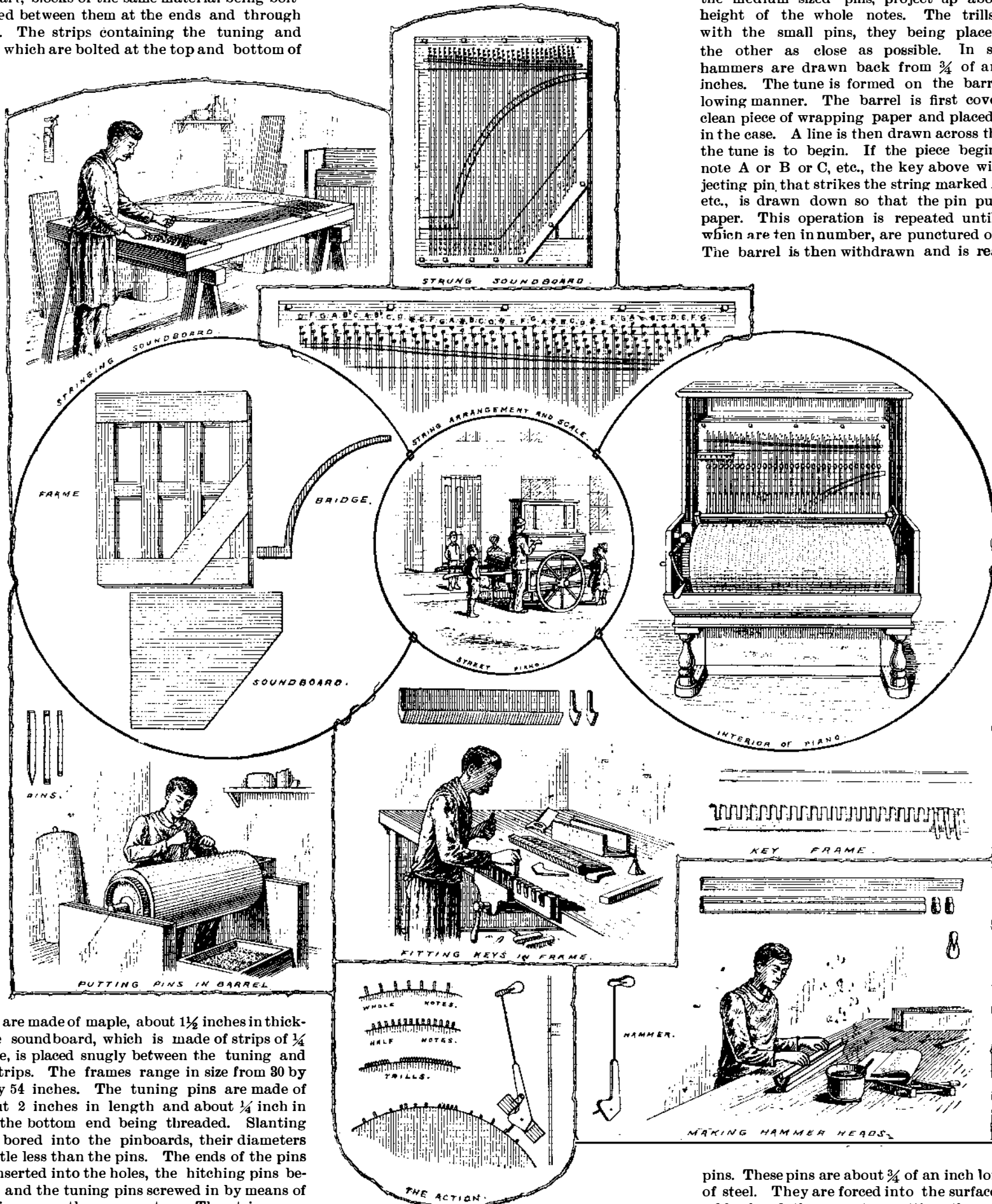


**STREET PIANO INDUSTRY.**

The handle or street piano was first manufactured in Torino, Italy. They are used principally by Italians, who push them around the streets in two-wheeled carts or wagonettes, stopping from house to house, grinding out the popular airs of the day. A great many are now in use as parlor instruments. The construction of the soundboard of these pianos is similar to those used in our upright pianos, the framework in the street instrument being made of wood instead of iron. The frame over which the soundboard and strings are placed is made of strips of thoroughly seasoned pine. These strips are about 2½ inches in width, about 5 inches in thickness, and placed about 6 inches apart, blocks of the same material being bolted and glued between them at the ends and through the center. The strips containing the tuning and hitch pins, which are bolted at the top and bottom of

proper widths, ranging from ¼ inch to ¾ of an inch. The felting is white in color, and runs from ½ inch to ¾ inch in thickness. After drying, the felt hammers are covered with a strip of thin leather. The hammers are connected to the keys by means of a straight piece of iron wire, which is screwed down into the top about ¾ of an inch. These keys are made of maple and are also sawed off a prepared strip into the proper width. They are about ½ inch in width and about 6 inches in length. The key frame is also made of maple, a number of slots being sawed into the strip ½ inch in width and about ½ inch apart. The lower ends of the keys are then put into the slots. A wire running through the center of the end of the frame passes through the

the strings. These pins are of three sizes. The large or square pins representing whole notes, the circular medium size, the half notes and the small ones the trills. When the cylinder revolves, these pins strike or come in contact with a pin connected to the bottom of each key. As the pin on the cylinder moves forward it pushes the key pin backward, which in turn draws the hammer forward. As soon as the key pin escapes from the cylinder pin the hammer flies back and strikes the strings. The space between the pins and their height above the surface of the barrel distinguishes the whole and f notes from the half notes. These pins project from the surface of the barrel from ½ inch to ¼ inch. The half notes, which are the medium sized pins, project up about half the height of the whole notes. The trills are made with the small pins, they being placed one after the other as close as possible. In striking, the hammers are drawn back from ¾ of an inch to 2 inches. The tune is formed on the barrel in the following manner. The barrel is first covered with a clean piece of wrapping paper and placed in position in the case. A line is then drawn across the top where the tune is to begin. If the piece begins with the note A or B or C, etc., the key above with the projecting pin that strikes the string marked A or B or C, etc., is drawn down so that the pin punctures the paper. This operation is repeated until the tunes, which are ten in number, are punctured on the paper. The barrel is then withdrawn and is ready for the



the frame, are made of maple, about 1½ inches in thickness. The soundboard, which is made of strips of ¼ inch spruce, is placed snugly between the tuning and hitching strips. The frames range in size from 30 by 44 to 42 by 54 inches. The tuning pins are made of steel, about 2 inches in length and about ¼ inch in diameter, the bottom end being threaded. Slanting holes are bored into the pinboards, their diameters being a little less than the pins. The ends of the pins are then inserted into the holes, the hitching pins being driven and the tuning pins screwed in by means of a key fitting over the square top. The strings are made of the best steel wire of seven different sizes, ranging from No. 13 to 19. They are arranged over the soundboard containing the bridge in sets of from three to five strings each. The tuner first making a loop in the end of a string and placing it over the hitch pin, the other end is passed through the hole or eye in the tuning pin, the operator twisting it around by means of the key until it is drawn taut. Each set of strings is lettered A, B, C, etc., each string of each set being tuned up to the same pitch, according to the note wanted. There are from 40 to 48 sets of these strings in each piano, which contains from four to five octaves. The hammers are made of maple and English felting.

The felting, which costs about \$5 per pound, is first glued to a prepared maple strip and sawed off into the

center of each key, holding them in place. Connected to each key is a brass wire spring, one end being attached to a key and the other to the key frame.

When the stroke of the hammer is made this spring draws the hammer back instantly, causing the strings to give a full round tone. If the hammer remained against the string after the stroke, the tones would be dead. The barrel or cylinder containing the pins runs from 28 to 36 inches in length and 14½ inches in diameter and is made of whitewood about 1 inch in thickness. The barrel revolves on a movable table or platform which can be removed from the case by means of a circular door in the side of the piano. The placing of the pins on the barrel causes the hammers to strike

pins. These pins are about ¾ of an inch long and made of steel. They are forced into the surface of the barrel by hand, the operator putting the pins into the slotted jaws of a pair of pincers and pressing them down and into the paper and wood, where it is punctured. For ten tunes it takes about 6 pounds of these steel pins, amounting in numbers to about 16 800, the operation taking from 3 to 6 days. The barrel is shifted from one tune to another by means of a small wheel, the surface of the side nearest the barrel being raised at different elevations. The wheel is operated by turning a knob or button on the outside of the case. A small pin projecting out of the end of the shaft bears against the small wheel, which when turned causes the barrel to shift its position. The barrel when turned revolves at the rate of 1 revolution per minute, each revolution making one tune. It takes four skilled men about three weeks to make one of these pianos. They cost from \$160 to \$180 and are

**THE STREET PIANO INDUSTRY.**

guaranteed for two years. New tunes are put on the barrels at a cost of \$5 each. The cases are made of birch highly polished. The piano when finished weighs about 300 pounds. The sketches were taken from the manufactory of Giovanni Mina, New York City.

**Food for Fever Patients.**

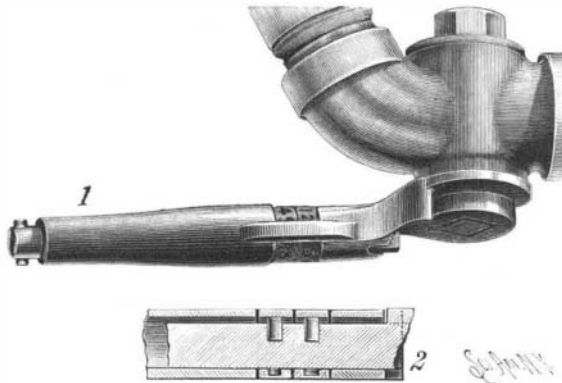
Dr. Peabody, in the Medical Record, expresses his belief that, in all kinds of illness, and especially in fevers, attention should be paid to the appetite and desire of the patient, and that, if a patient is really hungry, solid food, of a properly selected kind and in judicious quantities, will rarely disagree with him. Dr. Peabody believes there is less danger of doing harm to an ulcerated ileum in typhoid fever by giving finely divided egg, beef or chop than by giving milk, and habitually gives his typhoid patients who are hungry such food. He believes that it is a mistake to withhold solid food merely because a patient has fever, and that it is incorrect to regard milk as a fluid food, as is commonly the case, the simple fact being that milk will always remain the most serviceable general food in disease, but where it fails to nourish the patient, or where it is not well borne, or for any reason cannot be taken, it is to be considered that efficient adjuncts and substitutes are within reach.

**A MUSSUCK RACE.**

At the Calcutta swimming bath ladies attend in large numbers to witness the annual sports and races. Among all the exhibitions of swimming, racing, and diving, none produce merriment like the mussuck race, which has to be swum in full costume, with boots and tall hats, any competitor being counted out who arrives at the goal—one hundred feet from the starting point—with head uncovered. A mussuck is a tanned goat skin, which, when used by water carriers, has all the openings sewed up except at the neck, and is in use throughout all those parts of India where British civilization has not laid on pipes. For the race they are inflated with air, the neck of the opening closed, and the racers have to bestride them and make their way by paddling along the bath. Our illustrations (which are from sketches by Mr. Frank Scallan, of Calcutta) show how those who hurry get underneath, while the wary one who goes slowly preserves his equilibrium till the end.—From the Graphic, London.

**A LOCKING STOP COCK FOR TRAIN PIPES.**

To prevent the interference by unauthorized persons with the operation of air brake systems, a locking mechanism for the stop cocks of train pipes has been invented by Mr. John T. Eldridge, of Murfreesboro, N. C., and is illustrated herewith. The stop cock casing has in its lower portion a segmental recess at whose ends are shoulders or lugs, and the stem of the valve has on its upper side a lug which works in the recess,



ELDRIDGE'S LOCKING STOP COCK FOR TRAIN PIPES.

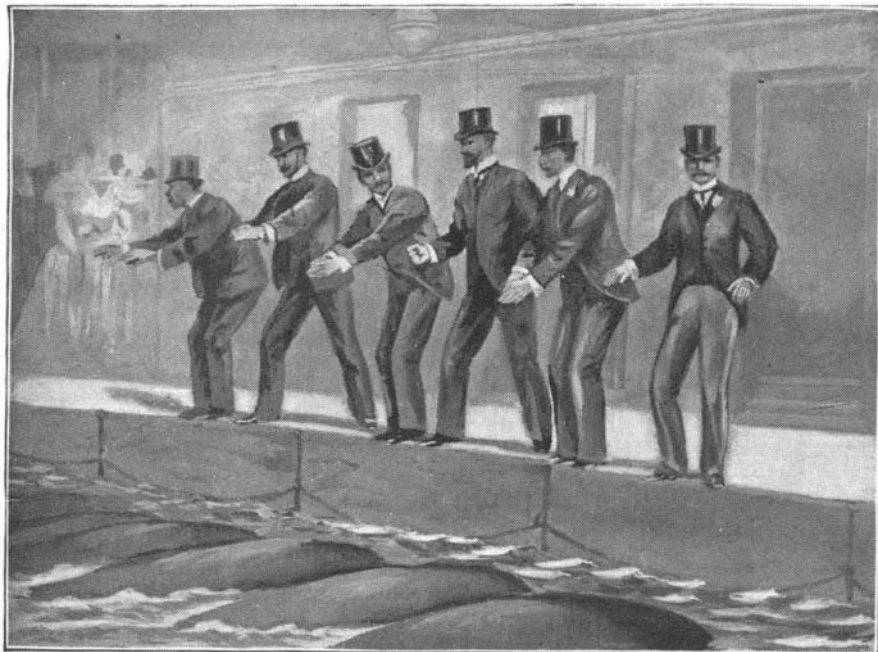
engaging one shoulder when the cock is open and the other shoulder when the cock is closed. On the lower side of the handle, near its inner end, are longitudinally aligned studs, and a locking sleeve turns and has longitudinal movement on the handle, being held from a removal by a stop at the outer end. The sleeve has a longitudinal internal groove, permitting it to pass the studs, and is cut away on opposite sides to form an open chamber within which are permutation rings having internal annular and intersecting transverse grooves which operate in connection with the studs, as shown in Fig. 2. The inner end of the sleeve also has on opposite sides notches which alternately engage the outer edge of the lug on the valve stem when the sleeve is moved inward to be locked, there being besides an inner extension or arm of the sleeve which engages one of the shoulders of the valve casing, as shown in Fig. 1, when the cock is to be locked in open position, the arm engaging the other shoulder when the cock is locked in closed position. When the outer sides of the permutation rings are turned to bring the figures which form the "combination" into align-

ment, the internal transverse slots or grooves of the rings will register with the studs on the lower side of the handle, and the locking sleeve will then be free to be moved and rotated.

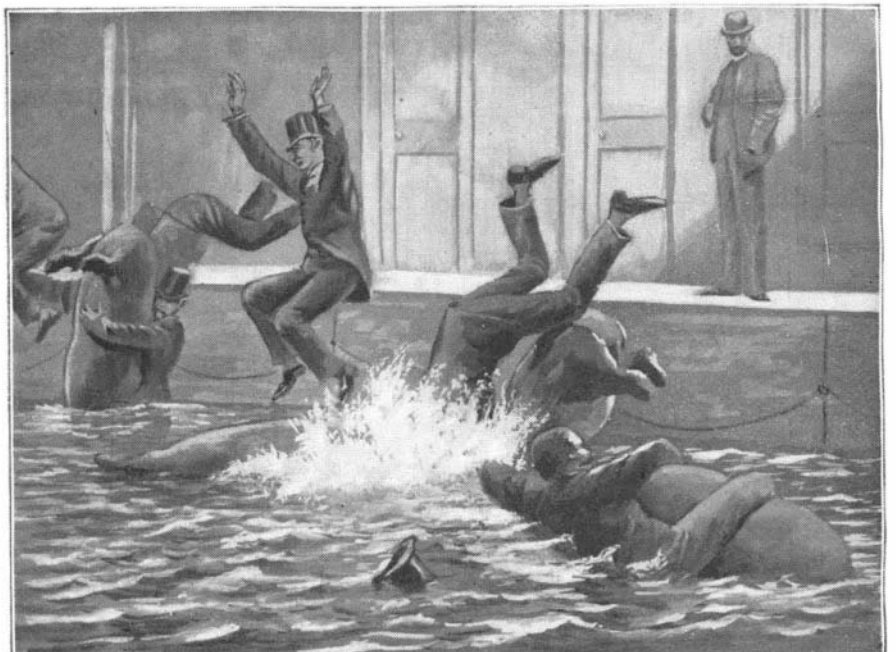
**The Trouble New York Builders Have.**

A prominent builder tells one of our city contemporaries that building in New York is at the present time quite a game of chance. After the contracts are all made, the cellar blasted out and the foundations laid, it would appear to be an easy matter to go ahead to completion.

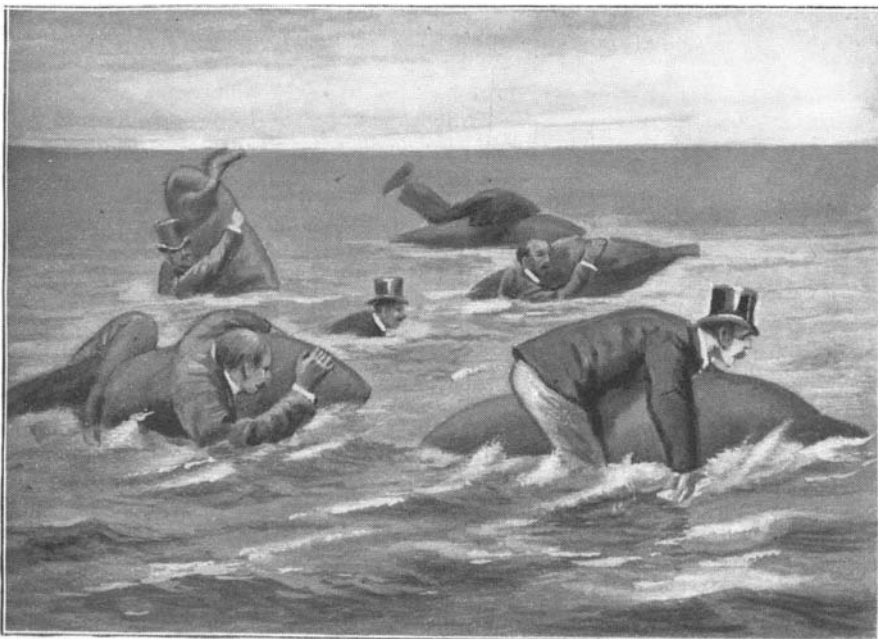
"On the contrary," said he, "your troubles are likely to just begin. There are the stone workers, the brick contractors, the terra cotta man, the plasterers, the trimmers, etc. I've got some houses not done yet which were to have been completed by the first of September. My money is invested in an expensive piece of ground, and the houses will not be ready to catch the fall renter and buyer. Even when completed now they will probably remain vacant till next May. The stonework was delayed, in the first place, by trouble between a contractor and his men. Then the brick contractor commenced delivering the wrong kind of brick. When that dispute was settled in my favor and the brickwork begun, we were a full month behind. The terra cotta came from the West and the bricklayers had scarcely got to it before we found certain pieces missing and had to send out to Ohio or Indiana for them. Then everything appeared to be going on satisfactorily and we thought of catching up the lost time. But as soon as the first coat of plaster was on, a strike among plasterers broke out. We had nothing to do with it, but all our men went out just the same. This threw out the trimmers. By the time the difficulty had been settled with the plasterers we were threatened by a similar row among the trimmers and joiners. I don't know how it is going to come out. The building trades of this city are united, and no builder is really safe until he is completely out of the woods. These sympathetic strikes have so many ramifications you never know where you are. There are hundreds and thousands of dollars tied up in uncompleted work in this city—yes, and other hundreds of thousands that would go into labor if there were any certainty about it. Wherever we lose money by this labor also loses, for it makes building cost more and makes capital timid of investment."



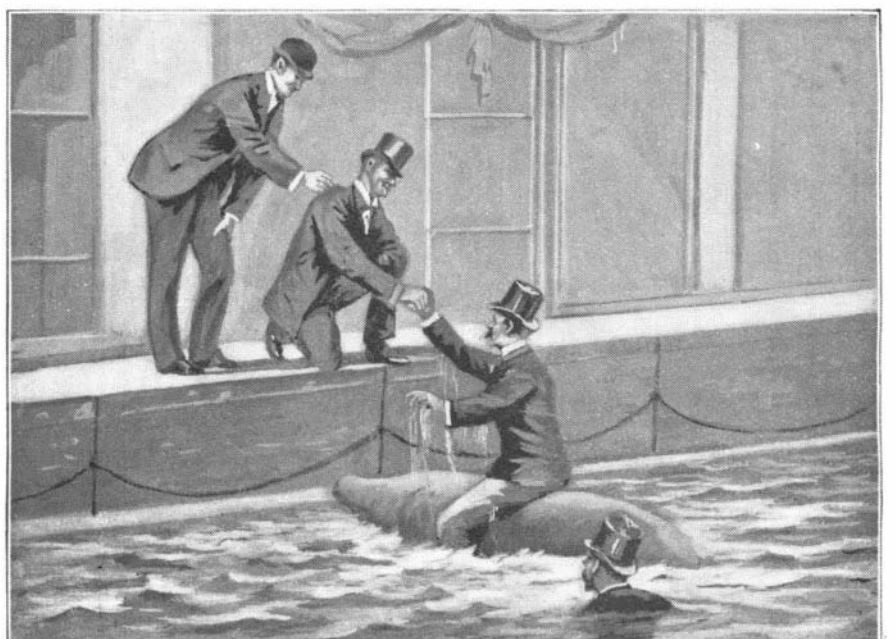
THE START.



THE PLUNGE.



THE RACE.



THE WINNER.

A MUSSUCK RACE, CALCUTTA.