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### Misrepresentation about Foreign Inventions.

"We ask attention to the letter of our own correspondent at Paris, giving an account of new machines and labor-saving processes, invented in Europe. A scientific or industrial discovery is often of more consequence to the world than the gaining of a battle or the accession of an Emperor, but hitherto the products of European genius in this line have not been reported upon in this country."—[New York Tribune.

[Our readers need not be told that in the above there is one statement that is altogether untrue, namely, about "the products of European genius not being reported upon in this country." The fact is, that nearly every number of the "Scientific American," contains one column devoted to foreign inventions. We have made it a practice to collate all the useful inventions patented in Europe, and to present abstracts of them to our readers. We profess to be able to understand what is good and what is useless in any new claimed invention; this has been our business for years, and we not only present regularly the very marrow of foreign inventions to our readers, but also all that is really useful in the progress of science. Some of our cotemporaries sometimes present a good foreign invention to their readers, about a year after it has been described in the "Scientific American," but they being unable to select the good from the bad, generally make themselves ridiculous by puffing such trashy inventions as "Hot Air Engines," "Fire Annihilators," "Centrifugal Force Engines," &c. It affords us pleasure to show our cotemporary light on any subject, for one thing is very *clear*, the "Tribune" has hitherto been groping in gross *darkness*, in respect to foreign inventions.

### Prizes—the Last Call.

In the number of the Scientific American which will issue January 7th we shall announce the names of the Successful Competitors to our prizes together with the number of subscribers sent by each. Preliminary to this announcement we have examined the lists and find that there are three competitors on one prize and two on another who have each furnished the same number of names. It is probable that the competitors have not yet sent in all the subscribers which they intend to. If however it should in the end prove otherwise we shall be compelled to divide the amount and award an equal portion to each.

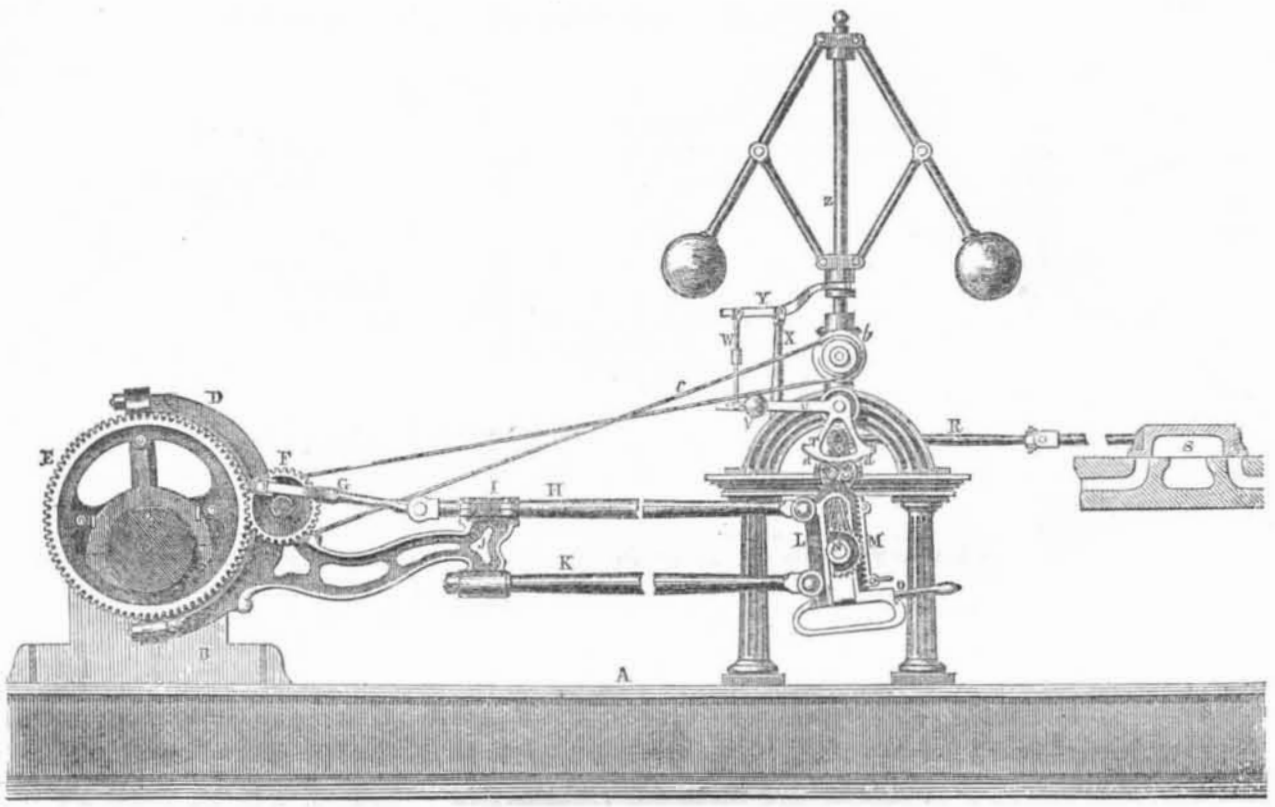
We hope our friends will persevere and increase their lists as much as possible. No doubt many of them, by a little extra exertion, can do this, and thus secure a prize of intrinsic value—Cash.

### Inventors Protective National Union.

Having necessarily said so much this week about inventors and inventions, we have defered our remarks on the "Constitution" of this association till next week.

The Tribunal of Angouleme (France) has fined a railroad engineer 200 francs for having failed to notice the red flag, the signal to stop. No accident had resulted from his negligence, but it was thought best to make an example.

## COLLINS' PATENT DUPLEX VALVE MOTION.




The above engraving is a representation of Collins' Patent Duplex Valve Motion, exhibiting its attachment to a horizontal engine. It is certainly very ingenious, and is, we think, well worthy the attention of engineers.

A is the bed plate, and B is the plummer block of the main shaft, C. On this shaft is keyed an ordinary eccentric, having upon each side a spur wheel, E, gearing into a pinion, F. The teeth in one of these spur wheels are opposite the spaces in the other. Upon the eccentric is a strap, D, of the ordinary construction, in which is the bearing of the pinions, F. This strap has an arm, J, in which the eccentric rod, K is fastened. It has also a slide, I, through which another eccentric rod, H, is worked by the connecting rod, G, attached to a pin upon the pinion, F. These two eccentric rods are attached to the ends of a link, L, in a slot through which the crank pin, N, of the rock shaft, works. Now it will be readily seen that when it is depressed so as to be nearly opposite the attachment of the lower eccentric rod, it will participate but slightly in the motion communicated to the upper one by the connecting rod, G, and the contrary will result from its elevation. This furnishes an opportunity for an adjustment of its motion, so as to cut off at from $\frac{1}{8}$ to $\frac{7}{8}$ the stroke.

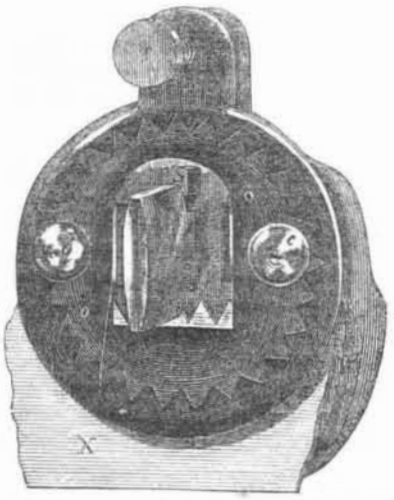
But let us examine the motions of the valve, S. By the eccentric rod, K, the long throw is communicated to the rock shaft, and from thence to the valve, by the valve rod, R. By the action of the upper eccentric rod this motion is so counteracted during one portion of the stroke, and accelerated during another, that the steam is let upon the piston at the moment when the crank pin has reached the dead center, with a port wide open, the exhaust being wide open also at the proper moment, thus leaving no lead to be counteracted, and also doing away with any wire drawing of either feed or exhaust steam.

Now by the action of the governor upon the weighted lever, U, in connection with the segment, T, the cord, *d d*, attached to the ends of T, and from thence passing downwards around the crank pin, N, which must be free to rotate; the segmental pinion working in the rack, M, will elevate the crank pin by the too rapid motion of the governor, and so cut off earlier in the stroke, or the contrary will result from a motion too slow for the purpose intended.

The advantages of this arrangement is apparent to any engineer. The first cost of the engine is reduced, as there are fewer parts; these are also more under the control of the engineer. It is self-adjusting, and the cut off motion with the opening of the ports at the proper moment is more perfectly attained than by any other arrangement known to us. This latter result must necessarily lead to an important saving of the fuel.

For any further information address the proprietors, Messrs. Rose, Middleton, & Tifft, 192 Broadway, N. Y.

### Strait's Saw Doctor.—Fig. 1.

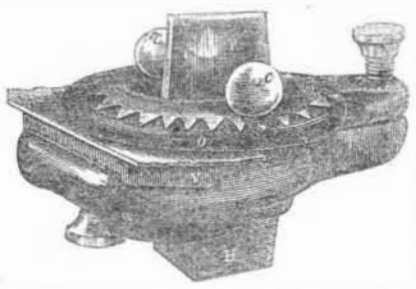


This instrument is intended to set the teeth of saws in a peculiar manner. By an ordinary saw-set the tooth is bent to a position inclined to the plane of the saw, in order to cut a *calf* wider than the thickness of the saw; if this were not done the saw would *pinch* and heat. This instrument is to effect the same purpose, but at the same time to bend the tooth in such a manner that the point shall still be in a line parallel to the motion of the saw, so that it may cut at right angles to the grain of the wood.

Fig. 1 is a top view, and fig. 2 a side view of the invention.

As will be seen by the engravings, it consists of two principal parts, of which O is the upper jaw, and W the lower; *c c* are screws working loosely through a slot in the upper jaw into

FIG. 2.



the lower one. A is an adjusting screw, by which a slide, V, upon which the saw, X, rests, is elevated to give a greater set to the saw tooth. P is the punch, to which a blow is communicated for setting the tooth; S is a spring for throwing the punch from the tooth; T is a screw for grasping the saw; H is the handle for holding it in the vice.

The slide, V, is double bevelled, while its bed in the under jaw is only beveled in its length; it has three different adjustments for different kinds of teeth; when vertical teeth are wanted it is pushed up in its bed so as to form a greater or less shoulder, when it is adjusted to a level by the screw, A. When inclined teeth are wanted it is inclined back by the screw, A, and is not pushed up in its bed. When it is desired to combine a shoulder and a set upon the teeth, the slide is pushed up more or less in its bed, and then adjusted back by the screw, A.

Before using the Saw Doctor, even the teeth of the saw, and determine what kind of teeth are wanted, adjust the slide accordingly, and fasten it in a vice by its handle, H; then introduce the saw between the jaws so that all the teeth can be slid under the wing of the punch, press the jaws firmly together and tighten the screws, *e e*, so as to touch the upper jaw with their shoulder. Tighten the screw, T, so as to allow a firm and free sliding motion of the saw between the jaws without any vibrations; pass every tooth under the wing of the punch and strike a blow sufficient to shape the tooth as wanted. When the saw is of unequal thickness, the screw, T, must be re-adjusted.

For further particulars address H. Strait, Covington, Ky.