

J. H. F. CLIFTON.
CUTTING MACHINE.
APPLICATION FILED FEB. 3, 1909.

957,747.

Patented May 10, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

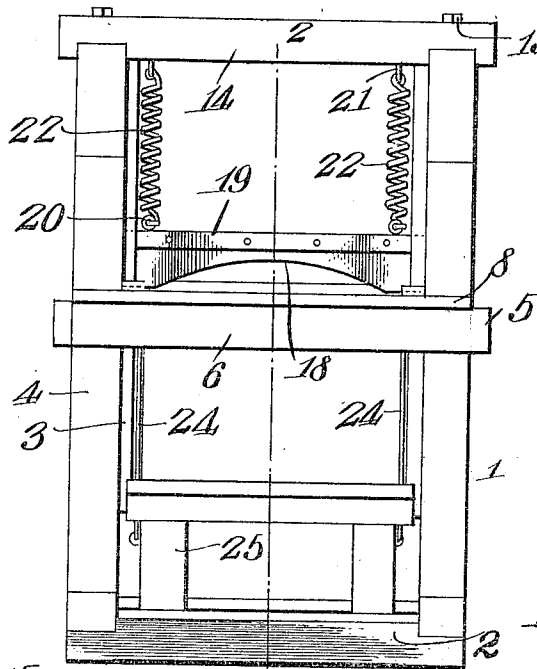


Fig. 5.

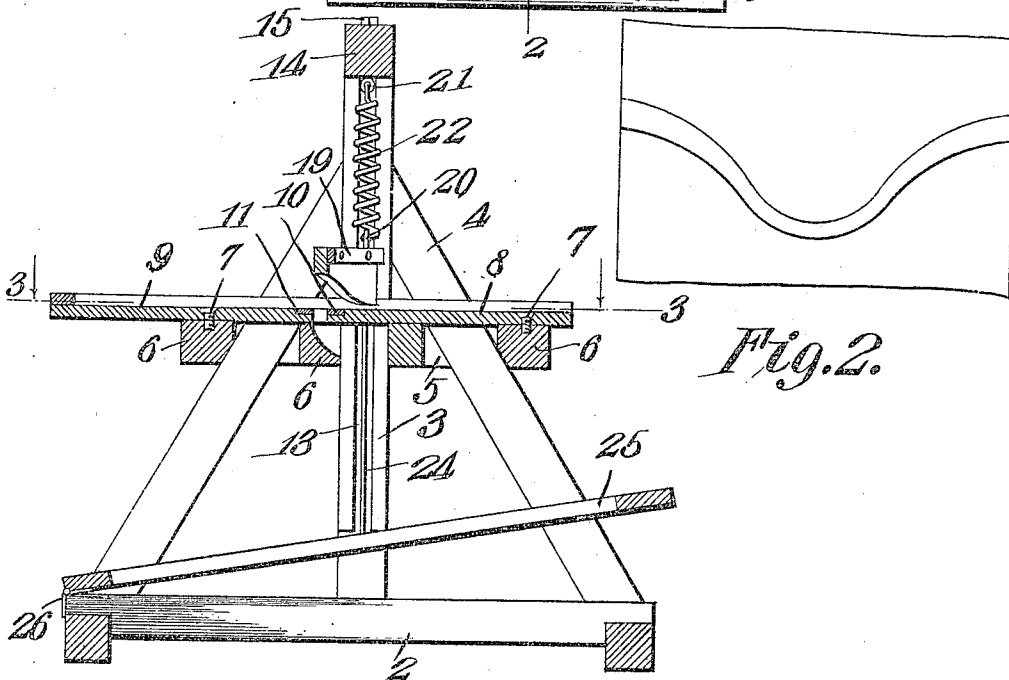


Fig. 2.

Witnesses

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James H. F. Clifton, Inventor

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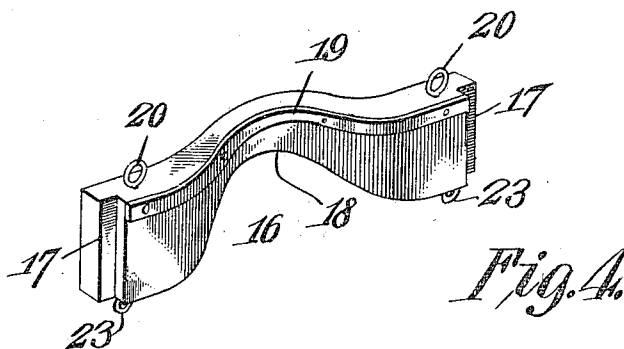
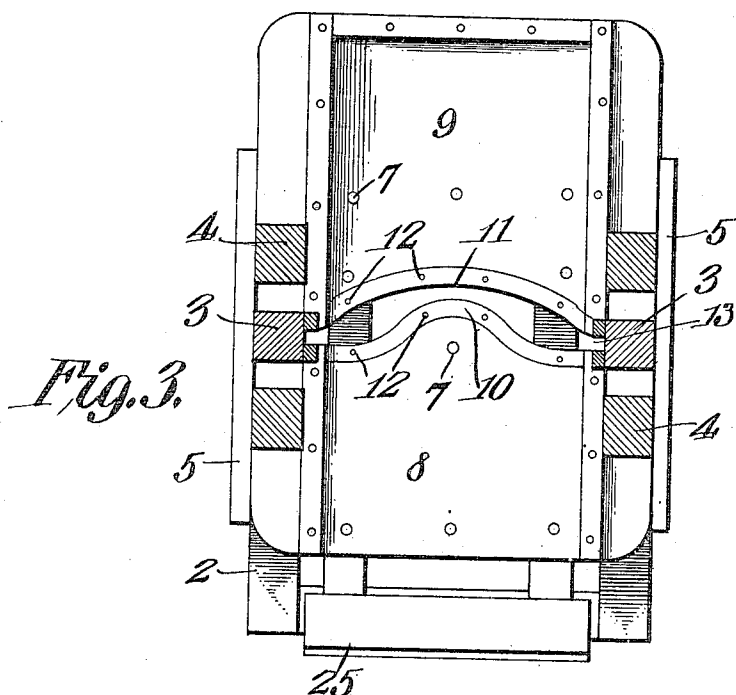
Attorney

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

JAMES H. F. CLIFTON, OF PILOTMOUNTAIN, NORTH CAROLINA.

CUTTING-MACHINE.

957,747.

Specification of Letters Patent.

Patented May 10, 1910.

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To all whom it may concern:

Be it known that I, JAMES H. F. CLIFTON, a citizen of the United States, residing at Pilotmountain, in the county of Surry and State of North Carolina, have invented new and useful Improvements in Cutting-Machines, of which the following is a specification.

This invention relates to improvements in machines for cutting sheet metal blanks for square elbows of round pipes, and the principal object of the invention is to devise a machine that will cut the blanks rapidly and economically and at the same time cut the edges thereof round and in the proper shape for forming the elbows.

With the above objects in view the invention resides in the novel and peculiar construction and formation of elements herein-after fully described and claimed.

In the accompanying drawings there has been illustrated a simple and preferred embodiment of the invention, but it is to be understood that minor details of construction within the scope of the following claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a front elevation of a machine construction in accordance with the present invention. Fig. 2 is a vertical longitudinal section upon the line 2—2 of Fig. 1. Fig. 3 is a horizontal sectional view upon the line 3—3 of Fig. 2. Fig. 4 is a perspective view of the knife. Fig. 5 is a plan view of the blank formed by the machine.

In the drawings the numeral 1 designates the frame of the machine. This frame comprises a substantially rectangular base portion 2 having its side members each provided with vertically extending posts 3 securely braced upon the base by the opposite angular bracing beams 4. Connected to the central members 3 and base members 4 are the horizontal members 5 which are also connected with the transverse members 6 so as to provide a skeleton table for the device. The outer transverse members 6 are each provided with suitable threaded orifices which are adapted for the reception of suitable threaded members 7 whereby the bed plates 8 and 9 are removably connected with the table of the device.

The bed plates 8 and 9 have their meeting faces spaced a suitable distance away from

each other and provided with cutting edges 10 and 11. These cutting or knife members are preferably formed of sheets of steel and secured to the edges of the bed plates through the medium of suitable retaining members 12. The cutting members 10 and 11 may be of any desired contour so as to correspond with the curved edges of the elbow to be formed by the machine. The bed plates 8 and 9, it will be noted, may be readily removed from the table of the machine and other plates having different cutting edges 10 and 11 may be readily substituted so as to arrange for elbows of different degrees of angles and sizes.

The vertical members 3 of the frame have their inner faces provided with centrally arranged vertical grooves 13 extending approximately their entire lengths, and the tops of these vertical members 3 are adapted to be engaged by a removable transverse beam 14, secured upon the tops of the members 3 through the medium of suitable bolts 15. Slidably mounted within the groove 13 of the members 3 is the knife or cutting element 16 of the machine. This element 16 is of a formation corresponding with that of the space between the cutting edges 10 and 11 of the bed plates 8 and 9 and has its sides provided with reduced portions 17 which are engaged within the slots or ways of the members 3. The lower or cutting face of the knife 16 has its central portion curved upwardly as designated by the numeral 18, and clearly illustrated in Figs. 1 and 4 of the drawings. By this arrangement it will be noted that as the knife is brought downwardly upon a sheet of metal it will be caused to cut the blank in a shearing manner, thus easily cutting the metal and at the same time preserving the life of the knife and cutting edges 10 and 11. The upper faces of the knife 16 may be provided with a reinforcing band 19 which not only serves to strengthen the knife but to limit the downward movement of the same between the spaces provided by the cutting edges 10 and 11. The top of the knife 16 is provided with suitable eyes 20 and the connecting beam 14 is also provided with similar alining eyes 21, and secured to these eyes 20 and 21 are helical springs 22, adapted to exert an upward pressure and sustaining the knife a suitable distance away from the bed plates 8 and 9.

The lower face of the knife member 16

adjacent its ends is provided with suitable eyes 23, and these eyes are adapted for engagement with depending rods 24. The rods 24 have their free extremities secured to a
5 foot pedal 25 having one of its ends pivotally connected with the base 2, as designated by the numeral 26.

From the above description, taken in connection with the accompanying drawings it
10 will be noted that I have provided a comparatively simple and inexpensive device for the purpose set forth, one wherein the cutting knife and cutting edges of the bed plates may be changed to construct pipe
15 elbow blanks having angles of various degrees and sizes and one wherein the metal from which the blank is formed is cut by a shearing action of the knife.

Having thus fully described the invention
20 what is claimed as new is:

1. The combination with a frame, a skeleton table upon the frame, removable bed plates upon the table, said bed plates being arranged in pairs and having their meeting
25 edges spaced from each other and provided with cutting plates, and a reciprocatory

knife member of a contour corresponding to the edges of the cutting plates adapted for movement within the space formed between the cutting edges of the bed plates. 30

2. The combination with a frame, a table upon the frame, a pair of removable bed plates upon the table, said bed plates having their meeting edges spaced apart and provided with cutting members, a reciprocatory knife
35 member upon the frame, resilient means for retaining the knife member above the bed plates, the knife member being of a contour to correspond with the space provided by the bed plates, said knife member having its
40 central portion upwardly curved, and a pivoted pedal upon the frame having a connection with the knife and adapted upon downward pressure to force the knife between the cutting edges of the bed plate. 45

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

JAMES H. F. CLIFTON.

Witnesses:

P. E. SIMMONS,
GORDON DENNY.