

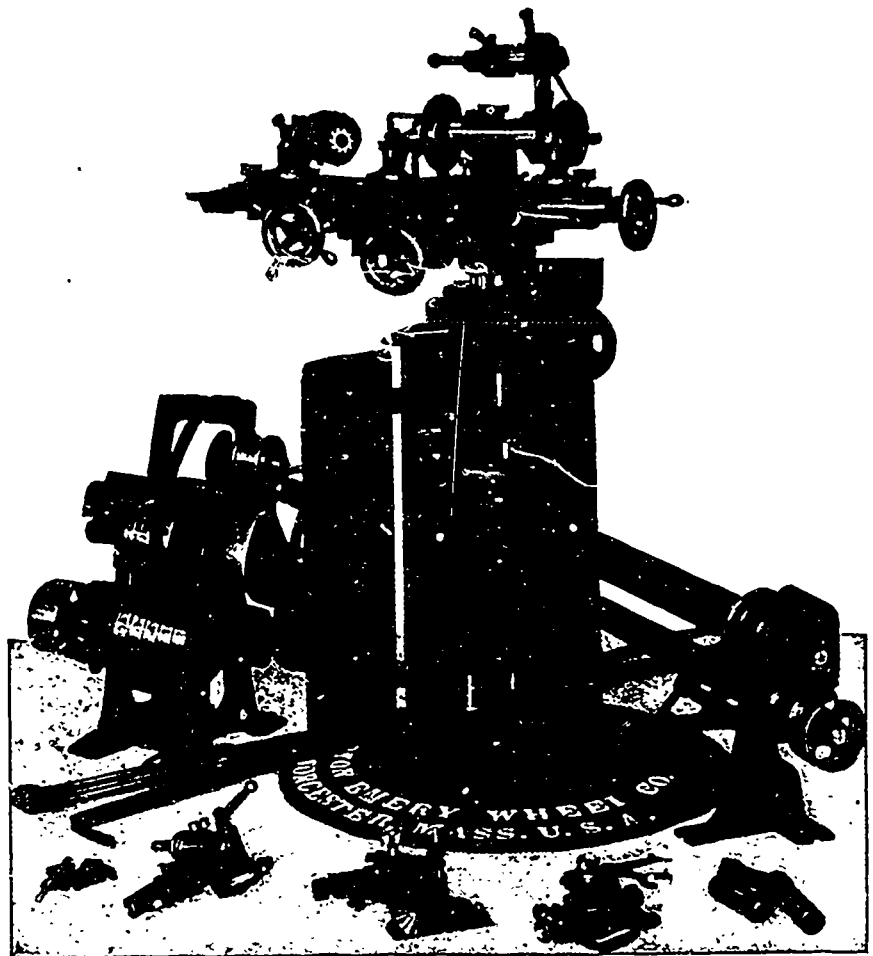
THE IMPROVED WALKER TOOL GRINDER.

The accompanying illustrations are of the improved Walker Tool Grinder, manufactured by the Norton Emery Wheel Co., Worcester, Mass.

The Walker Tool Grinder has been on the market for several years, and has always given the greatest satisfaction, but recently some very important improvements have been made in its construction, which, the makers think, render it practically perfect.

The improvements are as follows: A supplementary support to the swinging table (see Fig. 1 of the detail cuts), largely increasing the rigidity of the machine. The supporting collar *B* (resting upon this support) is provided with a steel pointer, to indicate by means of index 1 and 2 on the supplementary support, the position of the sliding carriage as regards the emery wheel. The sliding carriage, while preserving the same general design, has been materially increased in weight, has an increased capacity of 3 inches in length and a convenient rack and pinion feed has been added; and there is now obtained a direct hand feed, rack feed and screw feed, with quick changes from one to either of the others. The cross feed (operated by screw) is now arranged to be moved by thousandths of an inch, by means of the graduated hand wheel *M* and adjustable pointer *N*. The cross-feed screw is oiled through the oil cup *P*, at its centre.

As it has been the aim of the manufacturers to build a machine that should be strictly universal in its range, and to meet a demand for surface grinding under the emery wheel, also for formed cutter grinding an increased vertical adjustment of 5 inches has been



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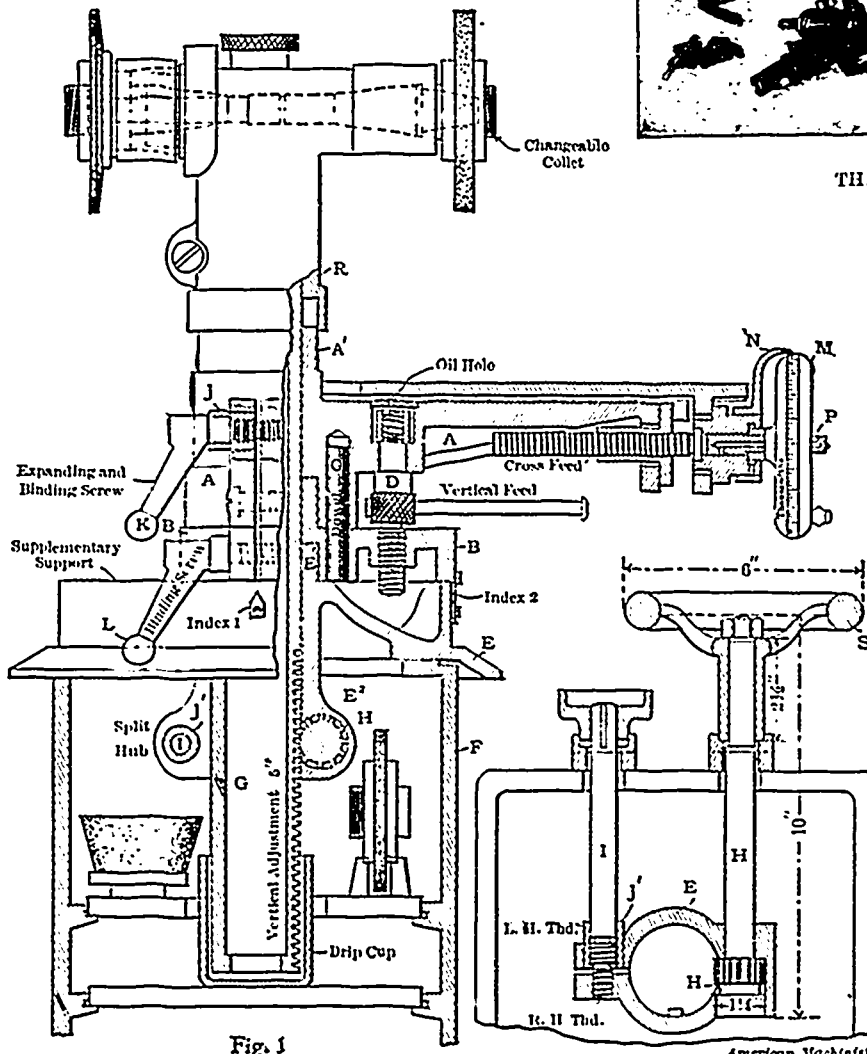


Fig. 1

VERTICAL SECTION OF GRINDER.

Fig. 2

SECTION THROUGH CLAMPING DEVICE.

provided. Fig. 1 is a part vertical section through the machine, and Fig. 2 is a part horizontal section through the binding and elevating devices. It will be seen that the supplementary support for the table is a part of the column top *E*, and also that a hub or collar *E'* is formed around the centre of the same at the top. The supporting collar *B* is clamped to this hub by means of the ball-handle screw *L*. The supporting collar *B* is in turn formed with a hub at the top, telescoping into the lower end of the hub of the main table *A*, and a dowel *C* is provided, allowing a vertical movement of the table by means of the feed screw *D*, but preventing lateral movement except in unison with the collar *B*. A hub *A'*, on the main table *A* telescopes into the bottom of the grinder head *R*, which is rigidly fastened to the adjustable post *G*, at its upper end. Table *A*, collar *B* and column top *E* are each centrally bored for the insertion of the adjustable post *G*, said post having rack teeth on one side of its lower extremity and being splined to the column top *E*, with stops to limit its vertical travel in each direction. The lower end of the post *G* enters a drip cup inside of the column, and forms a conduit for all the waste oil from the spindle boxes.

The column top *E* is provided at its under side with a long hub split on one side, operated by the gripping screw *I*, and upon the opposite side with a bearing for the elevating pinion *H*, made solid with its shaft and operated by the external hand wheel *S*. To adjust the post *G*, the binding screw *I* of the column and the binding screw *K* of the main table are loosened; the binding screw *L* remaining tightened, to hold the table and carriage rigid with the column top. After adjusting post *G*, the same screws are tightened, and the whole device is again rigid.

To insure the freeing of the clamping device from the post *G*, a simple device in the form of a right and left-threaded bushing *J* and *J'*, Fig. 2, is employed. It will be seen that these binding screws are each pro-