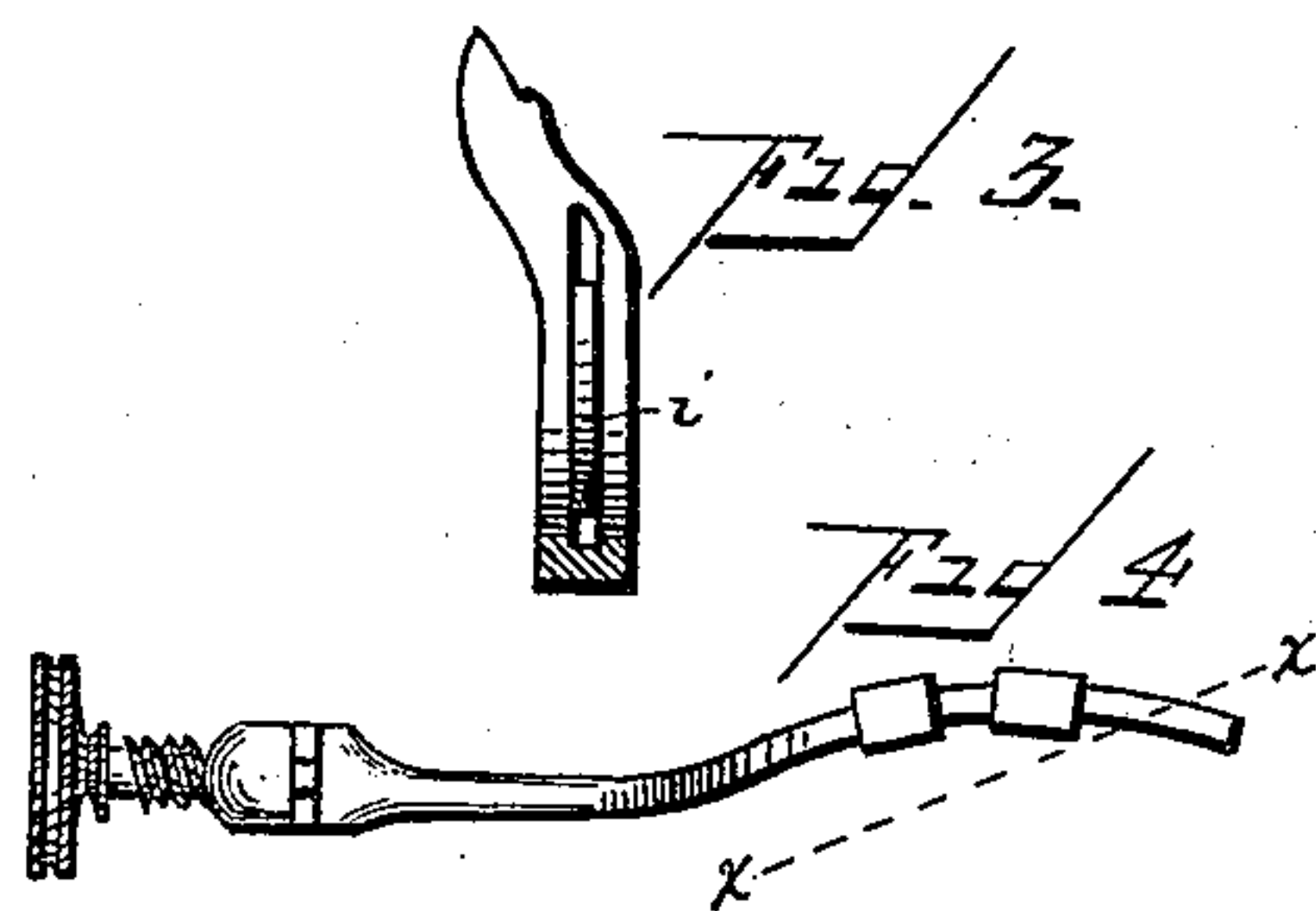
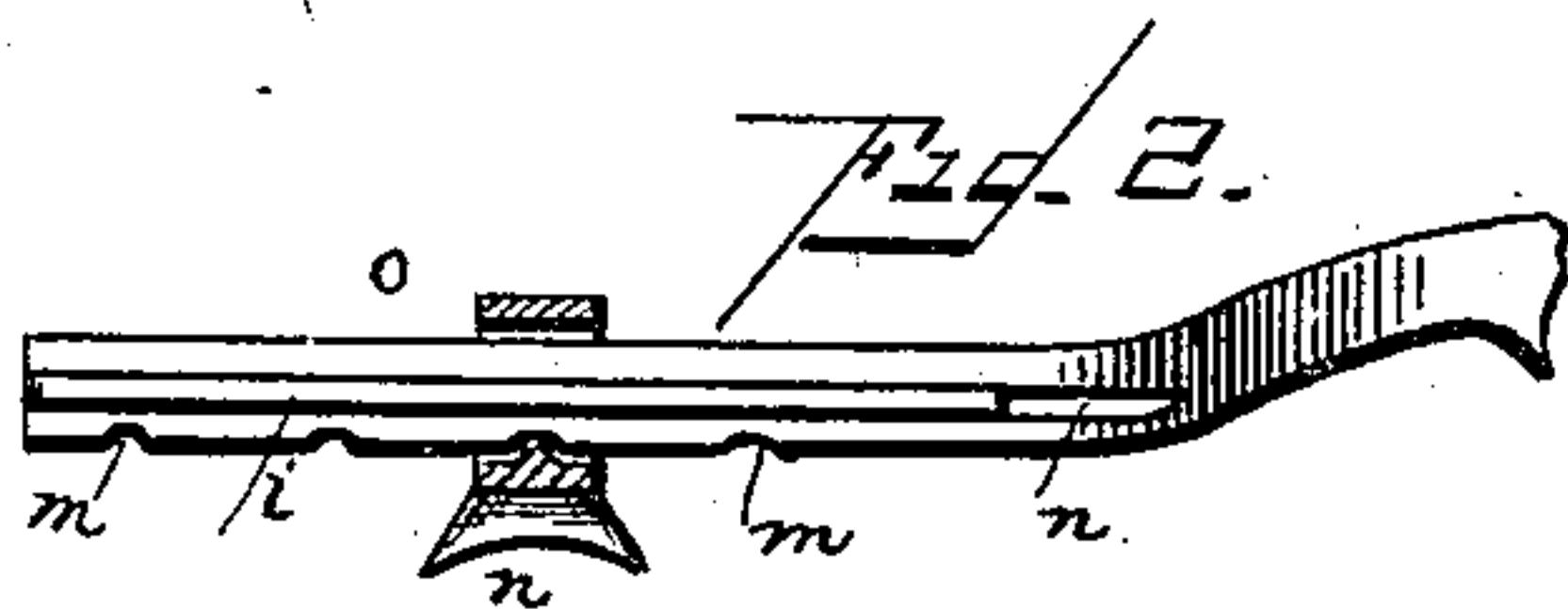
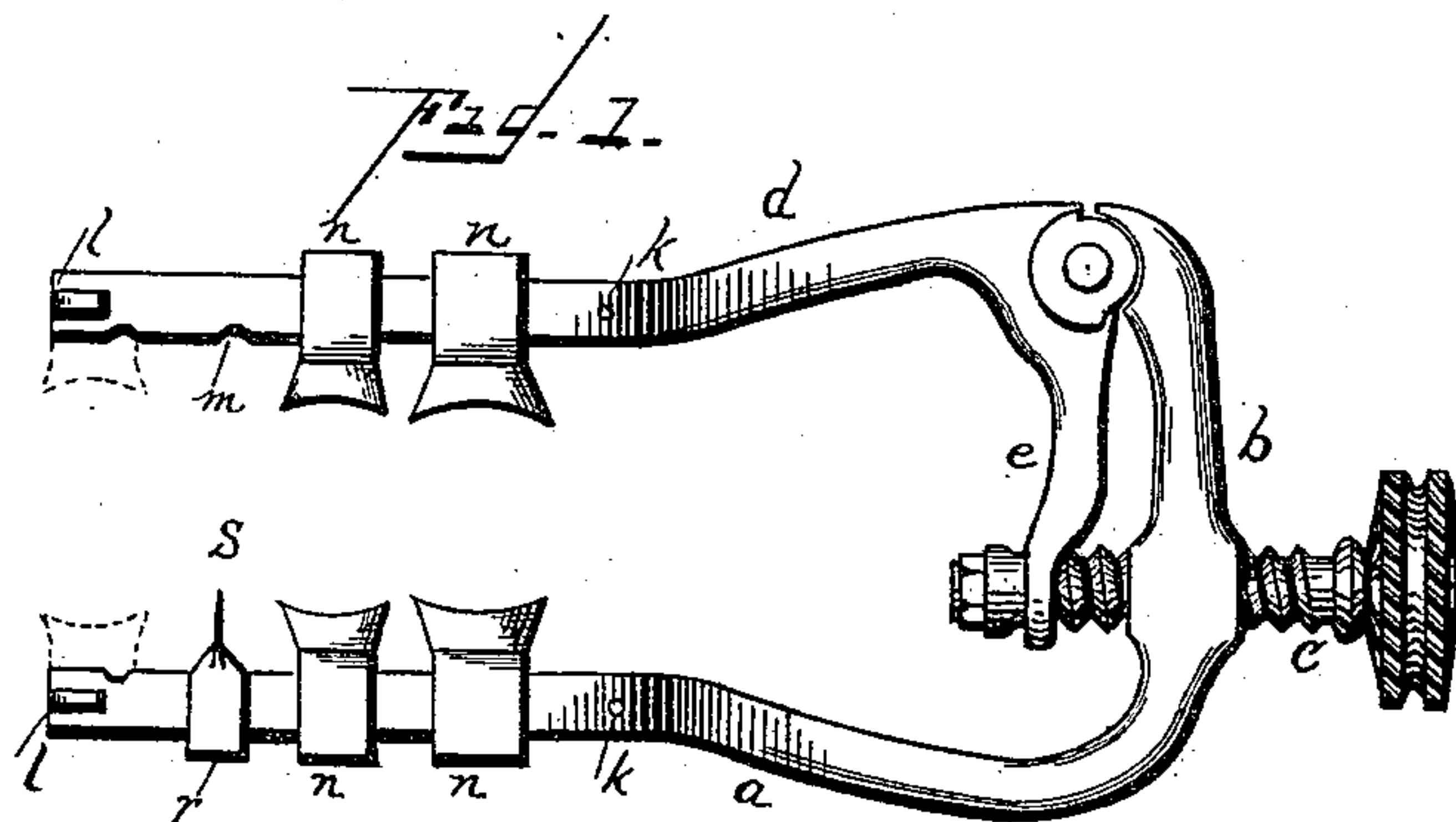


(No Model.)

W. G. BROWNE.
RUBBER DAM CLAMP.

No. 396,537.

Patented Jan. 22, 1889.



WITNESSES.

M. P. McKee.
L. B. Bartlett.

INVENTOR

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Atty.

UNITED STATES PATENT OFFICE.

WALKER G. BROWNE, OF ATLANTA, GEORGIA, ASSIGNOR OF ONE-HALF TO
RICHARD B. WINDER, OF BALTIMORE, MARYLAND.

RUBBER-DAM CLAMP.

SPECIFICATION forming part of Letters Patent No. 396,537, dated January 22, 1889.

Application filed November 5, 1888. Serial No. 290,007. (No model.)

To all whom it may concern:

Be it known that I, WALKER G. BROWNE, residing at Atlanta, in the State of Georgia, have invented certain new and useful Improvements in Rubber-Dam Clamps, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to clasp devices for dental purposes, known to the profession as "rubber-dam clamps."

The invention consists in the construction and combination of the parts constituting the dam-clamp, substantially as hereinafter stated.

Figure 1 is a top view of the dam-clamp complete. Fig. 2 is a bottom view of one of the arms of the clamp with one of the tooth-clasps in section. Fig. 3 is a broken bottom view of a part of one of the arms on line *x x*, Fig. 4. Fig. 4 is an edge view of the clamp.

The letter *a* indicates one bar of the clamp. This arm has an elbow or bent arm, *b*, through which arm *a* thumb-screw, *c*, is tapped. A bar, *d*, is hinged to the end of arm *b*, and has an intumed arm, *e*, to the inner end of which the set-screw *c* is loosely swiveled. The bar *d* and arm *e* thus become a bell-crank lever fulcrumed to arm *b* and actuated by the screw *c* as its power. Turning the screw *c* will cause the bars *a d* to approach or recede from each other at their outer or free ends.

The lower sides of arms *a d* are grooved, as at *h*, and in each of these grooves there is a light flat spring, *i*, held at one end by a rivet, *k*, and clasped round the outer ends of the bars, as shown at *l*. These springs are mere friction-springs to prevent the easy longitudinal movement of the clasps on the bars.

The inner sides of the bars *a d* are notched, as at *m*. A number of clasps, *n*, are applied to the bars. Each clasp has a mortise to pass over the bars *a d*, and is rounded out at the inner end to conform generally to a tooth. The mortise in each clasp *n* is somewhat larger than the section of the bars *a d*, and inside the mortise there is a tooth, *o*, which enters one of the notches *m*. The clasp *n* is thus permitted to have a slight rocking motion on the tooth *o* as a pivot.

The arms *a d* may bear one, two, or more

pairs of clasps *n n*, which may be adjusted longitudinally of the bars to bring them nearly in position to clasp the rubber between them and against the teeth. Then when the clamp is applied in the mouth of the patient and the arms brought together the clasps will adjust themselves to the teeth.

A spreader, wedge, or separator, *r*, may be applied to one or both of the arms *a d*, said spreader having a blade-like projection, *s*, to pass between the teeth.

It is evident that the arms *a* and *d* may be more or less bent to conform to the shape of the mouth or to give convenience in adjustment and handling. It is evident also that the arms may be used for the same purpose without the clasps, they (the arms) being properly shaped so as to conform to the contour of the tooth, as indicated in dotted lines, Fig. 1.

What I claim is—

1. In a clamp of the character described, the two arms pivoted together, a set-screw passing through one bar and swiveled in the other, and longitudinally-adjustable clasps arranged in pairs and movable longitudinally of the bars, all in combination, substantially as described.

2. The combination, with the bars *a d* and means for opening and closing the same, of the clasps *n n*, having mortises to pass over said bars, and projections which bear on the bars and on which the clasps may have a rocking movement, substantially as described.

3. The combination, with the bar, as *a*, of a clamp, of a friction-spring extending along said bar, and the clasp *n*, having a mortise to embrace said bar and spring, substantially as described.

4. The combination, with the clasping-bars *a d* and means for operating the same, of the spreader *r*, movably supported on one of said bars, said spreader having a wedge or blade, *s*, to extend between the teeth, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WALKER G. BROWNE.

Witnesses:

E. J. DOBBS,
W. H. YOUNG.