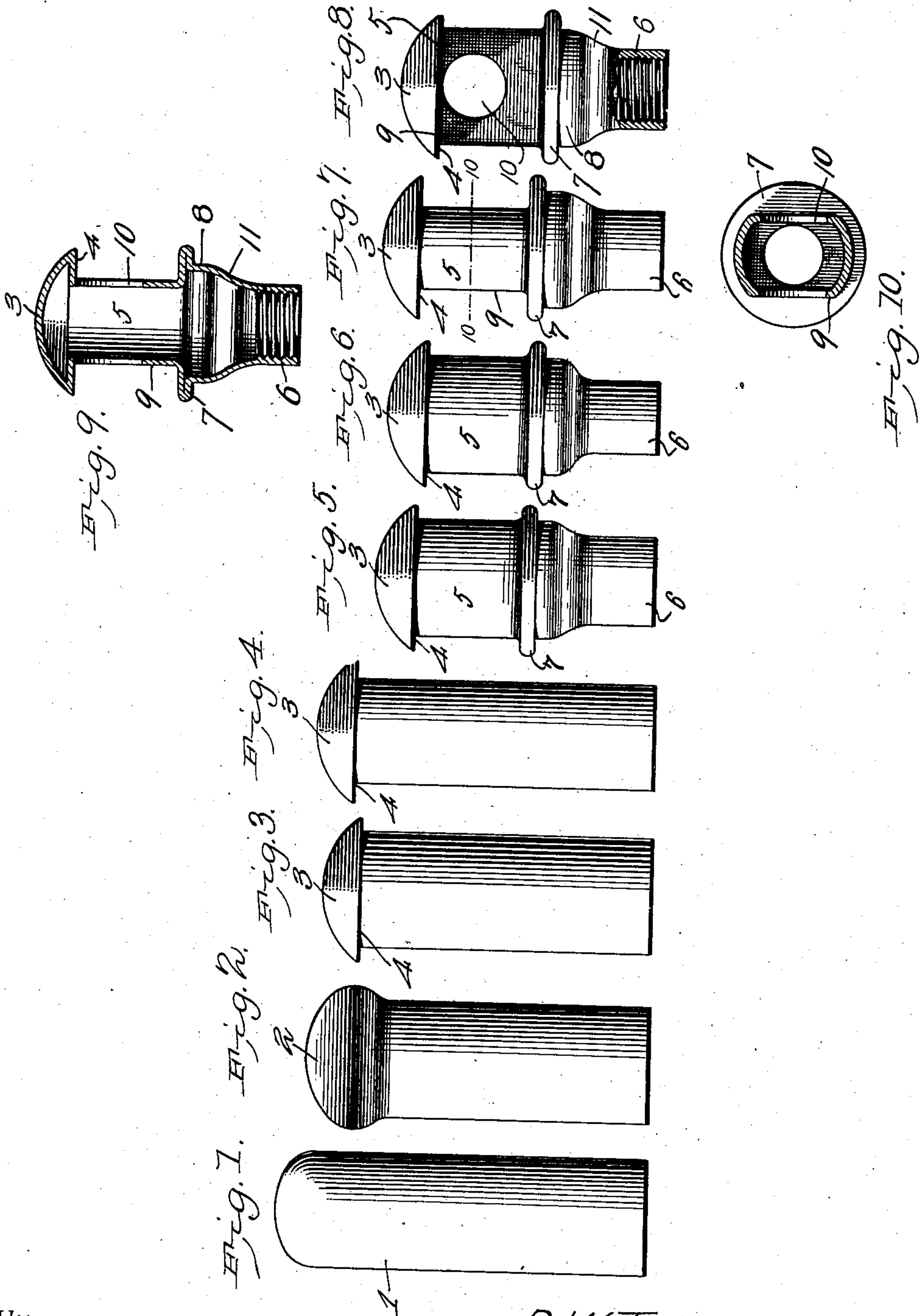


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PATENTED OCT. 27, 1903.

D. W. TOWER.  
STUD FOR DRAWER PULLS.  
APPLICATION FILED DEC. 16, 1902.

NO MODEL.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

DANIEL W. TOWER, OF GRAND RAPIDS, MICHIGAN.

## STUD FOR DRAWER-PULLS.

SPECIFICATION forming part of Letters Patent No. 742,526, dated October 27, 1903.

Application filed December 16, 1902. Serial No. 135,411. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL W. TOWER, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented a new and useful Stud for Drawer-Pulls, of which the following is a specification.

This invention relates to a stud for drawer-pulls.

The object of the invention is in a simple, ready, inexpensive, expeditious, and feasible manner to produce a hollow stud for drawer-pulls which shall with a minimum of metal present the maximum of strength, which shall be highly ornamental in appearance, and which may be made without employment of lathe operations in its production.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in a stud for drawer-pulls, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like characters of reference indicate corresponding parts, there is exhibited the different forms assumed by the stud in undergoing the various steps in its production.

In the drawings, Figure 1 is a view in elevation of the tube or blank from which the stud is made. Figs. 2, 3, 4, 5, 6, 7, and 8 exhibit the different steps leading up to the final result. Fig. 9 is a view in vertical longitudinal section through a finished stud. Fig. 10 is a view in horizontal section on the line 10 10 of Fig. 7.

The stud of the present invention is the result of press operations only, and no nurling or lathework whatever is employed in its production.

The blank 1 (shown in Fig. 1) may be produced in any preferred manner, and is, in effect, a tube having one end open and the other end closed. Although the production of this blank requires several steps, as these are common, as in ordinary cartridge-making machines, description thereof is deemed unnecessary, and the operation will be presumed to begin with the blank 1. The second step in the operation consists in taking the blank 1 and subjecting it to suitable pressure to form a head 2, which, viewed in side elevation, is

approximately elliptical. In this second step the diameter of the blank or body portion is not diminished. The next step in the operation is in forming the head 3 with a flat under surface 4, and this head from this step of the procedure onward remains the same. The head 3 is produced by taking the blank 2, placing it in a suitable mold, and then applying die-pressure to the head 2 to force the under side thereof down upon the mold to form the straight or under shoulder 4. The next step in the operation is to effect a slight reduction in the transverse diameter of the body, and thus a slight increase in its length, and this is effected by placing the blank in a suitable mold and subjecting it to pressure for the purpose, the product being shown in Fig. 4. The next step in the operation is to give the initial shape to the body 5 and shank 6. This is effected by taking the blank 4 and subjecting it to press operations to shorten its length without changing the contour of the head 3, and in this step a circumferential flange 7 is formed, which constitutes a stop to limit the insertion of the stud within a pull-plate, while the shank 6 has its lower portion slightly reduced and that portion adjacent to the flange 7 left of the same diameter. The next step in the operation is in reducing the diameter of the shank 6 to cause it to be of substantially the same diameter throughout the greater portion of its length and to leave a pronounced shoulder 8 adjacent to the flange 7. This is effected by placing the blank within a mold and applying lateral pressure to the shank to reduce it in diameter, as indicated in Fig. 6. The next step in the operation is to flatten two sides of the body in order to present requisite space to receive the orifices for the drawer-handle without changing the form of the head 3. This is effected by placing the blank in any suitable mold and applying lateral pressure to the body between the head and the flange 7 to flatten the sides, as clearly shown in Fig. 10 at 9, and while within the mold the drawer-handle opening 10 is drilled through the body. By thus flattening the sides of the body when the stud is in position on the drawer the longest diameter of the body will be vertical, giving strength to both sides of the orifices. The final step in the procedure consists in



lengthening the shank 6 and in reducing it in diameter to permit of its being screw-threaded to receive the screw for holding the pull in position upon the drawer. This is effected by subjecting the shank to suitable pressure to reduce the abruptness of the shoulder 8 and cause it to assume a cone or taper 11, which merges in the shank, as shown in Figs. 8 and 9, the reduction of the shoulder presenting a more extended surface in the bore of the shank for receiving threads. After this operation the shank is threaded and the stud is finished in any preferred manner to give a neat and finished appearance.

The stud for drawer-pulls of this invention is exceedingly rigid in character, is strong and durable, and may be cheaply and readily manufactured.

It is to be understood that the invention is not to be limited to the precise contour of the parts shown, as these may be varied or changed and still be within the scope of the invention.

Having thus described the invention, what I claim is—

1. As a new article of manufacture, a stud for drawer-pulls constructed from a seamless tubular piece of metal having a head, a laterally-flattened body portion, a stop-flange constituting the terminal of the body, and a reduced interiorly-threaded shank.

2. As a new article of manufacture, a stud for drawer-pulls made from a seamless tubular piece of metal and having a rounded head, an intermediate body having flattened transversely-orificed sides terminating in a stop-flange with a shoulder formed adjacent thereto, said shoulder tapering into an interiorly-threaded shank.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

DANIEL W. TOWER.

Witnesses:

H. EMORY PEASE,  
CHAS. D. REEVE.