

# SCIENTIFIC AMERICAN

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## CIGAR MAKING.

Ever since the breaking out of the Cuban rebellion, the manufacture of cigars in this city, by exiles from the "ever-faithful isle," has been steadily advancing to the position of a staple industry. Numerous factories have been established which, although they employ hand labor solely, carry on successful competition with those in which the work is performed entirely by machinery. The tobacco used is imported directly from Cuba, and costs from three dollars to ninety cents per pound. American tobacco is not used, the manufacturers not agreeing in the general opinion that it makes the best wrappers.

On being received at the factory, the tobacco is first carefully inspected, in order to ascertain its quality, and the leaves or fillers, which are to be used for the interior of the cigars, are carefully examined. This consists in simply removing the large stem which passes through the center of each leaf. The larger and finer leaves used for wrappers, or outside coverings, are then treated in the same manner, and passed to the foreman who, after examining them, distributes them to the workmen who make the different varieties of cigars.

It is a noticeable peculiarity in this trade, that each man knows how to make but one kind of cigar. The workman who makes a *concha* cannot make a *regalia*, nor is he required to do so, nor can an *española* be rolled by the man whose specialty is the *partaga*. For the benefit of our non-smoking readers, we should mention, *en passant*, that a *concha* is a short thick cigar, its name being derived from its shape, having a fancied resemblance to that of a shell; the *regalia* is generally large in size and finely flavored; *española* takes its name from red and yellow ribbons, the colors of the Spanish flag, with which the bundles of the cigars of that brand are tied; and, finally, a *partaga* is of large size, rather long, and is named from the owner of the manufactory in Havana at which the variety was first made. Of course, there are countless other brands, all christened with different names, according to the fancy of their makers, but those above mentioned may be considered the principal ones and the most generally recognized throughout the trade.

Our artist has represented the workmen in the act of rolling the cigars. The process, although very simple and apparently remarkably easy to perform, nevertheless requires the greatest skill and long practice. The men are seated in rows, each one having before him, on his table, a thick slab of hard wood, and on either hand a heap of dampened leaves, consisting respectively of wrappers and fillers. A wrapper is selected, smoothed on the slab until it is free from creases and wrinkles, and then cut with a peculiarly shaped knife, somewhat resembling that used by shoemakers in trimming soles, into a nearly semicircular form. The workman then takes as many of the short leaves, to be used as fillers, as he thinks will make the cigar, in his left hand, and squeezing them into a loose bundle, places them on the wrapper before him. By a dexterous twist, the edges of the latter are brought up, a quick roll is given to the whole, and the bundle is tightly enveloped. The end for the mouth is now carefully manipulated into the required conical shape, and the point secured by a drop of paste; the other extremity is cut off smooth. The cigar is then placed on the slab, rolled a few times under the flat of the knife blade, and it is ready for smoking. This process, of course, requires a much greater

expenditure of time than if the cigars were merely pressed into molds, but it has been found that those made in the latter manner have the defect of not burning evenly, and are besides inferior in many other respects.

Messrs. Mora & Co., one of the largest manufacturing firms in this city, inform us that the workmen are paid according to the number and quality of the cigars they roll. Makers of *regalias* receive \$20 per thousand, of *conchas* \$20, and of *españolas* \$18. An ordinary quick worker will finish two hundred cigars per day, and as many as four hundred are made by the oldest and most experienced hands. The men are all Cubans, and some of their customs would doubtless seem odd

in by a screw press; the cover is then nailed down, the Government stamp affixed, and the box is ready for the market. In case, however, it is desired to press the cigars into those irregular triangular or quadrangular forms in which they are sold, they are first dampened, then packed in bundles, and finally enveloped in strong wet paper. The latter, in drying, forces the cigars together, causing them to assume the required shape.

The stems and refuse of the tobacco are not used. The odd ends or cuttings of the manufactory are sold in bulk for filling for cheap cigars, the wrappers of which are generally Connecticut leaf.



CIGAR MAKING.

to an American workman. They club together, contributing twenty-five cents a week each, with which they hire a fellow exile to read aloud to them during their work. The position is no sinecure, for the reader is expected to keep up an incessant flow of words from 7 A. M. to 6 P. M., with the exception of one hour's rest for refreshments. The workmen thus become posted in the news of the day, and in addition occasionally listen to the perusal of Spanish history, or some work of fiction. There is another tax which they impose upon themselves, to the payment of which they religiously adhere, which is to lay aside a certain sum every week from their wages, to be sent to their struggling compatriots in Cuba, for arms and supplies.

The sorting of the different kinds of cigars, as regards strength, is carried on by another set of workmen, who seem to be possessed of the most unerringly delicate judgment. Standing before a heap of cigars, thrown indiscriminately on a table, they pick them out one at a time, hold them so that the light will fall on them from a certain point, instantly tell their exact grade of strength, and toss them to their proper heaps in almost a single motion and with incredible celerity. If the cigars are to remain cylindrical in shape, they are then tied in bundles, another proceeding requiring considerable manual skill. The ribbons to be used in fastening the bundle together are first stretched out on the table, and the cigars heaped upon them in quantities of twenty-five or more. The workman then takes the ends of the ribbons, brings them together, gives them another of those indescribable twists, ties the knots, and drops the bundle into the box in less time than it has taken to pen this sentence. The bundle, however, is a little too large for its case, and consequently has to be forced

slightest hindrance. It is of the size of an ordinary street car, and has nearly the same appearance: the machinery, embracing a compound engine of five horse power, occupying the front platform, which is also provided with a box containing coal enough for half a day. A conductor and engineer only are required to run the car, which can be stopped very quickly by suddenly reversing the engine. With a light load and on a straight track, it is said to have run at the rate of twenty-five miles an hour.

## Krupp's Steel Works.

The establishment of F. Krupp, at Essen, Prussia, manufactured last year 150,000,000 pounds of cast steel, against 130,000,000 in 1870; 8,810 workmen, and engines amounting to 9,595 horse power, are employed. Five hundred and twenty-eight furnaces for smelting, heating and converting; 169 forges, 260 welding and puddling furnaces, 245 coke furnaces, 130 various other furnaces, 342 turning lathes, 130 planing machines, 73 cutting machines, 172 boring machines, 94 grinding benches, 209 various other machines, 174 steam boilers, 265 steam engines (from 1,000 horsepower downward), and 58 steam hammers (from 30 tons downward), are in use. The various articles manufactured consist of axles, wheels, tires for railroads, rails, springs for railroad and tramway cars for mines, axles for steamships, boiler plates, rollers, tool steel, cannon, gun carriages, etc.

COATS, the celebrated English thread maker, has moved his establishment to this country, and at Pawtucket, R. I., now has a large thread factory where he employs three hundred persons.

## Steam Street Car.

The Remington steam street car, from Ilion, N. Y. (Baxter's patent), heretofore described in the SCIENTIFIC AMERICAN, was recently brought to this city, and has been successfully tried on the track of the Bleecker street railway. This road runs through the most crowded and difficult parts of the city, its curves are sharp, and its grades unusually heavy; it is safe to say that any steam car that can pass over its track is able to meet the requirements of all city railway traffic. Some of the curves of the Bleecker street line are less than 50 feet radius, while there are grades as steep as 1 in 13. There are also innumerable crossings of other tracks to be passed, so that the difficulties presented to the steam car, on this line, are unusual.

We are happy to say that the Remington car has proved a decided success. On the recent trial it easily turned the sharpest corner, and on the top of the steep grade in Elm street it was stopped, reversed, and backed down the declivity, returning without the