

No. 703,267.

Patented June 24, 1902.

C. R. HUSTON.
MACHINE FOR CUTTING SLATE.

(Application filed Dec. 19, 1901.)

(No Model.)

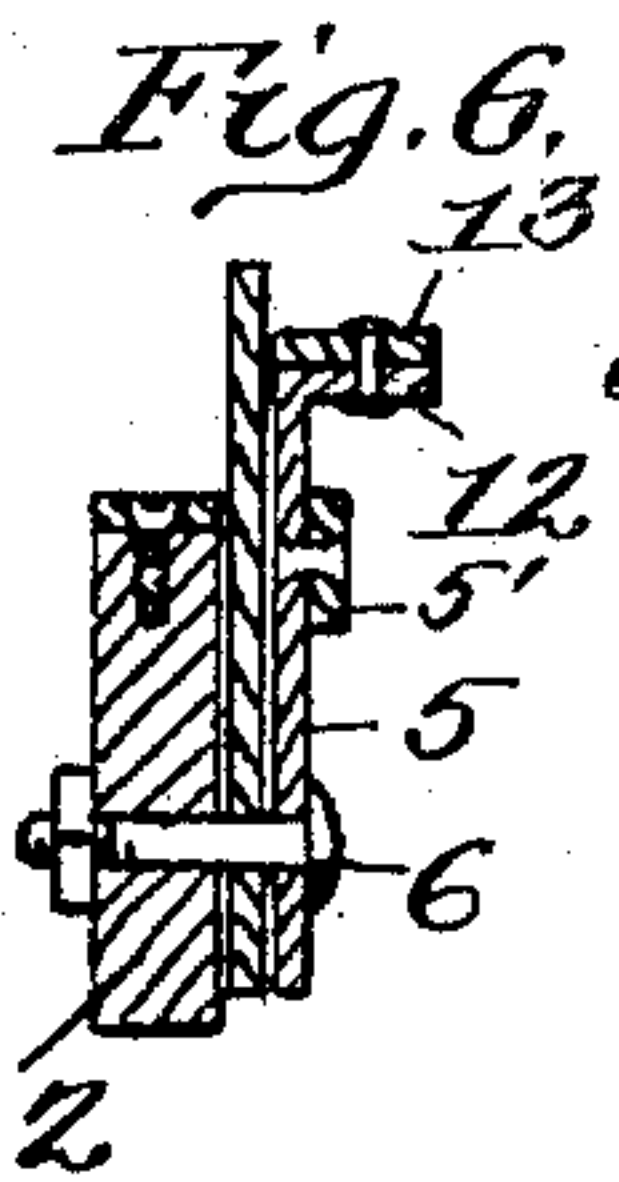
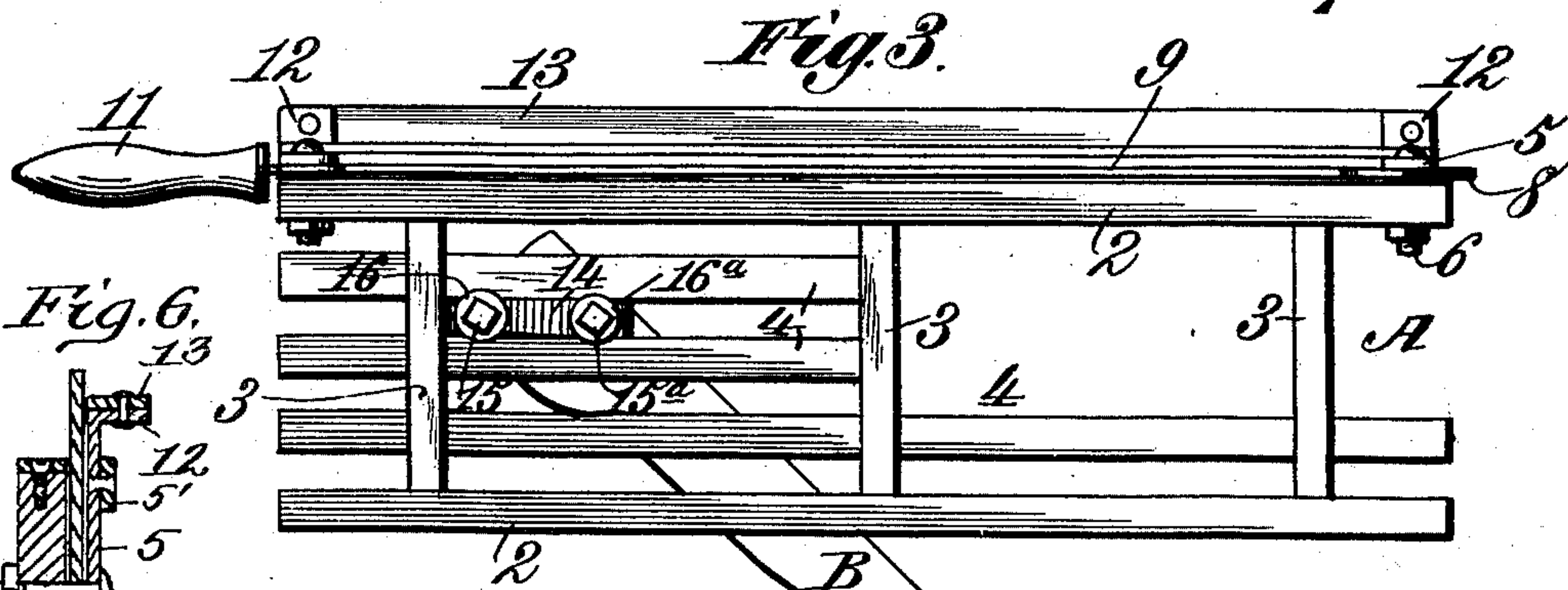
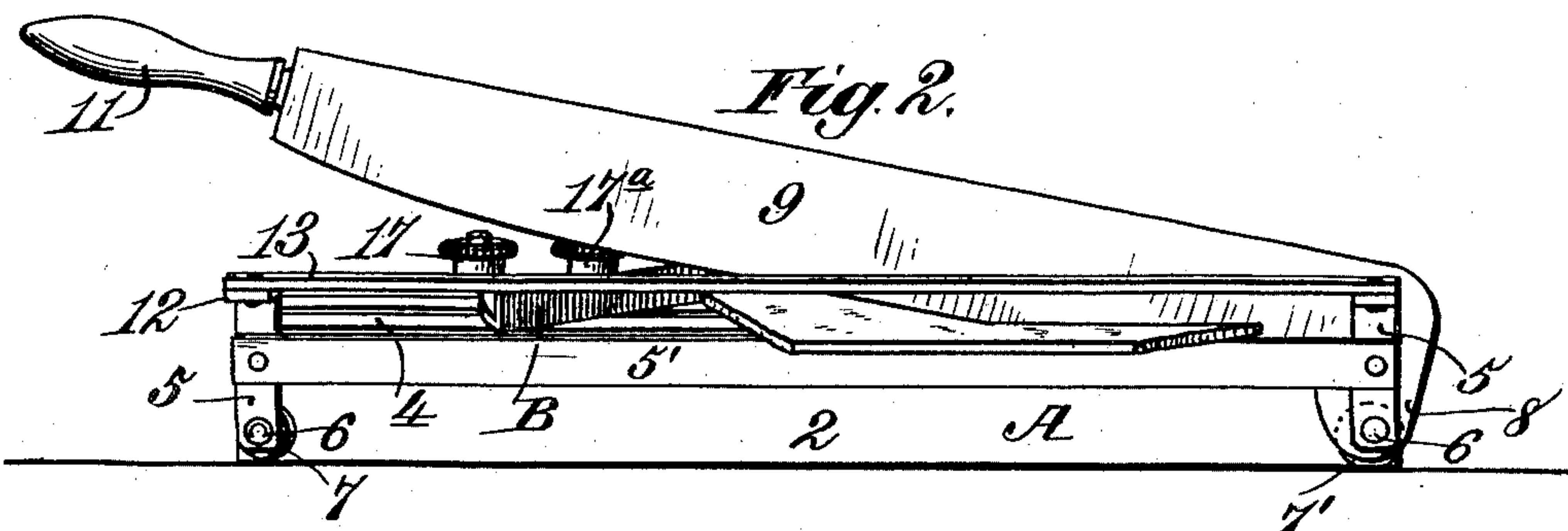
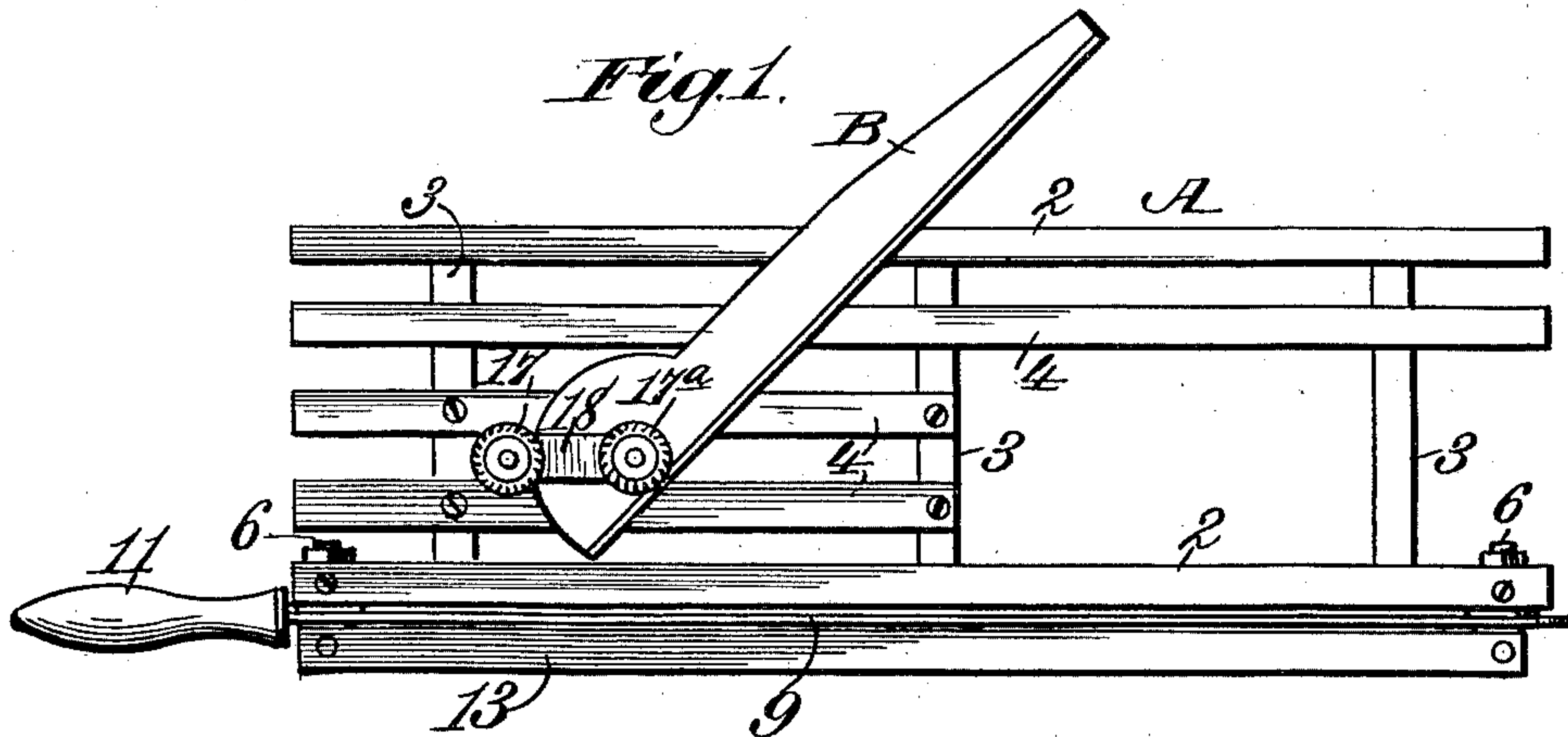
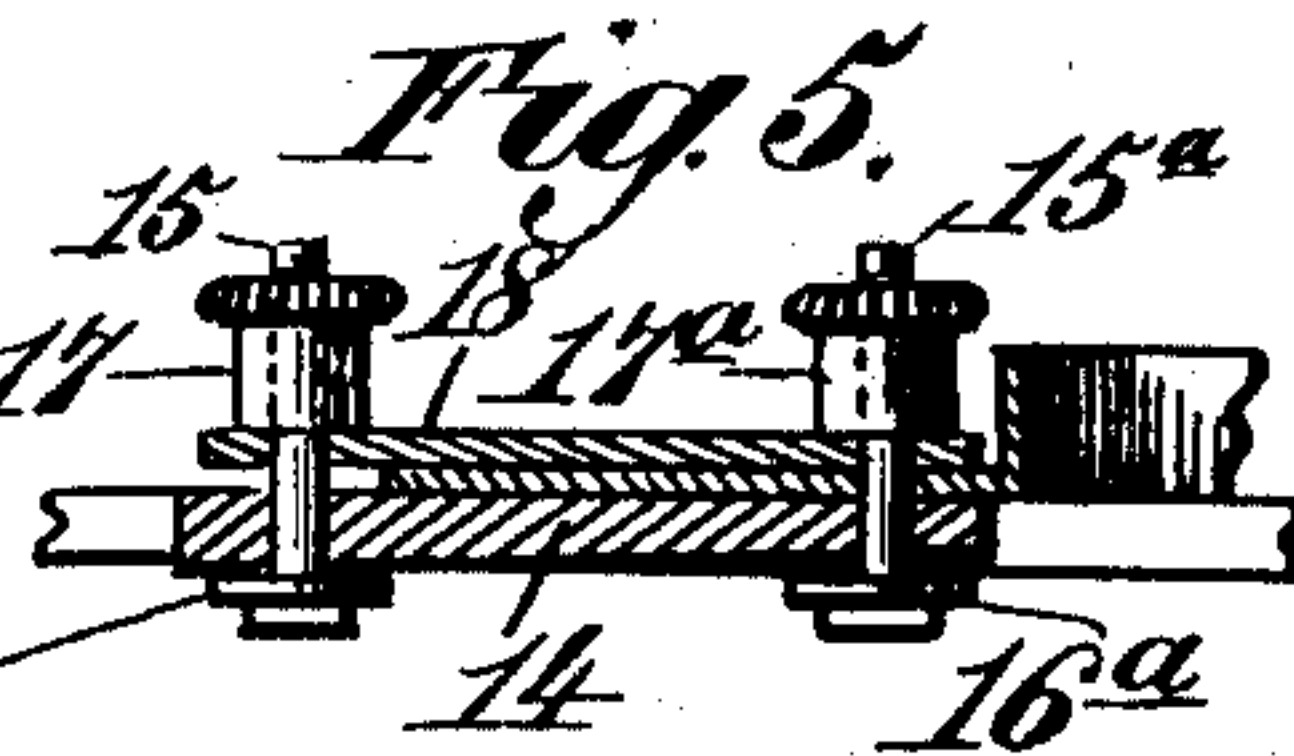
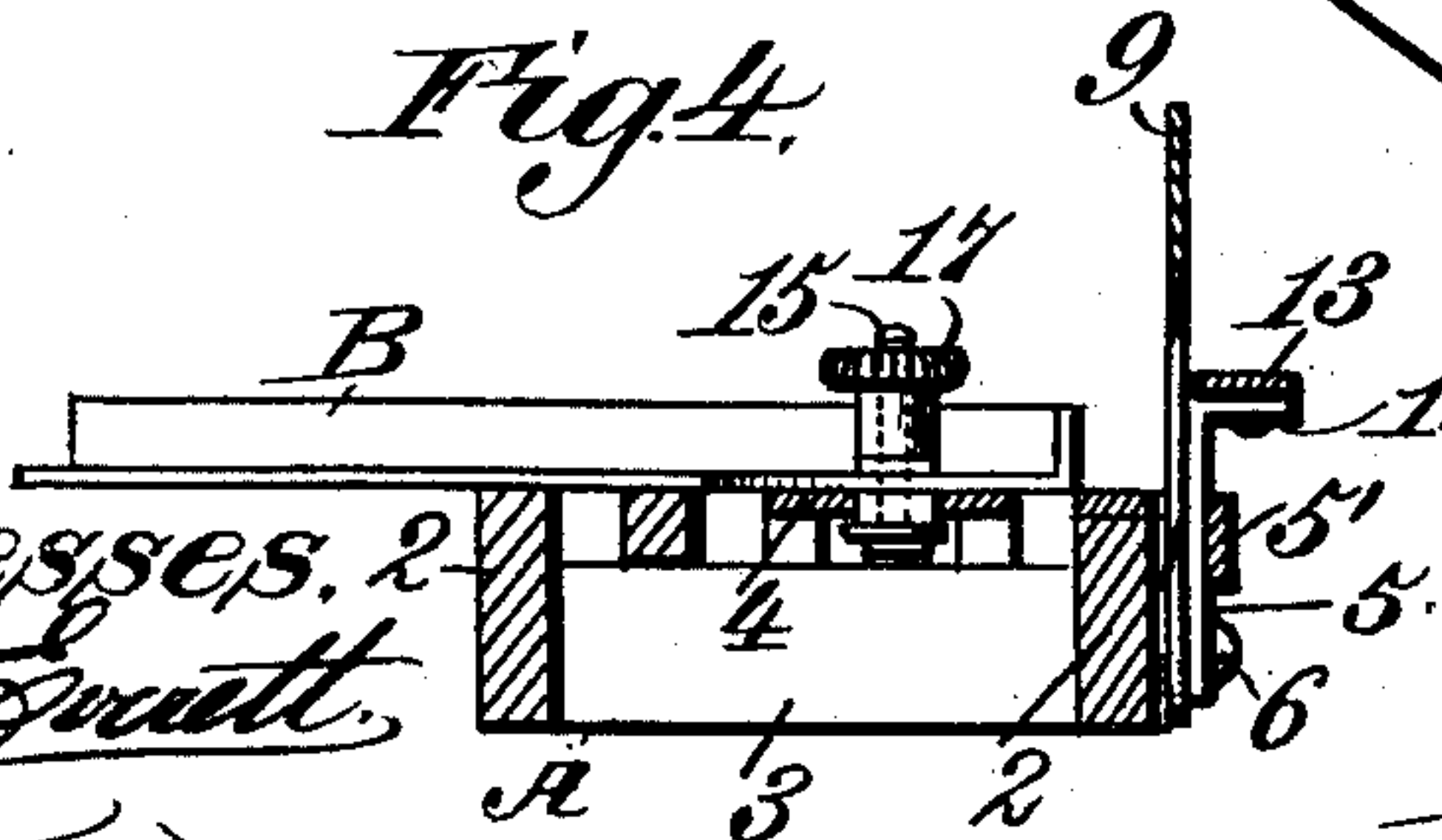


Fig. 4.



Witnesses, 2
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UNITED STATES PATENT OFFICE.

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MACHINE FOR CUTTING SLATE.

SPECIFICATION forming part of Letters Patent No. 703,267, dated June 24, 1902.

Application filed December 19, 1901. Serial No. 86,580. (No model.)

To all whom it may concern:

Be it known that I, CHARLES RUSSELL HUSTON, a citizen of the United States, residing at Morgantown, in the county of Monongalia and State of West Virginia, have invented new and useful Improvements in Machines for Cutting Slate, of which the following is a specification.

This invention relates to a machine for cutting slate; and the objects of the invention are to provide a machine of this character by the use of which savings in time and material are effected over certain old modes of operation.

While the machine is particularly adapted for cutting slate for any and all kinds of roofing-work—such as under eaves, stretchers, valleys, and hips, as well as circular work of different sizes and shapes—it is capable for action upon other kinds of material, and therefore it is not my intention to limit the invention to any particular use.

The improved machine includes a base or bed, preferably of slatted or open-work construction, lightness being thereby secured, and the openings between the slats or bars of the base or bed provide means for the spawls or cuttings to pass therethrough, and as the slats and the spaces between the same are definite distances the base may be used as a gage without the necessity of otherwise measuring or marking the work. The base or bed carries a gage adjustable longitudinally of or angularly to the former, and either of such adjustments can be secured without affecting the other.

I desire to state at this point that the invention is in no wise restricted to the parts and arrangement of such parts set forth in the following description, for many changes may be made within the scope of the claims annexed to said description, and said invention is clearly shown in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a plan view of a slate-cutting-machine including my improvements in simple and convenient embodiments thereof. Fig. 2 is a front elevation of said machine. Fig. 3 is an under side view of the same. Fig. 4 is a transverse sectional elevation. Fig. 5 is a detail in sectional elevation of a slide and

certain adjacent parts. Fig. 6 is a cross-section of the machine, the section being taken through the pivot of the knife.

Like characters refer to like parts in all the figures.

The different parts of the machine are sustained by a suitable framework which is shown as including a base or bed, (designated in a general way by A.) The base A is represented as consisting of the longitudinal side bars 2, the transverse bars 3, and the slats or bars 4. The cross-bars 3 are suitably spaced and secured between the side bars 2, which, it will be seen, are disposed in parallelism, while the slats or bars 4 are located equal distances apart, and two of them are shown as being secured to two of the cross-bars, while the third one is fastened to all three of said cross-bars. Screws or analogous means may be employed for holding the several parts of the base together. The upper sides of the slats and side bars preferably lie in a common plane, thereby presenting a proper surface upon which the slate can be laid, and as the slats are of definite or known widths, while the same applies to the spaces between the same, the base constitutes, therefore, a gage by which the slate can be cut accurately without the necessity of previously measuring the same, and the openings between the slats provide for the passage of chips and cuttings therethrough, so as not to litter up the bed, as in such a case the operation of the knife or cutter would be hampered.

On the front side bar 2 are secured, near opposite ends thereof, the vertical bars or strips 5, arranged in parallelism and held in place by bolts, as 6, passing through the respective parts, washers, or equivalent spacing members, as 7, situated between the strip or upright 5 on the left, Fig. 2, and the adjacent side bar, while the offset 8 of the knife or cutter 9 and a washer or equivalent spacing member 7' are located between the strip 5 on the right and said side bar, and it will be seen that the bolt 6 on the right in said figure serves as a pivot for the knife as well as a means for holding the right strip in place. The offset 8 and washer 7' and washers 7 hold the strips or uprights 5 from the forward side bar 2 a distance substantially

equaling the thickness of the blade of the knife, and in making a cut the blade enters the space between these parts. The strips or uprights 5 are united by the bar 5' in parallelism with the side bars 2 of the base A, and the upper face of which is straight and in the same plane with said base A, and said bar 5' supports the outer end of the material being cut. The bar 5', it will be seen, is separated from the adjacent side bar of the base, and such space is intersected substantially centrally by the knife in making a cut.

The knife 9 has a handle, as 11, by which it may be conveniently manipulated.

The upper ends of the vertical strips 5 have lugs or ears, as 12, extending forward therefrom and to the upper sides of which the bar 13 is suitably fastened, the inner edge of the same being straight, and the knife during its descending or cutting stroke is held against this straight edge, so that said knife is held from springing, the result being that the work presents the proper bevel along its cut edge. The straight edge or knife-guide 13 is horizontally disposed and is located a short distance above the base or bed A, and the cuts from the material on the base travel between the same and the guide 13.

The base supports a gage device designated in a general way by B and against which the work to be cut is placed, and this gage device is capable of adjustment lengthwise of the base or angularly thereof, so as to adapt the machine for turning out work of different shapes and sizes. The gage device B is shown as consisting of a plate substantially right-angular in cross-section, the horizontal web of which rests upon the upper side of the base A, while the vertical flange thereof is suitably graduated upon its inner face, preferably to inches and fraction thereof.

Between two of the slats 4 is fitted a slide 14, made in the form of an elongated block, and the same is perforated at suitable points in its length to receive the bolts 15 and 15^a, the inner, or the one on the right, passing through a perforation in the web of the gage B, and thereby serving as a pivot upon which the latter can freely turn. Washers, as 16 and 16^a, are placed between the heads of the bolts 15 and the under side of the base A and overlap the adjacent slats to thereby prevent accidental lifting of the slide from place. The upper threaded ends of the bolts 15 and 15^a receive the nuts 17 and 17^a, respectively, having enlarged and milled or roughened heads by which they can be easily operated. A clamp-plate, as 18, bears against the inner end of the web of the gage device B, and it is perforated near its ends to receive the bolts 15 and 15^a, respectively, and is placed under the nuts 17 and 17^a, respectively.

The adjacent faces of the slats 4, between which the carrier or slide 14 is located, are perfectly straight, and the slide or carrier is

fitted snugly in place, it being thicker at one end than at the other, the thick end being situated at the left thereof. This difference in thickness is secured in the present case by inclining the lower face of said carrier or slide upwardly and inwardly relatively to the lower faces of the adjacent slats. By screwing down both the nuts 17 and 17^a the gage is held against angular and longitudinal movements. With said nuts down the washer 16^a by reason of the tapering of the slide is caused to bind directly against the under side of the slats 4, between which the slide 14 is located, while the washer 16 binds against the under side of the said slide, and the clamp-plate 18 is forced against the web of the gage B by the nuts 17 and 17^a to maintain the said web in firm contact with the upper faces of the base and slide, respectively, thereby securely holding the same. By slightly loosening the nut 17 the gage may be freed from contact with the slide, so that it can be swung around to the desired extent, and when adjusted said nut will be again tightened. By loosening the nut 17^a the gage can be freed from contact with the base A to such an extent that the slide can be freely moved longitudinally of the base either to the right or left, and when the desired adjustment is secured said nut 17^a will be tightened.

Having described the invention, what I claim is—

1. In a machine of the class described, a base, a knife, a gage, a carrier for the gage upon the base, bolts, one of which passes through the carrier, and the other of which passes through the carrier and gage, nuts on the bolts, and a clamp-plate having perforations to receive the bolts and adapted to bear against the gage, and one of the nuts serving to hold the carrier against longitudinal movement, and the other nut serving to prevent angular movement of the gage.

2. In a machine of the class described, a slatted base, a knife, a gage, a carrier for the gage supported for sliding movement between the slats of the base, bolts, one of which passes through the carrier, and the other of which passes through the carrier and gage, nuts on the bolts, and a clamp-plate having perforations to receive the bolts and adapted to bear against the gage, and one of the nuts serving to hold the carrier against longitudinal movement, and the other nut serving to prevent angular movement of the gage.

3. In a machine of the class described, a slatted base, the slats and the spaces between the same being of similar widths, a knife connected by said base, a gage, and means for securing independent adjustments of the gage angularly and longitudinally with respect to the base.

4. In a machine of the class described, a base having a slot, a slide fitted in said slot and tapering toward one end thereof, a gage substantially angular in cross-section, the

web of which is adapted to rest upon said
base, bolts, one of which passes through said
slide and web, and the other of which passes
solely through the slide, a clamp-plate perfo-
5 rated to receive the bolts, and nuts upon the
upper ends of the bolts adapted to engage
said clamp-plate.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
nesses.

CHARLES RUSSELL HUSTON.

Witnesses:

E. M. TURNER,
GEO. C. STEELE.