

ductions. In fact, I know some of them point out the differences in the two styles by means of American tools in their own shops, and no maker of repute here has any need to be afraid of having to take a back seat. In fact, the importation of American tools has been a good thing all around, as it has caused, and will continue to cause, discussion on the principles of tool making and tends to improve the design of tools on both sides the Atlantic. As I have said before, I am personally in favor of using both English and American tools, as the best tool for any purpose can generally be selected from either one source or the other.

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Original Index Wheels—Scraped Surfaces.

Editor American Machinist:

There is no class of work in which the genuine mechanic is more interested than in those by which superior results as regards accuracy are obtained by "originating" methods, and especially those in which these methods seem to be the only ones by which a high grade of work can be obtained. From the scraping of a surface plate to the production of a perfect screw these methods show the mechanic at his best, and in fact as processes they are the work of some of the ablest mechanics that have ever lived. There is no more interesting reading for the mechanic of to-day than the paper by Sir Joseph Whitworth, in which he described the then new process of

& Sharpe Manufacturing Company less than twenty years ago, and the writer himself was once within that time in negotiation with another leading builder of milling machines for the purpose of introducing the process in his works. Personally, when I hear the expressions of contempt for scraping and the scraper that are often made, I feel like telling the scoffer plainly that he is no mechanic. For myself I know that it was the scraper which gave me my first conceptions of the meaning of real accuracy as well as of origination.

The purpose of this letter is, however, to criticise the details of the Thorn index wheel described by Mr. Randol in your issue for June 9. While the main idea of the plate seems to be beyond criticism, and in fact to be a particularly meritorious solution of the problem, the method of holding the disks to the main plate seems to be very faulty to say the least. With the screw heads bottoming directly on the disks and the disks subject to the friction of the heads while they are being tightened, it would seem as though direct encouragement was offered to the disks to shift their positions and lead to decided doubt as to their positions being accurate in the end. This would be intensified by the practical impossibility of tapping the holes square with the plate, leading to binding of the disks by the screws on one side initially, with springing of the screws and shifting of the disks as the screws are tightened. It seems to me that the plan shown in Figs. 1 and 2 would overcome these objections and better insure that the disks do not shift their positions when the

main plate to prevent turning, with good effect. With such an arrangement the plan of Fig. 3 would be as about as free from disturbing strains as Figs. 1 and 2.

C. O. GRIFFIN.



Amateurs and the Dictionary.

Editor American Machinist:

It has come to my knowledge that one or two of the respected readers of the "American Machinist" are afraid that I have insulted the dictionary by my recent use of the word amateur. Now, I am quite well aware that the word amateur has a very clearly defined signification, and that it fits very neatly an idea which it is often necessary to express. I am aware also that the present use of the word, although universally adopted, is a perversion of its original etymology. When in the course of events I have occasion to express the idea for which the word amateur originally stood why may I not use the word for that precise idea, when I at the same time take pains to have it understood that I so mean? In speaking of "Amateurs in the Shop" that is precisely what I did, only that and nothing more.

If the "American Machinist" was the "American Horticulturist," and if I, as a contributor to it, should find it in my way to write something about green blackberries, I can imagine that I might find myself in just such a pickle as I am in now through my well intended remarks about shop amateurs. It is a well-known fact that blackberries are red when they are green, so that when a green blackberry is spoken of a red blackberry is meant, and it is quite possible that the compiler of some pomological dictionary, or some self-constituted guardian of the linguistic proprieties, might arise and insist that, in the case of blackberries, as green means red so generally, it must and shall mean red always, and no one shall have any right to say green blackberries or to write green blackberries unless he means red blackberries. Now, it might happen that I would actually want to speak of genuinely green blackberries—blackberries of the color of grass, or of the Irish flag—what in such a case should a poor fellow do? If I must not say green when I mean green what must I say?

That is precisely the fix that I am in about the word amateur. If I may not say amateur when I mean amateur what must I say, so as to be understood? Before I was ten years old I was cruelly and brutally compelled to learn to conjugate the verb *amo*, and the little knowledge so acquired has proved a dangerous thing, generally to myself, but sometimes to my neighbors. Of course I learned, therefore, that an amateur is first of all a lover, and so, naturally, when I wanted to speak of a man in the shop whose

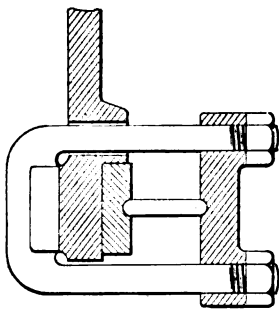


Fig. 1

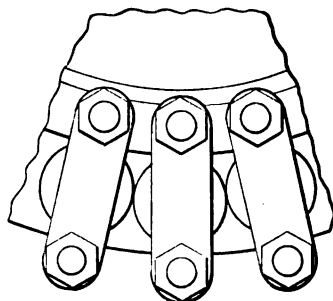


Fig. 2

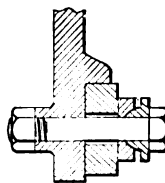


Fig. 3

SUGGESTED IMPROVEMENTS IN THE THORN ORIGINAL INDEX WHEEL.

scraping, and in the reading of which he exhibited the first set of surface plates ever made. Scraping is such a common operation to-day that we sometimes forget that it was ever new and looked upon as a great invention—which indeed it was. And yet as a process of everyday commercial work it is comparatively recent, and there could be no better single illustration of the advance in the quality of workmanship during the last generation than the increased use of this process. I believe it is a fact that this process was introduced in the shops of the Brown

nuts are tightened, as it will be seen that no torsional or shifting efforts are put on the disks. The disks are partly covered up, but seem to be exposed enough for use. Fig. 3 shows another plan which is much neater in appearance than the one shown in Figs. 1 and 2, and while not so perfect in the action of binding the disks it would probably give practically as good results. Of course the bolt should be a good sliding fit in the hole in the main plate, to avoid bending action when tightening the nut. The bolt might be jointed and have a snug inserted in the