

used in the washing or bleaching to impair the strength of the fiber.

The Owen Paper Company was incorporated in 1862. The business was commenced at Lee, Mass., in 1822, by a firm of which Charles M. Owen was the senior partner. In 1849, Edward H. Owen, a son, became a partner, and soon succeeded to the practical management of the business. The firm built, in 1857-8, the mill at Housatonic, shown in our sketch as the "Old Mill," which, with various enlargements, is now 320 feet in length, its internal arrangements being admirably adapted for saving labor, the bales of rags being taken from the cars at one end of the mill, and reloaded as finished stock ready for transportation from the other end. The company formed in 1862 included Edward H. Owen, Henry D. Cone, and Charles M. Owen, the former of whom died in 1864, and the latter in 1873, leaving Mr. Cone treasurer and manager of the business, of which he is now, also, the sole proprietor. He has continuously made it a specialty to manufacture only first-class paper, made from the best linen and cotton fiber, without any of the adulterations and make-weights in the shape of clay, china clay, kaolin, and other substances used in cheap papers. As a result, the business has developed with great rapidity, the foreign demand for the goods of the company being felt in most if not all the civilized countries of the globe, large orders being received from abroad, frequently without solicitation. The new mill just erected, about half a mile lower down the river, will be, when fully equipped, one of the largest and most complete paper manufacturing establishments in the world. Mr. Cone owns all the houses, with two exceptions, with the land both sides of the river, for a mile and a half; and the two main buildings of his factory, connected by a central building, have a frontage of 500 feet. In the rear, and adjoining them, is an auxiliary building 400x30 feet, and an ell 200x40 feet; also boiler and engine house, store houses for stock, and the like. A good idea of the plan and elevation may be obtained from our illustration. A considerable village has arisen in the neighborhood, the result of this industry, in which most of the workmen live in houses occupied by only one family each, and educational and social advantages have been generously supplied by the liberality of Mr. Cone. There is an admirable library of several thousand volumes, free to all, with salary of librarian and all expenses of library and a well-furnished reading room paid by Mr. Cone. The place is, of itself, one of great natural attractions, and to see it so occupied by a flourishing industry, making happy homes and intelligent, well-to-do workmen, is no less a matter of personal pride to Mr. Cone than is the business success he has achieved in a department of manufacture where we formerly depended so much upon foreign labor and capital.

#### The Cattle Car Prize.

During a recent visit to Chicago we saw the collection of models of cars and plans of cars which have been sent to Mr. Brown as chairman of the judges. There are 480 of the former and 243 of the latter.

A careful description of each is being prepared for the use of the judges. It will be apparent, at a glance, that this must be done in justice to each competitor, and also that careful work and much time are required for it. This explains the delay; a delay which must be protracted for some time longer.

Then in several manuscript volumes are copies of every patent issued so far by our Patent Office for an improved cattle car, numbering now 116; the first, in time, bearing date in West Virginia, May 29, 1860. It will require much careful consideration to determine how many of the new plans were already protected by one or other of these numerous patents.

We were curious to know whence the competitors came. Nearly every State is represented, and also England, Switzerland, and, of course, Canada.

Illinois has 51 models and 18 plans, being the highest numbers from any one State; Pennsylvania is second, with 47 models and 27 plans; New York is third, with 43 models and 15 plans; Ohio is fourth, with 37 models and 18 plans; Indiana is fifth, with 21 models and 13 plans; Massachusetts is sixth, with 19 models and 26 plans; Michigan is seventh, Iowa eighth, Missouri is ninth, and Minnesota is tenth. Among the competitors are eight women, from the same number of States.

Some competitors have more than one model, and others more than one plan.

The collection represents a great amount of thought and labor and ingenuity, as well as skilled workmanship. That a better car will be the result no one doubts who has full information on the subject. There are cars which came into existence in consequence of the offer of the prize, which are not there, because their inventors think them too valuable to part with for the prize; but their points will be known to the judges, and they are, of course, a part of the valuable results already secured by the offer.

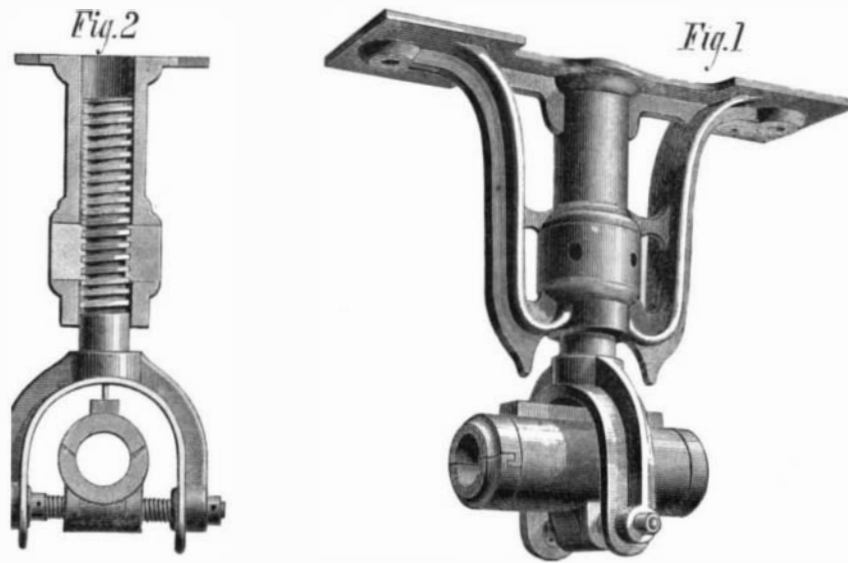
It is, also, beyond question that the judges will have before them a more complete exhibition of all that ingenuity has done so far in this direction, than has ever before met the eyes of any man or any body of men.—*Our Dumb Animals.*

#### HANGER FOR SHAFTING.

Next in importance to the shaft itself are the supports which sustain it, and in putting up a shaft of any length the duration of its usefulness depends on the manner in which it is supported, and on the truthfulness of its alignment. It is useless to provide large and perfect journal bearings for a shaft without providing means that will permit of its automatic adaptation to any flexure of the shaft without binding or heating, and it is also essential that the bearing be capable of adjustment in all directions in the plane of the shaft's rotation.

The hanger shown in the annexed engraving meets these various requirements, and presents a shaft support as nearly perfect as human ingenuity can make it.

Fig. 1 shows the hanger complete, and Fig. 2 is a perspective view showing the various adjustments.



#### IMPROVED HANGER.

The journal box proper is made in two parts, held together by means of rings or nuts screwed on at the ends, and forming a chamber to receive hempen or other packing, and when properly screwed up effectually prevents all dripping of oil or other lubricants from the ends of the journal box. These rings or nuts may, if desired, be divided and interlocked so that they can be readily taken off the shaft after they are unscrewed from the box.

The box is provided with an automatic oiler at the top, and is supported by a steel pin or pivot passing through the two arms of a fork formed on the lower end of a screw extending upward through a sleeve forming the central portion of the fixed part of the hanger, and a threaded sleeve (of proper length to work between the two arms of holding fork) which is screwed through the lower section of the box; and the proper alignment of shaft is made by turning the threaded sleeve on the pivot and thereby driving the box to one side or the other of the holding fork of hanger, as may be required. A cylindrical nut fitted to the bisected portion of the sleeve receives the screw of the forked support. This invention will be understood without further description. It was lately patented in the United States, Canada, and Great Britain, by Mr. Henry D. Cone, of Housatonic, Mass., to whom inquiry in relation to the same may be addressed.

#### The Telephone in China.

The Chinese language is so peculiar that there is great difficulty in devising any practicable system for conveying telegraphic messages. The telephone, therefore, is received with peculiar favor by the Chinese Government, which has at length decided to establish a complete system of telephones throughout the country, commencing north of the Yang Tse Kiang. The work will be conducted under the charge of J. A. Betts, the American telegraphist, under whose superintendence the telegraphic line was built from Tientsin to Taku.—*L'Ingén. Universel.*

#### Mechanics to the Front.

There has been no time since the exactions of the war from 1861 to 1865, says the Boston *Journal of Commerce*, when good workmen were in such demand as the present. It would be well for interested readers to notice the adjective "good," the writer adds, for pretenders and half-learned apprentices will get the cold shoulder at every shop where good workmen are obtainable. One of the great hindrances to the pushing forward of mechanical enterprise just now is the need of competent workmen. Only a short time ago the country was swarming with good workmen, excellent mechanics, some of whom were strongly tempted to take to the road as tramps because of their trouble of procuring employment. All this is changed, and if there is any mechanic who believes himself to be a workman and can prove his faith by his works, now is his opportunity.

It is a matter of frequent, almost daily, surprise to hear

the inquiry from manufacturers: "Do you know of any good workmen?" But now as always, it is of little use for a fly-away apprentice or a slouchy workman to apply for work; the demand is for first-class workmen, not for shop hands or pretenders. In machine shops the requirement is for good tool makers, good planer men, lathe men, filers and fitters, floor men; and there is less room for fill-gaps, and mere operatives and would-be-apprentices have a poor show. But if one of this latter class can get a position, he has now a much more encouraging show for advancement than for many years past.

Our tool manufacturers and machine builders are at their wits' ends to meet their orders in time; not so much for lack of material and need of room as for want of good, sensible, steady, competent workmen. This is one of the periods when the earnest and honest mechanic can go a peg bigger, and the industrious apprentice can have unusual opportunities to improve himself in the finer work of his department.

#### RECENT INVENTIONS

In canning fruit, etc., much difficulty and inconvenience are often experienced in introducing the cans or jars into the vessel of water and withdrawing them, and great care must be exercised to prevent the contact of the jars, if they be of glass, with the bottom of the vessel or boiler, lest the jar be broken. A simple, inexpensive, and convenient device for overcoming these difficulties has been patented by Sarah W. Brown, of Hudson, N. Y.

An improved adjustable spring bed bottom has been patented by Mr. Henry A. Scott, of Athol, Mass. The object of this invention is to furnish invalid bed bottoms having head and foot sections capable of easy adjustment in horizontal or inclined positions, which may be used with and easily removed from ordinary bedsteads.

An improved fountain for soda and mineral waters has been patented by Mr. Charles Jackson, of New Bedford, Mass. The objects of this invention are to permit connection of the two parts of the fountain by a brazed joint, whereby strength and security against leakage are obtained; to permit inspection of the interior of the fountain; to

permit of their being readily washed out and retinned without separating the joints.

#### First Gold in California.

General Sherman has given this account of the first discovery of gold in California: "I remember one day that two men, Americans, came into the office and inquired for the Governor. I asked their business, and one answered that they had just come down from Captain Sutter on special business, and they wanted to see Governor Mason in person. I took them into the Colonel and left them together. After some time the Colonel came to his door and called me. I went in, and my attention was directed to a series of papers unfolded on the table, in which lay about half an ounce of placer gold. Mason said to me, 'What is that?' I touched it, and examined one or two of the larger pieces, and asked, 'Is it gold?' Mason asked me if I had ever seen native gold. I answered that in 1844 I was in Upper Georgia, and there saw some native gold, but it was much finer than this, and that it was in phials or in transparent quills; but I said that if this were gold it could easily be tested—first, by its malleability and next by acids. I took a piece in my teeth and the metallic luster was perfect. I then called to the clerk (Baden) to bring an ax and hatchet from the backyard. When they were brought I took the largest piece and beat it out flat, and beyond doubt it was metal, and a pure metal. Still, we attached little importance to the fact, for gold was known to exist at San Fernando, at the south, and yet was not considered of much value."

#### Tea Two Hundred Years Ago.

While investigating the history of tea an English writer came across a rare manuscript in the British Museum, giving as below a quaint summary of the virtues of "the herb called tea or chee." It bore the date of October 26, 1686, and purported to be a translation from the Chinese.

1. It purifies the Blood that which is grosse and heavy.
2. It vanquisheth heavy Dreames.
3. It easeth the brain of heavy Damps.
4. Easeth and cureth giddiness and Paines in the Heade.
5. Prevents the Dropsie.
6. Drieth moist humors in the Heade.
7. Consumes Rawnesse.
8. Opens Obstructions.
9. Clears the Sight.
10. Cleanseth and Purifieth Adust (*sic*) humours and hot liver.
11. Purifieth defects of the bladder and kidneys.
12. Vanquisheth superfluous sleep.
13. Drives away dissines, makes one nimble and valient.
14. Encourages the heart and drives away feare.
15. Drives away all paines of the Collick which proceed from wind.
16. Strengthens the inward parts and prevents consumptions.
17. Strengthens the memory.
18. Sharpens the will and quickens the Understanding.
19. Purgeth safely the gaul.
20. Strengthens the use of due benevolence.