A BRIEF HISTORY OF THE STEEL TRAP AND ITS USE IN NORTH AMERICA

A. W. SCHORGER

All this is pleasure; but a Man of Sense,
Looks to his Traps; 'tis they bring in the Pence.
The Otter-season's short; and soon the frost
Will freeze your Traps, then all your Labour's lost.
—CAPT. CARTWRIGHT (1784)

The exploration and development of North America were due primarily to the activities of trappers. Furs were easily transported great distances and had high value for the weight represented. Of these, beaver pelts were the most desirable in the European markets. The Indians took the beaver by netting, shooting, spearing, and with deadfalls. The Colonials of Virginia and the Carolinas used steel traps rather extensively from 1700 onwards; however, until the beginning of the nineteenth century, the bulk of the furs were taken by the Indians by primitive means. The use of steel traps did not become important until about 1750 when white trappers began taking beaver west of the Alleghanies, and eventually on the Missouri and the shore of the Pacific.

There is a paucity of information on the development of the steel trap and its use in the fur trade in North America in spite of its importance. Much useful data must rest in the records of the early fur companies, particularly the Hudson's Bay Company, London, which were not examined.

There is general agreement that the steel trap was a refinement on the various types of torsion traps, some of which are of ancient origin. **According to Larouse** the modern steel trap was developed from the traquenard, a trap used preeminently for taking beasts of prey. This trap was in use in the Middle Ages and is mentioned by even more ancient writers. It consisted essentially of two boards with teeth on one edge, kept apart by a stick serving as a trigger, and held under high ten-

^{*} All numbered references are listed at the end of this article starting on page 196.

sion by means of a spring, or more often twisted double cords. The animal in trying to reach the bait stepped on a treadle which displaced the stick and allowed the two boards to close firmly over the neck of the victim. Some of the early steel traps were also designed to catch the animal by the neck rather than by the foot (Fig. 6). In some traps the tension was supplied by a strong bow made of holly or whalebone.³

Steel traps were long in coming into common use. Aside from torsion traps, pens, deadfalls, and pits were used for taking wolves and other animals. The monks of Melrose, during the reign of William I (1165–1175), had a provision in their charter permitting the trapping of wolves.⁴ There is nothing in the grant* to indicate that steel traps were used. The *piege* of du Fouilloux⁵ for taking wolves was a pit. Nor are steel traps mentioned for the taking of wolves in Ireland in 1584.⁶

EARLY DESIGNS

Traps made in whole or in part from iron may be very old. Crescentiis⁷ describes an iron trap as follows:

Foxes and wolves are captured especially with an iron trap, which has about it many sharp barbs, and these have about them a ring on which they are hinged, to which is attached a piece of meat. Everything is firmly fastened to the ground except the meat. Whenever the wolf lifts the attached meat with his teeth, the ring lifts the barbs around the head and neck of the wolf and the more strongly he tries to get away, the more strongly he is held. Also they make other traps by which, by the feet or legs, all sorts of animals generally may be taken, which are hidden in the paths which they use. These traps are of such a shape or form that unless they have been seen they cannot be understood.*

The trap described by Crescentiis does not contain a spring. The description indicates that the mechanism (Fig. 2) consists

^{*} Excepto quod non venabuntur ibi cum motis et cordis nec alios ducent ad venandum nec pedicas ibi ponent nec ad capiendos lupos neque accipient infra has divisas accipitrum et spervariorum nidos.

^{*}Uvlpes et lupi precipue capiuntur quadam taiola ferrea. que circa se multas habet rampones acutos, et ipsi habent circa se annulum, prope se vbi annexi voluuntur, ad quem annectitur frustum carnis, omniaque occultata preter carnem in terra firmata iacent, Cum autem lupus carnem dentibus captam eleuat annulus eleuat rampiones circa caput et collum lupi qui cum forcius trahit, et recidere nititur forcius stringitur et tentur, Item fiunt alie taiole quibus in pedibus siue cruribus omnes generaliter bestie capi possunt que occultantur in itineribus quibus vtuntur, que sunt talis figure aut forme quod non nisi oculata fide intelligi posset.

of a ring, pinned or otherwise securely anchored to the ground, on which are hinged a number of iron rods barbed at the tip. These rods radiate like the spokes of a wheel. Surrounding the base ring is a second ring on which the rods rest. The second ring has cross bars to which the bait is attached. The trap when set lies flat on the ground and is easily concealed with crumbled

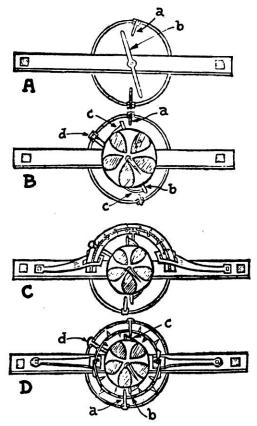


FIGURE 1. Spring trap after Mascall (1590). The letters have been added.

earth. When the wolf jerks the bait, the outer ring rises carrying with it the barbed rods which quickly surround the head of the wolf.

The first dated edition of the work of Crescentiis, of Bologna, was published in 1471; however, it was completed about 1305.

A cut (Fig. 1) of a steel trap with springs was published by Mascall⁸ in 1590. His description follows:

The griping trappe made all of yrne, the lowest barre, and the ring or hoope, with two clickets, and a turning pinne, which ring is set fast to the sides of the lowest barre.

More unto it is, a plate round in the middest, with five holes cut out, and a sharpe yrne pinne in the middest, which plate hath a spring on both sides under the edge of the plate. and they stirre not of joyntes up and down, as the other doth but standes fast in touching the crosse pinne under the plate.

Here is more with two springs untylde on both sides, in

holding together the two hoopes with nayles.

Now when the two springes are opened abroade and holde downe, here it is to be shewed as hee standeth tyled with the two springes, downe flat to the long barre on both sides, which springes are made of good steele, and as soone as the clickets which holde them downe under the plate when both the outward clickets be stirde. The two springes shuts them suddenly together and there is in the two shut-ting hoopes sharpe pinnes of yrne set one contrary to the other, with holes made for those pinnes to goe thorough and shut close together, that it will holde any thing, if it be but a rush or straw, so close they shut together. The two hoopes on both sides outward are made bigger and bigger upwarde, to hold more close when they come together, as ye may perceive by the hoopes within the springs, on both sides. Then there is at the ends of the long barres two square holes, which holes are made to pinne the long barre fast to the ground, when yee set or tyle him in any place at your pleasure. His clickets may so be made, that if any Otter, Foxe, or other, doe but tread thereon he shall be soone taken. This ye must binde a piece of meate in the middest, and put it on the pricke, and so binde it fast, and in pulling the baite, the clickets will slippe and the springes will rise. and so will take him. Thus much for this kind of trappe shall be sufficient to understand the order thereof.

The figures and description do not explain adequately the construction of the trap and its operation. Apparently the plate with the "pricke" fastened rigidly to it was free. Probably the trap (Fig. 2, B and D) functioned as follows: the springs c were pressed against the "turning pinne" b by forcing the set screw d against the edge of the plate. The more the screw was turned the more the springs were forced outward so that eventually one or both "clickets," resting over the jaws of the trap, would be held by the tip under the small springs. A slight displacement of the plate would cause it to slip above or below the end of the set screw. This would release the pressure on the small springs

which would move toward the plate, thus releasing the "clicket" a and permitting the jaws of the trap to close. It will be noted that in C and D the springs of the plate are on the opposite side of the "turning pinne" to that in B, in which case it would be impossible to hold the plate against the "pinne" by means of the set screw.

A single spring trap of simpler design (Fig. 3) is given by Fortin^{3a} (1660). That shown by Liger⁹ (1709) seems to be identical.

It is stated by Lagercrantz¹⁰ that jaw traps are first mentioned in the Swedish hunting literature by Risingh¹¹ (1671). A steel trap of the "hoop" type, designed to catch the animal by the neck, was in use in Finland by 1642. The Statens Historika Museet, Stockholm, contains a manuscript dating from 1642 which has a drawing of a Lappish drum on which are various figures including a trap and a fox. A version of 1645 in the library of Upsala University lacks the drawing. The drawing as well as both manuscripts have been published.¹² A photograph of the drum was obtained through the courtesy of Dr. Ernst Manker, Stockholm, Only that portion showing the trap and the fox is reproduced (Fig. 5). The manuscripts state that figure number twelve represents a "fox-iron" (räfjern). A more detailed drawing of a similar fox trap is given by Fleming¹³ (1724) (Fig. 6). Various designs are figured and described by Doebel¹⁴ (1754).

The design of the traps used by the English at the beginning of the eighteenth century is not known. Worlidge¹⁵ (1704) wrote: "Pole-cats, Wheasels, &c. these Animals are very injurious to Warrens, Dove-houses, Hen-roosts, &c. but the method to take them in Hatches and small Iron-gins like those made for Foxes, are so very well known, that nothing need be said of them." The same statement of the common knowledge of iron traps is made by Mortimer¹⁶ (1707), who recommends the steel trap for taking the fox and badger. At this time the use of a steel trap for taking rats is not mentioned.

It is of interest that while the inhabitants of northern Europe had such cumbersome and inefficient traps, the English, at least by 1768, had developed a model (Fig. 4) that does not differ essentially from that in use today. Robert Smith, 17 late ratcatcher to the Princess Amelia, warns against the use of too

wide a pan (bridge) as a fox may spring it without being caught. He continues:

But in order to prevent any such disappointment, I would advise that your steel traps for the Fox should be square in the jaw, and not round as the common traps are usually made, and strike but five inches high, and seven inches long in the jaw, with saw-teeth, and let the tail of the trap be two feet from the tail end of the spring, for they are generally made too short, from whence this inconvenience arises, that when a trap stands for some time in warrens or parks, the spring gives out, the purchase being so quick, whereas, were the traps formed on the principle above laid down, the spring would remain for a considerable time without giving way; and lastly, let the bridge of the trap be four square inches.

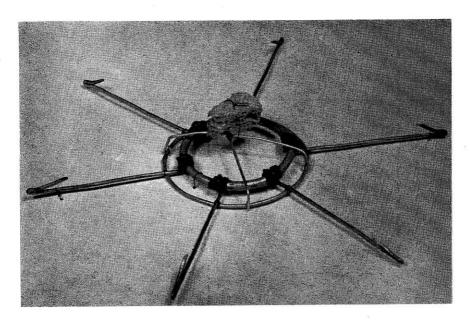
The identity of the springing mechanism with that of the modern trap is shown clearly by Cartwright's description of the "tongue" of a trap:

A small bar of iron, which is placed on one-side of the bed of a trap, and turns upon a pin: it passes over one of the jaws and the end of it is fixed under the heel of the bridge, which it supports until that is pressed upon; when, being set at liberty, the jaws fly up. 18

A trap in Newfoundland was called a "slip." Rev. Anspach, who lived on the island from 1799–1812, wrote: "Another sort of trap or snare used chiefly for catching deer, bear, or other large animals, is the *slip*, which is composed of different materials, according to the circumstances of the hunter, but mostly of iron." The remainder of the description is an almost verbatim copy of the above quotation from Cartwright.

There are some differences between present American terminology and that of Cartwright.^{18a} He uses bridge for pan, and tongue for dog. It is explained that to "tail a trap" is to fix it properly for catching an animal. This harks back to Mascall⁸ who uses the expression "set or tyle."

The similarity of the steel trap used by the Indians in Canada to the English rat trap, with the exception that the former had smooth jaws and double springs, is mentioned by Ballantyne,²⁰ and Milton.²¹ It should not be inferred in consequence that the beaver and similar traps were developed from the rat trap. All the information available shows that the steel trap was designed



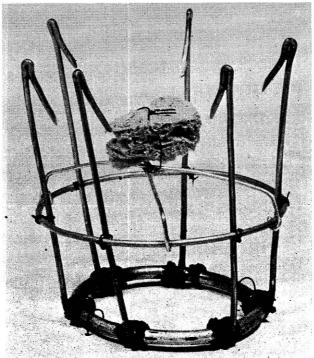


Figure 2. Model of trap after Crescentiis. Upper figure represents the trap set and lower figure the trap closed.

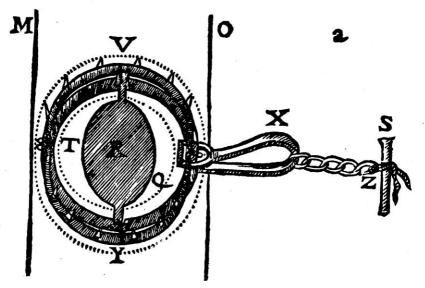


FIGURE 3. (Top) Spring trap after Fortin (1660).

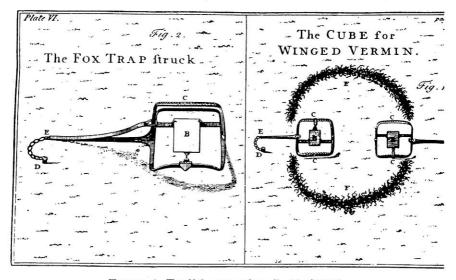


FIGURE 4. English trap after Smith (1768).



FIGURE 5. (Top) Lappish trap with approaching fox (1642).

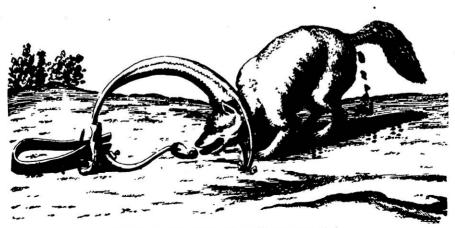
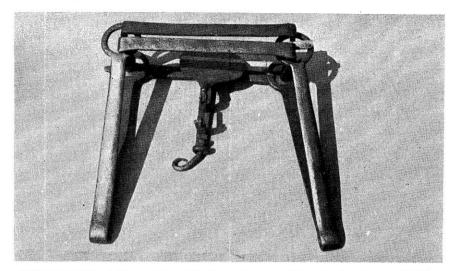


FIGURE 6. Fox trap after Fleming (1724).



 $\mbox{\footnotemark}$ Figure 7. (Top) Trap alleged to have been used by Daniel Boone. Photograph by George H. Breiding.

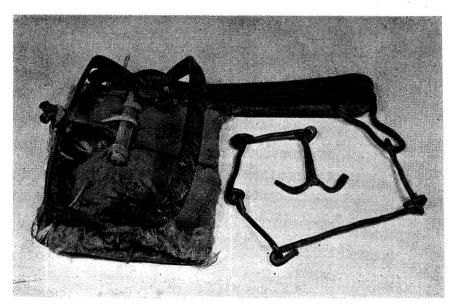


FIGURE 8. Trap of native manufacture from the Tangier Zone, Morocco, owned by William D. Schorger.

and used for large predators, e.g., the fox, before being made sufficiently small to take the rat.

There are over a hundred United States patents covering "freak" traps and modifications of the ordinary steel trap. The first important departure from the design of the English trap was the "jump" trap, for which Dr. A. S. Blake of Waterbury, Connecticut, was granted U. S. patent number 23,750 on April 26, 1859. In this trap the springs are placed in the base, making the trap short and compact. The name of the trap is derived from the tendency of the trap to jump when sprung. This style is still preferred for small mammals by many trappers. The advantages, according to Woodcock,²² are ease of concealment and the ability to set it in certain places where the trap with long springs is impracticable.

A trap of native manufacture, purchased in the Tangier Zone, Morocco, on March 25, 1949, by William D. Schorger, is shown in Figure 8. The rectangular base is 6.25 by 4.5 inches; length of jaws 5.9 inches; and length of spring 6.6 inches. The weight is 1.58 pounds. A piece of burlap is sewed over the base with palmetto fiber. In the middle is attached a strip of cane 3.75 inches in length that serves as a pan, but potentially a large portion of the area of the burlap may function in this capacity. The dog consists of a twig with a flattened tip which is attached to the base by a palmetto cord 1.25 inches in length. In setting the trap the "dog" is placed over a jaw and the tip inserted beneath the cane. The spring is attached at a right angle to the jaws. The trap is obviously copied from a European model. The crude springing mechanism may be due to economy or to the smith's lack of skill in making the finer parts of metal.

USE IN THE UNITED STATES

The early literature contains numerous references to the making of "traps" to take wolves and other animals. These were usually pits or deadfalls, and it is unsafe to assume that they were made of iron or steel. The records of Massachusetts Bay and New Plymouth Colonies contain ordinances governing the taking of wolves in "traps or other engines." In 1642 a law was passed that the various towns should make, bait, and attend daily a total of 27 traps. The scarcity and value of iron in the colonies precludes the probability that these traps were made of

metal. Iron traps, however, were in use, for it was enacted in 1633 that no "guns or Iron traps" could be set unless protected by an enclosure and not placed near any highway.^{23b}

The settlers in Virginia and the Carolinas were more venturesome than the other colonists and competed with the Indians in the taking of furs. It was in this region that the use of steel traps became common, and from whence it spread northward to Canada and down the Ohio Valley through the agency of "Kentucky" hunters. They seem to have been in wide use at the beginning of the eighteenth century. Byrd²⁴ wrote in 1728 that the Indians had scarcely any other way of taking the beaver than with snares, but the English used a steel trap. He remarked also: "Both Beavers and Wolves, we know, when one of their Legs is caught in a Steel Trap, will bite it off, and they may escape with the rest."

The loose terminology of the time makes it impossible in many cases to determine the nature of the mechanism employed in capturing animals. A snare was not only a noose, but a "trap," or "gin." Lawson²⁵ in 1700 visited the Saponas in North Carolina when the King "went to look after his Beaver-Traps." It is not certain that these were steel traps. However, Brickell²⁶ wrote in 1737:

They [beavers] are sometimes shot, but are taken most commonly after the following manner. The Planters break down part of their Dams, and lay Traps in those places, which the Beavers attempting to repair and mend at Night, are caught in them.

Only a steel trap could have been used in the swift water with any degree of success. The Moravians "set" traps and caught beaver near Salem, North Carolina, in 1753.27

The use of steel traps by both whites and Indians was extensive after 1750. Smith, a captive of the Indians, wrote that in the winter of 1756–57 in eastern Ohio: "Near this pond, beaver was the principal game. Before the waters froze up, we caught a great many with wooden and steel traps: but after that, we hunted the beaver on the ice." 28

In 1794 Loskiel²⁹ wrote that the Indians captured beaver in iron traps. Still earlier, 1779, Zeisberger³⁰ stated that since the Indians had learned the use of the steel trap from the whites, the beaver had been almost exterminated along the Muskingum River in Ohio.

A curious use of beaver traps was made by Captain Simeon Ecuyer at the siege of Fort Pitt by the Indians in 1763. On June 2 of that year he wrote to Colonel Henry Boquet: "I have distributed tomahawks to the inhabitants; I have also gathered up all of their beaver traps which are arranged along the rampart that is not finished." His misplaced confidence in the power of the beaver trap is shown in his letter of June 16: "I have collected all the beaver traps which could be found with our merchants and they were placed in the evening outside the palisades. I would be pleased to send you one with the leg of a savage, but they have not given me this satisfaction." ³¹

The "Long Hunters" who went into Kentucky in 1770 were equipped with steel traps.³² Daniel Boone returned to North Carolina during the year to obtain additional traps.³³ William Sudduth set his beaver traps in Saltlick Creek, Kentucky, in March, 1788;³⁴ and in 1792 James Miller of Knoxville, Tennessee, advertised steel traps for sale.³⁵

The West Virginia Historical Society has a trap (Fig. 7) which is stated to have been used by Daniel Boone to take beaver. It was presented by the Huddlestone family.³⁶ Bakeless³⁷ says that Boone gave the trap to the Huddlestones. Boone settled at Point Pleasant about 1788-89 and about 1790 stopped over night at the home of Daniel Huddlestone below Kanawha Falls, near the present site of Boone, West Virginia. The original account is by Hale³⁸ who obtained his information about 1840 from Jared Huddlestone, son of John Paddy Huddlestone (1771-1862). Boone having noticed fresh beaver sign in the river inquired for beaver traps. When informed that they had a steel trap for taking foxes, but no beaver traps, Boone set the fox trap in the stream in the presence of Paddy. Five beavers were caught the first day and the colony was soon exterminated. The taking of five beavers in one day with one trap using the customary set would be little short of miraculous.

I am indebted to Mr. George H. Breiding for the photograph of this old, hand-made trap and the following data: weight 5 pounds and 10 ounces; total length 31 inches; and length of jaws 93% inches.

Just when the New York Indians began to use steel traps is uncertain. On February 12, 1761, Sir William Johnson³⁹ wrote to Jeffrey Amherst that "Beaver & Fox Traps" were commonly

sold to the Indians. He estimated on October 8, 1764, that the Indian Trade would require 5000 beaver traps annually.^{39a}

Steel traps were used in the Indian trade in New England in 1747. On November 28 of this year J. Bradbury was credited by the province of Maine for the payment for three wolf traps at fifty shillings each. The provinces licensed the traders and furnished goods. On October 27, 1749, John Popkins was paid £9-13-0 for "cleansing" traps and on May 15, 1750, William Lithgow was given credit for seven beaver traps returned.⁴⁰

Alexander Henry spent the winter of 1763–64 in Michigan hunting with the Indians. He wrote: "The usual method of taking these [beavers] is by traps, formed of iron or logs, and baited with branches of poplar." The Indians of the Michigan area were supplied in part with traps from New York by Sir William Johnson. The inventory of goods for Indian presents in the King's Store at Detroit on July 17, 1781, mentions 38 beaver traps, and it was estimated that 60 traps would be required to August 20, 1782. The estimate for the year ending August 20, 1783, was 100 traps.

On July 6, 1774, Richard Wright of Detroit wrote to Hayman Levy regarding an order of trade goods which included 20 beaver traps. Levy Thomas Ainslie in 1788 that most of the furs were collected at Mackinac where the Indians exchanged them for goods such as "Traps for catching the Animals."

The Philadelphia firm of Baynton and Wharton began trading with the Indians in 1754. In the fall of 1763 George Morgan became a partner. The new firm of Baynton, Wharton, and Morgan continued in operation until 1776. Samuel Wharton and George Croghan in 1764 concocted the plan of sending goods to Illinois.⁴⁴ Morgan went to a post at Kaskaskia from which he wrote in February, 1768, that too great a quantity of beaver traps could not be sent.⁴⁵

The French-Canadian literature is almost completely silent on steel traps, but there appears to be one example of use. Beauharnois, Governor of New France, gave permission in 1727 to a party of traders to build a fort in the Sioux country. In the fall of this year Fort Beauharnois was built on the Mississippi on the western shore of Lake Pepin. One of the signators to the articles of agreement was Francois Campeau, a blacksmith. It was stipulated that he was at liberty to work at his trade for

anyone who wished to employ and pay him, in consideration of which he was to fulfill certain obligations to the Company.⁴⁶ In September, 1729, Beauharnois sent to the French Minister a report on the fort which contained the following:

Some days later a Chief Püant came to the fort of the French to see a man named Gigner who was there; he invited him to come and see him at his lodge, which he did, in spite of the representations of the other Frenchmen, where he was hardly come with a trap which he had with him when the Püants seized it, when he would have run at the risk of his life if some Foxes had not hindered him. Finally he had to make a bargain and give presents to get it back.⁴⁷

It is inconceivable that so much value would be placed on a trap by both Frenchman and Indian unless it were made of steel.

The manufacture of traps by French smiths in Wisconsin is first mentioned by Augustin Grignon. According to his earliest recollections (c. 1785) his father always employed a blacksmith at Green Bay to make traps and do other smith work. The trader Jacob Franks had a blacksmith shop at Green Bay prior to 1798 but it is not definitely stated that traps were made. In 1818 he obtained traps from Canada. He wrote to John Lawe from Montreal on March 11: "I have already 300 Beavor Traps Baled up . . . so that you see some Exertion must be made next fall to get the Followines up to the Missisipii."

Curot⁵⁰ was in charge of a trading post on the Yellow River, Wisconsin, the winter of 1803–04, where the Indians were using traps. Evidently the traps were provided by the post since there was a threat to take them from one Corbeau. The winter of 1804–05, Malhiot⁵¹ had twelve traps among the goods to be traded with the Indians at Lac du Flambeau. Dubuque,⁵² in the fall of 1806, sent an outfit to trap on the Missouri. The men squandered their time on the Des Moines River and when they returned in the spring he refused to accept what remained of their "guns, traps, and Kettles."

Among the goods taken by Perrault's⁵³ party to Fond du Lac (Duluth-Superior region) the summer of 1790 were "some traps and kettles." Anderson⁵⁴ was in charge of a post on the Minnesota River the winter of 1807–08, at which time he outwitted a fox by the use of six steel traps. At this time, if not long before, steel traps were in common use in Minnesota. Pike⁵⁵ states that

the Northwest Company bartered a beaver trap for four beaver skins, the equivalent of \$8.00 in money.

The earliest use of the steel trap on the Missouri and westward has not been determined. It is known that traps were carried in stock in southern Illinois in 1768. Before this time Kentucky trappers were active across the Mississippi. Daniel Boone moved to Missouri in 1799 and was soon engaged in trapping beaver. One cold day the winter of 1802–03 Boone had his hand caught in a trap and had to return with it to camp where he was released by his negro Deny.^{33a}

Traps formed part of the equipment of the Lewis and Clark Expedition of 1804–06.⁵⁶ In North Dakota on April 10, 1805, they overtook three Frenchmen trapping beaver. Lewis in a footnote expresses the opinion that they were the first trappers on the river.^{56a} This is doubtful since the French had been exploring the Missouri River region for over half a century. Again in North Dakota on August 12, 1806, they met two American trappers going up the Missouri with "20 odd good traps."^{56b}

The early trading companies depended on the Indians for their furs and do not seem to have included traps in their merchandise. Truteau⁵⁷ was stopped on the Missouri in 1794 by the importunate Sioux. Traps are not mentioned among the articles which he was forced to give as presents.

The Indians were so troublesome and unreliable that at the turn of the century it became customary for the traders to hire white "hunters." Pierre Menard, writing from the Three Forks of the Missouri on April 21, 1810, informed Pierre Chouteau that a party of their hunters had been defeated by the Blackfoot. Many of their traps were lost but 40 had been recovered. 58

Most of the subsequent expeditions mention traps as part of the equipment. Luttig⁵⁹ states that on May 11, 1812, some traps were taken on board at St. Charles, Missouri; and that on September 24, at the post on the boundary between North and South Dakota, four men went hunting taking with them ten traps.

LOANING TRAPS

The fur companies found that there were advantages in loaning traps to the Indians. This was a lien on their furs and the traps had a recovery value. Godman says:

The Indians inhabiting the countries watered by the tributaries of the Missouri and Mississippi, take the beavers

principally by trapping, and are generally supplied with steel-traps by the traders, who do not sell, but lend or hire them, in order to keep the Indians dependent upon themselves, and also to lay claim to the furs which they may procure. The name of the trader being stamped on the trap, it is equal to a certificate of enlistment, and indicates, when an Indian carries his furs to another trading establishment, that the individual wishes to avoid the payment of his debts.⁶⁰

The custom of loaning or leasing traps may have originated in the rivalry between trading companies. The X Y Company was founded in 1801 by dissenters from the North West Company. Curot, who was in charge of the X Y post on the Yellow River, wrote on March 4, 1804: "Smith arrived at one Oclock this afternoon with 3 Men that Mr. Sayer had sent off This morning For Corbeau's lodge, in order to take away His traps and skinning knives, in case Corbeau should give any plus to Smith. . . ." John Sayer was with the North West Company. Used traps appear frequently in the inventories of the American Fur Company. The practise was followed by the United States Factories. Manuel Lisa, sub-agent for the Indians, wrote to Governor Clark at St. Louis on July 1, 1817: "I lend them traps, only demanding preference in their trade." In the supplementary of the Indians of the Indians of the Indians of the Indians of Ind

Loaning was not confined to the Indians. Daniel Boone and Matthias Van Bibber were trapping on the Grand River, Missouri, the fall of 1804, when they were robbed of their traps and pelts by the Osage Indians. When the Indians were shown that the marks on the traps and pelts proved that they belonged to Chouteau, a St. Louis trader, they said that Chouteau must send to their towns to get possession.^{83b}

USE IN CANADA

General use of the steel trap in Canada came considerably later than in the United States. This was due in part to the confinement of transportation in Canada mainly to water. Traps were bulky, heavy, and expensive. The American trapper could use horses for carrying his equipment in nearly all sections of the country. None of the numerous early lists of trade goods examined mentions traps. As late as 1772 Cocking⁶² was "building traps for wolves."

The beginning of the use of the steel trap for taking beaver is discussed by Thompson: "Some three years ago [1794] the Indians of Canada and New Brunswick, on seeing the Steel Traps so successful in catching Foxes and other animals, thought of applying it to the Beaver, instead of the awkward traps they made, which often failed." 63

Some steel traps were in use by 1762 for on June 5 of that year traders going to Toronto were given a pass permitting them to take, among other goods, 41 steel traps.^{39b} Steel traps, some of which were double-spring, were used almost exclusively by Cartwright^{18b} who in 1770 began a long period of trapping in Labrador. Some of his traps were sufficiently large to be used for bear. He informs us that the Esqimaux did not have traps. On May 28, 1779, he mentions that 96 foxes were caught during the season, and

. . . had the traps not been so very old and bad we should nearly have doubled the above number. What I have now, are only the worst of my old stock; for the [American] privateer not only carried away six dozen of new ones, which had never been opened, but also what good ones they found in use. 18c

The Sauteaux Indians, about 1804, were using steel traps and the Indians of Labrador had them in 1808.64 Innis65 has expressed the opinion that the use of steel traps spread slowly in western Canada and stated as an example that only two pieces of traps (180 pounds) were sent to the Northern districts in 1818. However, Harmon wrote in 1820: "The greater part of the Indians, on the east side of the Rocky Mountain, now take the beaver in steel traps, which we sell them."66 According to Milton^{21a} the steel trap for taking small mammals was still somewhat of a luxury as late as 1862. The trapper, "if he is rich," has some steel traps.

NUMBER OF TRAPS USED

It is not possible to give statistics on the growth in use of steel traps. Sir William Johnson^{39a} in 1764 estimated that 5000 beaver traps would be required annually.

The records of the American Fur Company do not show clearly how many traps were traded annually. On April 22, 1820, Ramsay Crooks wrote to Robert Stuart at Mackinac that he was

obtaining 300 beaver traps from Canada.⁶⁷ Crooks on December 22, 1821, ordered from W. W. Matthews, Montreal, 320 beaver traps to be sent to New York, and 350 beaver and 240 muskrat traps for the Mackinac post for the trade of 1822. Again on October 20, 1823, Stuart ordered from Montreal 600 beaver and 450 muskrat traps for Mackinac.⁶⁷

An estimate of the number of traps required by the Outfits (Great Lakes) of 1835, sent on December 4, 1834, to R. Crooks by S. Abbott of Mackinac, is given below:⁶⁸

	Traps		
Outfit	Beaver	Muskrat	
Grand River	40	400	
Chicago and Milwaukee	20	400	
Green Bay	40	130	
Biddle and Drews	20	100	
Fond du Lac	240	250	
Warrens	60		
Lac du Flambeau	20	• •	
Ance	40	20	
Chippewa	20	.000	
	500	1300	
On hand 1st. December	153	382	
To be made by blacksmiths at Mackinac prior			
to June 1	347	600	
	500	982	
Have made at Detroit for safety	100	318	
		-	
Total	600	1300	

The inventory of 1833 shows that the Upper Mississippi Outfit had at St. Peters, Minnesota, 378 beaver and 1099 rat traps. 69

The equipment of a trapper of the Missouri Fur Company in 1809 included six beaver traps.⁷⁰ This also is the number given by Osborne⁷¹ for the period 1834–43. Irving⁷² states that each man had seven traps, while Ross⁷³ mentions that though six was the usual number, ten were frequently taken to guard against wear.

On June 22, 1833, Wyeth⁷⁴ wrote to Bonneville suggesting a joint trapping expedition in which the former would furnish 20 traps and the latter 40 for a party of twelve men.

MANUFACTURE

It is probable that a considerable number of the traps used in colonial times was imported from England. The latter country's main interest in the colonies was a market for its manufactures. However, no information on imports was found. The greater number of the traps was made by local smiths. The blacksmith was one of the important persons at the trading posts and one of the requirements for employment was that he be skilful in making traps. Mass production did not begin until the middle of the nineteenth century. Ignatius Wetzel began to work as a smith on the Menominee Indian Reservation, Keshena, Wisconsin, in 1854. As late as 1859 he reported that he had made "from 60 to 70 spring traps." Woodcock^{22a} had muskrat traps made by a smith in Potter County, Pennsylvania, in the 1850's and bear traps in 1871 or 1872.

The names of the individuals manufacturing traps are sometimes given. The firm of Baynton, Wharton, and Morgan⁷⁶ purchased beaver traps in 1768 from Baltzer Geer, whose residence has not been discovered. At this time trappers and traders were furnished with guns and other iron articles from Philadelphia and Lancaster.

Following arrival in Missouri, Daniel Boone^{83c} built a shop and secured a set of blacksmith's tools. Here he made and repaired traps.

The trade west of the Mississippi after 1800 was supplied largely from St. Louis, the goods being obtained from Philadelphia. Leber Pepin was sent from St. Louis to Philadelphia to learn their methods of making guns and hardware. ^{59a} In 1817 Lewis Newell arrived in St. Louis and began the manufacture of edge tools and other hardware. The quality of his work was so good that he acquired a great reputation for his wolf and beaver traps, and squaw axes.⁷⁷

The Missouri Fur Company's agent, Joshua Pilcher, testified in 1824 that his company always maintained blacksmith shops on the Missouri for making traps and other hardware. At that time it had two shops in the neighborhood of Council Bluffs, one at the Big Bend of the Missouri, and another among the Mandans.⁷⁸

The Newhouse trap was the first in America to be standardized and manufactured on an extensive scale. 79 Sewell Newhouse

was born at Brattleboro, Vermont, in 1806. In 1820 his family moved from Colerain, Massachusetts, to Oneida County, New York. He began making traps for his own use at the age of seventeen. The springs were forged from the blades of old axes. These traps after a season's use were sold to the Indians at \$.62 apiece.

The Newhouse family in 1849 joined the Oneida Community which had been founded the year previously at Oneida. Newhouse made only a small number of traps during the next few years. In 1855, due to requests for traps from Chicago and New York, he established a shop for making them. Three men were employed using the customary blacksmith's tools. This was followed by the installation of power machinery.

The plant in 1872 employed nearly one hundred people and made six sizes of traps.⁸⁰ Three years later the annual capacity was stated to be 300,000 traps.⁸¹ However, during the eight years ending in 1874, only about 750,000 traps were made.^{79a} Over 300,000 pounds of iron and steel were used annually.

The Newhouse traps established and maintained an excellent reputation. The tale is related that Newhouse set and sprung his traps in ice-water to demonstrate their quality to the Indians. They were astonished that the springs did not break. When the Oneida Indians removed to Green Bay, Wisconsin, in 1846, they are reputed to have taken Newhouse traps with them and spread their fame in the West.⁸²

The manufacture of traps by the Oneida Community was discontinued in 1925 and certain assets were acquired by the Animal Trap Company, Lititz, Pennsylvania.

The firm of Blake, Lamb, and Company was organized in Waterbury, Connecticut, in 1865 to make the Blake "jump" trap.⁸³ It was incorporated in 1867. The founders were Dr. Amos S. Blake, born in Vermont in 1812, and William Lamb, born in Jewett City, Connecticut, in 1805. The business is at present conducted by the Hawkins Company, South Britain, Connecticut.

STEEL USED

A constant difficulty in the manufacture of traps in the early days was the quality of the steel. Most of the steel was obtained from England, but some from Sweden and Germany. On February 27, 1820, R. Crooks wrote to W. W. Matthews, Montreal:

The 7 Cwt. Steel we want is (Sylvester says) Crawley or Crawley No. 1—the bars are perhaps rather over ¾ inch wide by ¼ inch thick.—It is the kind Maçon the Trapmaker always used, and I dare say you know the article well. There is plenty of German Steel in New York, but *none* of the description we require.⁶⁷

Also Stuart wrote from Mackinac to Crooks on November 19, 1820: "The steel you sent will not answer for the traps. . . . The Steel wanted is Crawley No. 1, $\frac{5}{8}$ in. and $\frac{1}{4}$ in. thick.

Some domestic material was used. Crooks on December 27, 1822, objected to paying \$140 per ton for iron from the Juniata Works.⁶⁷

A cheaper but undivulged method of making traps was developed at Mackinac. Stuart wrote to J. J. Astor on March 11, 1827:

Have the goodness to add to the general order for this place $1000\sharp$ nail plate Iron $23\!\!/_4$ inches wide (if not to be had exactly of this dimension, better a little wider than narrower) it is for Rat-Traps which we have devised a way of making at $3\!\!/_3$ the labor heretofore attending them but it can be effected only by having this Iron . . . want of it would be a most serious disappointment. $67\!\!/_5$

The quantity and quality of the metal used at Mackinac is given in the letter of June 29, 1827, from Stuart to Astor:

Have the goodness to send up at your early convenience 800# Millington-Crawley steel No. 1½ by ¾ Inch for Beaver Traps—1000# half inch square Iron—2 bunches faggot Iron (1 inch) 300# nail rod Iron ¾ In: 400# Millington-Crawley steel No. 1 2/8 by ⅓ inch for Rat Traps—These articles we must have before the close of the navigation—for I must get our traps made here, else we shall I am afraid be always imposed upon. 67

Nail rods were used to make the jaws. Stuart wrote to John Lawe at Green Bay on September 8, 1826, regarding a shipment of iron and steel: "The Hoop Iron is for the plates of the Traps—& the Horse Nail Rods for the Jaws."⁸⁴

The German steel caused difficulty. Abbott wrote to Crooks on December 4, 1834: "Our German Steel turns out very bad, in making 200 Beaver trap Springs the loss was 44. would it not therefore be well to have made in New York this winter 200 Pairs Beaver Trap Springs & 100 Pairs Rat trap Springs?" 68

QUALITY AND SPECIFICATIONS OF TRAPS

The quality of the early hand-made traps was generally poor. In 1811 Macdonell⁸⁵ complained that in England the manufacture of edged tools for cold countries was not understood. The great defect in traps was the snapping of the springs when set at low temperatures. Simpson wrote on May 18, 1821:

The supplies of this Department [Athabasca] generally speaking are of good quality, the Ironmongery excepted, which is really a disgrace to the Tradesmen who furnish it. On our Axes Beaver Traps and Guns the existence of the people and Trade in a great measure depends, therefore the utmost attention should be paid to the manufacture of those articles. The Beaver Traps (marked MS on the Bait plate) are too weak and made of the worst British Iron, whereas they should be the best Swedish: the Cross plate is too slight and should be fastened by a Screw and Nut instead of a Clenched Nail. The Traps are now packed up as required for use whereas the pieces should be packed up seperately in order to be put together at pleasure, which would prevent breakage in the transport hither: the Indians complain that the Traps are altogether too slight, so weak as not to hold a full grown Beaver. The NW traps are much stronger, and the Indians frequently retain part of their hunts for the purpose of trading their Traps with our opponents.86

On January 11, 1834, John Rowand, Fort Des Prairies, wrote to James Hargrave, York Factory, in the same vein:

... and while I think of it allow me to remind you that the Beaver & Rat Trap springs we got from you are the worst articles you can imagine every one we got this last summer cannot endure the cold weather & less the cold water before they broke in two & the Natives bring them all back to us in pieces do my friend give your Blacksmiths a lesson we lose a great deal by it.87

The objective of our government to protect the Indians from the rapacity of the traders by the establishment of factories was never realized. This was due in part to the poor quality of the trade goods. On September 30, 1810, J. B. Varnum, U. S. Factor at Mackinac, wrote to Gen. John Mason, Superintendent of Indian Trade:

Our Steel Traps are also an article so miserably made that they never will sell for one half what they first cost; I have offered them at that, and have not been able to vend one of them; in fact they are not worth any thing more than so many pounds of old Iron Hoops; of which they are in part manufactured.⁸⁸

The correspondence of the American Fur Company contains an occasional letter of commendation, but mainly lamentations, on the quality of the traps. Ramsay Crooks wrote to W. W. Matthews on January 10, 1818, that "Jean Baptiste Maçon is the Trapmaker"; and on February 14 of this year: "Maçon's Beaver Traps of last year were so good that we would have preferred getting them of him again but by Superintending occasionally the persons you now employ, we will get work nearly if not quite as good."⁶⁷

The Company showed constant solicitude over the quality of its ironware. On December 5, 1821, Crooks wrote to Russell Farnham, Des Moines River: "... care will be taken that both your Axes & Traps are good, for I feel very anxious that the Indians learn to pay their credits—and we can at least try to do away [with] the usual pretence of the articles being bad."67

Anxiety over the traps continued. Stuart wrote to Crooks on October 17, 1822: "Some complaints have reached me of the Montreal traps: I hope Mr. Matthews will look well after old square toes, who makes them." On the same date he wrote to Matthews to improve the quality of the springs. The following year, December 14, 1823, Matthews was again reminded that the traps were "very bad."

Miles Standish, a trapmaker of Montreal, rose and fell in grace. Stuart wrote to Crooks at St. Louis on May 16, 1822: "You did not ask for Beaver Traps, but I send you 25 to show you the Superior Style of Standish's work, a few of them are made large and almost square, this I had done to see which are preferred in that quarter." ⁶⁷

The work of Standish may have been satisfactory for the next few years, but on June 29, 1827, Stuart wrote to Astor:

We have just examined the Traps you had made by Standish and I am sorry to say that they are literally good for nothing, which will be of most serious consequence to our next year's business—his conduct in imposing such trumpery on the Company, is most disgraceful,—after having charged about 50 cts too much, we certainly had reason to expect good and faithful work if I could now purchase other Traps, I would not send one of his into the Indian Country.⁶⁷

Stuart continued devastatingly on August 10, 1827:

In consequence of what Mr. Clapp remarked about Standish's Traps, I re-examined them, but I found them no better than before—indeed some of the Traders preferred going without, than to take them, what they required. Mr. Clapp seems to think it is with the filing & polishing we quarrel, but that altho' desirable is of minor consideration—The Springs are so bad and weak, that some of the Traps can be opened by drawing the Jaws apart with the Fingers—the Jaws of all come very badly together; and as conclusive evidence of their want of Strength and Solidity, they weigh but from 134, @ 2 lbs—whereas Mr. Standish must recollect that the Contract I entered into with him fall of 1823 required that each should weigh 3 lbs.—this with good workmanship would prevent their having the rickets, as they now have. 67

Stuart on August 18, 1827, informed Astor that he was sending him one of the worst and one of the best of Standish's traps, between which there was little difference. He also forwarded a trap of the kind desired and such as Standish used to make when employed at Mackinac. In addition there was included a trap sent by Standish the year preceding as a sample for fulfillment of the contract. Stuart adds: "The trap I send you as sample, is not filed at all, because I wish to show it in the natural state—but those you may contract for should be filed because it gives them a handsome polish &c, which much pleases the eye of the Indians." 67

The purchase of traps was based usually on a sample submitted to the smith. The American Fur Company had specifications but a copy could not be located.

In preparation for his western expedition, Capt. Wyeth^{74a} on February 13, 1832, ordered from Davenport and Byron, New York, "20 Doz of the traps such as you name and such as used by Mr. Astor." Prior to this time, January 28, he inquired of his brother Leonard if beaver traps could be purchased in New York. The trap should have double springs, jaws without teeth, a chain six feet long with two swivels, and weigh five pounds.

Samuel Abbott, Mackinac, specified on April 9, 1835, that the springs for beaver traps should be 81/4 inches in length and those for muskrat traps 6 inches in length "to the bend of the Spring." 682

Wyeth's letter of February 4, 1834, to Tucker and Williams, Boston, contains the method of testing a trap:

I do not think the traps will be according to sample therefore it will be requisite to examine them carefully and compare them with the patern, which is in Brainerds possession. They should be equally well finished with the patern and by contract are to be set for one week and then rejected if the springs do not come up fair or are broken. I have agreed, if he would have all of them finished by 7th Feb. to give him \$15 over and above the contract. If Brainerd will not agree to have them set on board the Packett and take back all that do not prove good on their arrival in Baltimore, it will be requisite to retain them in Boston one week in order to try them by setting at the end of which time, if the springs are unbroken and come up fair and they are as well finished as the sample he will be entitled to \$165 for one Hundred traps, this provided they are delivered to you on the 7th inst but if delivered after that time he is only entitled to 150\$.74b

Chief Factor John Lee Lewes, Cumberland House, Saskatchewan River, on February 5, 1839, ordered ten large beaver traps to be used in taking foxes. They were to be

. . . of the following dimentions extreme length of the jaws' of the trap when open 10 Inches. the Iron supporter on which the bait plate works 2 Inches high, the plates to be very light, and nearly to fill the whole interior of the trap when sett. the springs' strong. with good swivel chains 3 feet long.^{87a}

An old beaver trap found near the site of Fort Hall, Idaho, an early Hudson's Bay post, has been described by Young.⁸⁹ It has a length of $23\frac{1}{2}$ inches. The length of each spring is $7\frac{1}{8}$ inches and the spread of the jaws is 6 inches. In its present condition the weight is $2\frac{1}{4}$ pounds. Allowing for the missing chain and pan, and loss by rusting, the original weight was probably about 4 pounds.

COST

The cost of traps varied considerably. Their value increased with the distance from the source of manufacture due to the expense of transportation. In 1764 and 1769 Sir William Johnson, ^{35c} Johnson Hall, New York, purchased beaver traps at 10 shillings New York currency or 6s/8d sterling. This is \$1.42

based on sterling. A bill to him from Duncan, Phyn, and Ellice, sed Schenectady, dated July 2, 1766, covers 57 steel traps at 9s.*

The invoice book⁷⁶ of Baynton, Morgan, and Wharton shows payment of 50 pounds to Geer on July 20, 1768, for 100 beaver traps. The cost per trap was therefore \$1.30. A wolf trap in Maine^{40a} in 1747 was valued at 50s (\$8.05).

The inventories of two estates in Jefferson County, Kentucky, in 1782 list one "steel trap" at 25 shillings and three at 3 pounds 15 shillings.⁹⁰

A requisition for presents to the Indians at Amherstburg, Canada, in 1798 called for 50 beaver traps at 10s. Another from the Indian Department, La Chine, dated October 2, 1799, listed 100 beaver traps with chains at 6s. The 20 beaver traps wanted in 1809, in case of war with the United States, were priced at 8s/6d. 42c

The traps purchased by the Indian Office of the United States were not only poor in quality but very high in price. Varnum at Mackinac, on September 12, 1810, made this complaint: "The price of a first rate Trap in Montreal is generally seven to eight shillings Halifax currency; more than one hundred per cent less than ours cost in the States, consequently they would not sell even if they were of good quality, much less in their present state." An inventory of goods on hand at the Mackinac Factory on December 31, 1809, has an entry of 110 beaver traps valued at \$342.10, or \$3.11 each. There remained in stock on September 30, 1811, 12 "superior beaver traps" valued at \$66.00, or \$5.50 each."

The traps carried at the Fort Wayne, Indiana, Factory of the Indian Office showed considerable differences in value. In 1803, 1805, and 1806 beaver and other traps were carried in the in-

^{*}It is very difficult to follow the gyrations of the colonial currencies and that of the United States, and give the value of the traps based on the purchasing power of the present-day dollar. There is lack of agreement among scholars on the values of the colonial currencies. Taking the table given by J. Wright (The American Negotiator, 2nd ed., London, 1763: p. vi), the values of the various shillings would be:

One	shilling	sterling	21.4	cts.
44	"	New England	16.1	"
"	"	New York	12.2	"
"	**	Pennsylvania	13.0	"

The Halifax currency was the same as New York. The above values were calculated to the Spanish dollar on which our currency was subsequently based. It was worth 4s/8d (l.c. p. 7). Johnson's traps cost accordingly \$1.22 New York currency and \$1.42 sterling, a considerable discrepancy.

ventory at \$1.67 each. However, the prices of beaver traps from 1806–09 ranged from \$2.25 to \$3.00.92 In 1820, Lewis Cass, Governor of Michigan, as Superintendent of Indian Affairs disbursed four beaver traps at \$2.50 each and one at \$4.121/2.788

The American Fur Company secured beaver traps at a very low cost. On October 20, 1823, Robert Stuart, Mackinac, wrote to Ramsay Crooks:

I have entered into a contract with Mr. Standish to furnish us here 600 Beaver Traps (in Boxes of 20) at \$1.00 and 450 rat traps viz. 300 with two Springs at \$1 & 150 of one Spring at 75 cents, also 50 prs. Beaver Trap Springs at 50 cents—the Rat Traps are to be in Boxes of 40—& no charge for Boxes,—terms of payment 60 days from 1 Oct. after delivery—We are to furnish him say the 1100 lb. Steel ordered in General order, at cost and charges—He is bound to come up in the spring to deliver the Traps . . . and the terms are I think so favorable, that you will probably add what traps will be required at St. Louis and Detroit. 67

On June 20, 1826, Stuart asked James Abbott, Detroit, to procure and forward 150 muskrat traps at a cost not to exceed 80 cents; and on July 24 of this year he wrote that he was informed that rat traps could be obtained in Detroit for 4s/6d.⁶⁷

Costs were watched in a miserly fashion. Stuart wrote to Astor on June 15, 1827:

By the invoice I perceive that you pay Mr. Standish \$1.85 for Beaver traps, and 85 cts. for Rat traps, this is entirely too much, the most he should get for Beaver traps is \$1.50, and for Rat traps of two springs 75 cts. Two years ago when everything was much higher than it is now he delivered me the Beaver traps here (in Boxes free of every charge) at \$1.60 payable say in 6 mos. and last year he made them in Montreal at \$1. and we could have got them made at 80 cts.—Please let me know if your arrangement with him is for any definite period or quantity of work.⁶⁷

One reason for the cheapness of these beaver traps was that they weighed only two pounds or less. Stuart wrote to Astor on August 10, 1827, that \$1.25 was a fair price for a beaver trap. A rat trap with one spring should cost 50 cents and one with two springs 75 cents. In 1834 the cost of making a beaver trap at Mackinac was a little over \$2.00;68 and in April, 1835, it was \$1.58.

The inventory of the blacksmith shop at Mackinac in 1834 showed the following articles and their values:69

61 lbs. German steel for beaver trap springs @	$.12\frac{1}{2}$	\$ 7.62
170 lbs. blistered steel	.14 1/2	24.65
12 pr. beaver trap springs	.65	7.80
1½ pr. rat trap springs	.44	.66
381 beaver traps	2.00	762.00
401 rat traps, one spring		324.81
121 beaver traps, unfinished, ½ price		120.00(?)
4 trap swaging (?) moulds	1.00	4.00

The inventory of the Upper Mississippi Outfit of 1833 remaining at St. Peters includes the novel item of 18 house rat traps at 50 cents each.

An entry dated July 19, 1822, St. Louis, records the shipment of 30 beaver traps at \$2.72 each to George Davenport at Fort Armstrong on the Mississippi. In September of this year Louis Penconneau, Sr. was charged for 19 beaver traps at \$2.80 each. On November 10, 1835, Joseph Villandre purchased 6 beaver traps at \$10.00 each. In view of the price this transaction must have occurred on the Upper Missouri.

The contract between Capt. Wyeth and Mr. Brainerd, a blacksmith of Boston, in 1834 called for beaver traps at \$1.50.74b

The cost of a trap to the Indians was high even after taking into consideration the expense of transportation and the risk. In 1805, in Minnesota, the North West Company charged \$8.00 for a beaver trap. The price was the same in 1820.95

The winter of 1843-44 an Indian took from Bunnell's store at La Crosse, Wisconsin, "ten good otter traps, worth in those times, in choice furs, at least two dollars and a half apiece." ⁹⁶

A trap became very valuable when it reached the Rockies. A party of trappers belonging to the Missouri Fur Company was defeated in battle with the Indians in 1810. Menard wrote that the thirty men being sent to the place of the defeat would be given "only three traps each, not deeming it prudent to risk more. . . ."⁵⁸

While at a Gros Ventres village in 1810, Gen. James^{70a} purchased from the famous mountain man, John Colter, a set of six beaver traps for the price of \$120.00. Gen. William Ashley transferred his outfit near present Salt Lake City, to the firm of Smith, Jackson, and Sublette on July 18, 1826. Beaver traps were entered on the bill of sale at \$9.00 each.^{58a} The accounts of

the American Fur Company for 1832 and 1833 at Fort Union show that beaver traps were carried at \$12.00 and the springs at \$2.00 each. 58b

The winters of 1879–80 and 1880–81 were spent by Baillie-Grohman in the Rockies. He remarks that though beaver traps could be purchased for about eighty shillings a dozen in the western towns, they were "worth five or ten times that in the wilds." ⁹⁷

I wish to express my thanks to the State Historical Society of Wisconsin and the New-York Historical Society for permission to use the papers of the American Fur Company.

REFERENCES

- 1. I. MANNINEN. Die nord-eurasischian Torsionfallen. Eurasia septentrionalis antiqua (Helsinki). No. 6 (1931) 1-14; Sture Lagercrantz. Contributions to the question of the origin of torsion traps. Acta ethnologica (Copenhagen). (1937) 105-30.
- PIERRE LAROUSE. Grande dictionnaire universel . . . Paris, Vol. 15, "Traquenard".
- 3. Francois Fortin. Les ruses innocentes . . . Paris, (1660) Livr. 4, Tab. 9; 3a, Livr. 4, Tab. 4.
- 4. Liber Sancte Marie de Melros. Edinburgh, Vol. 1 (1837) p. 31.
- 5. JACQUES DU FOUILLOUX. La venerie. Paris, (1573) pp. 121-121a.
- JAMES E. HARTING. British animals extinct within historic times. Boston, (1880) p. 191.
- 7. Petrus de Crescentiis. Ruralium commodorum. Augsburg, (1571) Fol. 190a.
- 8. LEONARD MASCALL. A booke of fishing with hooke & line . . . Another of sundrie engines and trappes to take Polcats, Buzards, Rattes . . . London, (1590) pp. L1-L2.
- 9. L. LIGER. Amusemens de la campagne ou nouvelles ruses innocentes. Paris, Vol. 1 (1709) p. 73.
- 10. STURE LAGERCRANTZ. Vide Ref. 1, p. 112.
- 11. J. RISINGH. Een Land-Book. Västeras, (1671) p. 78.
- 12. ERNST MANKER. Norrbotten. (1935). Norrbotten Museum, Lulea.
- HANS FRIEDRICH VON FLEMING. Der vollkommene teutsche Jäger . . . Leipzig, (1724) plate 19, op. p. 120.
- Heinrich Wilhelm Doebel. Neueröffnete Jäger-Practica . . . Leipzig, (1754) plate op. p. 150.
- [John Worlinge]. Dictionarium rusticum & urbanicum. London, (1704) under Pole-cats. (Authorship formerly attributed to Nathan Bailey).
- 16. JOHN MORTIMER. The whole art of husbandry. London, (1707) p. 243.
- 17. ROBERT SMITH. The universal directory for taking alive and destroying rats, and all other kinds of four-footed and winged vermin . . . London, (1768) plates 1 and 7.

- CAPT. GEORGE CARTWRIGHT. Labrador journal. Townsend ed. Boston, (1911) p. 380; 18a, pp. 373 and 379-80; 18b, pp. 46 and 89; 18c, p. 265.
- 19. REV. LEWIS A. ANSPACH. A history of the Island of Newfoundland. London, (1819), p. 378.
- R. M. BALLANTYE. Hudson's Bay: or every-day life in the wilds of North America. 3rd ed London, (1857) p. 69. 1st ed (1848).
- VISCOUNT MILTON [WILLIAM FITZWILLIAM] and W. B. CHEADLE. The northwest passage by land. 4th ed London, [1865] p. 102; 21a, p. 101.
- 22. E. N. Woodcock. Fifty years a hunter and trapper. Columbus, [c1913] pp. 193-4; 22a, pp. 22 and 35.
- Records of New Plymouth. Vol. 1 (1855) p. 23; 23a, Vol. 11 (1861) p. 38; 23b, Vol. 11 (1861) p. 17.
- 24. WILLIAM BYRD. Histories of the dividing line betwixt Virginia and North Carolina. Raleigh, (1929) pp. 292-4.
- 25. JOHN LAWSON. History of North Carolina. Richmond, (1937) p. 45.
- JOHN BRICKELL. The natural history of North-Carolina. Dublin, (1737)
 p. 122.
- ADELAIDE L. FRIES. Records of the Moravians in North Carolina. Raleigh, Vol. 1 (1922) p. 86.
- 28. Col. James Smith. An account of the remarkable occurrences in the life and travels of Col. James Smith during his captivity with the Indians, in the years 1755, '56, '57, '58, and '59. Cincinnati, (1907) p. 61.
- 29. G. H. Loskiel. History of the mission of the United Brethren . . . London, (1794) p. 81.
- 30. A. B. Hulburt. David Zeisberger's history of the northern American Indians. Ohio Arch. Hist. Soc., Columbus, [1910] p. 61.
- 31. [MARY C. DARLINGTON]. Fort Pitt and letters from the frontier. Pittsburg, (1892) pp. 128 and 130.
- 32. H. Marshall. The history of Kentucky. Frankfort, Vol. 1 (1824) p. 9; R. G. Thwaites. Daniel Boone. New York, (1902) p. 92.
- 33. DRAPER MS 6S, p. 66, Wis. Hist. Soc.: 33a, pp. 229-31; 33b, p. 233; 33c, p. 243.
- 34. WILLIAM SUDDUTH. Filson Club Hist. Quart. 2 (1928) 54.
- 35. Knoxville Gazette. Feb. 11, 1792.
- W. S. LAIDLEY. History of Charleston and Kanawha County, West Virginia. Chicago, (1911) p. 66. Cf. Ruth W. Dayton. Pioneers and their homes on the Upper Kanawha. Charleston, (1947) p. 56.
- 37. JOHN BAKELESS. Daniel Boone. New York, (1939) p. 335.
- 38. JOHN P. HALE. Trans-Allegheny pioneers. Cincinnati, (1886) pp. 169-70.
- SIR WILLIAM JOHNSON PAPERS. Albany, Vol. 3 (1921) 335; 39a, Vol. 4 (1925) 559; 39b, Vol. 3 (1921) 755; 39c, Vol. 4 (1925) 559 and Vol. 7 (1931) 31; 39d, Vol. 5 (1927) 297.
- MAINE HIST. Soc. Colls. 2nd ser., 12 (1908) pp. 112, 113 and 120;
 40a, ibid. p. 120.
- 41. ALEXANDER HENRY. Travels and adventures. Chicago, (1921) p. 127.

- 42. Mich. Hist. Soc. Colls. 10 (1886) 496 and 632; 42a, 11 (1888) 382; 42b, 28 (1900) 560; 42c, 12 (1887) 275, 20 (1893) 660, and 23 (1895) 70.
- 43. G. C. DAVIDSON. The North West Company. Berkeley, (1918) p. 267.
- 44. M. K. TURNER. The Baynton, Wharton, and Morgan manuscripts. Miss. Valley Hist. Rev. 9 (1922) 236-41; Max Savelle. George Morgan, colony builder. Columbia Unv. Press, New York, (1932) p. 7.
- 45. GEORGE MORGAN. Ill. Hist. Colls. 16 (1921) 163 and 231.
- 46. WIS. HIST. COLLS. 17 (1906) 14.
- 47. Ibid. p. 69.
- 48. Augustin Grignon. Wis. Hist. Colls. 3 (1857) 252-3.
- 49. JACOB FRANKS. Ibid. 20 (1911) 35.
- 50. MICHEL CUROT. Ibid. 20 (1911) 405 and 449; 50a, ibid. p. 449.
- 51. F. V. MALHIOT. Ibid. 19 (1910) 167.
- 52. JULIEN DUBUQUE. Ibid. 19 (1910) 319.
- 53. JEAN B. PERRAULT. Mich. Hist. Colls. 37 (1910) 557.
- 54. THOMAS G. ANDERSON. Wis. Hist. Colls. 9 (1882) 160.
- E. Coues. The expeditions of Zebulon Montgomery Pike. New York, Vol. 1 (1895) p. 283.
- M. M. QUAIFE. The journals of Lewis and Ordway. Madison, (1916) pp. 104, 130, 192, 195, 197, and 230; 56a, p. 193; 56b, p. 388.
- 57. J. B. TRUTEAU. Am. Hist. Rev. 19 (1914) 313.
- 58. H. M. CHITTENDEN. The American fur trade of the far west. New York, Vol. 3 (1902) p. 897; 58a, Vol. 1, p. 4; 58b, Vol. 3, pp. 943 and 945.
- JOHN C. LUTTIG. Journal of a fur-trading expedition on the Upper Missouri: 1812-1813. St. Louis, (1920) pp. 29 and 81; 59a, n. p. 53.
- John D. Godman. American natural history. Philadelphia, Vol. 2 (1826)
 p. 35.
- 61. MANUEL LISA. S. Dakota Hist. Colls. 4 (1908) 132.
- 62. MATTHEW COCKING. Roy. Soc. Canada, Ser. 3, Vol. 2, Sec. 2 (1908) 106.
- J. B. Tyrell. David Thompson's narrative of his explorations in western America, 1784-1812. Champlain Soc. Toronto, (1916) p. 204;
 Cf. H. T. Martin. Castrologia. Montreal and London, (1892) p. 145.
- L. M. MASSON. Les bourgeois de la Compagnie du Nord-Ouest. Quebec, Vol. 2 (1890) pp. 342 and 427.
- 65. H. A. INNIS. The fur trade in Canada. New Haven, (1930) p. 266.
- 66. D. W. HARMON. A journal of voyages and travels in the interior of North America. Andover, (1820) p. 330.
- 67. LETTER BOOKS, Amer. Fur Co., US MSS B. Photostat Wis. Hist. Soc.
- 68. CALENDAR No. 80, Amer. Fur Co. Papers, N. Y. Hist. Soc.; 68a, Calendar No. 373.
- 69. CALENDAR No. 16, 404.
- 70. GEN. THOMAS JAMES. Three years among the Indians and Mexicans. St. Louis, (1916) p. 17; 70a, p. 35.
- 71. RUSSELL OSBORNE. Journal of a trapper or nine years in the Rocky Mountains: 1834-1843. Boise, (1914) p. 64.
- 72. Washington Irving. Adventures of Captain Bonneville. London, Vol. 3 (1837) p. 180.

- 73. ALEXANDER ROSS. The fur hunters of the far west. Chicago, (1924) p. 219. 1st ed (1855).
- 74. F. G. Young. The correspondence and journals of Captain Nathaniel J. Wyeth: 1831-6. Sources of Oregon Hist. Vol. 1, Parts 3-6 (1899) p. 59; 74a, pp. 39 and 27; 74b, pp. 107 and 110.
- IGNATIUS WETZEL. Report of the Com. of Indian Affairs for 1859.
 Washington, (1860) p. 49.
- 76. BAYNTON, MORGAN, AND WHARTON JOURNAL FOR 1767-74, p. 200. State Archives, Harrisburg, Pa.
- J. T. Schaff. History of Saint Louis City and County. Philadelphia, Vol. 2 (1883) p. 1258.
- AMERICAN STATE PAPERS. Indian Affairs. Washington, Vol. 2 (1834)
 p. 457; 78a, ibid. p. 310.
- SEWELL NEWHOUSE. The trapper's guide. 6th ed. New York, (1874) pp. 208-11; 79a, p. 211.
- 80. Mrs. L. M. Hammond. History of Madison County, State of New York. Syracuse, (1872) p. 535.
- CHARLES NORDHOFF. The communistic societies of the United States. New York, (1875) p. 278.
- 82. A. R. HARDING. Steel traps. Columbus, [c1907] p. 23.
- 83. Joseph Anderson. The town and city of Waterbury, Connecticut. New Haven, Vol. 2 (1896) p. 416.
- 84. GRIGON, LAWE, AND PORLIER LETTERBOOKS. Wis. Hist. Soc.
- 85. MILES MACDONELL, Canadian Archives, 1886. (1887) p. exciv.
- E. E. RICH. Journal of occurrences in the Athabasca Department by George Simpson, 1820 and 1821, and report. Champlain Soc. Toronto, (1938) p. 407.
- 87. G. P. DE T. GLAZEBROOK. The Hargrave correspondence, 1821-1843. Champlain Soc. Toronto, (1938) p. 134; 87a, p. 288.
- 88. J. B. VARNUM. Photostat Wis. Hist. Soc.
- 89. S. P. Young. The wolf in North America. Caldwell, (1946) p. 50.
- 90. FILSON CLUB HIST. QUART. 3 (1928) 72 and 126.
- 91. OFFICE OF INDIAN TRADE, NATIONAL ARCHIVES. Washington.
- 92. INDIANA HIST. COLLS. 15 (1927) 418, 447, and 458.
- 93. AMER. FUR Co. Account Book A, pp. 6 and 29. Mo. Hist. Soc., St. Louis.
- 94. AMER. FUR Co. Account Book W, p. 337. Mo. Hist. Soc.
- 95. James D. Doty. Wis. Hist. Colls. 7 (1876) 205.
- 96. L. H. BUNNELL. Winona and its environs. Winona, (1897) p. 245.
- 97. W. A. BAILLIE-GROHMAN. Camps in the Rockies. 3rd ed. New York, (1882) p. 258.