(No Model.)

F. I. GETTY & F. DICKINSON.

MACHINIST'S TOOL.

No. 293,647. Patented Feb. 19, 1884.

Fig. 1

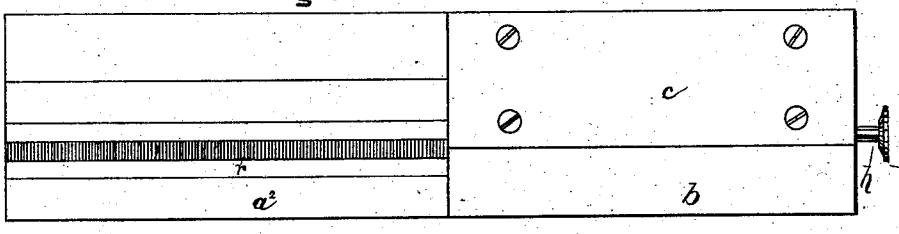


Fig. 2

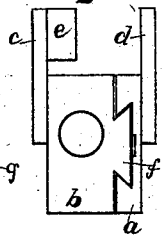


Fig. 3

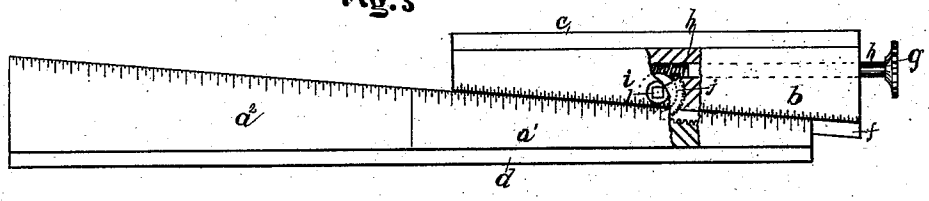


Fig. 4

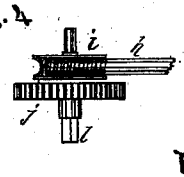


Fig. 5

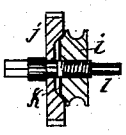
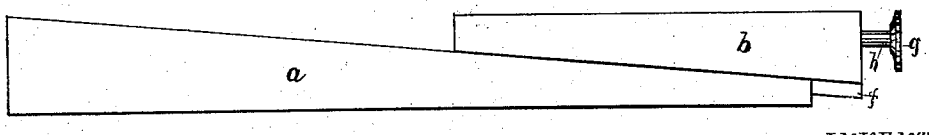


Fig. 6



WITNESSES

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UNITED STATES PATENT OFFICE.

FRED I. GETTY AND FREDERICK DICKINSON, OF GENEVA, OHIO.

MACHINIST'S TOOL.

SPECIFICATION forming part of Letters Patent No. 293,647, dated February 19, 1884.

Application filed June 7, 1883. (No model.)

To all whom it may concern:

Be it known that we, FRED I. GETTY and FREDERICK DICKINSON, both of Geneva, county of Ashtabula, and State of Ohio, have invented new and useful Improvements in Machinists' Tools, of which the following is a specification, reference being had to the accompanying drawings.

The invention relates to the class of hand-tools known as "parallels" or "parallel planes."

The object of our invention is to provide a simple, strong, easily-operated tool by which a piece of material may be accurately moved any desired distance within the range of the device.

The invention consists in combining two wedge-shaped pieces in such manner that when together their opposite sides are parallel, and in providing a means for holding and adjusting the parts; and, finally, it consists in the general construction and arrangement whereby the objects of our invention are attained.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a plan, and Fig. 2 an end view, of the device. Fig. 3 is a side view of the same with a portion broken away, disclosing the interior mechanism. Figs. 4 and 5 are views, on an enlarged scale, of a part of the adjusting mechanism; and Fig. 6 is a side view of the device as ordinarily used.

This class of tool is used largely on planers, lathes, &c.

Heretofore it has been necessary, when raising a piece of work to a stated height upon a planer-table, to wedge or block it up and measure the distance with a scale. With our device the use of the scale may be dispensed with, as the variation may be read from the gage or scale marked on the side of the tool.

The construction will be readily understood on referring to the drawings.

a represents a wedge-shaped piece, having in its upper portion a dovetailed groove. *b* represents a similar piece, except as to length, and provided with a dovetail, *f*, adapted to fit within the groove in the piece *a*. The shape of these parts is such that the base of the piece *a* and the top of the piece *b* are parallel. In the bottom of the dovetail groove is a rack, *r*, extending the whole length of the piece *a*. The piece *b* is provided with a spur or gear wheel, *j*, the teeth of which mesh with the rack-teeth. If, now, the spur be revolved, the relative position of the parts *a* and *b* will be changed; or, in other words, the piece *b* will be caused to move on the part *a* either up or down, the incline depending on the direction of revolution, and the top will be moved to or from the base, the degree of variation being easily readable upon the side. Upon the same pivot with the spur-wheel *j* is a worm-gear, *i*, having a part, *k*, fitting within a recess in the spur-wheel adapted to receive it. The worm-gear *i* and pivot *l* are threaded, so that if the pivot be turned in one direction the worm-gear will be drawn toward and locked to the spur-wheel. The stem *h* is threaded, as shown, and meshes with the worm-gear, so that by turning the burr-wheel *g* on the stem *h*, the worm-gear *i* is caused to revolve, and if it be locked to the spur-wheel *j*, this wheel will revolve with it, and move the part *b* on the part *a*.

If it is desired to quickly move the parts a considerable distance, the worm-gear is released from the spur by turning the pivot *i*, when the spur will revolve freely, and the parts may be easily moved approximately to the desired point, when the wheels are locked, as before described, and the tool accurately adjusted by turning the stem *h*.

It will readily be seen that although we deem a dovetail connection between the parts *a* and *b* the most desirable, yet this is not essential to the construction of the device.

The pieces *c* and *d* are secured in place by screws, the piece *d* being equal in length and secured to the part *a*. Thus a device is provided for accurate outside and inside measurement. The tool is generally used, however, without these pieces.

By supplying pieces *e* of various thickness, any outside measurement may be obtained from 0 to the maximum thickness of the parallel.

The side of the tool is marked, as shown, in two or more scales. For instance, the portion *a'* of the part *a* (see Fig. 3) may be marked in divisions of sixty-fourths, the part a^2 in hun-

dredths, and the part *b* in divisions in the metric system, using different points as the unit in each case. The distance of variation from the unit-point will be indicated upon the respective scales, each indicating the same distance by different standards. It will readily be seen that various standards may thus be combined and used on the same instrument at the same time, and that the utmost accuracy is attainable, as the rapidity of variation of the top and base is small as compared to the variance indicated upon the scale.

We are aware of United States Letters Patent for "improvements in hanging saws," dated December 27, 1864, No. 45,677, and of Letters Patent for "improvements in joiners' gages," dated March 8, 1864, No. 41,867, and make no claim to the devices therein shown.

The proportion of the parts may of course be varied and the detail of construction greatly modified without departing from our invention. We do not, therefore, confine ourselves to the particular construction illustrated.

Having therefore described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A machinist's tool consisting of the combination of the parts *a* and *b*, having the inclined sides, as shown, one having a groove, and one provided with a tongue adapted to fit within the groove, and a means to hold and adjust the parts, substantially as and for the purposes shown.

2. In a machinist's tool, the inclined piece *a*, provided with a rack, in combination with a piece, *b*, having a spur-wheel adapted to mesh with the rack, and a means to turn the spur-wheel, substantially as shown.

3. A tool consisting of wedge-shaped pieces having a means to hold them in position, in combination with pieces *c* and *d*, whereby both outside and inside measurement may be made, substantially as shown.

4. A tool consisting of two pieces, wedge-shaped in the direction of their length, as shown, having a means to hold them in position, and provided with a graduated scale whereby variance is indicated, substantially as shown.

5. In a machinist's tool, the combination of a piece, *a*, having a rack, with piece *b*, having stem *h*, worm-gear *i*, spur *j*, and pivot *l*, substantially as shown.

6. A machinist's tool consisting of the two parts *a* and *b*, having inclined sides, and having two or more series of graduations marked thereon, and a means to adjust and hold the parts in position, substantially as shown.

FRED I. GETTY.
FREDERICK DICKINSON.

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ALLEN WEBSTER,
J. W. HERSEY.
Witnesses to F. Dickinson:
HENRY MEANS,
B. W. WETMORE.