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New York Manhole Covers, Forged Barefoot in India

By [HEATHER TIMMONS](#) and J. ADAM HUGGINS

NEW DELHI — Eight thousand miles from Manhattan, barefoot, shirtless, whip-thin men rippled with muscle were forging prosaic pieces of the urban jigsaw puzzle: manhole covers.

Seemingly impervious to the heat from the metal, the workers at one of West Bengal's many foundries relied on strength and bare hands rather than machinery. Safety precautions were barely in evidence; just a few pairs of eye goggles were seen in use on a recent visit. The foundry, Shakti Industries in Haora, produces manhole covers for Con Edison and New York City's Department of Environmental Protection, as well as for departments in New Orleans and Syracuse.

The scene was as spectacular as it was anachronistic: flames, sweat and liquid iron mixing in the smoke like something from the Middle Ages. That's what attracted the interest of a photographer who often works for The New York Times — images that practically radiate heat and illustrate where New York's manhole covers are born.

When officials at Con Edison — which buys a quarter of its manhole covers, roughly 2,750 a year, from [India](#) — were shown the pictures by the photographer, they said they were surprised.

"We were disturbed by the photos," said Michael S. Clendenin, director of media relations with Con Edison. "We take worker safety very seriously," he said.

Now, the utility said, it is rewriting international contracts to include safety requirements. Contracts will now require overseas manufacturers to "take appropriate actions to provide a safe and healthy workplace," and to follow local and federal guidelines in India, Mr. Clendenin said.

At Shakti, street grates, manhole covers and other castings were scattered across the dusty yard. Inside, men wearing sandals and shorts carried coke and iron ore piled high in baskets on their heads up stairs to the furnace feeding room.

On the ground floor, other men, often shoeless and stripped to the waist, waited with giant ladles, ready to catch the molten metal that came pouring out of the furnace. A few women were working, but most of the heavy lifting appeared to be left to the men.

The temperature outside the factory yard was more than 100 degrees on a September visit. Several feet from where the metal was being poured, the area felt like an oven, and the workers were slick with sweat.

Often, sparks flew from pots of the molten metal. In one instance they ignited a worker's lungi, a skirtlike cloth wrap that is common men's wear in India. He quickly, reflexively, doused the flames by rubbing the burning part of the cloth against the rest of it with his hand, then continued to cart the metal to a nearby

mold.

Once the metal solidified and cooled, workers removed the manhole cover casting from the mold and then, in the last step in the production process, ground and polished the rough edges. Finally, the men stacked the covers and bolted them together for shipping.

“We can’t maintain the luxury of Europe and the United States, with all the boots and all that,” said Sunil Modi, director of Shakti Industries. He said, however, that the foundry never had accidents. He was concerned about the attention, afraid that contracts would be pulled and jobs lost.

New York City’s Department of Environmental Protection gets most of its sewer manhole covers from India. When asked in an e-mail message about the department’s source of covers, Mark Daly, director of communications for the Department of Citywide Administrative Services, said that state law requires the city to buy the lowest-priced products available that fit its specifications.

Mr. Daly said the law forbids the city from excluding companies based on where a product is manufactured.

Municipalities and utility companies often buy their manhole covers through middlemen who contract with foreign foundries; New York City buys the sewer covers through a company in Flushing, Queens.

Con Edison said it did not plan to cancel any of its contracts with Shakti after seeing the photographs, though it has been phasing out Indian-made manhole covers for several years because of changes in design specifications.

Manhole covers manufactured in India can be anywhere from 20 to 60 percent cheaper than those made in the United States, said Alfred Spada, the editor and publisher of Modern Casting magazine and the spokesman for the American Foundry Society. Workers at foundries in India are paid the equivalent of a few dollars a day, while foundry workers in the United States earn about \$25 an hour.

The men making New York City’s manhole covers seemed proud of their work and pleased to be photographed doing it. The production manager at the Shakti Industries factory, A. Ahmed, was enthusiastic about the photographer’s visit, and gave a full tour of the facilities, stopping to measure the temperature of the molten metal — some 1,400 degrees Centigrade, or more than 2,500 degrees Fahrenheit.

India’s 1948 Factory Safety Act addresses cleanliness, ventilation, waste treatment, overtime pay and fresh drinking water, but the only protective gear it specifies is safety goggles.

Mr. Modi said that his factory followed basic safety regulations and that workers should not be barefoot. “It must have been a very hot day” when the photos were taken, he said.

Some labor activists in India say that injuries are far higher than figures show. “Many accidents are not being reported,” said H. Mahadevan, the deputy general secretary for the All-India Trade Union Congress.

Safety, overall, is “not taken as a serious concern by employers or trade unions,” Mr. Mahadevan added.

A. K. Anand, the director of the Institute of Indian Foundrymen in New Delhi, a trade association, said in a

phone interview that foundry workers were “not supposed to be working barefoot,” but he could not answer questions about what safety equipment they should be wearing.

At the Shakti Industries foundry, “there are no accidents, never ever. Period,” Mr. Modi said. “By God’s will, it’s all fine.”

Heather Timmons reported from New Delhi and J. Adam Huggins from Haora, India.

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