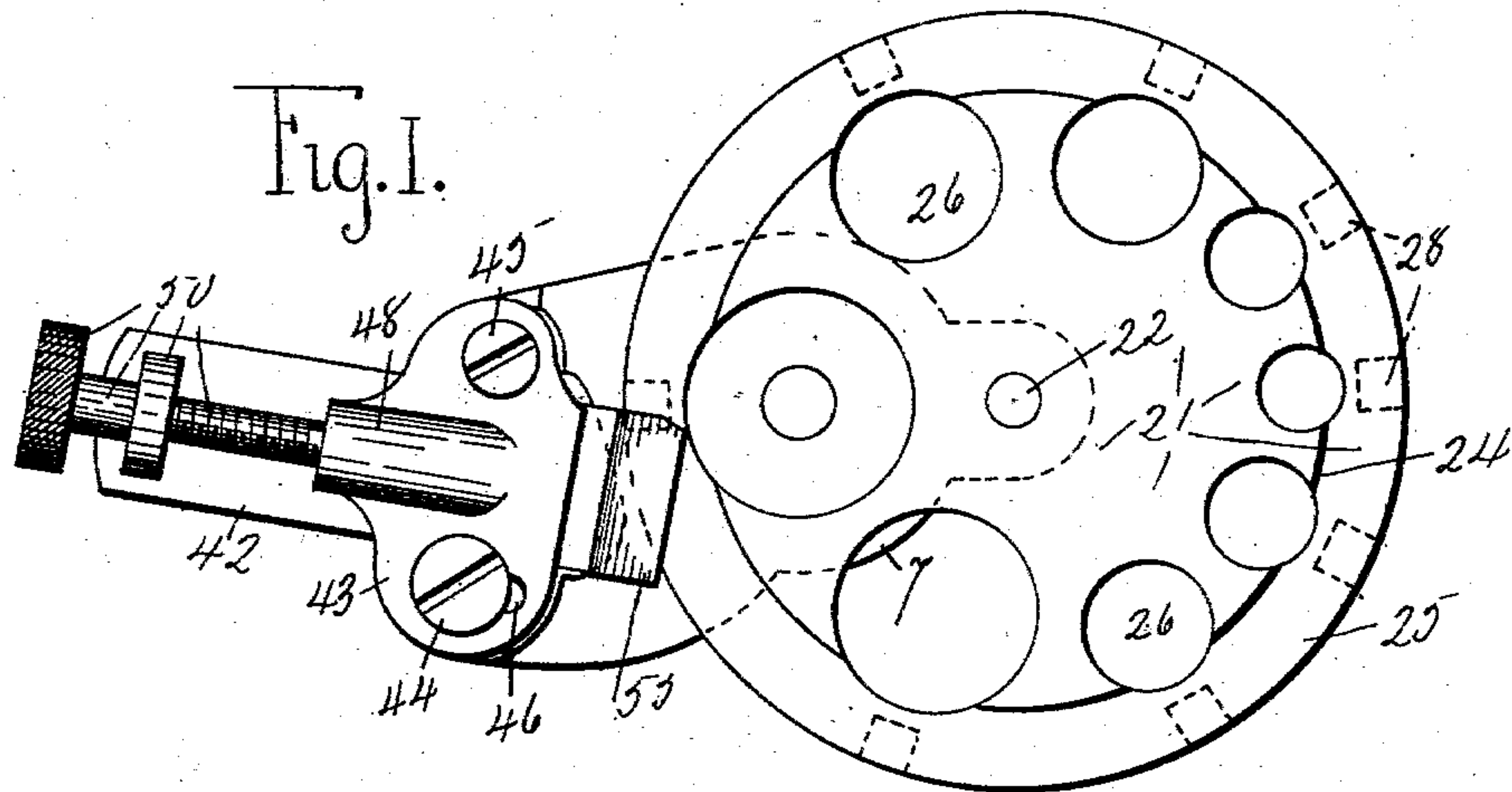
No. 740,692.

PATENTED OCT. 6, 1903.

W. M. POTTER.  
AUGER.

APPLICATION FILED FEB. 10, 1902.

NO MODEL.



WITNESSES:

*Chorreck*  
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# UNITED STATES PATENT OFFICE.

WILLIAM M. POTTER, OF SYRACUSE, NEW YORK, ASSIGNOR TO E. C. STEARNS & CO., OF SYRACUSE, NEW YORK.

## AUGER.

SPECIFICATION forming part of Letters Patent No. 740,692, dated October 6, 1903.

Application filed February 10, 1902. Serial No. 93,305. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM M. POTTER, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Augers, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to a hollow auger adapted to cut tenons of different fixed sizes on spokes and similar articles; and it consists, essentially, of the stock, an adjustable cutter supported thereon, and a rotatable cutter-plate formed with gage-holes of different sizes. This cutter-plate has a flat face and is preferably formed with a beveled edge and with a shoulder between the edge and the face. The plate is journaled on the outer end of a screw fitting a cavity in an integral extension on one side of the stock, and a spiral spring is arranged around the screw to hold the cutter-plate against the head and to insure engagement of lugs on the plate with a notch on the shank to lock the plate in position for the particular hole in use to cut the desired size of tenons.

My invention will be understood by reference to the accompanying drawings, in which the reference-numerals of the specification indicate the corresponding parts in all the figures.

Figure I is a top plan of a hollow auger, showing my invention. Fig. II is a longitudinal section thereof. Fig. III is a portion of Fig. II, showing the end of the stock without the detachable parts. Fig. IV is an isometric view showing the preferred form of cutter.

In the figures, 1 indicates the shank, grooved at 2, having the shoulder 3 and the threaded tip 4 to engage with the base 5 of the stock body or frame, having the integral arms 6 and the head 7, forming within them the cylindrical cavity 8. The body is formed with integral arm 10, slotted at 11 to receive the cutter, and with the integral extension 13, formed with socket 14, in which is arranged the screw 16, having the head 17 and elongated shank 18, around which is arranged, between the base of the socket and the head, the spiral spring 19 for holding down against the

head the rotating cutter-plate 21, fitted to the threaded tip 22 of the screw, by means of which it is journaled in position, and having the flat upper face, the shoulder 24, and the beveled edge 25, into which edge extend uniformly the gage-holes 26 of various sizes, brought into operative position over the cavity as the cutter-plate is turned. This plate is also provided on its under side with the lugs 28, one to each gage-hole or operative position of the plate and adapted to engage with the notch 29 on the head, locking the cutter-plate in the desired position.

The slotted arm 10 is grooved or provided on its outer inclined face 40 with integral lugs 41, between which is arranged the cutter 42, secured in position by the clamping-plate 43 and screws 44 and 45, one fitted to the slot 46 in the clamping-plate to permit a slight swing thereof. The clamping-plate is also provided with the threaded socket 48, with which engages the threaded tip of the adjusting-screw 50, having the knurled head 51 and the circular shoulder 52 engaging with the adjusting-slot 53 in the cutter, by which it is adjusted in and out to make a larger or smaller cut. The cutter is preferably formed with the beveled edge 55 and a recess 56 on its under side, having lip 57 on one side or the other to throw out the chip and permit easy sharpening.

By my invention I have improved the hollow auger so that a single auger is adapted to cut a large number of standard sizes of tenons, which are accurately cut and the auger easily and quickly adjusted to cut the size desired positively and without any possible variation. The holes may be of any desired size conveniently, as here shown, the smallest three-eighths inch and the largest one inch, between which, on one side, respectively, one-half, nine-sixteenths, seven-eighths inch, and on the other seven-sixteenths, five-eighths, three-fourths inch.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a hollow auger, the combination with the stock, of a cutter supported thereon, an integral extension on the stock formed with



a cavity, a screw fitted to said cavity, a spiral spring arranged about the screw between its head and the base of the cavity, a cutter-plate formed with gage-holes of different sizes secured to the outer end of the screw, and corresponding notches and projections on the plate and the stock.

2. The combination in a hollow auger of the stock, a cutter supported thereon, a cutter-plate journaled on the stock adjacent to the cutter formed with gage-holes of different sizes, resilient means to hold the plate against the stock and integral lugs on the cutter-plate to engage with a notch on the body, locking the cutter-plate in the various operative positions.

3. In a hollow auger, the combination with the stock, of a circular cutter-plate journaled thereon, means to turn the cutter-plate and lock it in the desired position, said cutter-plate being formed with a flat face and beveled edge, and with gage-holes extending a short distance into the beveled edge.

4. In a hollow auger, the combination with the shank, of an integral base, ribs and head, and a cavity within the ribs, of an integral arm and integral extension on the head, the arm being formed with an inclined groove, a cutter adjustably arranged in said groove, a clamping-plate and screws to secure the cutter in position, a screw arranged in a socket in the extension substantially parallel to the cavity, a spiral spring arranged around the shank of the screw between its head and the base of the socket, an outwardly-extending threaded tip on the screw, a cutter-plate fitted to said tip, having a flat outer face and beveled edge, and lugs on its lower surface adapted to engage with a notch in the head, said cutter-plate being formed with gage-

holes of different sizes, extending uniformly into the beveled edge.

5. In a hollow auger, the combination of the shank, having a grooved shoulder and a threaded tip, of the integral auger-body formed with an elongated cavity fitted to the threaded tip of the shank, said body having an integral arm, and an opposite integral extension formed with a socket arranged parallel to the cavity, of a screw fitted to said socket and having an outwardly-extending threaded tip, a spiral spring arranged around the shank of the screw, between the screw-head and the base of the socket, a cutter-plate journaled on the threaded tip of the screw, said cutter-plate being formed with a flat, outer face, a circular shoulder, a beveled edge, gage-holes of various sizes brought into operative position opposite the cavity, as the cutter-plate is rotated, and with lugs adapted in turn to engage with a notch on the head as the cutter-plate is rotated, a cutter having a cutting edge beveled above and slotted and lipped below, and an adjusting-slot in its base, of a clamping-plate to secure the cutter in position on the arm, screws fitted to the clamping-plate, one of said screws engaging with the slot therein, of an adjusting-screw having a knurled tip, a circular shoulder, engaging with the adjusting-slot in the cutter-face, and a threaded tip engaging with the threaded socket on the cutter-plate to adjust the cutter in and out.

In testimony whereof I have hereunto signed my name.

WILLIAM M. POTTER. [L. S.]

Witnesses:

C. C. SCHOENECK,  
N. E. FRIEND.