

THE POCKETKNIFE

Many Machines and Processes Used in Its Making.

ART IN FORGING THE BLADES.

To Become an Adept in the Delicate Work of Tempering Edge Steel Necessitates a Long Course of Training and Years of Experience.

The labor of making a pocketknife is, as usual in every industry that is carried on by the aid of a great deal of machinery, much divided. Each blade must go through six separate processes—first, forging; second, laying on the "tang," that part which is inserted into the handle and through which the blade is riveted; third, marking or stamping with the name of the manufacturer; fourth, "chilling," or filing a depression in the neck of the blade between the sharp edge and the heavier part or "tang;" fifth, tempering; sixth, grinding.

All this applies to the two ordinary blades of a knife. Nail blades are subjected to still another process—namely, the cutting of the file, which is a department of work in itself.

Should we inspect the material room of a knife manufactory we should find heavy iron presses, which stamp out from sheets of brass or iron the metal scales and lining. The bright tips on the end of the knife, called "bolsters," are pressed out of German silver under another heavy weight, which does its work in one blow. Huge shears cut from sheets of steel, used only for this purpose, long strips that are afterward fashioned under a press into springs for the back of the knife.

The rod of steel from which the blades are made is taken from the material room to the forge. Here one end is put into a bed of hot coals, the bellows are pumped, and the end is soon red.

The skilled forger then hammers the blade into shape upon his anvil, and so accurate is his eye and so exact his hand that the blade does not deviate a hair's breadth from the little brass pattern that is before him and to which each blade must correspond exactly.

The blade is next dipped in water and becomes as hard and brittle as glass. But the edges are rough. It is nearly uniform in thickness and is a light gray in color.

Again the forger's skill is brought into play in the tempering. Laying the blades on a copper plate over the fire, he watches them as they change their hue with the degree of heat, first to straw color, then to darker straw and now to the dark purple which denotes that the proper degree of heat has been obtained. They are plunged into cold water as fast as they reach this point.

If the blades were allowed to remain longer over the fire the steel would change to a light blue and become so soft that the blades could be bent easily. This is perhaps the most important process in the manufacture.

The blades are taken next to the grinding room. The grinder must also depend upon the accuracy of his eye and the training of his hand, for as he presses the blade on the rapidly revolving stone, turning it on both sides and grinding all its edges, he practically finishes it, though afterward, in the cutter's room, a higher finish is given it.

From the "wheel room" the blades go to the cutter's room, where they find the other parts of the knife and where all the parts are put together.

Each workman here is at work upon a particular lot of knives, all of one pattern. Upon his work bench are the various parts of the knives, prepared by other hands—the center scales that separate the blades, the outer brass scales of lining, with the German silver bolsters, which have been secured to the ends by a heavy drop hammer; the wood, ivory or pearl scales, the springs and the wire rivets.

Each brass lining, with its covering, is put in a vise, and holes are drilled in it for the rivets. A brass wire is thrust through the middle of the handle toward the back. This secures the spring, and it is then broken off with nippers and headed down with a hammer. This holds the scales and springs. Another rivet through the bolster secures one blade or two blades if the knife has more than one blade hung at each end.

The several parts are now put together. The next process is "hafting" or finishing the covers of the handle, which is done on a leather wheel coated with glue and emery. The rough edges are rounded and smoothed, and then the knives are carefully examined to see if the cutter has done his work properly.

If the spring works easily and the blades close without striking the knives are sent to the blade polisher.

On a wooden wheel covered with fine leather the ordinary blades are given a polish called a "glass finish." Finer grades of knives are given a "crocus finish"—a mirror-like surface—on a leather wheel which revolves very slowly. In order that the blades shall not become heated and lose their temper.

The knives are now taken to another room, where, on an oilstone, the keen cutting edges are "set." This done, the blades are closed, and the "buffing wheel" gives the final polish to the outer side.—Philadelphia Record.

That endless book, the newspaper, is our national glory.—Henry Ward Beecher.

SWITCHED THEIR VOTES.

The Incident That Won Tom Corwin's First Fight For Congress.

"When I saw the oil painting of Tom Corwin in the treasury," said an Ohio man, "I could not but recall the story told in Corwin's old home of Lebanon of how he won his first election to congress. He was a young man and already noted as an orator, but he had a hard district and little encouragement for election. He was making his tour of the counties and one night stopped at the double cabin of a farmer known to be a very fervent advocate of political policies of the opposition. Corwin talked politics carefully with the old man and his sons before bedtime, but had little hope of winning a single vote in the household. In the morning the old man took Corwin outside and announced that every voter in the family would be for him on election day. This astonished and delighted Corwin, who could not help but ask why the sudden change of heart.

"The old man told how the opposition candidate had stopped at his house one night the week before and how the host and wife had watched the candidate go to bed. To their disgust, he actually put on a nightgown like those worn by a woman. This disgusted the rugged old pioneer. The Corwin was told how the old farmer and his wife had watched him go to bed, and as he had not bothered about a nightie they determined he was not taken to frills. Corwin could see the humor of the incident, and in every succeeding speech he told that night-shirt story on the other candidate, holding him up to scorn. The result was a victory for Corwin, and he owed it all to that story of a shirt."—Washington Post.

CORE OF THE EARTH.

It May Be a Mass of Steel Some 5,580 Miles in Diameter.

Various conjectures have been made from time to time by geologists as to the possible condition of the center of the earth. One of the most popular impressions seems to be that the earth's center, or core, is a flaming furnace. At a meeting of the Geological association at The Hague Professor Weichert asserted that his studies of the varying velocity of earthquake tremors passing through the interior of the globe have led him to the conclusion that the earth consists of a central core of iron or steel, about 5,580 miles in diameter, surrounded with a stony shell 930 miles in thickness. Between the outer solid rind and the inner layer of rock, covering the metallic core, he thinks there is a layer of liquid or plastic material, lying a little less than twenty miles below the surface of the earth.

Men sometimes dream of enormous wealth stored deep in the earth below the reach of miners, but experts now aver that there is little or no ground to believe that any valuable metallic deposits lie very deep in the earth's crust regardless of Professor Weichert's beliefs to the contrary. Such deposits, it is said, are made by underground waters, and owing to the pressure on the rocks at great depths the waters are confined to a shell near the surface. With few exceptions ore deposits become too lean to repay working below 3,000 feet. Nine miles in ten, taking the world as a whole, are poorer in the second thousand feet than in the first thousand, and poorer yet in the third thousand than in the second.—New York World.

To Stop Hiccoughs.

Simple cases of hiccough are often relieved by such measures as sucking ice or taking salt and vinegar, says the New York Medical Journal. Pulling the tongue forward and holding it for some time is an effective procedure. Sometimes obstinate hiccough is relieved when the patient is strong by having him hang with the arms extended and grasping some beam or pole, so that his feet do not touch the floor. With all the abdominal muscles tense, have him hold his breath as long as possible. Squeezing is very efficient in certain cases, since it is the exact opposite to hiccough, being a sudden expiratory act.

McSwiney's Gun.

Near Horn Head, County Donegal, Ireland, there is a hole in the rocks called McSwiney's gun. It is on the seacoast and is said to have connection with a cavern. When the north wind blows and the sea is at high flood the wind and the waves enter the cavern and send up jets of water from the "gun" to a height of more than 100 feet. The jets of water are accompanied by explosions which may be heard for miles.

More Worry.

"I didn't know you admired that of-ficial."

"I don't," replied the political manager.

"Then why do you insist on crediting him with a presidential boom?"

"Merely to make his life harder by giving him something more to worry about."—Exchange.

Be Slow to Indorse.

"A man should think before he speaks," said the prudent youth.

"Yes," replied Dustin Stax. "And he should think still harder before he writes his name on the back of any sort of document."—Washington Star.

All Must Help.

A wise man who does not assist with his counsel, a rich man with his charity and a poor man with his labor are perfect nuisances in a commonwealth.—Swift.

CLOTH IN THE MAKING.

The Way the Uncouth Product of the Loom is Finished.

Every woven fabric is made by crossing or interlacing two distinct series of threads together. When the yarn comes from the spinner it is mounted upon the loom in spools, writes Rupert Bowers in Harper's Weekly. So wonderfully automatic are these modern looms that when a bobbin is emptied it is forced out and a full spool is put in its place without stopping the loom. There are all classes of looms for all classes of material, from the thinnest fabrics up to the thickest felts. To attempt to describe one of them or the principles on which they are constructed would involve the reader in a wilderness of technicalities. The power loom is one of the most remarkable and complex of mechanical products, the growth of many years of experience and ingenuity and the crystallization of the inventive genius of many minds.

The cloth in the shop window resembles the cloth as it comes from the loom so remotely that there would seem to be no relationship between them. The first product of the loom is usually uncouth, harsh and anything but inviting in appearance. It has to pass through many processes before it is finished and made ready for the market. It is first mended so as to correct weaving faults as far as possible. Then it is scoured and thoroughly cleansed. Again it is looked over and mended before it passes to the fulling or milling machine which, with soap and fuller's earth, produces the finish that is required. Then it is scoured again.

Teutering is the next process. This sets the cloth at a satisfactory width and straightens it for the operations that follow, the first of which is called raising. The millions of tiny hooks on the surface of the cloth and leave them in an upright position. The pile or nap is the result. This produces a remarkable change in the appearance and condition of the fabric. Shearing is the next thing. This cuts off all the raised fibers, leaving them of a uniform length. The required gloss and solidity are obtained by the pressing which follows.

A JOLLY TIME AT HOME.

Advice to the Man Whose Wife is Away on a Vacation.

During any time when your wife is on an extended visit with her relatives you can save money from your board allowance by keeping house for yourself. You may find the following suggestions helpful:

If you forget to order ice you can render the butter serviceable in the following manner: Take a cut glass finger bowl and fill it with cool water. Scrape the butter into the finger bowl. When ready to spread your bread extract your butter in quantities as needed with the cucumber lifter. That's that flat silver spoon with holes in it.

If you smell smoke you will doubtless find the lamp is smoking and the room is covered with soot. First turn the wick down to save oil, then get a damp cloth and go over everything carefully, rinsing out the cloth from time to time. When cleaning the walls use only a downward motion, so that the streaks will all run vertically.

Not having your wife's social charm, you will doubtless be given tough steak by your butcher. One way to make steak tender is to run it repeatedly through the sewing machine. Use a coarse needle, but no thread. The bobbin trough will catch the juice, which can be used later for gravy. If you take out the bobbin first you will have more room for the juice.—Waiter A. Dyer in Delineator.

A Washless Washboard.

"Women haven't the artistic temperament," complained the orchestra musician to the Cleveland Plain Dealer. "That's why I am unmarried. Oh, yes, I was married once. I thought to acquire a woman who could take care of my home, make a little domestic place of refuge for me and all that, but the dream soon fled.

"A few days after I was married my bride came to me and said, 'Dear, that new washboard you got for me is no good at all. I can't wash your socks on it.'

"Washboard?" says I. "Why, I never bought you a washboard." But she led me out into the kitchen and showed me what she'd been scrubbing away on all the morning. Great heavens! it was my new xylophone."

Rebuking an Emperor.

Once, so the story goes, Emperor Nicholas of Russia asked Liszt to play in his presence. The musician complied, but during the performance the czar started a conversation with an aide-camp. Liszt stopped playing at once. The czar asked what was the matter. "When the emperor speaks," said Liszt, "every one must be silent." The czar smilingly took the hint, and the playing proceeded.

Didn't Have To.

"Did you hear the rain in the night?"

"Yes."

"Pleasant music, wasn't it?"

"I didn't notice the music. I was too busy hustling around closing the windows. Didn't it keep you busy too?"

"Oh, no! We rent a furnished house, you know."—Cleveland Plain Dealer.

Her Concession.

"How do you know she's older than you are?"

"Why, she admitted it herself."

"Honestly? What did she say?"

"She said, 'You and I are just the same age, dearie.'"

TAP DAY AT YALE.

What It Means to the Juniors Who Have "Made Good."

The three great senior societies of Yale—Skull and Bones, Scroll and Key and Wolf's Head—choose on tap day fifteen members each from the junior class, the fifteen members of the outgoing senior class making the choice. Each senior is allotted his man of the juniors and must find him in the crowd at the tree and tap him on the shoulder and give him the order to go to his room. Followed by his sponsor, he obeys, and what happens at the room no one but the men of the society knows. With shining face the lad comes back later and is slapped on the shoulder and told, "Go! work, old man," cordially and who heartily by every friend and acquaintance—by lads who have "made" every honor possible, by lads who have "made" nothing, just as heartily, for that is the spirit of Yale.

Only juniors room in Durfee hall. On tap day an outsider is lucky who has a friend there, for a window is a proscenium box for the play—the play which is a tragedy to all but forty-five of the three hundred and odd juniors. The windows of every story of the graystone facade are crowded with a deeply interested audience. Grizzled heads of old graduates mix with dowerly hats of women. Every one is watching every detail, every arrival. In front of the hall are a drive and room for perhaps a dozen carriages next the fence—the famous fence of Yale—which rises the campus round. Just inside it, at the northeast corner, rises the tree. People stand up in the carriages, women and men. The fence is loaded with people, often standing, too, to see that tree.

All over the campus surges a crowd—students of the other classes, seniors who last year stood in the compact gathering at the tree and left it sore hearted, not having been "taken;" sophomores who will stand there next year, who already are hoping for and dreading their tap day; little freshmen, each one sure that he at least will be of the elect, and again the iron gray heads, the interested faces of old Yale men, and the gay spring hats like bouquets of flowers.

It is perhaps the most critical single day of the four years' course at the university. It shows to the world whether or no a boy, after three years of college life, has in the eyes of the student body "made good." It is a crucial test, a heartrending test for a boy of twenty years.—Mary R. S. Andrews in Scribner's Magazine.

They Were All "Pills."

One of the fashionable east side churches recently witnessed a funny incident at a choir rehearsal. They were preparing for the following Sunday morning a beautiful selection, the first words of which were, "I am a pilgrim." It so happened that the music divided the word "pilgrim" and made a pause after the syllable. The effect was most amusing. The soprano sang in a high key "I am a pil" and then stopped. The tenor acknowledged that he was a "pil," and when the bass came thundering in with a like declaration, "I am a pil," it was too much for the gravity of the singers, and they roared. No amount of practice could get them past the fatal pause without an outburst, and the piece had to be given up.—Musical World.

Clever Dwarfs.

Richard Gibson and his wife, who flourished in the seventeenth century, were a remarkable pair of dwarfs, quite apart from their inches, which combined barely made up seven feet. Both were clever painters of miniatures, and Gibson was drawing master to the daughters of James II. At their wedding, which was arranged by Henrietta Maria, Charles I. gave the bride away, the queen placed a valuable diamond ring on her finger, and Edmund Waller, the court poet, wrote a poem in honor of the occasion. Gibson was seventy-four when he passed away, while his widow died at the advanced age of eighty-nine years.

Madagascar's Two Climates.

The island of Madagascar has two distinct climates, two classes of natives and two classes of fauna and flora. The island is about the size of France. Along the coast it is tropical and malarious, and the natives are darker than in the interior. The interior is a high tableland and mountainous. There the climate is cooler and the natives smaller and lighter in color than on the coast. But in the interior they are more intelligent, and they rule the island.

Obliging.

Excited Author (rushing behind the scenes)—Why are you cutting out the second and third acts of my play? Manager—I am not cutting anything out. I'm merely varying the order of the acts. Several influential persons in the audience have asked me if it would not be possible to have the hero die in the next act.—Chicago Tribune.

Philosophy.

Learn to be pleased with everything—with wealth, so far as it makes us of benefit to others; with poverty, for not having much to care for, and with obscurity, for being unenvied.—Plutarch.

Her Own Introduction.

"When did you first become acquainted with your wife?"

"The first time I disagreed with her after we were married."—Pack.

There's beggary in the love that can be reckoned.—Shakespeare.

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