ADVERTISEMENTS.

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They know Lydia E. Pinkham's Vegetable Compound will and does and has, more than any other medicine.

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Every woman knows some woman Mrs. Pinkham has cured.

But nine women out of ten put off getting this reliable remedy until their health is nearly wrecked by experiments or neglect!

Then they write to Mrs. Pinkham and she cures them, but of course it takes longer to do so. Don't delay getting help if you are sick.

She has helped a million women. Why not you?

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AND THIS IS | WHAT THEY SAY:

Examiner—"An artistic, harmonious performance."
Call—"A clean, bright and healthy play."
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MR. JAMES NEILL
AND HIS ARTISTIC COMPANY
In Margaret Merington's Charming Comedy,
"CAPTAIN LETTARBLAIR"
Saturday Matinee Only.
REMEMBER THE SPECIAL MATINEE ON THURSDAY AFTERNOON AT 2:15 P. M.
"CAPTAIN SWIFT."
Next Sunday Night......"A GILDED FOOL."
Seats Now on Sale.
FRIDAY AFTERNOON, APRIL 27, AT 3:15 p. m., Farewell Concert by
PETSCHNIKOFF — HAMBOURG — LACHAUME.
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"YOU HEARD WHAT WE SAID." A HIT!
EVERY NIGHT THIS WEEK, INCLUDING SUNDAY.
WARD —AND— VOKES
40 People.
FUN PRICES 25c to $1.00. No Higher.
In Their So Funny
THE FLOOR WALKERS.

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FINAL WEEK.
HOPKINS TRANS-OCEANIC VAUDEVILLE COMPANY
In Conjunction with ORPHEUM STARS.
DIGBY BELL; RAE & BROSCHE; MLLE. PROTO; MILDRED STOLLER; MARZELLA; GUITANOS; FALK; SEMON; BELLMAN; MOORE; DUNCAN.
Reserved seat, 25c; balcony, 10c; opera chairs and box seats, 50c.
Matinees Wednesday, Saturday and Sunday.

ALCAZAR THEATRE
FOURTH AND LAST WEEK.
"QUO VADIS?"
MATINEE SATURDAY AND SUNDAY.
PRICES—15c, 25c, 35c, 50c.
NEXT WEEK—"SUE."

FISCHER'S CONCERT HOUSE,
122-124 O'FARRELL STREET.
E. A. FISCHER, Prop. | GEO. MOOSER, Mgr.
THE HANDSOMEST MUSIC HALL IN AMERICA!
...WEEK OF APRIL 23...
Entire Change of Programme!
LA TRAVIATA
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GREAT LOMBARDI OPERA QUARTETTE.
SIGNOR BADARACCO SIGNORA BARDUCCI
SIGNORINA POLLETTINI SIGNORINA PUERERI
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—AND—
MISS LILLIAN SHERWOOD.
AUGUST HINRICHS' SUPERB ORCHESTRA.
ADMISSION, 10 CENTS.

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1900—CALIFORNIA JOCKEY CLUB—1900
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OAKLAND RACE TRACK.
Racing Monday, Tuesday, Wednesday, Thursday, Friday and Saturday. Rain or shine.
Five or more races each day.
Races start at 2:15 p. m. sharp.
Ferry-boats leave San Francisco at 12 m. and 12:30, 1, 1:30, 2, 2:30 and 3 p. m., connecting with trains stopping at the entrance to the track. Last two cars on train reserved for ladies and their escorts; no smoking. Buy your ferry tickets to Shell Mound. All trains via Oakland mole connect with San Pablo avenue electric cars at Seventh and Broadway, Oakland. Also all trains via Alameda mole connect with San Pablo avenue cars at Fourteenth and Broadway, Oakland. These electric cars go direct to the track in fifteen minutes.
Returning—Trains leave the track at 4:15 and 4:45 p. m. and immediately after the last race.
THOMAS H. WILLIAMS JR., President.
R. B. MILROY, Secretary.

CENTRAL PARK EIGHTH AND MARKET STS.
—LAST WEEK—
GENTRY'S WORLD'S GREATEST TRAINED ANIMAL SHOW!
300—WONDERFULLY TRAINED AND EDUCATED ANIMALS—300
A Most Interesting and Refined Entertainment. Performances 2 o'clock afternoon, 8:30 at night. ADMISSION—Children 10c, Adults 25c.

CAPTAIN DEMING PLEADS GUILTY TO THE CHARGES

Sudden End of the Military Court-Martial at the Presidio.

Accusations of Forgery and Embezzlement of Government Funds Admitted by the Accused Officer.

The postponed sitting of the military court-martial which was set for yesterday at the Presidio came to an abrupt termination shortly after Major Stephen W. Groesbeck, the judge advocate, had finished reading the charges against the accused, Captain Peter C. Deming, commissary of subsistence of the United States volunteers, by the latter pleading guilty to all of the specifications.

Yesterday's session was the third of the court, as on two former occasions an adjournment was had to give the accused an opportunity to defend himself and prepare for trial. Attorney Crittenden Thornton had been retained for the defense. When the judge advocate finished reading the charges the attorney and his client held a short consultation, and the erring man in a subdued voice stammered out, "Guilty as charged."

In mitigation of the offenses, Attorney Thornton, in speaking of Captain Deming's error, said that restitution had been made of the funds taken from private individuals, although not of those taken from the Government. He had furnished two witnesses to prove that this restitution had been made, and hoped for the clemency of the court in recognizing this as a mitigation of the offense. Major Groesbeck said that this could not affect the main charge, a clear case of forgery under exceptionally aggravating circumstances, as the check presented on the Government bank was one issued to disbursing officers of the United States only.

At the conclusion of Attorney Thornton's plea for mercy the court held a consultation. In less than thirty minutes the whole proceedings were disposed of. The decision was forwarded to General Shafter for his indorsement, after which it will be submitted to President McKinley for final approval.

Federal Grand Jury Impaneled.

United States District Judge de Haven yesterday impaneled the following named citizens to sit as a Federal Grand Jury: Samuel Polack, foreman; Robert C. Mitchell, secretary; A. E. Anderson, P. T. Sprague, R. A. Barker, David Sachs, E. D. Block, Peter Berta, Harry A. Davenport, Alfred T. Eastland, Joseph Eastwood, J. L. Hollis, W. P. Henry, J. O. Harron, J. C. Haughy, R. Kendrick, Sigmund Kaufman, Charles M. Keeney, Charles E. Lehner, S. B. Leavitt, Richard Munk, Gerhard Muller and Charles S. Neal.

Murder Charge Dismissed.

The case of Patrick S. Higgins, bartender in Harry Bentham's saloon, Sixteenth and Valencia streets, charged with the murder of John Flannigan, a young plumber, was dismissed by Judge Conlan yesterday, as no complaint had been filed. Flannigan and a companion went into the saloon at an early hour in the morning and Higgins refused to serve them with liquor, as they appeared to be intoxicated. They became abusive and Higgins put them out. Flannigan fell and fractured his skull.

Millions for Baseball.

A million of dollars are spent every year upon the game of baseball, but large as this sum is, it cannot begin to equal the amount spent by people in search of health. There is a sure method of obtaining strength, and it is not a costly one. We urge those who have spent much and lost hope to try Hostetter's Stomach Bitters. It strengthens the stomach, makes digestion easy and natural, and cures dyspepsia, constipation, biliousness and weak kidneys.

Beecham's Pills
CURE SICK HEADACHE
and act like magic on a weak stomach and disordered liver.
10 cents and 25 cents, at all drug stores.

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For full-dress shirts is the correct thing. It looks neat and dressy. It is more expensive to us, but it costs you no more. If you wish it, order it.

United States Laundry Office,
1004 Market Street,
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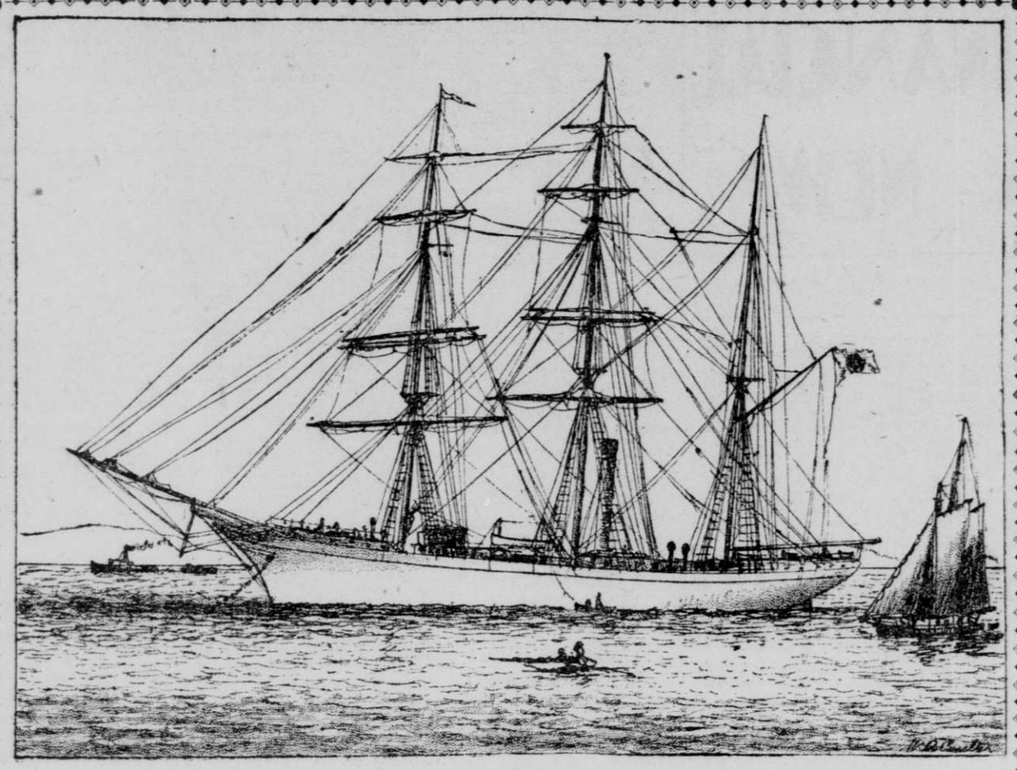
AMUSEMENTS.

GRAND OPERA HOUSE
PHONE MAIN 582.
CROWDED EVERY NIGHT.
LAST WEEK of Our New York Extravaganza Company in
AN ARABIAN GIRL
OR ALI BABA AND THE 40 THIEVES.
THIS EVENING.
NEW SONGS, NEW SPECIALTIES.
NEXT WEEK—"IN GAY NEW YORK."
Additional New Faces.
USUAL POPULAR PRICES.
Good Reserved Seat in Orchestra at Saturday Matinee, 25c.
Branch Ticket Office, Emporium.

★TIVOLI★
AM I A WIZ? YOU BET I AM!
SECOND WEEK OF THE ENORMOUS SUCCESS.
The Superb Comic Opera,
The Wizard of the Nile.
Evenings at 8. Matinee, Saturday, at 2.
POPULAR PRICES, 25c and 50c.
Telephone Bush 9.



Auxiliary Bark Tsukishima Maru.

KIM QUEY TELLS ON HERRINGTON

Confesses to Dr. Gardner That She Was Coached to Commit Perjury.

Sensation in the Case of the Mayfield Chinese Woman Who Was Delivered Into the Hands of the Highbinders.

ATTORNEY J. N. E. WILSON, who appeared yesterday in United States Commissioner Heacock's court representing Bert Herrington in the case of the United States vs. Kim Quey, was hoisted clean out of the case by his own petard. His client turned the tables on the gang of highbinders that were fighting for the possession of herself as a chattel, and the ring was filled with consternation. If her story is true one lawyer may be disbarred.

Kim Quey was arrested at Mayfield by Chinese Inspector Gardner for being illegally in the country, he having discovered that she was one of the show women who had come here to take part in the exposition at Omaha. Bert Herrington took her in a buggy and drove away from the town, but was overtaken by Dr. Gardner. Herrington jumped out of the buggy and made his escape and the woman was rearrested.

In the deportation proceedings yesterday morning before United States Court Commissioner Heacock, Dr. Gardner was the first and only witness. He testified that the woman was a laborer and had no certificate of registration or other paper entitling her to remain in this country. Then Mr. Wilson walked into the trap. He asked the witness if the woman had not testified at Mayfield that she was a native of the United States. The inspector replied that she had, and that she had afterward confessed that her testimony on that occasion was false, that the truth was that she had come here with the Omaha Exposition people and that she had never been here before.

Dr. Gardner then proceeded to tell the remainder of her confession. The story had been taught her, he said, by Wong Fong, the Chinaman charged with abducting her; by Wong Sing, the man who afterward went through a form of marriage ceremony with her, and by Lawyer Herrington.

According to her statement they said: "You must testify thus in order to clear us, for if you don't our lives wouldn't be worth anything. We would be hanged. You must say that you were born in San Francisco; that you never were out of San Francisco; that you were not willing to stay in the Chinese Mission Home; that you wanted to go away with Wong Ling Ting; that you had known him for more than a year and that you wished to marry him—in fact, that you had married him; that you love him and that he is your husband. You will say also that everything that has been done with you has been done with your consent. If you don't testify as we say a bullet will be put through your head."

Mr. Wilson announced at this point that he would withdraw from the case. It was Mr. Herrington's case, he said, anyhow. The court took a recess until 11:30 o'clock to allow Mr. Herrington an opportunity of putting in an appearance, but he did not come, and the proceedings were continued until this afternoon at 2 o'clock.

HEAVY FINE IMPOSED ON SALMON PACKERS

Judge Morrow Demonstrates That There Is No Profit in Contempt of Court.

Joseph Hume, Hume Brothers and the Hume Salmon Packing Company were before United States Circuit Judge Morrow yesterday to show cause why they should not be punished for contempt for having disobeyed an order of the court prohibiting them from infringing the patent on a certain machine used for filling salmon cans.

It was alleged and proved that the defendants had been violating the injunction since March, 1897. Judge Morrow found the defendants guilty of contempt and imposed a fine of $2500, together with costs and $250 counsel fees. It was also ordered that if the fine was not paid in five days Joseph Hume, the legally responsible head of the defendant firm, should be imprisoned until the fine should have been paid, said period of imprisonment not to exceed six months.

It was ordered further that the machine used by the Hume corporation be surrendered to the United States Marshal, the Marshal being ordered to destroy the same.

Horseshoers Incorporate.

Articles of incorporation of the Master Horseshoers' Protective Association of California were filed yesterday. The object of the corporation is to facilitate the organization of the horseshoers' trade for mutual benefit and protection. The directors are Frank Hally, William P. Melia, Frank Pechart, Martin Ryan, Thomas F. McGee, R. R. Lomax and C. H. Knawnburg.

Divorce Suits Filed.

Suits for divorce have been filed by Amanda Milligan against Robert H. Milligan for desertion, Dora E. Hope against Henry Hope for cruelty, Joseph Gaffney against Nellie Gaffney for desertion, Emma Heller against Joseph Heller for failure to provide, Hermipia L. Ogden against George H. Ogden for cruelty and Bessie Bohall Roberts against Bert C. Roberts for failure to provide.

Smashed His Father's Glass Eye.

James McGuire, the young hoodlum who brutally attacked his father, Frank McGuire, 910 Illinois street, Saturday night, appeared before Judge Cabaniss yesterday, but the case was continued until to-day. The father appeared in court with two black eyes. He wore a glass eye and it was smashed in pieces by the son. About a month ago the father had the son arrested for vagrancy, but the mother and two daughters pleaded so hard for him that the case was dismissed. Yesterday he tried to put the blame of assault upon his mother, who had befriended him.

WILL SPRINKLE ALL THE BUSINESS STREETS

Merchants' Association Will Perform This Work Until City Contracts Are Let.

The Merchants' Association has decided to systematically sprinkle at its own expense the principal business streets of the city for a period of thirty days or longer, for the purpose of giving the citizens an object lesson of the benefits to be derived from general sprinkling and to abate as much as possible the present annoyance from dust, until the city awards a contract for sprinkling the business streets as required by the charter.

A special permit has been secured from the Board of Supervisors to sprinkle the bituminous rock streets, in order that the association may experiment and ascertain whether it is possible by sprinkling with a very fine spray to keep down the dust and yet not make the pavement slippery.

LEFT ENTIRE ESTATE TO HIS WIDOW AND CHILDREN

Will of the Late Capitalist, John Barton, Is Filed for Probate.

The will of the late John Barton was filed for probate yesterday by decedent's widow, Isabella Barton, and son, William Barton, who are named as executrix and executor, respectively, to serve without bonds. The testament is dated December 10, 1895, and disposes of an estate stated in the petition to be worth more than $30,000. One-half of all the separate and community property is bequeathed to the widow and the balance to decedent's son named above and daughter, Grace Barton, share and share alike. There are no other bequests.

Fishing for Suckers.

The show at 707 Market street was raided by the police yesterday afternoon and Ed M. Foster and J. D. Brooks were arrested for conducting a game of chance and R. J. Fritz and Edward Newman, cappers, for vagrancy. The paraphernalia of a fishing game was seized. Victims paid 25 cents for a try at the iron fish and when they hooked one they got a prize of cheap jewelry worth not more than 5 or 10 cents.

Half Interest Deal.

T. G. Carpenter, who has an office in the St. Ann's building, was yesterday held to answer before the Superior Court by Judge Cabaniss on a charge of obtaining money by false pretenses. He was accused of selling a half interest in a hair restoring business to Mrs. Ella Dunbar on the representation that the income was $300 per month, when it was much below that sum.

ADVERTISEMENTS.

TRANS-ATLANTIC TRAVELERS

Furnished Special Attendants by the Pennsylvania System.

The bureau of attendants for trans-Atlantic travelers established in Jersey City and New York City twenty years ago by the Pennsylvania System, has proven a great convenience to persons making European trips and to tourists arriving in America at that port. It will be particularly convenient for visitors to the Paris Exposition because the departure docks of most of the Atlantic Steamship Lines are convenient to the new Jersey City Passenger Station of the Pennsylvania Railroad Company.

This bureau consists of experienced agents whose duties are to meet passengers arriving in Jersey City and New York over the Pennsylvania Lines and assist them in arranging for trans-Atlantic trips via any of the steamship lines by conducting them to steamships and aiding in preparations for a trip abroad.

These agents will provide cabs operated by the Pennsylvania System and aid passengers with their baggage. They are fully posted on matters pertaining to steamships leaving New York, and arrangements can be made through them for procuring steamship tickets in advance.

They also meet incoming steamships to aid travelers in shaping details for continuing journeys from New York over the Pennsylvania Lines by furnishing tickets, arranging for the transfer of baggage from steamship docks after it has been passed by customs inspectors, and having the same checked through to destination. They will reserve sleeping car accommodations and relieve persons of the foregoing details, making themselves useful as attendants and guides free of charge.

Further information on the subject may be obtained by addressing A. S. T. HOLT, Pacific Coast Agent, No. 30 Montgomery St., San Francisco, Cal.

NEWS FROM THE OCEAN AND THE WATER FRONT

Battleship Iowa Sails for Puget Sound to Go on the Drydock.

One of the Man-of-War's Crew Went Overboard With His Bicycle, but Man and Machine Were Rescued.

The battleship Iowa sailed for Puget Sound yesterday. On her arrival at Seattle she will go on the Port Orchard drydock, where she will remain for five days. While there she will receive a thorough overhauling, after which she will return to San Francisco, arriving here May 17.

Admiral Kautz did not go out on the Iowa. He will make his headquarters ashore until the battleship returns or the Boston comes down from Mare Island. Captain Goodrich is in command of the big fighting machine and will see to her docking and undocking at Port Orchard.

There was a ludicrous accident at the Folsom street float a few minutes before the last launch left for the Iowa. One of the gunner's mates had purchased a bicycle, and a darky sailor was taking it aboard the warship for him. When the sailor got on the float at Peterson's boathouse he attempted to show the men in the launch how easy it was to ride the machine. Once he got started he could not stop, and rode into the bay. Luckily he could swim, and it was not long before he was back on the float minus the bicycle. The darky did not waste any time bewailing his fate, but stripping off his heavy clothes took a dive into the water, and in about thirty seconds came up with the machine. He passed it up to the men in the launch and then clambered aboard after it.

Auxiliary Bark Tsukishima Maru.

For the first time in the history of the port an auxiliary bark-rigged merchantman arrived in port last Saturday. She was built and outfitted in Japan and carries a full complement of the "little brown men" as a crew. She came from Hakodate with a cargo of 1500 tons sulphur in the good time of twenty-eight days, the usual passage for a sailing vessel being forty-five days, and expects to go back to Yokohama in steamboat time. She is a handsome vessel and does credit to her Japanese designers and builders.

Bear Sails To-Morrow.

The Seattle and Puget Sound papers genenally have been full of stories of the revenue cutter Bear chasing the British steamer Alpha in order to prevent her landing supplies and passengers at Nome. There being no sub-port at the new gold fields none but American vessels can land there. In spite of that fact the Alpha cleared from Victoria, B. C., and is now on her way north with passengers and cargo. According to the Seattle papers the Bear is supposed to be after the Britisher, whereas she is still in port and will not pass out through the Golden Gate until to-morrow afternoon.

Laguna a Total Loss.

News reached the city yesterday that the steamer Laguna, which went ashore at Tillamook, is a total loss. She left here last month with supplies for the mill at Tillamook and was to bring back a load of lumber. While trying to cross in over the bar she struck, and, went ashore among the breakers. At that time it was thought she could be got off and repaired. All efforts have failed, however, and the Laguna is now a total wreck according to advices received by the Merchants' Exchange yesterday.

The Laguna was built in 1885 at Hay & Wright's shipyard and was one of the best known steam schooners on the coast. She was 115 feet long, 30 feet beam and 9 feet deep, carrying about 350,000 feet of lumber. T. Pollard of this city was her managing owner. The loss of the vessel will come heavily on the owners at this time, as it is impossible to either charter or build a vessel to replace her.

Bark Fortuna on Fire.

News was received by the Merchants' Exchange yesterday that the Norwegian bark Fortuna was on fire in Honolulu harbor. She arrived from Newcastle, N. S. W., with a cargo of coal, and while awaiting inspection by the quarantine officer fire broke out in the lower hold. The steamer Miowera arrived in port while the bark was burning, and the Mail boat's officers report that when they sailed the cargo was being discharged and every effort made to save the vessel. The San Francisco agents of the Fortuna are Hind, Rolph & Co.

Water Front Notes.

The Zealandia comes off the drydock this morning and the transport Warren takes her place. The Zealandia will dock at Pacific street and will be fitted out for her trip to Nome. After a few days on the drydock the Warren will load and sail for Manila with 600 recruits and a full cargo of stores.

A stevedore named J. Sullivan was seriously injured on the British ship Dowan Hill yesterday. He missed his footing and fell into the hold, fracturing three of his ribs besides receiving internal injuries. He was treated at the Harbor Hospital by Dr. Morrison and afterward sent home in an ambulance.

Henry Reed was arrested by Sergeant Tom Ellis yesterday and charged at the harbor police station with burglary. He is accused of robbing the rooms of the crews of the Pacific Coast Steamship Company's steamers. A number of watches stolen from the Santa Rosa, Pomona and Corona were recovered.

A Large Party

Of Eastern tourists recently visited Frisco. They patronized Zinkand's and pronounced it the finest cafe in the West.

TWENTY LESSONS IN FRENCH CONVERSATION

Copyright, 1900, by Seymour Eaton.

Note—These lessons have been prepared for The Call's Home Study Circle by Professor Benno Kirschbaum of Philadelphia. They are intended primarily for Americans who purpose attending the Paris Exposition. The lessons will include (1) common French words and phrases, (2) easy conversation and (3) simple reading lessons.

LESSON NO. 10—DIXIEME LECON.

A Few Idiomatic Expressions.

1. What do you want?
Qu'est-ce que vous voulez?
2. What are you doing there?
Qu'est-ce que vous faites là?

Note—The word que; what; (kuh) is used when asking a question; qui (kee) is translated by who or which. After a preposition qui is translated by whom.

3. What is your trouble?
Qu'est-ce qui vous-affige?
4. What have you lost?
Qu'est-ce que vous-avez perdu?
5. What have you found?
Qu'est-ce que vous-avez trouvé?

Memory Exercises.

1. Give me some water.
Donnez-moi de l'eau.
2. Give me some meat.
Donnez-moi de la viande.
3. Give me some bread.
Donnez-moi du pain.
4. Give me some apples.
Donnez-moi des pommes.

The student will notice here that some is translated in four different ways: de l', de la, du and des. To see plainly, it will be found very useful to remember that the article, when expressing the idea of an indefinite part of anything, such as some bread, some apples, etc., is rendered as follows and is called the partitive article:

(a) de l' is placed before any noun in the singular commencing with a vowel or "h" mute.
(b) de la is used before any feminine noun in the singular commencing with a consonant.
(c) du is used before any masculine noun in the singular commencing with a consonant.
(d) des is used before any noun in the plural.

6. They have enough water.
Ils-ont-assez d'eau.
7. A pound of chocolate.
Un livre de chocolat.
8. Two yards of silk.
Deux mètres de soie.
9. A dozen roses.
Une douzaine de roses; — doo-zèhn—
10. Some pretty feathers; de jolies plumes.
11. Some (or any) excellent wine.
D'excellent vin.

Note—Exceptions to the above rules, however, occur, as will be noticed in the last few sentences, by which de or d' takes the place of de l'; de la; du; des; when used as follows:

(a) after a negation.
(b) after adverbs expressing quantity.
(c) after nouns expressing weight, measure, quantity, etc.
(b) in a sentence in which the noun is preceded by an adjective.

12. The drinks; les boissons; lay bwa-song.
13. The wine list; la liste des vins; lah leest da vang.
14. Table claret; vin-ordinaire; —— or-dee-nair.
15. Claret; le bordeaux; —bor-doh.
16. Port wine; vin d'Oporto; ——do-port-o.
17. Sherry; Xérès; zair-ess.
18. Champagne; le champagne; sham-panye.
19. Lemonade; la limonade; lee-mo-nahd.
20. Whiskey; whiskey; wees-kee.
21. Beer; de la bière; bee-air.
22. A bottle; une bouteille.
23. A glass of beer; un bock; ——bock.
24. The spoon; la cuiller; ——kuh-ee-yair.
25. The tablespoon; la grand cuiller.
26. The teaspoon; la cuiller à thé.
27. A teaspoonful of; une cuillerée de;—— kuh-ee-ya-ra duh.
28. The glasses; les verres.
29. To drink out of a glass.
Boire dans-un verre.

Note—The French say "We drink in a glass."

30. The knife; le couteau; coo-toh.
31. The knives; les couteaux; coo-toh.
32. The knife and fork; le couteau et la fourchette ——four-shet.
33. Give me a clean knife.
Donnez-moi un couteau propre; —— propr.
34. The table-cloth; la nappe.
35. The cover; le couvert.
36. Bring us three plates.
Apportez-nous trois-assiettes.
37. The dishes; les plats; (vaisselle); plan; vay-sell.

Note—The word "vaisselle" for dish expresses a dish in general; table service.

38 A glass of ice water.
Un verre d'eau glacée (or frappé).
39. A glass of fresh water.
Un verre d'eau fraîche.
40. Cold water; de l'eau froide; ——loh frwad.
41. Warm water; de l'eau chaude; —— showed.
42. Boiling water; de l'eau bouillante; —— boo-yant.
43. Mineral water; de l'eau minérale; —— mee-neh-rahl.
44. To pour out; verser.
45. Pour in; verser dans.
46. Pour me out a glass of water.
Versez-moi un verre d'eau, s'il vous plaît.
47. The express train; le train-express.
The lightning express; le rapide.
The special express; le direct.
The special; le train spécial; —— spa-see-al.
The accommodation train; le train omnibus; —— booce.
48. The conductor; le conducteur.
49. The compartment; le compartiment; kon-par-tee-mong.
50. The railway carriage; le vagon.
51. The seat, the seats; la place, les places.
52. To start; partir.
53. To arrive; arriver.
54. The traveler; le voyageur.
55. All aboard; en voiture.
56. When does the train leave?
Quand part le train?
57. What train do you wish to take, sir?
Quel train monsieur veut-il-prendre?
58. Your train leaves at 2:10.
Votre train, monsieur, part-à deux-heures dix.
59. We have plenty of time.
Nous-avons bien le temps.
60. Show us the baggage-room.
Indiquez-nous la salle des bagages.
61. Has our baggage come from the hotel?
Nos bagages sont-ils-arrivés de l'hôtel?
62. I do not know, miss.
Je ne sais pas, mademoiselle.
63. How many pieces have you?
Combien de colis-avez-vous?
64. We have five; nous-en-avons cinq.

Note.—Literally it means, "We of these have five."

65. Check this baggage, please.
Entregistrez les bagages, s'il vous plaît.
66. Show your tickets.
Montrez vos billets.
67. Here are your checks.
Voilà votre bulletin de bagages.
68. This is our train; voilà notre train.
69. Have you a dining car?
Y a-t-il-un-vagon-restaurant? vah-gun ——
70. I wish to take a sleeper.
Je prendrai un vagon-lit; vah-gun-lit.
71. A smoker; compartiment pour les fumeurs; —— lay fuu-muuhr.

Reading Lesson.

The following is the proper translation of the last French exercise:

(1) The French drink more wine than the Americans. (2) Do you travel much? (3) He has chosen this picture; it is the finest of all. (4) With the blind the sense of touch is very acute. (5) This young American girl has beautiful hair and blue eyes. (6) Waiter, what are you doing? Not so much noise! (7) What are those ladies over there doing? (8) Do you not see? They are reading that sign. (9) My sister has broken her leg climbing; she is not strong. (10) How many French verbs do you know? (11) How long is it necessary to learn French? (12) The finest modern pictures are exhibited at the Salon. (13) Our trunks have been much damaged during the voyage; it is a pity. (14) I know more French than you.

Vocabulary—D'or, gold. Bague, ring. Porte-monnaie, pocketbook. Aimez-vous? do you like? Ce, this. Pas si bon, not so good. Que, as. En bouteille, bottled. Bière; beer. Au bock, by the glass. Que, what. Jolis, pretty. Ces, these. Tasses, cups. Soucoupes, saucers. Vraie, real. Porcelaine, porcelain. Fraîche, fresh. Eau, water. Elle n'en a pas le goût, it does not taste so. Prendrons-nous? shall we take? Préférez-vous? do you prefer? Devant, front. Derrière, rear. Tout à l'heure, presently. Demanderez-vous? will you ask? Occupez-vous de, attend. Tandis que, whilst. Achète, buy. Demandez-lui, ask him for.

Read and translate into English:

(1) Elle a trouvé une bague d'or. (2) Mon ami a perdu son porte-monnaie. (3) Aimez-vous ce pain? (4) Ce vin n'est pas si bon que le vin que nous avons-eu hier. (5) La bière en bouteille est—elle bonne à Paris? (6) Est—elle aussi bonne que celle que l'on-achète par le bock? (7) Que ces couteaux-et ces fourchettes sont jolis. (8) Ces tasses—et ces soucoupes sont—elles en vraie porcelaine? (9) Cette eau est-elle fraîche? Elle n'en-a pas le goût. (10) Ce monsieur voyage pour une maison-anglaise. (11) Prendrons-nous l'express-ou le train-omnibus? (12) Préférez-vous-une place de devant-ou une place de derrière? (13) Nous partons tout-à l'heure, je crois. (14) Ne demanderez-vous pas-au conducteur? (15) Occupez-vous de vos bagages tandis que j'achète des billets? (16) Demandez-lui le bulletin de bagages.

Note—The English translation of this exercise will be found in the following lesson, which will be published next Tuesday.

RECENT SCIENTIFIC DISCOVERIES.

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Note—These papers on practical science have been prepared for The Call's Home Study Circle by Professor William J. Hopkins of Drexel Institute.

IV. PHOTOGRAPHY IN COLORS.

(Concluded.)

There are two other methods of color photography more recent and somewhat more direct than the three-color process. These are the interference method of Lippmann and the diffraction method invented by Wood.

Lippmann's Interference Method.

In this method two things are necessary—a transparent photographic film not granular in structure and a metallic mirror. Suppose that the film is in direct contact with the mirror and that a beam of light of a single color—that is, a single wave length—fall upon it. The light passes through the film, strikes the mirror and a train of waves is sent back through the film. These reflected waves meet the oncoming direct waves and the result is the establishment of what are called "stationary" or "standing" waves, such as may be seen when a tight string is vibrating violently as a whole or in equal parts. At certain points the direct and the reflected wave urge the string in the same direction and the result is a motion which is the sum of two; at points midway between these points of greatest motion the direct and the reflected wave urge the string in opposite directions and the result is no motion at all. A similar effect may sometimes be seen in water when the waves are reflected from a smooth rock or the planks of a pier or a ship.

Such an action as this taking place within the film produces planes of maximum light action and planes of minimum action half a wave length away from them. The emulsion will be acted upon at the planes of greatest motion and not at all at the planes of no motion. There will, therefore, be strata of metallic silver deposited, the distance between adjacent strata depending upon the wave length. The strata formed by the action of violet light will be nearest together and those due to red light farthest apart, and even in a thin film there will be as many as 500 of these layers of deposited silver.

If instead of light of a single color the colored image formed by a lens falls upon the sensitive film and mirror, the result will be a distribution throughout the film of layers differently spaced at each point in accordance with the color.

Seeing the Image.

When white light is allowed to fall upon a plate obtained in this way, it is reflected at each of the planes within the film and interference takes place in such a way that the light of the particular color which formed the planes is strengthened and all other colors are diminished. It is the same action which gives color to a soap bubble. Part of the light is reflected at the first surface, part goes through and is reflected at the next and joins a wave reflected at the first. As the extra distance traveled is an exact multiple of the wave-length of the color that produced the layers, the light of that particular color in each of the reflected waves will be in the same part of a vibration and the color will be strengthened. For light of any other color the two reflected waves will be in different parts of a vibration when they join again and will therefore be partly or wholly destroyed.

If there were only two planes the selective strengthening of the reflected light of one wave length would not be marked. But, as there are hundreds of planes, one after another, the final result is that practically only light of one color—the color that produced the planes at that point—emerges from the film.

The Manipulation.

The plate is placed in a tight holder with the film side at the back. The space at the back is then flooded with mercury and the exposure is made. There is no other change from the usual practice, the operations of developing and fixing being as usual.

The plate must be viewed at the same angle at which it was taken. For, if the incident is changed the colors change, the red changing to orange, yellow, green and so on to the violet end; and if any part of the film is wet it swells, the distance between the layers increases and the colors change in the opposite order.

Wood's Diffraction Method.

A still more recent method is that due to Wood, in which the color effect is produced by diffraction. Before describing the process, therefore, we must first understand what diffraction is and what effects it produces.

Nothing in regard to light is more firmly impressed on the mind than that it casts sharp shadows. This, however, is entirely a question of degree. The impression is just as firm that sound does not cast sharp shadows. The existence or the absence of shadows depends on the relation between the length of wave and the size of the obstacle. The water on the leeward side of a ship is comparatively smooth, if not quite so; and sound shadows occur behind large obstacles. Water waves bend around a stake just as sound waves bend around small obstacles. Light waves do the same thing, but as the light waves are so very short the obstacle must be very small to produce the effect of the stake in the water. A body of the dimensions of a hair or a fine line on glass will do this, and when the different sets of waves meet on the other side they interfere, causing added light where crest meets crest and destroying each other where crest meets trough. Thus alternate bands of light and darkness are produced which may be clearly seen under favorable conditions with the proper apparatus. This effect is very greatly increased by ruling a great many lines close together, the lines all being of the same width and separated by spaces of the same width. Such a set of ruled lines on glass or on other transparent or highly reflecting body is called a diffraction grating."

Action of Diffraction Grating.

If the image of a light of one color only, such as the yellow sodium flame, is formed by a lens upon a screen, and a grating put in front of the lens, there appear other yellow images on either side of the central image separated from it and from each other by dark spaces. If the color of the light is blue the spacing of the side images is smaller, each blue image falling nearer the central line than the corresponding yellow, and images from a red source would have wider spacing than the yellow. In this way white light is broken up by a grating and spread out into a series of spectra on either side of the central line. Moreover, the spacing of the lines of the grating determines the distances separating the spectra, finer ruling causing the images to spread out more widely. Evidently, then, by using gratings of different fineness of ruling we may cause the spectrum produced by the second—the spectrum nearest to the central image since it is the brightest—to lap upon the spectrum produced by the first, and that of the third grating to lap upon the two others. Indeed, the ruling of the gratings may be carefully determined, so that the red from the first, the green from the second and the violet from the third will all fall upon the same spot. An eye placed at that spot would see red, green, violet or any of their compounds, including white, according to the relative strengths of the simple component colors. It is this action which is the foundation of Wood's method.

The Process.

From what has been said it is evident that this method is in a sense a three-color method, but the primary colors used are pure spectrum colors which by an ingenious arrangement are produced automatically in the film itself. In the finished positive the red component at each point is represented by a portion of the grating producing red at the view point, the green component by a portion of the green-producing grating and the violet component by a portion of the grating producing violet.