T. D. DALLMEYER, G. G. BROWN AND J. R. SCHULTZ.

METHOD OF BREAKING RODS OR BARS.

APPLICATION FILED SEPT. 16, 1918.

1,309,354.

Patented July 8, 1919.

2 SHEETS—SHEET 1.

FIG. 1

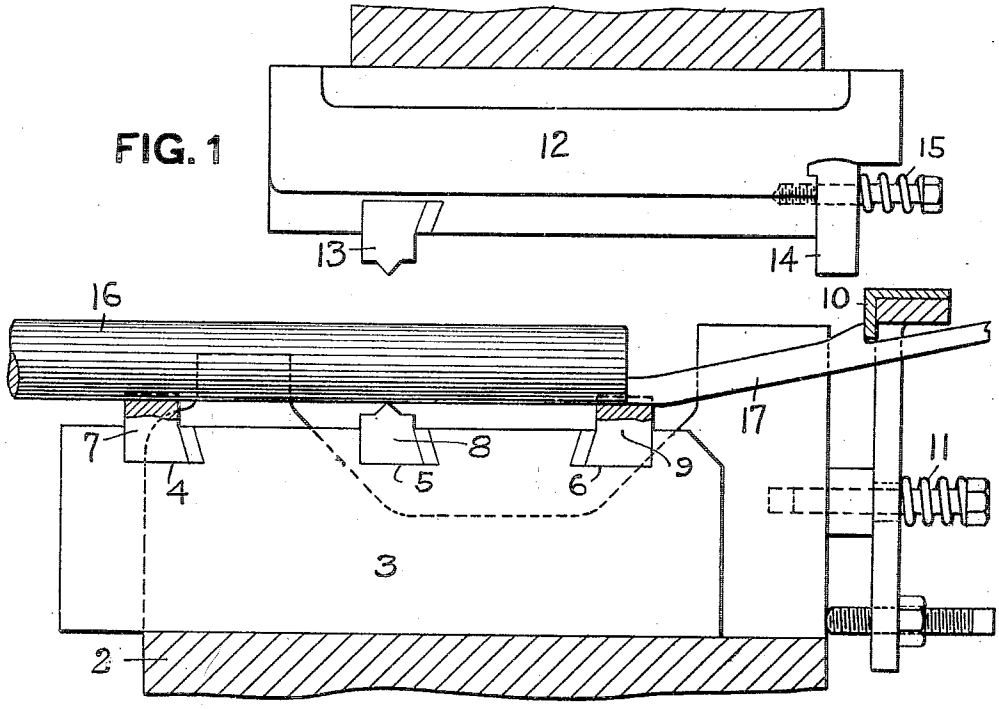
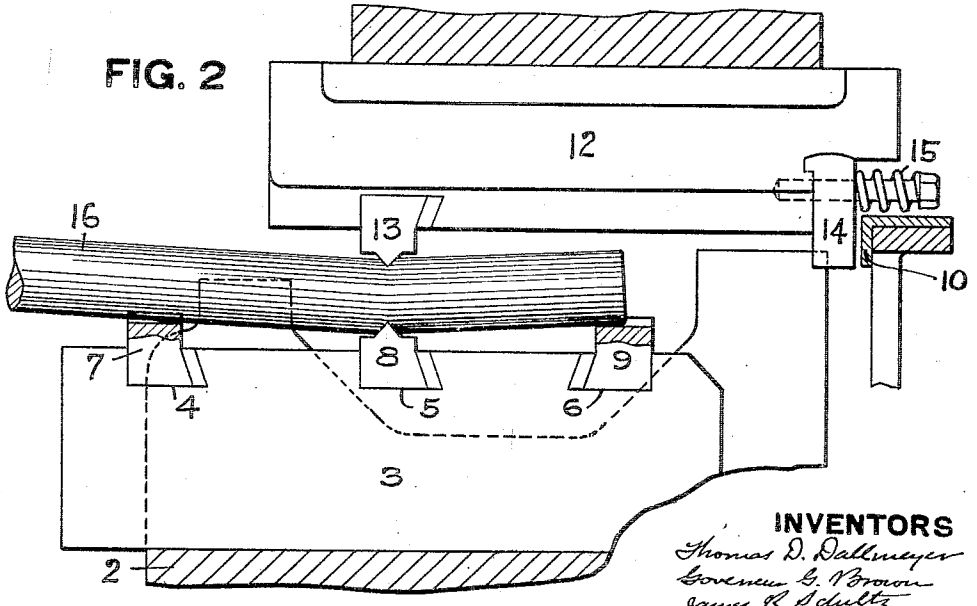


FIG. 2



INVENTORS

Thomas D. Dallmeyer

Governeur G. Brown

James R. Schultz

By Key Tothen & Powell

Attorneys

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FIG. 3

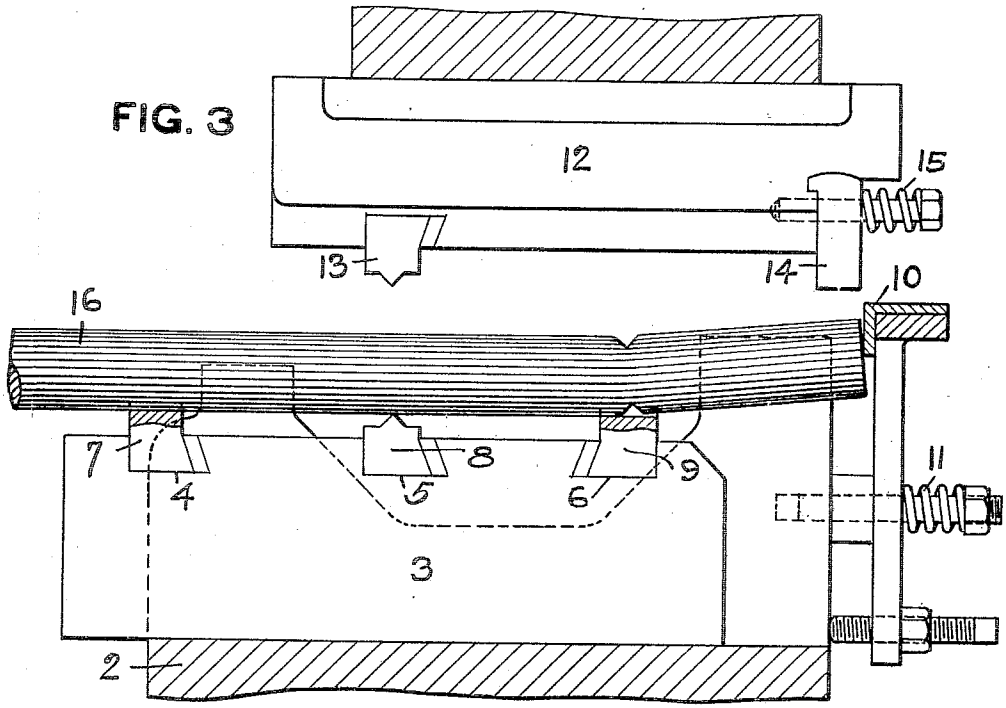
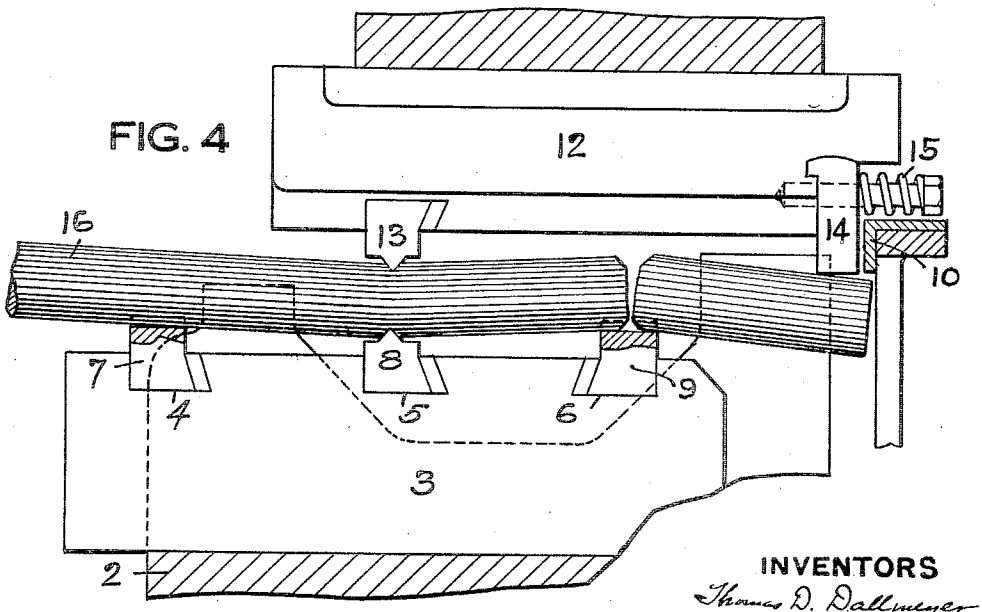


FIG. 4



INVENTORS

Thomas D. Dallmeyer
Governeur G. Brown
James R. Schultz
By Kay Tatton & Powell
Attorneys

UNITED STATES PATENT OFFICE.

THOMAS DONNELLY DALLMEYER, OF PITTSBURGH, AND GOUVERNEUR G. BROWN AND JAMES R. SCHULTZ, OF OAKMONT, PENNSYLVANIA.

METHOD OF BREAKING RODS OR BARS.

1,309,354. Specification of Letters Patent. **Patented July 8, 1919.**

Application filed September 16, 1918. Serial No. 254,197.

To all whom it may concern:

Be it known that we, (1) THOMAS D. DALLMEYER, (2) GOUVERNEUR G. BROWN, and (3) JAMES R. SCHULTZ, citizens of the United States, and residents of (1) Pittsburgh and (2 and 3) Oakmont, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Methods of Breaking Rods or Bars; and we do hereby declare the following to be a full, clear, and exact description thereof.

Our invention relates to method of breaking rods or bars, and more especially for use in breaking of round or square bars for shell-slugs.

The object our our invention is to provide a simple and efficient method of breaking off metal bars in desired lengths, and thereby create a saving in time as well as power required for the breaking of such bars.

Our invention consists, generally stated, in nicking the rod or bar and by the same stroke breaking off a section previously nicked, thereby completing by one stroke what has heretofore required at least two strokes, one for nicking and the other for breaking.

In the accompanying drawings, Figure 1 is a sectional view of apparatus for carrying out our method showing the commencement of the process and the rod in position for nicking; Fig. 2 shows the nicking of the rod; Fig. 3 shows the rod nicked and advanced for the second nicking stroke; and Fig. 4 shows the nicking and breaking stroke.

In the drawing, the numeral 2 designates a suitable base-block upon which is supported the breaker-base 3. This breaker-base 3 has the seats 4, 5 and 6 formed therein. In the seat 4 is keyed the support 7; in the seat 5 is keyed the lower nicking tool or chisel 8, and in the seat 6 is keyed the breaker-block 9.

In the rear of the breaker-base is the gage 10, which is adapted to yield slightly under pressure, due to the action of the spring 11.

The upper movable die-block 12 is connected to a suitable press or other reciprocating device, and keyed to said die-block is the upper nicking tool or chisel 13. The die-block 12 also carries the breaker 14 which, due to the action of the spring 15, is capable of yielding slightly, so as to relieve the strain.

The metal rod 16 to be broken up into lengths for shell-slugs is advanced into position until its forward end comes into contact with the temporary gage 17, as indicated in Fig. 1. The upper die is then lowered, and through the pressure, nicks are made by the nicking tools at opposite sides of the bar, as shown in Fig. 2. The forward end of the bar rests on the block 9, and by the action of the nicking tools, said forward end of the bar beyond the nicking point is slightly inclined upwardly. After this first nicking operation, the rod is advanced until the forward end of the rod bears against the gage 10 with the nicked portion resting on the block 9. The upper die is again lowered and the nicking tools act as before to nick the bar while at the same time the breaker 14 coming in contact with the section of the bar previously nicked, forces said section downwardly and breaks the bar on the line of the nicks, as clearly indicated in Fig. 4. The gage 10 yields slightly as the inclined end of the bar is forced downwardly, so as to permit the bar to pass the gage without jamming, and the broken piece falls down to a point below.

In this way, after the bar has been once nicked, the succeeding nicking operations also result in a breaking off of the previously nicked portions so that by the same stroke, the nicking and breaking is accomplished, thereby greatly reducing the time as well as the power required.

What we claim is:

1. The method of breaking metal rods or bars consisting in nicking the rod or bar and by the same nicking stroke breaking off a section previously nicked.

2. The method of breaking metal rods or bars consisting in nicking the rod or bar at opposite points, and by the same nicking stroke breaking off a section previously nicked.

3. The method of breaking metal rods or bars consisting in nicking the rod or bar and bending the metal upwardly beyond the nicking point, and by the same nicking

stroke breaking off a section previously nicked.

4. The method of breaking metal rods or bars consisting in supporting the rods at the point of nicking and at a point on the rod previously nicked, applying a nicking stroke, and by the same stroke breaking the metal at the point previously nicked.

In testimony whereof we, the said THOMAS D. DALLMEYER, GOUVERNEUR G. BROWN, and JAMES R. SCHULTZ, have hereunto set our hands.

THOMAS DONNELLY DALLMEYER.
GOUVERNEUR G. BROWN.
JAMES R. SCHULTZ.

Witnesses:
HAROLD J. VENGLE,
GERALDINE L. JOHNSTON,
FRANCIS M. HUGHES.