

# INDUSTRY AND MECHANICS

DEvised BY YOUNG STUDENT

Simple Iron Platform Applicable Especially to Skyscraper—Cable Prevents Swaying.

Men working on structural steel, masonry, and the building trades generally will tell you that they have no sense of heights. They walk along the top of an I-beam or a slender ledge of masonry as certainly as they walk along it two feet from the ground.

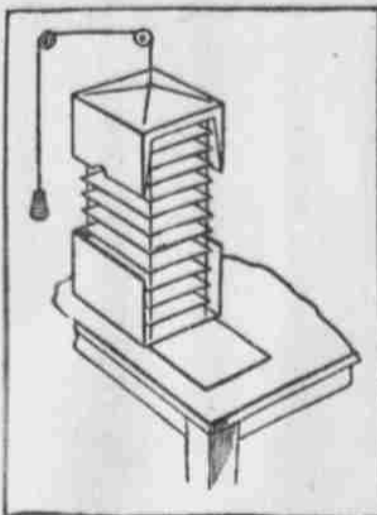
On an average, every large building in process of construction costs a life, to say nothing of the minor injuries. But ordinarily when a steel structure man is killed something goes wrong with the derrick, a rope slips, a cable parts, or a donkey engine driving it makes a miscue, throwing the worker from the carrier which he trusts to the full of his confidence.

A student in the University of Chicago is applying for patent papers to secure to him rights to the simple iron platform that is applicable especially to the skyscraper. Its cables are of a length allowing of 100 foot stretches; the flooring of the scaffold may be of iron or steel; a cable suspends the scaffold at each end and may be loaded with any building material according to needed size. The

## NOVEL CABINET FOR FILING

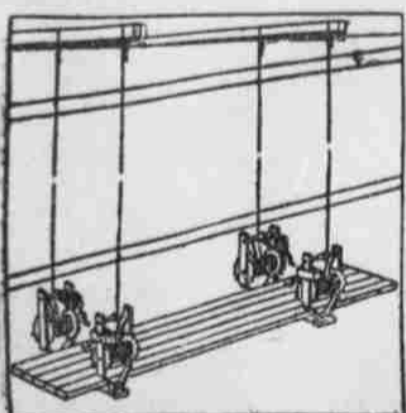
Ingenious Device Arranged so That Weight Opens Up Series of Shelves When Desired.

A novel and ingenious filing cabinet has been designed by a Michigan man. When closed the device is about the size of an ordinary cigar box, but when open it presents a long row of shelves in which lie the various papers required and all of which can be seen almost at a glance. The shelves consist of flat surfaces strung



Everything Seen at a Glance.

on cords at each corner. They are arranged to telescope within a box which is made in two parts, the upper part fitting over the lower. Above this case another cord runs through pulleys in the ceiling or desk top, one end of this cord being fastened to the top of the box and the other end having a weight on it. When the box is closed and the front flap fastened up it remains in that position, but when the front flap is let down the upper part of the box is released, the weight of the cord descends, and the shelves are extended to the full length of the cords on which they are hung. This little invention has the advantage of taking up little room in an office when the box is closed and of displaying all the papers on the shelves when it is open.



Simple Iron Platform.

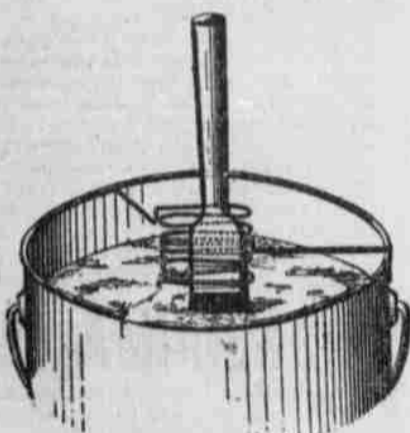
whole structure is suspended from the floor above and a ratchet wheel at each end of the platform is moved up or down by workmen at the wheels. The outward cable prevents any swaying from the wind or from movements of men on the platform, while from the scaffolding brickwork, stonework or steelwork may be placed from the outside accurately and without danger.

In washing the enameled white brick of buildings or in painting them, the device is said to be most valuable. The machines were tested recently on the new Sherman house, in Chicago.

## HOLD BRUSH IN PAINT PAUL

Wire Frame Supported in Such Manner That Brushes Are Held Securely in Mixture.

The accompanying drawing illustrates a very simple device adapted to suspend a brush in a paint pail so that the brushes will be submerged in the paint and thus be prevented from drying, says Scientific American. It



Paint Brush Holder.

consists of a wire frame adapted to be supported on the top of the pail, and bent back upon itself a number of times to form fingers between which the paint brush or brushes may be secured at any desired point.

## MECHANICAL AND INDUSTRIAL NOTES.

A reed basket of peculiar shape mounted on a long handle has been patented by a Pennsylvanian to pick fruit.

The industry of making tebkuchen, or honey cake, is worth to the German city of Nuremberg about \$1,000,000 a year.

A concrete lock to be built at Lockport, N. Y., in connection with the Empire state's water canal, will have a lift of 50 feet.

A single blast in a mountain side in southern California brought down 120,000 cubic feet of rock to be used in building a dam.

For every man, woman and child in this country, there is manufactured each week more than 12 pounds of finished iron and steel products.

A recently invented rescue stretcher for mines has oxygen tanks at one end, opening into a bag in which a man's head and shoulders may be placed.

The acid carbonates and sulphates in cement are said not only to prevent the formation of rust on iron or steel used for re-enforcing but also to dissolve away the oxide formed before the metal is covered.

A motor boat invented by a Wisconsin man, and found practicable, is mounted, catamaran fashion, in two narrow hulls, which are kept filled with air.

One of the large Pennsylvania anthracite mining companies has engaged in the manufacture of coal dust briquettes on a large scale, finding them an economical fuel.

Sand is the curse of Portuguese East Africa. It blocks the rivers and harbors and stretches in a vast sea toward the interior, effectively cutting off the coast towns from the highlands. Besides, it makes the problem of transportation the bugbear of the planter.

## METALS SUBJECT TO DISEASE

Spontaneous Change is as True of Inorganic Materials as of Organized Entities.

That metals have diseases, and that spontaneous is as true of inorganic materials as it is of organized entities, is advanced by the London Lancet.

"Yellow phosphorus gradually assumes a new complexion, if left to the agencies of time, finishing a beautiful dark red," says a recent article. "Tin crumbles to a gray powder if exposed for a long time to the cold, and this is known as 'tin plague.' This plague is even infectious, for on inoculating other masses of smooth polished tin with small portions of the crystalline metal, the disease spreads, the area affected increasing in diameter daily. Tinfall succumbs to the infection in the same way and becomes brittle all the way through. Why does the railway line snap—except that it is attacked by the same crystallizing disease? It would even appear that certain metals have their 'illness,' as though their activities were interfered with by a toxic process which may be pushed in many cases to such an extent that the metal 'dies.' Platinum, for example, it is colloidal form, in which it is very remarkably active, is positively poisoned by prussic acid or corrosive sublimate; its great energetic cease to act; it is killed."

### Aluminum Bronze.

This material was invented by the French chemist, Deville, in 1859, and was used experimentally for the manufacture of domestic utensils and articles of jewelry. It has the color of gold, and retains its brilliancy, not being attacked by salt water or the atmosphere. It consists of 10 per cent. of aluminum to 90 of copper. The former great cost of aluminum prevented the extensive use of the material. Since aluminum is now easily procured, it is suggested by H. Le Chatelier that aluminum bronze might be largely employed. It is now used to some extent in the manufacture of ship's screws, and other machinery exposed to salt water. It has the tenacity of Bessemer steel, and when heated is easily forged and rolled. It can now be manufactured at a price not greatly exceeding that of copper.

### Titanium Abundant Element.

Among the unexpected results of the chemical work done by the United States Geological survey is the discovery that titanium, hitherto regarded as a relatively unimportant constituent of the earth's crust, is in reality the sixth in abundance of all the chemical elements. It follows immediately after hydrogen, provided that the amount of hydrogen in the ocean is included in the estimate. "The heavy metals," says Dr. F. W. Clarke, "with the sole exception of iron, are, in their total combined amount, statistically less important than titanium alone." In absolute amount the titanium in the earth's crust is estimated to be about four-tenths of one per cent.

### Coal for Ocean Greyhound.

When we feel poor at the prospect of filling the cellar with coal for the winter we may well be thankful that it is not the cellar of an ocean greyhound that we have to fill. Such a ship as the Mauretania uses in each trip across the Atlantic over 7,000 tons of coal. Taking the average carload as 25 tons, this is about 280 cars, or a train two miles long. It is said that for every 1,000 persons carried across the Atlantic 10,000 men are engaged in mining and handling the necessary coal, and that their labor supplies the means of living for an additional 20,000 persons. When stowed away in the hold this vast quantity of coal occupies an almost negligible part of the total capacity of the ship.

### Chinese Concrete Buildings.

Reinforced concrete buildings of Chinese architecture are being built for Chinese use by Chinese contractors. Wages are going up and lumber is in much demand.

## Man's Decline

## Woman Fast Supplants Man in Trades

By P. EVAN JONES



WILSON MORROW MATTHEWS asks if men are doomed to become as extinct as the Indian race, owing to the aggressiveness of womankind.

We may in time become extinct, but before that we shall be reduced to the position of hewers of wood and drawers of water. It has been so long since a man won a prize in anything, from solving a picture puzzle to writing an abstract thesis, that I doubt if men could have the heart to contest any more.

Cold statistics inform us that of the 303 occupations in this country women have pre-empted a place in all but nine. Depend upon it, these nine are so many things they don't want to do—there's nothing nowadays they can't do! There are five pilots, ten baggage-women, thirty-one brakemen, forty-three carriage and hack drivers and 568 machinists.

I blame it all on the bicycle and its attendant costume—the famous bloomer suit. I am surprised that women have not adopted the bicycle as their emblem, for it is the emancipator of the sex. It demonstrated beyond all doubt that woman is a biped, a fact that she herself had almost forgotten in her centuries of wearing skirts. The exercise strengthened her lungs and we began to hear her voice in the land. Unaware of any danger, we stood idly by.



What's to be done about it? Working with us in office, factory, mill and aeroplanes, they know all our tricks and manners. We can't, as in days of old, prate of superiority when we can't show any medal for it. And when I size up the crowd going to work in the morning and note the athletic build of the young women, I feel that when we are reduced to hewing wood and drawing water they'll set the pace even then.

From time to time articles have appeared in regard to the dying out of the wild pigeon. About fifteen years ago I met an old seaman who was then second mate on the steamer Uganda.

He told me that ever since he was a boy—he was between sixty and seventy when I met him—he had watched the wild pigeons cross the great lakes in their annual north and south flights.

They came in droves, darkening the sun like clouds.

One fall—I think it was 1873 or 1874—a sudden norther blew up with the coldest weather he had ever experienced. The next morning Lakes Huron, Ontario and Superior—the lakes on which he was sailing—were covered with dead pigeons which had frozen to death.

For many days his vessel sailed among these dead bodies. Since that time he watched for the pigeons, but seldom saw any making their flight north or south at their accustomed times.

It is not too late to find out the weather conditions in the fall of 1873 or 1874.

Also to find from mariners on the great lakes or from people living on its shores whether any great number of birds were found dead on the waters at that time.

Thus it could be established whether or not the pigeons were killed off by man or the natural elements.

Because of ignorance of the law many people are imposed on in many ways. I saw a somewhat amusing instance of this about a week ago, when a woman gave a street-car conductor a \$1 bill from which to take out the price of her fare.

This conductor, to be mean, handed her back 19 nickels as change.

This large amount of nickels, no doubt, caused her considerable annoyance.

The conductor could just as well have given her at least one or two quarters.

Those who are ignorant of the fact may be interested to learn that the law says that the subsidiary coins of baser metals, such as the nickel and penny, are legal tender to the sum of 25 cents and no more, and no one is compelled to accept more than five nickels when a small amount of dimes or quarters would answer the purpose just as well.

The south park commissioners of Chicago are doing a work in behalf of the birds which should receive the commendation and co-operation of the public.

In order to induce birds to spend their summers in the city they have put up nesting boxes in various places in the parks and have distributed nesting material which may be used by the birds.

They have just added a number of food boxes, supported on iron posts and covered with thatched roofs.

They have also put up neat signs informing the public what has been done and asking co-operation. These efforts are both humane and artistic.

In spite of the pessimists, we are now moving.

All of these things are improvements and add to the beauty and reality of our overclouded civilization.

## Awful Fate of Wild Pigeons

By G. E. HURLEY

## Number of Nickels Legal Tender

By L. OGDEN

## Coaxing Little Song Birds to Stay

By DONNA NOEL Chicago

## Long Working Hours for Horses

By MYRTLE STEVENSON

Is there no law prohibiting the working of horses long hours every day? From fourteen to eighteen hours is enough to break the health of any creature. In answer one might say that the driver works also when the horse works. Yes, but he usually gets extra pay.

Even though the driver works long hours that is no reason why horses should work so hard.

If taken from the barn between 6:00 and 7:00 a. m. and not returned until 10:00 or 11:00 p. m. a horse has no chance to rest.

If the driver is sick in the morning he can stay at home, though he loses his pay, but the horse has to go out just the same, to fall during the heat of the day and then be dragged to its feet and made to stumble on, weak and exhausted.

I wish we had a curfew bell for the work horses. If we had we shouldn't have so many lame, decrepit, suffering animals.

## FORMER WHITE SOX FAVORITE



Billy Purtell.

Third Baseman Purtell, who was recently traded to the Boston Americans, together with Pitcher Frank Smith, is making good with the Red Sox. Few players have enjoyed the popularity with the Chicago fans that this youngster enjoyed. The trade was a big surprise to the fans.

## WADDELL TRADED TO NEWARK

Eccentric St. Louis Pitcher Released to Eastern League Club on Optional Agreement.

Rube Waddell has dropped into the minors. With Pitcher Bob Spade, Waddell was released to Newark of the Eastern league the other day on an optional agreement by the St. Louis



Rube Waddell.

Americans in return for Catcher Joe Crisp. Both have been ordered to report to Newark immediately, but Crisp will remain with Newark until sent for.

## CUBS MAY SHATTER CUSTOM

Chicago Nationals Bid Fair to Prevent Pittsburg "Repeating"—Phrase Explained.

There is an interesting fact in connection with the championship of the National league. Since 1890, the year of the Brotherhood war, there always has been a "repeater" for the title. The explanation of that phrase is that a winning team has won the championship at least two years in succession.

This is the record: In 1891, 1892 and 1893 Boston won the championship; 1894, 1895 and 1896 it was captured by Baltimore; in 1897 and 1898 Brooklyn earned it; in 1899 and 1900 Boston again won; the pennant, in 1901, 1902 and 1903 Pittsburg was the successful club; in 1904 and 1905 the Giants busted themselves and won; in 1906, 1907 and 1908 the much-coveted five yards or so of bunting was captured by Chicago.

In 1909 Pittsburg won. Now the question before the National league and some 20,000,000 or more of baseball "fans" is whether Pittsburg can do it again.

Is the precedent of 18 years to be continued or are the clubs of the National league other than Pittsburg smart enough this season to bring about another result?

There was not such a long period of "champions repeated" prior to the victory of the Brooklyn team in 1890. In 1888 and in 1889 the New York club had the habit, but Detroit earned a single pennant in 1887, after Chicago had been the champion organization in 1885 and 1886.

Prior to Chicago, Providence had the championship for a year, in 1884, and Boston won it the year before—1883. In 1880, 1881 and 1882 Chicago captured the flag. The Chicago were the first team in the National league to win three years in succession, and

## New Strike-Out Record.

Wonder what will happen to Martin O'Toole, the youngster who turned 18 Lincoln's haters recently, establishing the season's and Western league strike-out record?

O'Toole was loaned to St. Louis City by the St. Paul team of the American association this year to ripen. He played with Brockton, Mass., last season, winning 25 and losing 12 games. O'Toole's record was established a couple of days after Buck Freeman of the same club struck out 16 Wichita (Kan.) batters.

## BALL CAREER AN ACCIDENT

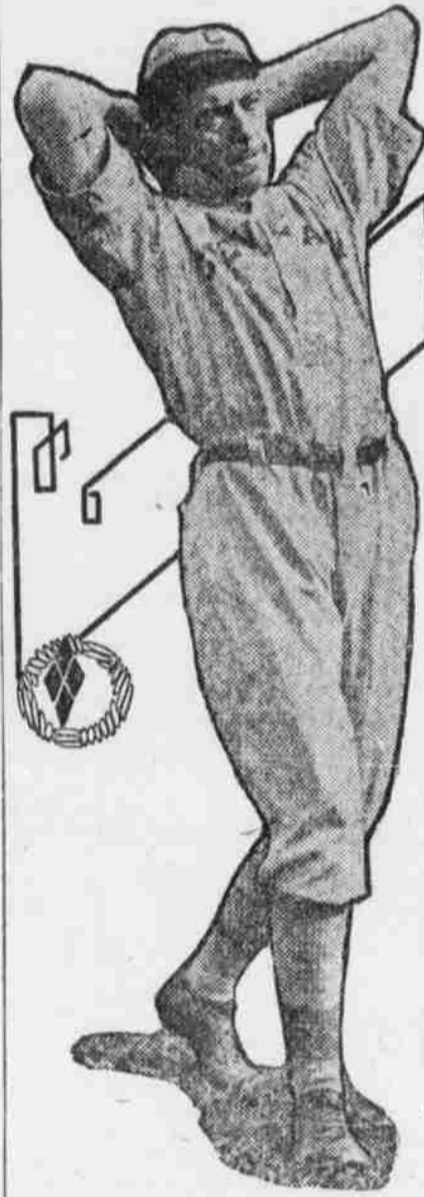
Addie Jess, Cleveland Pitcher, Claims Baseball is Clean and Healthful Profession.

(By ADDIE JESS.) (Copyright, 1915, by Joseph B. Bowles.) They might as well have tried to make a bass climb trees as to try to keep me out of baseball. I had no thought of playing the game as a professional when I started out and all my people would have been horrified at the thought.

I played on the high school team and finally was sent to Sacred Heart academy at Watertown. We had one of the best school teams there I ever saw. I believe that is the way most players get started; they accidentally meet other boys who know the game, they get interested and begin to study it and to learn from each other.

It was there that I was shoved into professional baseball without realizing it. About the time school closed some business men in the town proposed to hire the college team to play for the city. We all accepted and it was one of the big disappointments of my life, because it prevented me from pitching at the university. I went to the University of Wisconsin and could not pitch or play on the team during my university career, and after leaving in 1899 I looked about for something to do. I had been pitching during the summer for various teams around Juneau and the best offer in any line that came to me was from the Oshkosh team to play baseball. In 1900 Toledo bought me and I pitched there with much success during two years, Cleveland purchasing me in 1902.

While my entering baseball was almost an accident, yet I long ago



Addie Jess.

ceased to have any regrets. I have found it a clean, healthful and rather profitable profession and the off seasons have given me a chance to write for papers. I think it has broadened me, given me a wide general knowledge of men, cities and affairs that I could not have obtained in any other way and taught me self-control.

## TY COBB IN REPLY TO CRITICS

Detroit Fielder Complains of Unfair Treatment by Newspapers—Works for Team.

Ty Cobb does not relish the criticism that has been heaped upon him in the last week or so and the other day took a rap at the Detroit reporters, whom he accuses of treating him unfairly. Cobb says he is working honestly for the success of the Detroit club and if some of the writers who have been roasting him would work as hard in that direction they "would not misguide the public."

Cobb's letter in part, addressed to the Detroit fans, is as follows:

"I realize that I am not above making mistakes. If some of my critics who have been roasting me in the paper would work as hard and honestly as I do they would find out the real facts connected with the recent trouble on the team and would not be misguiding the public. As for disension in the club, I can only point to our recent victories, and when the end comes the fans will find the Detroit team there."

## Future of Billiards.

Just what the future of the game of billiards is to be in this country is purely problematical from the present outlook, and is an great a riddle as the future and fate of the theatrical business is to be. During the last quarter of a century the billiard business in this country has practically been managed and handled on a par with the theatrical business, with a result that theatrical art is practically unknown to this country at the present day, just as the billiard business has been practically unassisted in the interest of commercialism and at the expense of the game as a legitimate business.

## \$125,000 for Horse.

There are not many men in the world who could pay \$125,000 for a horse without a look at him. But August Belmont is one of the few, and he made such a purchase when he bought the great English race horse and stallion Rock Sand. He has never had a regret for the purchase. Rock Sand has sired the best two-year-old winners of the season.

Manager Chance is in a bad way now for left-handed pitchers.