

J. S. McDONALD.
 BACKING FORMING INSTRUMENT FOR TEETH.
 APPLICATION FILED JUNE 22, 1910.

995,701.

Patented June 20, 1911.

2 SHEETS—SHEET 1.

FIG. 1.

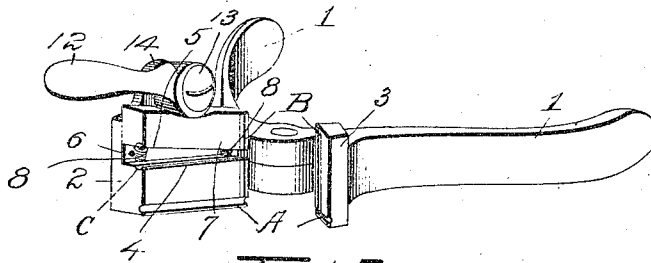


FIG. 5.

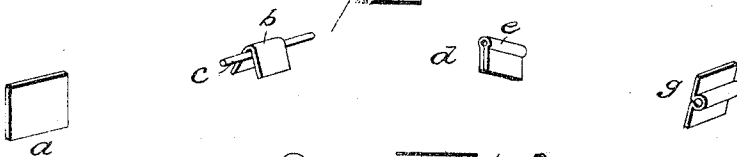


FIG. 2.

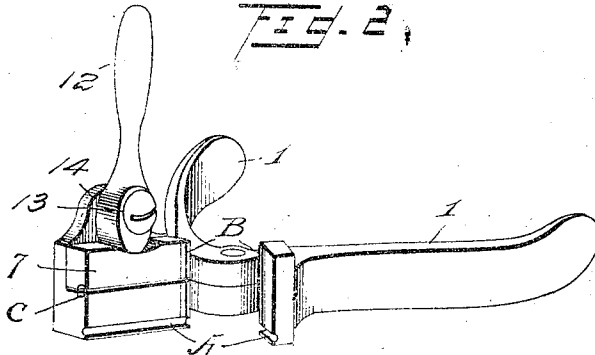
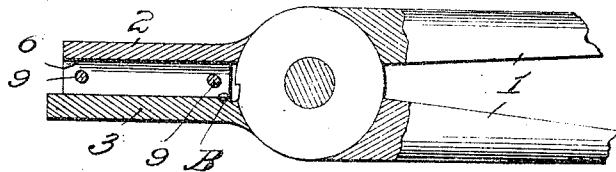


FIG. 3.



Inventor

Witnesses

E. C. Duffy
H. Strauss

J. S. McDonald

By *John P. Duffre*
Harris Attorney

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2 SHEETS-SHEET 2.

FIG. 3.

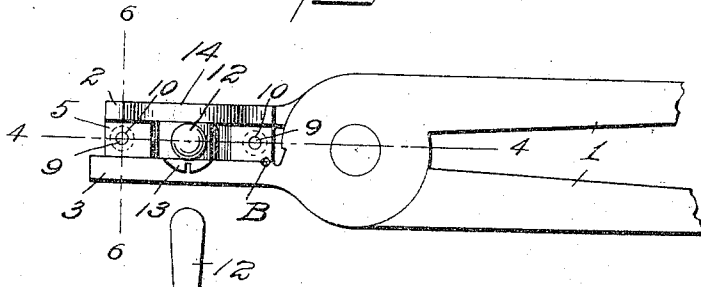


FIG. 4.

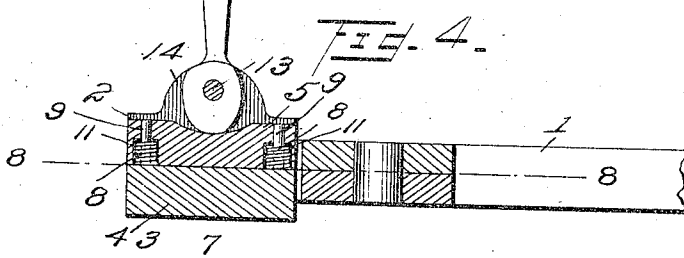


FIG. 5.

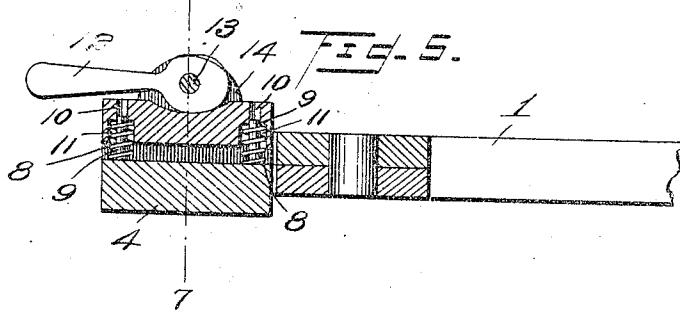


FIG. 6.

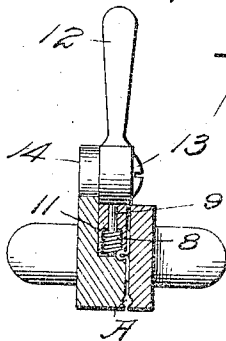
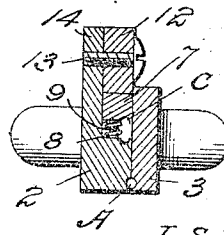


FIG. 7.



Witnesses

W. Duffy
H. Strauss

Inventor

J. S. McDonald

By

John R. Duffy
His Attorney

UNITED STATES PATENT OFFICE.

JOSEPH S. McDONALD, OF COLUMBUS, OHIO.

BACKING-FORMING INSTRUMENT FOR TEETH.

995,701.

Specification of Letters Patent. Patented June 20, 1911.

Application filed June 22, 1910. Serial No. 568,287.

To all whom it may concern:

Be it known that I, JOSEPH S. McDONALD, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Backing-Forming Instruments for Teeth, of which the following is a specification.

This invention relates to new and useful improvements in backing forming instruments for teeth.

The primary object of this invention is to provide an instrument of this kind by means of which the individual dentist may very readily and easily construct the backing from a single sheet or strip of metal, preferably gold, and at a considerable saving in expense.

With the foregoing and other objects in view, the invention consists in the novel features of construction, combination and arrangement of parts illustrated in the drawings and more particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a perspective view of the instrument, with the secondary clamping jaw in normal or raised position. Fig. 2 is a similar view, with the secondary clamping jaw closed. Fig. 3 is a plan view of the instrument with the handles partly broken away. Fig. 4 is a central longitudinal section, taken on the plane indicated by the dotted lines 4—4 of Fig. 3, the movable secondary clamping jaw closed. Fig. 5 is a similar view, the movable secondary clamping jaw raised. Fig. 6 is a transverse section, taken on the line 6—6 of Fig. 3. Fig. 7 is a similar view, taken on the line 7—7 of Fig. 5. Fig. 8 is a horizontal section, taken on the line 8—8 of Fig. 4, and Fig. 9 is a general view, showing the different steps in the process or operation of making the backing.

Referring to the drawings for a more particular description of the invention and which are for illustrative purposes only and are therefore not drawn to scale, the device comprises a pair of pivoted handle members 1, provided at their inner ends with the main clamping jaws 2 and 3, the latter of which is somewhat longer than the former.

The device further comprises the secondary clamping jaws 4 and 5 the former being stationary and formed by suitably recessing the inner face and upper edge of the jaw 2, as at 6, and the latter being formed

by a movable spring retracted bar 7. The springs 8 for normally holding the movable jaw 5 in retracted or raised position are disposed around guide pins or studs 9, projecting from the upper edge of the secondary stationary jaw 4 into guide apertures 10 formed in the movable secondary jaw 5. The upper ends of the springs seat in recesses 11 formed in the bottom edge of the jaw 5 directly beneath and in concentric relation with the apertures 10.

The instrument is further provided with three separate pairs of co-incident or registering grooves A, B and C, the grooves A being formed in the inner faces and near the bottom edges of the main jaws 2 and 3, the grooves B in the inner faces and near the inner ends of the main jaws transversely thereof, or at right angles with the grooves A and the grooves C in the meeting or adjacent edges of the stationary jaws 4 and 5.

In constructing the backing, the main clamping jaws 2 and 3 are opened with the secondary clamping jaw 5 closed and the ends of the single flat strip of gold or other metal from which the backing is formed pressed together over a small gage wire *c* arranged at the center of the strip, as shown at *b*, which forms the tubular portion *e* at the center of the strip, as shown at *d*. In closing the jaws to form the tubular portion *e*, the sides of the metal forming said portion are pressed into transverse grooves B. After the tubular portion *e* is thus formed, the gage wire *c* is then withdrawn, the main jaws again opened, the tubular portion *e* of the blank then clamped in the grooves C, of the secondary clamping jaws, and the ends of the metal spread out flat, as shown at *g*, by again closing the main jaws. The movable secondary clamping jaw 5 is moved into clamping position against the action of the springs 8 by the cam lever 12, pivoted as at 13, to the lug or bearing portion 14 of the main jaw 2.

From the foregoing description taken in connection with the drawings, it is thought that the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportions and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended claims.

Having described the invention, what I claim as new is,

1. A backing forming instrument of the class described comprising a pair of pivoted handle members provided at their inner ends with clamping jaws, a pair of relatively fixed and movable secondary clamping jaws, carried by one of the main jaws, the main and secondary jaws having pairs of co-incident grooves.
2. A backing forming instrument of the class described comprising a pair of pivoted handle members provided at their inner ends with main clamping jaws having longitudinally and transversely disposed co-incident grooves, a relatively stationary clamping jaw formed on one of the main jaws, a spring retracted movable secondary jaw arranged for coöperation with said last mentioned jaw, and means for moving and holding the movable secondary jaw in clamping engagement with the fixed secondary jaw,

the fixed and movable secondary clamping jaws having co-incident grooves.

3. A backing forming instrument of the class described comprising a pair of pivoted handle members provided at their inner ends with main clamping jaws, having longitudinal and transverse co-incident grooves, a relatively stationary secondary clamping jaw formed on one of the main jaws, a spring retracted secondary clamping jaw arranged for coöperation with the said last mentioned jaw, a cam lever for moving and holding the movable secondary jaw in clamping engagement with the stationary secondary jaw, the stationary and movable clamping jaws having co-incident grooves.

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

JOSEPH S. McDONALD.

Witnesses:

F. M. GLICK,
B. F. CURRAN.