(No Model.)

G. BLUNCK.

PARALLEL RULER.

No. 266,754. Patented Oct. 31, 1882.

Fig. 1.

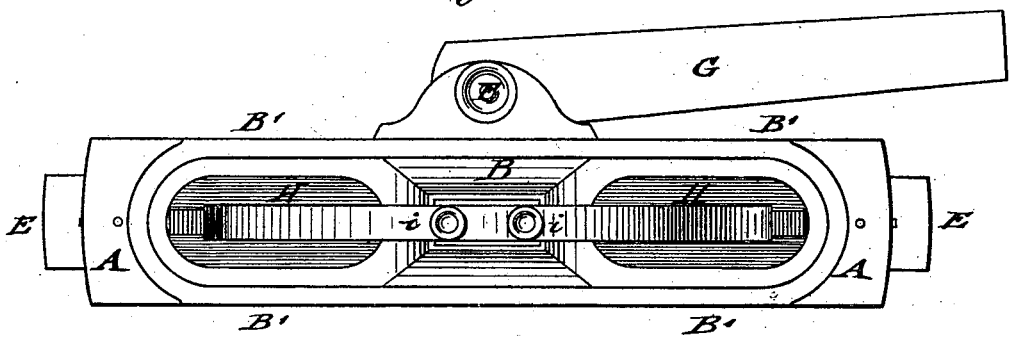

Fig. 2.

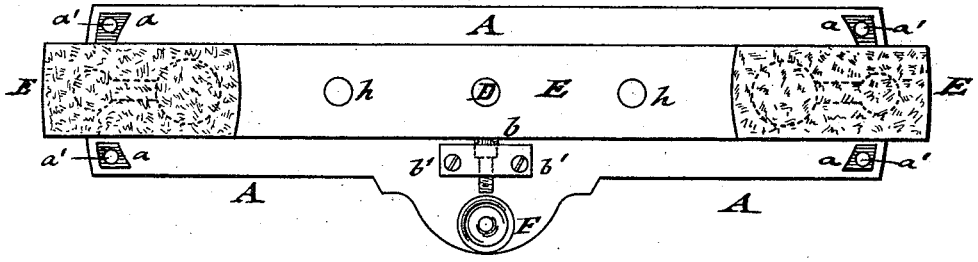

Fig. 3.

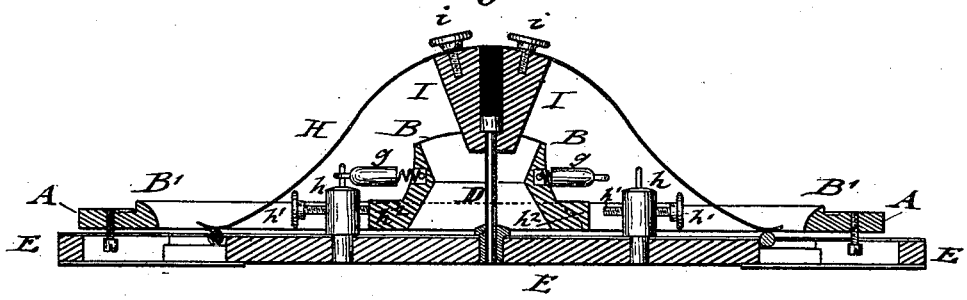

Fig. 4.

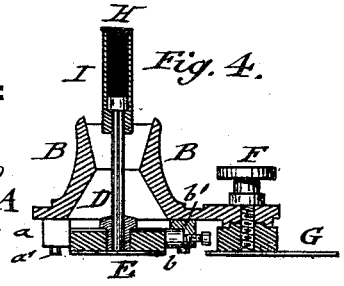

Fig. 5.

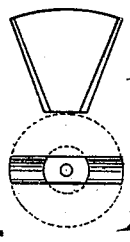

Fig. 6.

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PARALLEL RULER.

SPECIFICATION forming part of Letters Patent No. 266,754, dated October 31, 1882.

Application filed August 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV BLUNCK, of the city, county, and State of New York, have invented certain new and useful Improvements in Parallel Rulers, of which the following is a specification.

This invention relates to certain improvements in the parallel rulers for which Letters Patent have heretofore been granted to me under date of July 22, 1873, and numbered 141,029, whereby the accurate working of the instrument is considerably increased; and the invention consists in guiding the slide-piece of the parallel ruling device in the main frame by corner-pieces arranged at one side and by a central adjustable guide-stud at the other side of the main frame; and, secondly, of an improved construction of the conical center piece, by which the main frame is actuated.

In the accompanying drawings, Figure 1 represents a plan view; Fig. 2, a bottom view; Fig. 3, a vertical longitudinal section; Fig. 4, a vertical transverse section of my improved parallel ruler; and Figs. 5 and 6 are detail side and bottom views of the conical center piece.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the main guide-frame of my improved parallel ruler, which frame is made of suitable material and finish, and composed of a raised center part, B, and an oblong frame, B′. The raised center part, B, has a vertical recess extending throughout the body of the center part, as shown in Figs. 3 and 4, the center-line of the recess being in line with the longitudinal axis of the main guide-frame A. The upper part of the recess is made tapering, so as to be somewhat contracted toward the middle portion.

A ruler, G, is attached to a side extension of the guide-frame A by a screw-pivot, F, on which it may be swung in the proper direction, to be then rigidly clamped in position for use.

The main frame A is provided at its under side with fixed corner-pieces *a*, having rest-pins *a′*.

A slide-piece, E, is guided at the under side of main frame A, along two of these corner-pieces *a*, at one side of the frame A, and along a central adjustable guide-stud, *b*, supported in a bearing, *b′*, at the other side of the guide-frame A, as shown in Figs. 3 and 5, said guide-stud *b* being preferably made of metalline or other suitable anti-friction metal. By thus confining the slide-piece E between the corner-pieces *a* at one side and the central stud, *b*, at the opposite side, which latter is capable of adjustment from time to time, so as to close accurately onto the slide-piece, any irregular lateral motion or "wabbling" of the same is entirely avoided, and consequently the more accurate and reliable working of the parallel ruler obtained. By being thus guided the slide-piece E is always compelled to travel in the direction of the longitudinal axis of the instrument, so that the ruler G is moved over the paper to be ruled, admitting the drawing of exactly parallel lines. The bottom surface of the slide-piece E is covered at both ends with chamois leather or similar material, as shown in Figs. 2 and 3, whereby a greater friction with the paper is obtained. The slide-piece E is provided with fixed vertical posts *h*, one near each end of the part B, which posts are connected by spiral springs *g* with either end of the part B, as required. The slide-piece E carries a fixed vertical center pin or bolt, D, which passes through the recessed center part, B, through the lower part of a conical center piece, I, which is attached to a band-spring, H.

The conical center piece, I, is guided by a central perforation, *d′*, on the upper enlarged end or head, *d*, of the vertical guide pin or bolt D on being pressed down by the finger or returned by the spring H. The enlarged head *d* forms contact with the lower contracted part of the center piece, I, so as to prevent its getting detached. Through the posts *h* the horizontal adjusting-screws *h′* are passed, either of which can act as a stop, while the other acts as a spacer on the projections or checks h^2 of the center part, B, of the guide-frame, according as the instrument is used in the right or left hand direction.

The swinging ruler G may also be used to vary the distance between the parallel lines by altering the position of it in regard to the longitudinal axis of the instrument.

The slide-piece E is recessed near its ends for the ends of the steel band-spring H, so as to hold thereby the slide-piece securely in position on

the paper until the guide-frame has been actuated. The steel spring H is riveted to the center piece, I, and actuated by pressure upon the enlarged heads of rivets *i*, which serve as finger-rests. By pressing the band-spring H and the center piece, I, down with the fingers, the interior inclined wall of the raised part B is engaged by one of the ends of the center piece, I, the side-thrust of which causes the forward sliding of the guide-frame A and of the ruler G, so that the parallel lines can be drawn. By removing the pressure of the fingers upon the band-spring H the forward motion of the slide-piece is produced by the spiral spring *g*, one of which only is in use, according as the parallel ruler is worked toward one side or the other. The other spring is disconnected and only applied to part B when the instrument is used in opposite direction, in which case the spring is disconnected from part B. The alternate depression and release of the band-spring H actuate thus alternately the guide-frame and the slide-piece, and imparts thereby an intermittent parallel motion to the ruler, so that parallel lines can be quickly and accurately drawn. The shorter sides of the conical center piece, I, instead of being made straight, as heretofore, are rounded off, being parts of a cone formed around the center piece, I, as shown in Figs. 5 and 6, which has the effect that, whatever the relative position of the band-spring H and center piece, I, toward the part B, the conical shorter sides of the center piece, I, will always form contact with the inclined inner wall of the recessed part B on a vertical center-line, so that the motion of the guide-frame A takes place strictly in the direction of the longitudinal axis of the instrument in the same manner as the motion of the slide-piece produced by the guide lugs and stud heretofore described. By this conical shape of the shorter sides of the center piece, I, any inaccuracy caused by the lateral shifting of the spring while handling the instrument is overcome and a more reliable action of the instrument obtained.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the main guide-frame A, having a raised and centrally-recessed center part, B, and corner-pieces *a a* at the under side, with a slide-piece, E, steel band-spring H, and wedge-piece I, said slide-piece being guided along the corner-pieces *a a* at one side of frame A, and by a central adjustable guide-stud, *b*, at the opposite side of frame A, substantially as set forth.

2. The combination, with the main guide-frame A, having a raised and centrally-recessed part, B, of a slide-piece, E, actuating steel spring H, and wedge-shaped center piece, I, the latter being attached to the spring H, and provided with conically-shaped shorter sides, whereby a vertical central contact is obtained between the center piece, I, and the inner inclined side wall of the raised part B, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

GUSTAV BLUNCK.

Witnesses:
PAUL GOEPEL,
SIDNEY MANN.