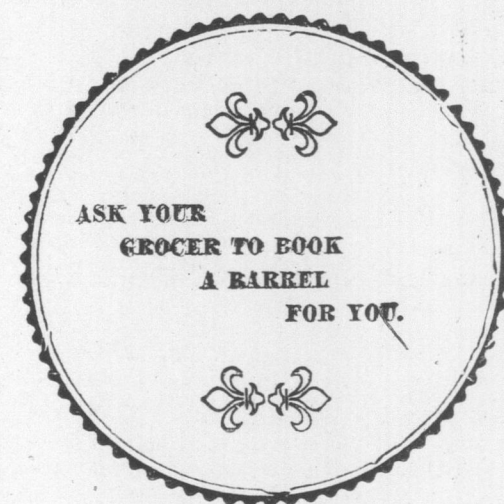
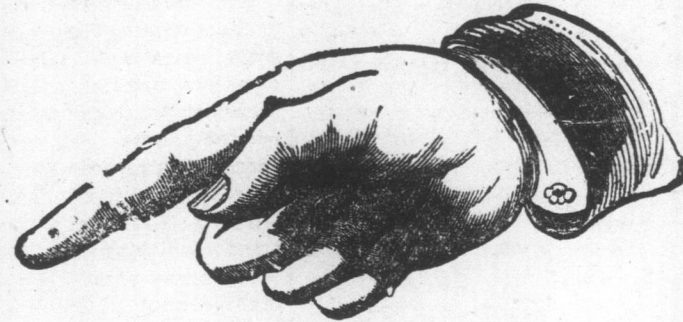


"WINDSOR PATENT"

The
Absolutely
Genuine
Pre-War
White
Flour

IS DUE NEXT WEEK.



Repairing the Stern-Frame of the "Northern Pacific."

The Largest Marine Weld Ever Made.

(Scientific American.)

The readers of the Scientific American will recall the stranding of the Army transport "Northern Pacific" 800 yards off the shore of Long Island, last January. The vessel was loaded with 3,000 passengers, many of whom were wounded soldiers. For a time it looked as if the ship would go to pieces under the pounding of the waves and as the winds rose the lives of the sick and seriously injured were almost despaired of. But by heroic efforts they were all taken off, with the aid of basket litters and the breeches buoy, and eventually the ship itself was worked off the sand by a fleet of tugs and towed to New York.

The vessel was put in dry dock in the Brooklyn Navy Yard, and the injuries she received were investigated. A number of plates were badly damaged and had to be replaced. Her hulls were out of alignment and some of her machinery was disabled. The most serious damage the vessel sustained was in the stern-frame, which was cracked through. In fact it is a wonder that the stern-frame and rudder were not washed away in the storm. Only a slender stern-shoe connected the bottom of the stern-frame with the boat and this must have been subjected to a tremendous strain. It is probable that the stern-shoe was buried in the sand and was stiffened thereby sufficiently to withstand the shock of the waves. The rudder, however, received the full force of the waves and caused the break in the stern-frame.

To replace the broken frame with a new one would probably have cost \$50,000. The only alternative was to weld it in situ by means of Thermit and although so large a weld had never been made in marine work there was the precedent of similar welds in steel mills, and hence the work of welding the frame was undertaken.

The operation was complicated by the fact that the break took place just above the uppermost gudgeon at a point where a hollow portion of the frame joined a solid portion. The first process was to cut away part of the frame so as to provide an opening large enough for the metal to flow in freely. A three-inch gap was put in the casting by means of an

oxy-acetylene torch. Just above the stern-frame there was a chamber in the vessel access to which was had through a hole about two feet in diameter used to accommodate the rudder stock stuffing box. When the rudder was unshipped it was possible to crawl through this hole and then, on cutting through the inner hull, to reach the hollow space in the stern-frame from above. The frame was lined with yellow wax and a layer of wax was placed on the hollow floor of the casting. A wooden cylindrical riser pattern led from the floor to the top of the casting. Molding material was then deposited in the casting and rammed up with a pneumatic rammer. This had a facing material of fire clay, ground fire brick and sand in equal parts. To keep the mold from dropping when the wax was burned out, iron gages were inserted against the inside wall of the casting and bent inward into the mold.

The interior portion of the mold having been completed, wax was applied to the outside, and then a mold box was built up around the wax and filled with molding material.

Heating gates were provided by inserting cylindrical wooden patterns

through the bottom of the box on both sides and in the rear of the weld. Pouring gate patterns were connected diagonally downward through the top of the mold with the wax pattern. For outside riser patterns, a small narrow piece of a wooden plank was inserted close against each side of the triangular stern frame section and connected with the wax pattern below. These outside risers served the special purpose of supplying molten metal for the weld during cooling shrinkage and thus preventing the thin casting shell at this point from sloughing away. All wooden and pipe patterns were removed before pre-heating.

Two crucibles were now set in place. The mold was then pre-heated in order to dry it thoroughly and also to melt out the wax pattern. This was done with gasoline torches, and the pre-heating was kept up for seven hours, after which time the molded sections had developed a bright heat. Then the heating gates were plugged up and preparations were made for the Thermit reaction.

Thermit is composed of a mixture of aluminum and iron oxide. When ignited the aluminum combines with the oxide of the iron, leaving the iron free which is melted by the intense heat of the reaction. The temperature rises to about 5,000 degrees Fahrenheit. The crucibles were set off simultaneously by two men each of whom dipped a red-hot rod into the ignition powder. The reaction was most spectacular. The intense heat resulted in a very brilliant pyrotechnic display which lasted for some little time. About 45 seconds were allowed for the reaction to take place, after which the crucibles were tapped allowing the molten metal to flow

into the mold. The following day the mold was removed and the risers and gates cut off with an oxy-acetylene torch, thus completing the weld.

British Glove Fabrics.

Old Country on the Way to Recapture Lost Industry.

The glove fabric industry, which, until the outbreak of the war, was a German monopoly, is being rapidly recaptured by Nottingham manufacturers. It originally had its home in Nottingham, but the success of German chemists in discovering the method of dyeing black on cotton, known as the Hemsdorf process, which not only produces a permanent black, but makes the gloves suede-like in appearance and touch, spell ruin to the English manufacturers. The Germans before the war exported 30,000,000 pairs of these gloves, valued at three-quarters of a million sterling, to England.

The dyeing and finishing of lace and hosiery by Nottingham firms has, however, reached such a high standard of late years, and has revealed so many German secrets, that the manufacturers are now entering again into the glove fabric trade. So successful are they proving that whereas in 1913 England only made 800,000 yards of glove fabric, that figure is now being quadrupled.

Nottingham firms are spending large sums of money on chemical research and are turning out gloves equal to anything produced by Germany, but they are appealing to the Government not to allow the trade to be killed once more by Germany, where labor, which represents one-third of the cost, is less well paid.

Berlin Gambling Mad.

People in German Capital are Seeking Excitement.

Monte Carlo was, a gambler's kindergarten compared to "gambling Berlin" to-day.

If you are a stranger in Berlin, ask the chauffeur to drive you to one of the 500 gamblers' clubs. Your looks will tell the chauffeur the class of club to which he had better take you. There are all kinds, from the low class den to the most fashionable, with special rooms for ladies, where dinners, wines, liquors and coffees are served at half cost price.

The film star sits beside the butcher war-graffer; the countess beside a horse dealer; the baker's wife beside the coquette.

At most clubs the play is "baccarat." The club owners get 5 per cent of the sums raised from the auctioning of "the bank," taking place every hour. The "card money," or fees, together with the percentage amounts to between 25,000 and 40,000 marks per night at the biggest clubs. The directors get 100,000 marks per year.

At some clubs 5,000,000 marks change hands each night. The gamblers want action out of their fortunes before tax collectors or the Bolsheviks get them.

One day a soldier, having lost 500 marks, arrested the bankholder and, attacked by the latter's friends, threw a hand grenade, killing himself and wounding several others.

During the last few weeks about two hundred new clubs have been licensed.

Military authorities provide the clubs with guards.

The owners give weekly free dinners of a large number of courses and all the champagne you want to drink.

An Unsinkable Ship.

For many years, and particularly during the war, much time has been spent in producing an unsinkable ship. Now a vessel has been designed on the north east coast of England, which, it is claimed, has this attribute.

The idea is simple, but very ingenious, and consists of the bridge (which will be larger than usual) being hollow and air-tight. Its normal position will be close down to the decks, to which it will be attached by an apparatus which will permit of its being raised to a certain height above the deck.

Should the ship be so damaged that the hull will sink, the bridge will be elevated to the full extent allowed by the deck attachment, and when the hull sinks the bridge not only remains afloat, but will carry the submerged shell. On the bridge accommodation is provided for those on board.

Shipowners who have examined the design consider the idea justifies the claims made in regard to it, and with a view of testing its practicability arrangements are being made for the building of a ship in accordance with the plan.

Every Saturday evening after 7 o'clock, Choice Ends of Beef, Mutton, Lamb, Pork will be sold at cost. ELLIS & CO., LTD., 203 Water Street.—nov29.

A Boy's Promise.

The school was out, and down the street a noisy throng came thronging. The hue of health, a gladness sweet, To every face belonging.

Among them strode a little lad, Who listened to another. And mildly said, half grave, half sad: "I can't—I promised mother."

A shout went up, a ringing shout, Of boisterous derision; But not one moment left in doubt, That manly, brave decision.

"Go where you please, do what you will," He calmly told the other; "But I shall keep my word, boys, still, I can't—I promised mother."

Ah! who can doubt the future course Of one who thus had spoken? Through manhood's struggle, gain or loss, Could faith like this be broken?

God's blessing on that steadfast will, Unyielding to another, That bears all jeers and laughter still, Because he promised mother.

For your new Spring Suit, made in the very latest style, pinch back or plain, or any style you want, go to SPURRELL, THE TAILOR, 365 Water St., mar24.eod.tf

A cork of good size is excellent for scouring knives. Dip or rub it on the scouring cake and apply it to the knives. If you get ink on a white silk blouse, dip the spot at once into boiling-hot starch and the spot will disappear.

When you want Steaks, Chops, Cutlets and Collops, try ELLIS.

Miss Information

SHE HAD THE GOODS ON HIM.

By Wood Cowan

Protected by: George Matthew Adams

