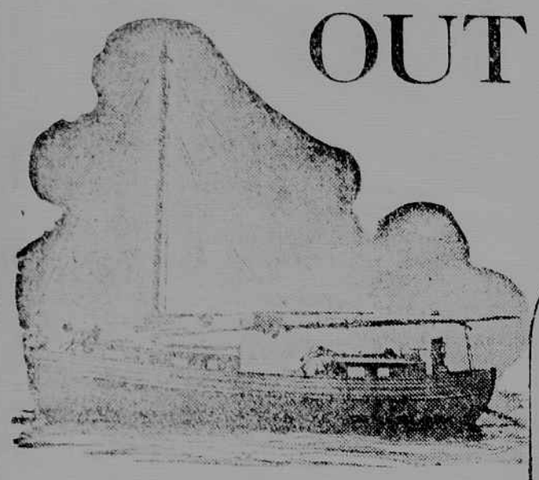
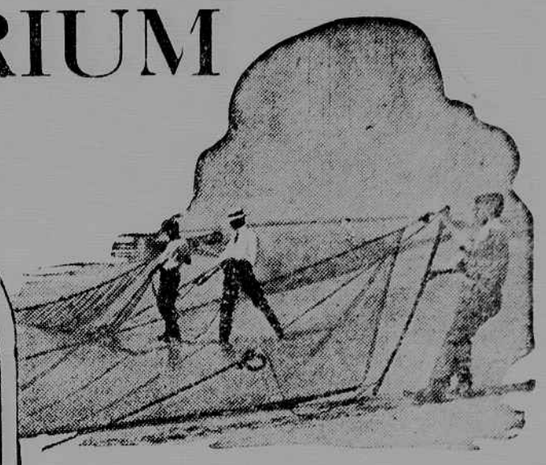
OUT FISHING FOR THE AQUARIUM

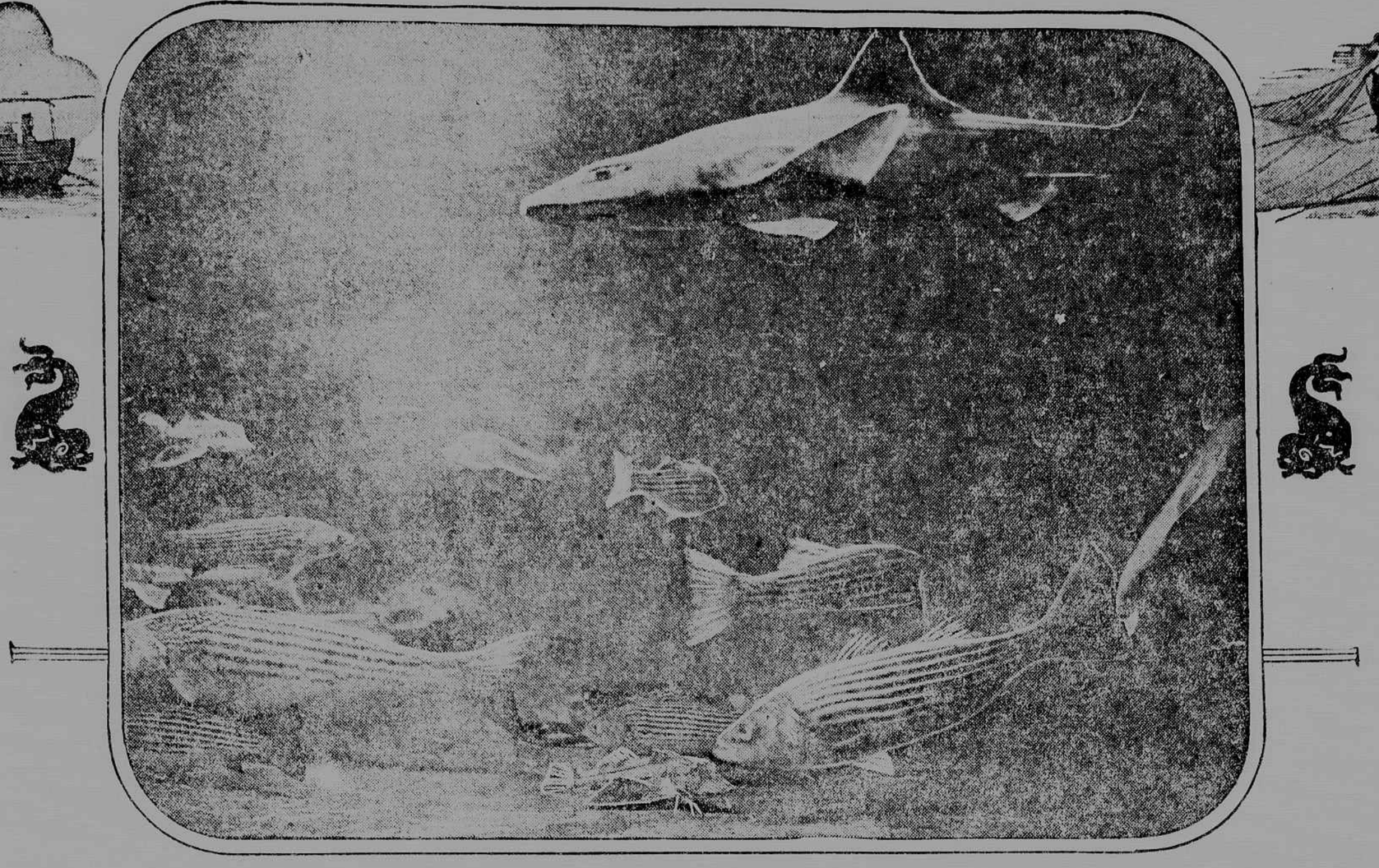
By BOYDEN SPARKES



The Seahorse, thirty-five feet over all, which is the official fish collector for the New York Aquarium



Dr. Charles H. Townsend, Aquarium director (at right), seining a bay beach for possible prizes



New York harbor residents "served under glass." A touch of captivity makes the fish world hin, which possibly explains why a shark, sea bass and a sea robin can dwell harmoniously in the same living room

THREE schooners were anchored in Horseshoe Harbor last summer, when the sleek-rigged Seahorse, sails furled and under the stimulus of her throbbing auxiliary, nosed her way silently into this indentation in the inner coast line of Sandy Hook. The helmsman of the thirty-five-foot craft selected an anchorage to windward of the other vessels.

"Mossbunkermen!" he exclaimed, and his expression was profane. So that the green deckhand might understand both his remark and the offensive, pungent odor that permeated the small harbor he added: "Menhaden schooners." There is nothing nautical so odorous as a menhaden schooner. On land there is the equally nauseous menhaden factory, where these undersized, inedible relatives of the lordly tarpon, silver king of Southern waters, are translated into fish oil and fertilizer in an atmosphere suggesting skunks boiled in ammonia.

In the forward cabin of the Seahorse a scholarly cook was preparing a supper of boiled potatoes, dried beef and coffee on an alcohol stove. As soon then was ready he reached behind him and placed it on the table, a wooden leaf that was yoked about the base of the mast. The cook, who was also captain, was Dr. Charles Haskins Townsend, director of the New York Aquarium and for many years in charge of the deep-sea investigations on the U. S. S. Albatross.

By extending his arms as he sat before the stove Dr. Townsend might have touched opposite sides of the hull of the Seahorse. Between this ten-foot long forward cabin and the seven-foot engine room cabin aft lay the cause of the Seahorse's being, a well in which to transport living exhibits from the fishing grounds to the Aquarium. This well was the principal section of the hull, six feet long at the bottom and the width of the ship. The keel section of the hull was perforated with holes the size of a quarter at twelve inch intervals, so that the thirty inches of water on the bedson constantly was being changed by the motion of the little vessel.

All public aquariums are obliged to capture their living exhibits. There are no dealers in fishes or invertebrates such as offer a constant supply of wild animals to zoological gardens and menageries. At the New York Aquarium, the largest in the world, all the specimen collecting is done by expeditions headed by Dr. Townsend. Until the Seahorse was launched, in 1920, the work had been attended by disheartening losses in transit, as the specimens had to be transported in small tanks carried in boats or wagons hired for the purpose.

It had rained severely in New York late in the afternoon of the day selected for this particular cruise of the Seahorse, a high wind being followed by a heavy downpour of rain. There had been some question as to whether the trip had better be postponed until collecting conditions were more favorable. But Dr. Townsend settled the matter by chanting:

> Wind, the wind and then the rain,
> Let your troubles long remain;
> First the rain and then the wind,
> Gather all your troubles in."

As the Seahorse set out from the Battery at 3 o'clock in the afternoon the waters of the harbor were being tossed into whitecaps and the vessel pitched and rolled scandalously. Dr. Townsend, however, sent his ship ahead with his preparations for supper. Walter Kelly, the engineer, who used to be a quartermaster aboard the liner St. Louis, had the wheel and steered a masterful course between the tugs, barges, crawling ferries and other harbor craft that scurried over the surface.

Callisen, barefooted and resembling any other harbor boatman, but distinguished from most of them by the numerals of his Princeton class worked on his watch fob, made fast a dock load of large galvanized iron cans, while Breder, a studious appearing young aquarist formerly connected with the United States Bureau of Fisheries and now attached to the Aquarium, solemnly made entries in the ship's log. These two, with Dr. Townsend and Kelly, constitute the regular company of the vessel on her weekly specimen hunts. The two visitors on this trip were in duty bound to help haul nets, and if they had any position aboard it was that of foremast hands.

"It'll take us two hours and ten minutes to make our anchorage," announced Dr. Townsend with scientific exactitude after consulting a tide table hanging above the alcohol stove. "We'll return with the tide to-morrow afternoon, getting back to the Battery about 3 o'clock." He proved to be quite right about the time to the anchorage in Horseshoe Harbor, as it was just ten minutes past 7 when Kelly exclaimed against the seagoing tribe of mossbunkermen and Callisen heaved the galvanized iron anchor over the port bow.

Ten years an resident naturalist aboard the Albatross made of Dr. Townsend a scientist who is more salty than any admiral in the world. The Seahorse is kept as shipshape as the finest man-o'-war in the American navy. If a pair of gum boots or a set of oilskins are stowed away in any place other than that designed for them there is conversation hurled about that probably makes an impression on the auditory organs of ocean dwellers beyond the 100-fathom line, at the edge of the Continental shelf—that submerged run of the land on which most of the food fish of the world is trapped for market.

Beyond that shelf is a region that offers more to the explorer than both the Arctic and the Antarctic circle, a region peopled by unseen monsters that could no more live without the pressure of tons to the square inch than man could exist on the surface of the moon.

The water that lapped against the hull of the Seahorse when darkness settled was filled with phosphorescent particles that seemed constantly to be exploding into tiny points of silvery fire.

"Plankton," said Dr. Townsend, explaining these were minute forms of marine life upon which larger forms were continually feeding, the feeding process pyramiding itself until finally the plankton is transformed into the flesh of the largest creatures of the ocean.

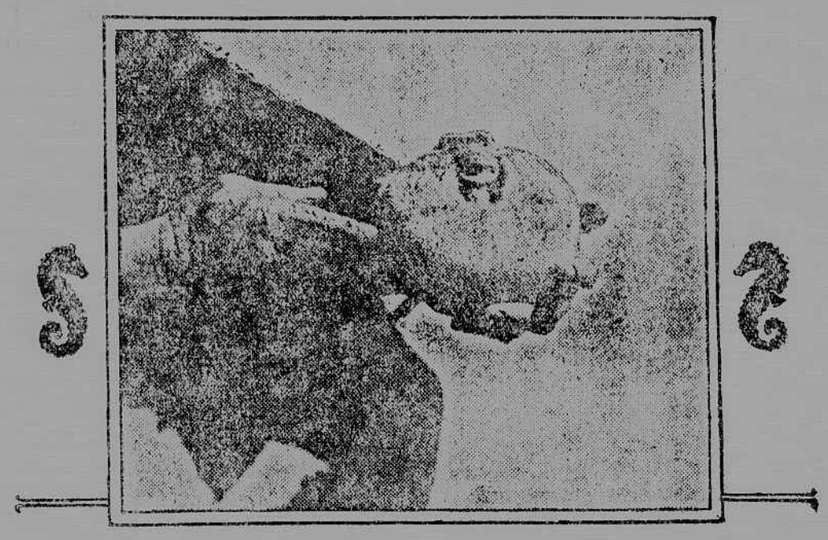
The company of the Seahorse sleep in pajamas, even though they descend to disrobe one at a time because of the limited space below deck. Dr. Townsend's ideas on the subject of sea-going pajamas are as definite and as fixed as his opinion on globigerine ooze. Even Kelly, accustomed through long years at sea to dropping into his bunk in wet oilskins for a nap on his short watch below, has been converted to the pajama philosophy and religiously dons them when sleeping aboard the Seahorse.

There are four bunks, two in each cabin, and so Breder and Callisen slept in folding cots on deck, while the other four crawled into bunks that were roomy enough, so long as the occupants made no effort to sit up. The deck was about fifteen inches above the surface of the bunk. It was almost comparable to sleeping in a coffin.

At daylight the expedition really began to function. The anchor was hoisted and the vessel was under way even before the mossbunkermen got started.

"We visit the pound nets first," said Dr. Townsend, "and get from them the inedible fish that these market fishermen ordinarily would throw back into the sea. We also pay them market prices for any other fish that we may happen to want. After we have visited them we'll begin casting our own nets."

My first guess — that they were called "pound" nets because only fish weighing a pound were held within the meshes—was 100 per cent wrong, Mr. Callisen scornfully informed me. He said they were pound nets because they impounded fish, as a dog pound impounds dogs.



Not a prize grape fruit, but a native New York puffer, all swollen up and no place to go. He gets that way when agitated, never having read Aesop's fable of the frog that burst

"A pound net," he continued, "is a trap net set to catch fish as they follow well defined movements. There are four parts. The leader is a 10-inch mesh net about 400 feet long and 10 to 20 feet deep, tarred and weighted at the bottom with large stones. It is set in a straight line and held above high tide level by poles driven into the bottom at intervals of about twenty feet. The second part is called the 'big heart.' It is composed of two nets set opposite each other so as to form the outline of the sort of hearts that are painted on valentines. The leader ends in the notch of the big heart and the lower end or point is truncated so as to form the notch of the little heart. The nets employed in these structures are three-inch mesh, tarred and weighted with chain. The big heart is 100 to 150 feet long with about the same width. The little heart is from forty to seventy feet in length and about the same in width. The point of the little heart, so-called, ends in a net funnel carried into a pocket or box of net. The only opening into this box is the small aperture in one of its four walls, through which the funnel is carried. The mouth of the funnel is about 6 feet square. The box, or pocket, is made of 2½-inch mesh tarred net and is from 25 to 30 feet deep, 55 feet long and 45 feet wide. The fish strike the leaders and are headed into the big heart, the little heart and finally the pocket. They always follow the line of the net in their efforts to escape."

Callisen, who had the wheel, told all these details without pausing for breath. He steered just then to the lee of such a structure as he had described. It was the pound net of Jacob Schnoor and his sons, who live in Belford, N. J., a little fishing village near the banks of Compton Creek. Perched saucily on the board sign, bearing the name of the owner, that was nailed to one of the sapling uprights was a black-crowned night heron, his short heavy beak clattering woodenly as he clamped it shut on the tail of a fish he had just stolen from the surface of the water in the pound.

"There are about forty of these nets around here, all owned by seventeen men, in operation now," continued Callisen.

The engine was stopped. The Seahorse rocked easily near the pocket, in which was a fishing boat, about thirty-five feet in length, ten feet beam and with a short deck at bow and stern. The floor of the net pocket had been hauled to the surface, exposing a flapping mass of fish that were being taken aboard the fishing boat in a scoop net suspended from a derrick arm angled from the mast.

Dr. Townsend went over the side and into the dory without waiting for his breakfast. He was wildly eager to get into that mass of fish, and hastily stuffed into his pocket money to pay for any marketable portions of the catch desirable as specimens. Several of the cans carried on the Seahorse's deck had been placed in the dory.

Before the rest of us had finished breakfast he was back, the galvanized iron tanks containing a couple of sea robins, toad fish, a small flounder or so and a few pipe fish. Breder, the aquarist, exclaimed over the pipe fish, which were about the size of a lead pencil, with a curiously formed head that suggested that of the sea horse.

"Pipe fish," explained Breder, as he tenderly transferred them to a small glass jar, "are close relatives of the seahorse. The male carries the eggs in a pouch, in which they are placed at the moment of fertilization by the female. **The seahorse is said to reproduce similarly."**

This was the beginning of a conversation that dealt with speculation as to the probable effect on human civilization if man had developed from the amœba stage through a line of descent that had included a creature akin to the pipe fish. It was agreed that had this been the case the earth to-day would be but sparsely inhabited.

At the next pound net visited Dr. Townsend invited me to accompany him in a small boat. One side of the pound was lowered a trifle below the surface of the water, so that our boat might enter this fish trap and come alongside the fishermen's craft. This was about thirty-five feet in length, with a beam of eight or ten feet.

A narrow bench, a trifle wider than the running board of a summer trolley car, ran along the inside of the hull, making a working platform, and bow and stern were covered with a deck for the same purpose. A small, close cabin aft housed an engine of about twenty horsepower.

Fishermen in yellow oilskins called out friendly greetings to the director of the Aquarium.

"There's some spider crabs forward, doctor, if you want 'em," offered the weather-beaten skipper, a man with enormous muscles, who leaned against the mast, the gaff of which served as a derrick arm to lift the dip net, with which the fish are "shoveled" out of the trap.

"We want them, all right," accepted Dr. Townsend happily. "There isn't anything you pull out of the water that people don't like to see."

"Well, I wish you'd take all of these blasted mossbunkers that keep the good fish from running as freely as they might."

"We can't transport them, even in the well of the Seahorse. They die very quickly."

The fishermen during this time were contracting the pound by hauling up first the wall and finally the floor, pinning the net, as it came over the side, to wooden stops set along the side of the hull above the board on which the men stood. Presently the fish came into view at the surface with a whirring of flapping tails and fins that sent a cloud of iridescent spray into the air to blow into the faces of the workers. There were enough fish there to have made loads for a couple of army trucks. The dip net was lowered into the mass, pushed in beneath them as a shovel might be worked into a pile of gravel. Filled, it was lifted over the side and the flapping contents spilled into the bottom of the boat.

Immediately the men began the work of sorting, tossing flounders into one bushel basket, croakers into another, weakfish into others.

"There's a splendid weakfish," exclaimed Dr. Townsend; "we'll buy him if we can," and when the five or six pound specimen was handed to him he tenderly placed it in one of the cans of sea water that he had brought along.

"Anything alive that you don't want we'll use," he said to one fisherman who held up a sea robin inquiringly. "I want a lot of those. Going to fix up a few small tanks of them to place up in the gallery." He called attention to the ambulatory fins on the under side of one of these creatures and to the wide-spreading pectoral fins, almost wings, extending outward just behind its gills, suggesting an elephant's ears.

The dip net was bringing over literally **bushels of menhaden,** their dark prismatic backs, spotted sides and white bellies making them as attractive to see as a brook trout, yet they are inedible. Callisen said they tasted much as raw linseed oil might.

"What's that? A croker?" Dr. Townsend reached for it eagerly.

Now and then a dark-green lobster came, sliding out of the dip net, claws raised menacingly. Some of these were taken, as were all of the puffers, queer toadfish that showed their resentment by filling their skins with air until they were spiny balls.

"It's a protective device," explained Dr. Townsend. "Other fish can't bite them now. They change their coloring as readily as a chameleon. Under water they expand by filling themselves with water, and when out of it **they suck in air."**

Placed in a tank the puffers floated a few seconds, and then collapsed to swim about on a hasty survey of their narrow quarters.

"Ah, there is something we want—a dogfish," said Dr. Townsend, and standing knee deep in fish he lifted up a small shark that squirmed and twisted as if made of rubber.

"Fine! Fine! Here's fluke and hog chokers. Haven't seen 'em in some time."

The director of the Aquarium had a huge horseshoe crab by its sticklike tail. The reddish brown shell was the size of a wash basin, the outline of its underside suggesting the iron shoe of a monstrous horse.

Harmless," soothed Dr. Townsend, aware that many people leave them strictly alone in the belief that the tail is a deadly marine weapon. "This creature is the nearest living relative of the extinct trilobites."

Returning to the Seahorse and transferring his fresh prizes to the well, Dr. Townsend decided that it was time to seine the beaches. **A 300-foot seine was piled in the stern of the small boat,** galvanized iron tanks were loaded in, and then in two trips everybody went onto the beach, leaving the deserted Seahorse to ride at anchor.

At each end of the long net was a pole or bar about five feet in length, the width of the seine. A hempen line was attached to each of these poles to facilitate handling. One of these lines was tossed up on the beach, and then, with Kelly at the oars and Callisen paying out the seine, a trap was laid for such forms of marine life as were feeding in the beach shallows. The boat, after dropping the net so that its cork floats formed a semi-circle on the surface of the water, was beached once more. Then the party divided, three to each end of the net, and proceeded to haul the seine. There were only four blue crabs and a tiny flounder that first time. The next haul brought up several dozen blue crabs, also some brown spotted lady crabs and a few spider crabs, their long legs covered with a moss-like growth.

All of the crabs were taken, not so much as specimens, but as food for the specimens in the Aquarium tanks.

There were also some flounders and puffers in that second cast. Common as he is in the markets, there surely can be no stranger fish in the ocean than the flounder. Designed to conceal himself in the sand and mud of the

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Marty McMahon's Reflections

By ROBERT B. PECK

"I'M FEELIN' pretty good to-day," remarked Marty McMahon, the retired bartender. I got no ill will to nobody. I hope all the boys get what they're after. I hope the Legion boys get their bonus; I hope them that's runnin' the farms get the laws fixed so they can make their own prices; I hope them that runs the ships get their subsidy; I hope the American valuation boys get the tariff they're after.

"If all hands get what they want it'll be a grand thing for the country. Instead of an Education Week like we had a while ago they'd be months an' years of education, an' it would be this here compulsory education, too, with nobody playin' hooky.

"Them that graduated would know a lot more about this country an' the folks in it than they do now. They'd all have diplomas in citizenship—every last one of 'em. They'd know that what they call the soldier vote an' the farmer vote an' so on didn't have no more flesh on their bones than the skeletons of them big dinnersores in the museum, an' the most delicate an' refined Congressman you could find wouldn't be no more afraid of 'em.

"Them vote skeletons, it's my opinion, is fixed up a whole lot like them in the museum, too. Some wise guy that ain't had much publicity burrows around till he finds a bone an' he says: 'This here that I dug up is a bone from the soldier vote skeleton.'

"Knowin' all about bones an' wires, he makes up a lot of the one an' pulls a lot of the other, an' gets busy an' fixes up a complete skeleton of the soldier vote, all with just the one bone to start on. Then he trots it out an' has a good time scarin' timid Congressmen. It's been done a lot, but it still does the business.

"Another wise guy that specializes in flesh an' blood can stand on the Capitol steps an' holler: 'There ain't no such animal' till he gets apoplexy without a single Congressman rappin' to him. They seen the skeleton themselves, you see.

"There ain't often such a gang of these skeletons all at once, though, an' prob'ly we ain't never had such expensive ones as now. That's what makes 'em so educational. If they all get by they'll do more for this country than the colleges, or John D. Rockefeller, or the Smith brothers or anybody.

"If the veterans an' the farmers an' the ship men an' all the rest get away with it, just about the time the new taxes an' the new prices get to where they can hold the bottle themselves the first lesson'll begin.

"You see each an' every one of them veterans an' farmers an' ship men an' so on will be payin' his share of his own bonus an' his share of all the other fellas' bonus. Right there a lot of 'em will begin to wonder if they wasn't just synthetic skeletons that started all the row, anyhow, an' if real flesh an' blood America ain't just one solid piece, an' if you stick a pin in it any place it hurts all over.

"When enough of 'em get that figured out the country will be educated to all intents an' purposes. That's why I'm feelin' so cheerful about it. I was kinda blue at first, but now I got the dope on it things ain't so bad. I shouldn't wonder a bit now if maybe my grandson would be able to go out an' buy him a rock an' rye when he had a cold without either gettin' pinched or poisoned. Things is on the mend."