

that the observers should not be in accord, since all had not seen the aeroplane glide at the same time. The craft seems, however, to have slackened in speed until it stopped. Some of the replies placed the speed it had when it touched the ground at the preposterous figures of 15, 20, and 30 miles an hour.

To the twelfth question, whether or not the aeroplane alighted on an even keel, rather vague replies were received. Two observers replied that the front was inclined upward, which was probably the case. Others thought that the aeroplane alighted on an even keel.

In addition to the replies given above from ten witnesses, seven of whom are residents of Dayton, we publish a letter in which all the questions are answered in a very satisfactory manner.

COPY.

Charles Webbert,  
1121 West Third Street.

Dayton, Ohio, March 21, 1906.

Munn & Co., New York:

Dear Sirs: Your letter of March 19, with inquiries concerning the Wright brothers' flying machine, is received.

I witnessed one of their flights in the early part of October. I do not remember the exact date. The younger brother was aboard the machine, and remained in the air about a half hour. I heard that a longer flight was made the next day.

The machine traveled in large circles, apparently about a mile around. I did not keep track of the number of laps, but I think some one present remarked that he had counted twenty-four. The flyer was absolutely free from the time it left the rail upon which it started until it touched the ground in making its final landing.

The machine was assisted in starting on the rail, but after leaving the track, which was only a few inches from the ground, it gradually rose by its own power alone until it had attained a height above the tallest trees; after which it continued on a level course. The wind was light, and there was no noticeable difference in the height when traveling with and against the wind.

In landing, the machine approached the ground so gradually that I could not tell when it first touched. After sliding a short distance, it came to rest directly in front of the building in which it is housed. Mr. Wright shut off the power while still a few feet above the ground. He stated on alighting that the heating of a bearing in the machinery had made it inadvisable to continue the flight. The machine landed on a level without any noticeable jar.

Yours truly,

(Signed)

CHARLES WEBBERT.

The letters which we have received all agree that the Wright aeroplane has flown and carried a man for a considerable distance, and that the machine rose from the ground mainly by its own power, and executed free flights in any direction in which the operator wished to guide it, both with and against the wind. According to these eye-witnesses, the elevation of the machine was under the control of the operator at all times, and he was able to cause it to alight either very slowly or at a considerable speed without damaging it in the least.

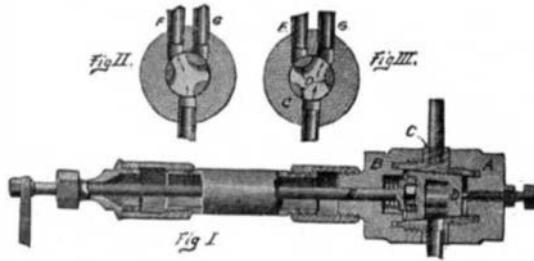
There is no doubt whatever that these able experimenters deserve the highest credit for having perfected the first flying machine of the heavier-than-air type which has ever flown successfully and at the same time carried a man. We congratulate them upon the accomplishment of this great feat, and we hope that they will soon see their way clear to give to the world, as did Maxim and Langley, some of the immense amount of valuable data which they have undoubtedly obtained while delving into the rapidly-developing science of aerial navigation.

Descriptions of the original gliding experiments of the Wright brothers have already been published by us in 1902; and in the current SUPPLEMENT will be found the communication made recently by them to the Aero Club of America, in which they detail the gradual development of their machine, besides an article on the construction of their machine, which tells of the improvements they have effected.

#### AN EXHAUST VALVE FOR LOCOMOTIVES.

A patent has recently been granted to Mr. William H. Dyer, of 411 Jefferson Street, Ionia, Mich., on a simple exhaust valve for locomotives, adapted to furnish more or less draft in the firebox, without danger of creating back pressure in the engine cylinder. This end is attained by providing two outlet pipes, one extending to the top of the smokestack, so as to lead off the steam without producing a draft, and the other terminating within the stack, so as to produce a draft in the usual way. The valve is so arranged as to open one of these outlets while closing the other, and thus by varying the position of the valve the draft can be regulated at will. Our illustration shows a longitudinal section of the valve. The valve-head is made up of two members, A and B, which are threaded onto the valve casing C. Communicating with this casing at

the bottom is the exhaust pipe, while from the top project the outlet pipes F and G. The casing C is formed with a taper bore adapted to receive the tapered plug D. This plug is formed of two end walls connected by three columns of the form, and in the position indicated in the cross sectional views, 2 and 3. These columns serve to close the pipes communicating with the valve casing. The valve is operated by a rod E, formed with a socketed head adapted to engage a squared offset on the plug. The coil spring in the member B, pressing against the socketed head, holds

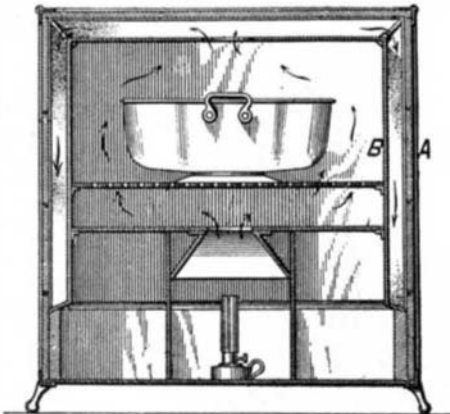
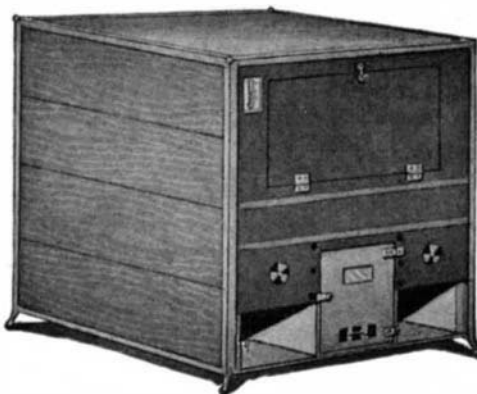


EXHAUST VALVE FOR LOCOMOTIVES.

the plug in engagement with a setscrew threaded in the member A. By means of this setscrew the plug may be adjusted to take up wear. The rod E passes through the outer wall of the smoke box, and is connected with a hand lever in the cab of the locomotive. Figs. 2 and 3 show two different positions of the plug. In Fig. 2 the short outlet pipe F is opened, admitting the entire exhaust into the smokestack, and thus producing the maximum draft, while in Fig. 3 the pipe F is closed, and the pipe G is opened, permitting the exhaust steam to pass out freely without causing any draft in the smokestack. Intermediate positions would provide all the variations of draft desired.

#### CABINET FOR BREAD MAKING.

A patent has recently been granted to Mr. John W. Knackstedt, of Gardena, North Dakota, on a novel piece of kitchen furniture. The invention consists of a cabinet adapted for use in bread making to raise the dough. A lamp is used for heating the cabinet, and the design is such as to use the heat to the best advantage, insuring more perfect and certain results than under ordinary conditions. In the accompanying engraving one of the views shows the cabinet in section, from which it will be observed that it comprises an outer casing A and an inner shell B with a continuous circulating chamber between them. The shell B is divided by two transverse walls into three chambers, the bottom one being reduced in width by two upright partitions. In this reduced chamber the lamp



CABINET FOR BREAD MAKING.

is placed, and the heat from this lamp passes through an opening at the top into the intermediate or distributing chamber. The upper chamber, which is adapted to receive the pan of dough, is separated from the heat-distributing chamber by a perforated wall, and is also provided with an opening at the top, communicating with the circulating chamber. In operation the heated air and the products of combustion of the lamp will pass from the distributing chamber

around the pan of dough and thence into the circulating chamber and all around the shell B, finding exit finally through the vents at each side of the bottom chamber. The heat can be readily regulated and the temperature of the cabinet can be ascertained from a thermometer placed in the outside shell A back of a transparent pane. The open compartments at each side of the lamp chamber can be used for warming various articles.

#### Decisions in Patent Cases.

The Supreme Court has just settled an important question of procedure in cases arising under infringement of patents. The National Enameling and Stamping Company brought suit in the Federal Circuit Court in New York against the New England Enameling Company, alleging infringement of its patents for improvements in enameling metals. The court found that three of the claims made were invalid, four were valid but did not infringe, and as to five claims referred the matter to a master for the purpose of ascertaining the damages under them.

The New England Company appealed from the findings of infringement and the National from the seven claims which did not infringe, but the latter appeal was dismissed by the Court of Appeals on the ground that it could not be taken until a final decree was entered in the case. The National Company thereupon applied to the Supreme Court for a writ of mandamus to compel the reinstatement of its appeal by the Court of Appeals.

The Supreme Court, however, affirmed the action of the Court of Appeals dismissing it, holding that pending a final decree in the case the only appeal that could be allowed was from the interlocutory order of injunction. Although there were twelve claims in the patent action, says the court, there was but one suit, and it could not be broken up into several by the terms of the interlocutory order. The application for a writ of mandamus was therefore denied.

Similar action was taken in the case of the Automatic Switch Company, of Baltimore, against the Cutler-Hammer Manufacturing Company, which involved like procedure in a suit for infringement of automatic switches for electromotors.

The court also settled the question of breadth of claims under trademarks. One St. Louis manufacturer of wire rope registered as his trademark a strand of distinguishing color, and when another began making that kind of rope he brought suit for infringement. The claim as registered, the court said, was too broad. The colored strand might have gone in the same directions or around the other strands and no distinctive color was named. Lacking the necessary definiteness, the claim for infringement could not, therefore, be allowed, notwithstanding it had been registered by the Patent Office.

#### The Edison Works.

Those who are unfamiliar with the imposing buildings of the Edison Company, Valley Road, West Orange, can only fully appreciate the magnitude of the work carried on, by a personal inspection of the large plant. In lieu of this, the information furnished by the Journal, of Orange, N. J., will be of interest. It states that hundreds are employed in the phonograph works, and to properly inspect the complicated machinery which turns out the various parts of the machines would take several hours. The laboratory is another large feature of the establishment. The general office is a very active department, for it is here that many competent clerks are busily engaged in attending to the details necessary in the operation of the various branches.

Several new buildings are in course of erection, the principal one being that designed for the new storage battery. Although the neighborhood is typically suburban, within these vast works is all the activity of an immense metropolitan enterprise, and this fact is fully apparent when one once beholds the whirring machinery and the animated scenes in the various departments.

From present indications it would seem as if in a very few years there would be one vast accumulation of buildings, and a transformation of the immediate vicinity into a small manufacturing city. Lucrative employment is afforded to hundreds of young Americans, and merit is appreciated and rewarded. It is a very suggestive thought that it is owing to one man's genius that not only in West Orange, but in many other towns and cities, thousands of people find profitable employment, and that the various products are sent all over the world.

The gas industry in Great Britain, according to the Society of British Gas Industries, consists of 1,250 gas companies and local authorities, and supplies 4,400,000 consumers. The London companies—i. e., city and suburban within the 10 miles radius—included in the foregoing have 945,000 consumers.