

No. 660,052.

Patented Oct. 16, 1900.

H. A. DIGGS.

ICE PICK.

(Application filed Aug. 31, 1899.)

(No Model.)

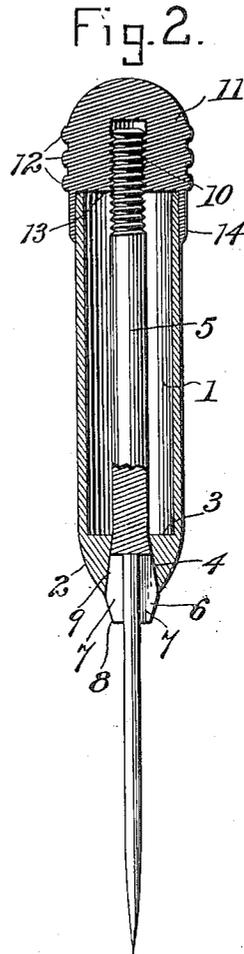
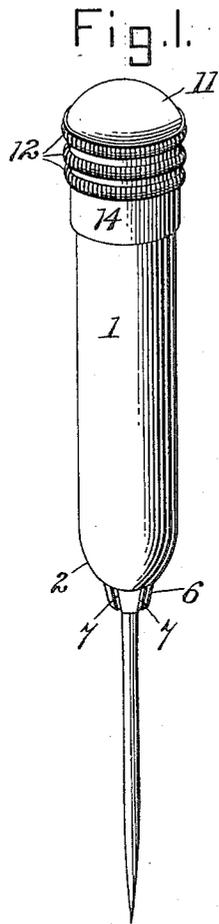
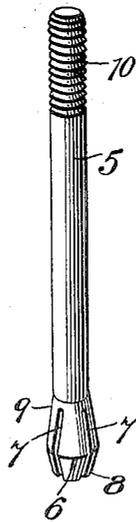


Fig. 3.



Witnesses
Edwin G. McKeel.
R. M. Smith.

H. A. Diggs, Inventor
By *E. J. Diggs*
Attorney

UNITED STATES PATENT OFFICE.

HARRISON A. DIGGS, OF NORFOLK, VIRGINIA.

ICE-PICK.

SPECIFICATION forming part of Letters Patent No. 660,052, dated October 16, 1900.

Application filed August 31, 1899. Serial No. 729,103. (No model.)

To all whom it may concern:

Be it known that I, HARRISON A. DIGGS, a citizen of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented a new and useful Ice-Pick, of which the following is a specification.

This invention relates to ice-picks; and the object in view is to provide in connection with a pick or bit a handle the construction of which will enable a pick or bit to be readily removed therefrom and replaced in case of breakage or when it is desired to substitute a bit of different shape or size.

It is also the object of the present invention to construct a handle in such a manner that it is adapted to receive several additional bits, which by reason of their being carried by the handle are always ready for use when needed, and to provide in connection with the handle a heavy or solid head which is adapted to be used as a striking-poll for crushing ice.

The invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, and illustrated in the drawings and incorporated in the claim.

In the accompanying drawings, Figure 1 is a perspective view of an ice-pick constructed in accordance with the present invention. Fig. 2 is a longitudinal section through the same. Fig. 3 is a detail perspective view of the stem or spindle and the chuck at one end thereof.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

The ice-pick contemplated in this invention comprises a casing 1, which is of hollow cylindrical form, having one end reduced and tapered, as shown at 2. At the same end the casing 1 is provided with an internal annular shoulder 3, from which point to the end of the casing the bore is of reduced diameter and is tapered or outwardly flared to form a conical seat 4, which coöperates with the chuck or clamp hereinafter described.

5 designates a stem or spindle which extends centrally and longitudinally through the casing 1, said stem being provided at its outer or lower end with a head 6, which has

diametrically-disposed intersecting slits 7, giving to the head the appearance of a chuck. The extreme end of this head or chuck is tapered, as shown at 8, and is also reversely tapered or made cone-shaped, as shown at 9, the conical portion 9 coöperating with the conical seat in the end of the casing 1 when the stem or spindle is drawn inward or toward the butt of the handle. By splitting the head as described a plurality of jaws are formed, between which the inner end of a pick or other form of bit is adapted to be received and clamped. The inner end of the stem or spindle 5 is screw-threaded, as at 10, and fitted thereon is a combined handle-head and nut 11. This head is exteriorly knurled, as shown at 12, to facilitate the turning thereof by hand. The head is also provided with an internal annular shoulder 13, which bears against the end of the casing 1 and coöperates therewith in tightening the chuck, and is further provided with an annular flange or collar 14, which fits around and turns upon the inner end of the casing 1. Outside of the flange 14 and threaded socket 10 the head 11 is solid and is constructed of metal, so as to afford considerable weight and provide a striking-poll which is adapted to be used for crushing or cracking ice after the pick has been used in cracking off a chunk of ice.

The pick or bit is inserted between the jaws of the split head or chuck, and the combined head and nut is then placed upon the upper end of the casing and turned so as to engage the threaded portion of the stem or spindle and at the same time bear against the upper end of the casing. By continuing the rotation of the head the stem or spindle is drawn upward or toward the butt-end of the handle, and by reason of the coöperation of the conical portion of the chuck and the conical seat in the end of the casing the jaws of the chuck are caused to move inward toward each other and firmly clamp the shank of the pick or bit between them. By unscrewing the head the jaws are released and allowed to move apart, and thereupon the pick or bit may be removed. The casing is sufficiently larger in diameter than the spindle or stem to leave an annular space surrounding the stem, which space is designed for the reception of a num-

ber of additional bits, which may thus be conveniently carried in the handle, where they will be ready for use.

It is to be observed that the improved ice-pick hereinbefore described includes a combination by which the jaws of the spindle are firmly compressed upon the tool and the revoluble head 11 is drawn to its seat upon the end of the handle 1 by turning said head 11 on the handle, so as to draw upon the spindle 5, whereby all the parts of the tool are held in firm rigid relation simply by the operation of turning the head 11, and the jaws are made to so firmly grip the bit that the latter cannot become accidentally displaced from the spindle-head in the ordinary use of the implement. The head 11 is revolubly sleeved on the smooth or unthreaded end of the cylindrical handle 1, and this sleeve is provided with a threaded socket or cavity, into which is secured the upper threaded extremity of the spindle 5. The lower part of this spindle is provided with the conical head, which has the plurality of radial slits, forming a series of yieldable independent jaws, and this conical spindle-head is adapted to be drawn firmly into tight engagement with the internal conical seat at the lower end of the handle. It is now evident that the rotation of the head 11 on its sleeved connection with the handle serves to give an endwise adjustment to the spindle 5 by reason of the threaded engagement of said head and the spindle. This endwise adjustment of the spindle operates in a twofold manner to draw the revoluble head 11 firmly against the end of the handle and the conical split head firmly within the seat at the opposite end of the handle. This adjustment of the parts firmly seats the revoluble head in place and compresses the jaws, so as to rigidly grip the tool; but at the same time the head may be turned in the reverse direction in order to release the jaws and permit the tool-bit to be interchanged with other bits. The length of the cavity in the revoluble head exceeds the endwise adjustment of the spindle necessary to release the conical split head from compression by the internal seat of the handle, and thus the head remains in engagement with the spindle when the parts are loosened up in order to release the jaws and permit of the removal of the bit.

By means of the construction above described several picks or bits may be carried in the handle, and a pick may be readily and firmly secured to the handle and as readily and quickly removed therefrom in case of breakage or whenever it is desired for any reason to remove the bit.

The device is extremely simple in construction, involving but three pieces—namely, a casing, a head therefor, and a stem or spindle having an integrally-formed chuck for holding the bit.

From the foregoing it is thought that the construction, operation, and many advan-

tages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

I am aware that prior to my invention an ice-pick has been provided with a pointed extremity for splitting the ice and with a curved surface at its other end for crushing the ice, and I make no claim, broadly, to said features. The improvements which I have made relate to the handle, which is made in three pieces and is adapted for the reception of interchangeable bits, the working ends of which may vary in form, so as to adapt the handle to use on bits adapted merely to split the ice or to shave the same, whereby a series of bits may be used in conjunction with a single handle. The handle of my invention consists solely of three parts—namely, the cylindrical body, the metallic head, and the shank, which has threaded connection with the head, extends longitudinally through the body, and is divided or split at its conical end to form a series of jaws adapted for compression in a flared socket at one end of the body. The metallic head is of peculiar construction in that it provides a striking-poll for splitting the ice, a flange or sleeve adapted to rotate on the open end of the cylindrical body, a socket for the reception of the threaded extremity of the stem, and a knurled grip located between the striking-poll and the sleeve and formed by a series of roughened flanges or collars. This knurled portion of the head may be firmly gripped in the hand without slipping, which is advantageous, because in handling the ice the hands of the operator become wet. The metallic head thus serves a number of purposes which are peculiar to an ice-pick handle of my invention. Furthermore, the operation of rotating the head in one direction draws on the stem in a manner to compress the jaws within the flared socket and firmly grip the bit, and this same operation seats the metallic head firmly upon the end of the body by reason of the threaded engagement between the stem and the head, whereby all the parts are coupled securely and tightly together, so that they cannot work loose in the operation of using the implement.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

In an ice-pick, a three-piece handle adapted for interchangeable pick-points comprising a single-piece metallic head having an unbroken curved striking-poll, 11, an annular integral sleeve, 14, extending from the other end thereof, a seated cavity or socket in the solid portion of said head and opening through the inner flat face thereof, and the external knurled grip, 12, formed by a series of flanges located between the curved strik-

ing-poll and the extended sleeve; a hollow cylindrical body having an open end which fits snugly within the sleeve of the head and bears against the flat face thereof and provided at its other end with a flared socket, 4, and a shank, 5, extending longitudinally through the handle and having a threaded end, 10, screwed into the socket of the head, the other end of this shank being provided with the longitudinal incisions, 7, forming a series of jaws and said divided end of the shank being flared to fit the socket in the end

of the handle, whereby the head may be rotated on the body to draw the stem endwise within the socket, and the jaws may be compressed and the head seated firmly upon the end of the body, as set forth. 15

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HARRISON A. DIGGS.

Witnesses:

ALLEN K. JOHNSON,
JOHN W. STEEL.