T. J. Van Benschoten,

Horse-Collar Machine.

No. 13,189. Patented July 3, 1855.

Fig. 2.

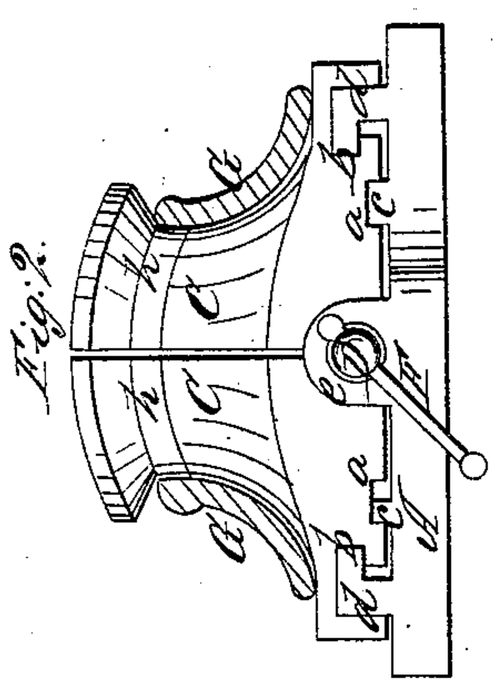


Fig. 4.

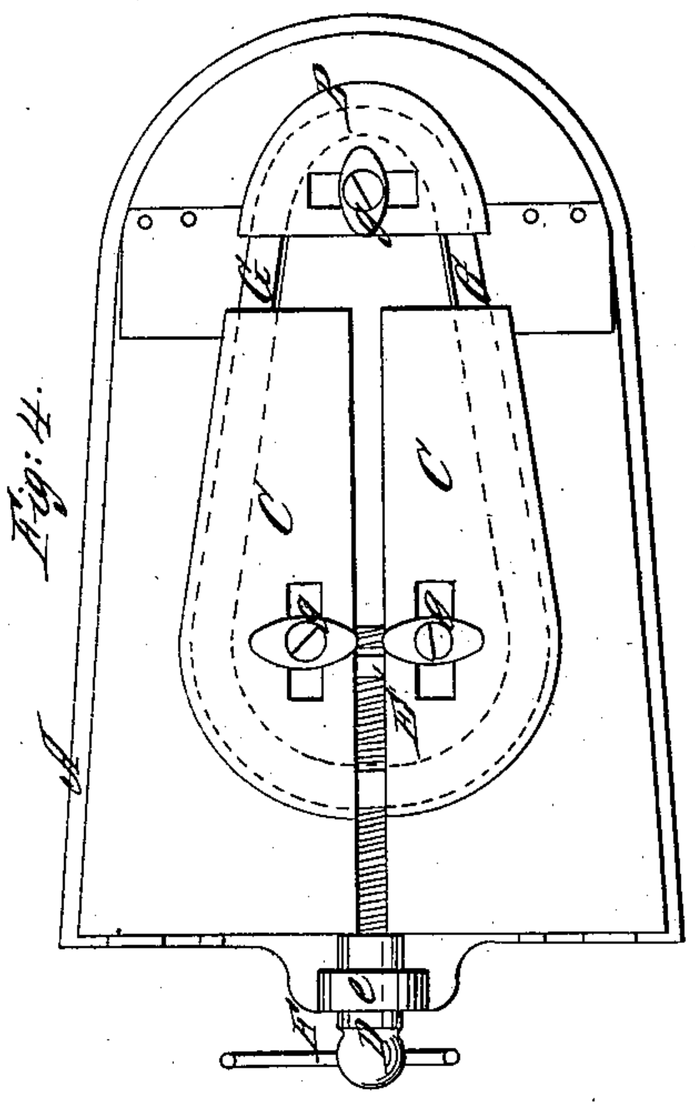


Fig. 1.

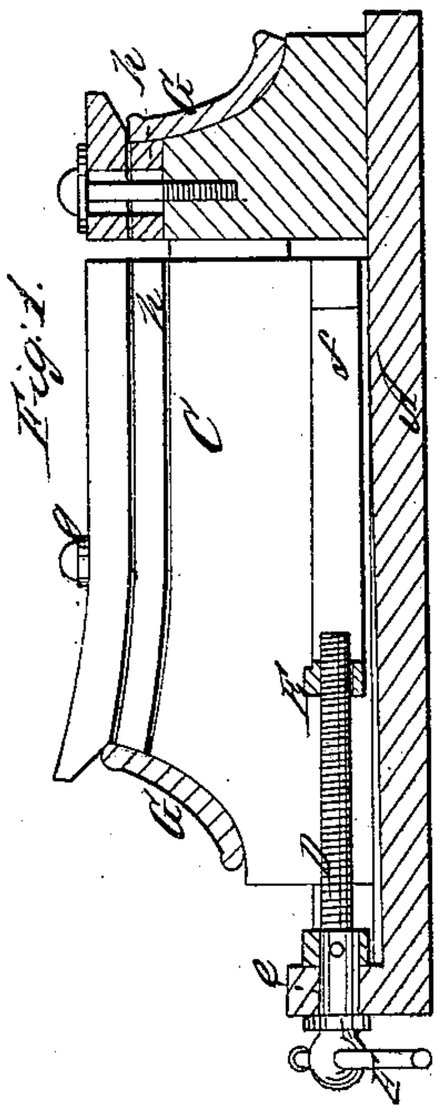
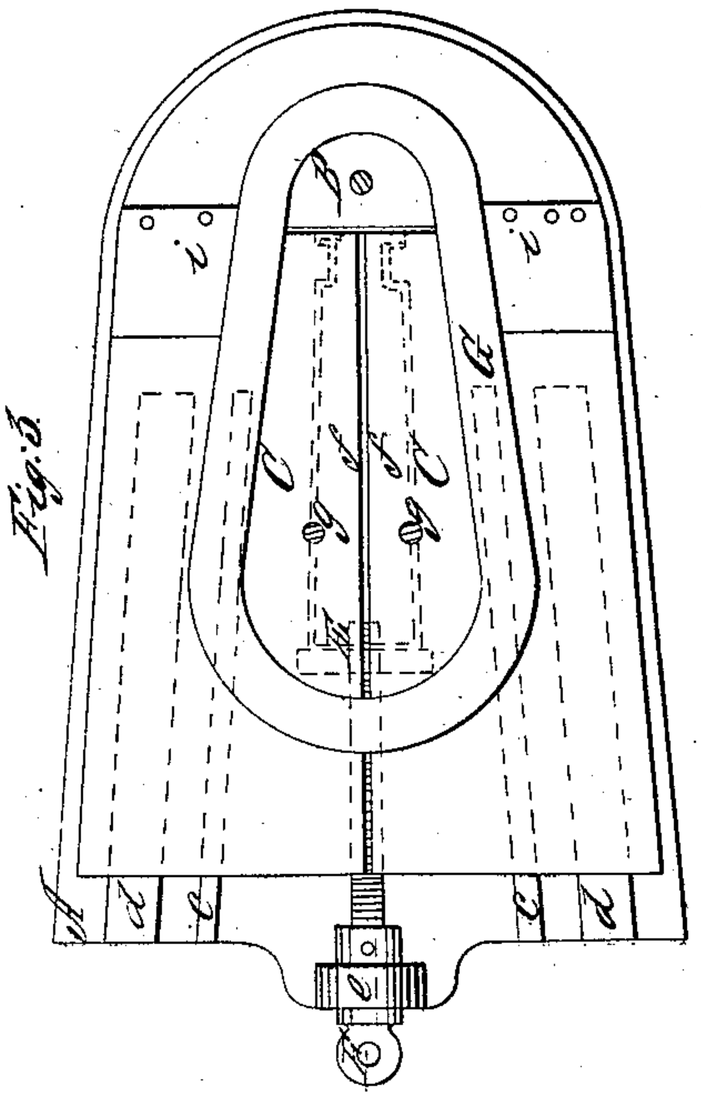


Fig. 3.



UNITED STATES PATENT OFFICE.

T. J. VAN BENSCHOTEN, OF POUGHKEEPSIE, NEW YORK.

HORSE-COLLAR BLOCK.

Specification of Letters Patent No. 13,189, dated July 3, 1855.

To all whom it may concern:

Be it known that I, T. J. VAN BENSCHOTEN, of Poughkeepsie, in the county of Dutchess and State of New York, have invented a new and Improved Adjustable Block for Stretching and Forming Horse-Collars; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a longitudinal vertical section of my improvement, the plane of section being through the center. Fig. 2, is a back view of ditto. Fig. 3, is a plan or top view of ditto, the jaws being closed, and the top plates of the jaws removed. Fig. 4, is also a plan or top view of ditto, the jaws being distended.

Similar letters of reference indicate corresponding parts in the several figures.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, represents a cast iron plate which may be permanently secured on a proper table or bench. The front end of this plate is of semi-circular form as shown clearly in Figs. 3 and 4, and the sides of the plate gradually expand or project outward from the front to the back end.

On the front end of the plate A there is a stationary jaw B, constructed of cast iron and permanently secured to the plate or cast with it. The upper part of the jaw B, is of semicircular form and its sides or edge is concave as shown in Fig. 1.

C, C, are movable jaws also constructed of cast iron. These jaws are of oblong shape, their back ends being rounded and their outer sides or edges gradually expanding or projecting outward from their front to their back ends, in short, the shape of the three jaws when in contact as shown in Fig. 3, correspond to the shape of a horse collar, the front stationary jaw B, corresponding to the top end of the collar, and the two movable jaws corresponding to the lower part, the sides or edges of the jaws being concave to correspond to the inner surface of the collar.

The under surfaces of the two movable jaws C, C, are provided each with recesses or grooves (*a*) (*b*) in which guides or ways (*c*) (*d*) on the upper surface of the plate A fit see Fig. 2, and dotted lines in Fig. 3. The guides on the ways (*c*) (*d*) are placed obliquely on the plate A or gradually expand or project outward from the front to the back end of the plate A, as shown by the dotted lines in Fig. 3.

D, represents a screw rod which works in a bearing (*e*) at the back end of the plate A. The screw rod is fitted between the lower parts of the two movable jaws C, C, and has a nut E upon it to which nut two spring arms (*f*) (*f*) are attached, the outer ends of the spring arms being attached to the front ends of the movable jaws C, C, at their lower parts, see Fig. 1, and dotted lines in Fig. 3. The outer end of the screw rod is provided with an arm or lever F. On the upper surface of each jaw there is attached by a screw (*g*) one or more plates (*h*), see Figs. 1 and 2. These plates correspond to the shape of the jaw to which they are attached and are for the purpose of increasing the thickness of the jaws so that they may correspond to the size of the collar to be stretched or formed. These plates may be constructed of cast iron, and of various thicknesses, and more or less of them used according to the size of the collar.

The jaws C, C, are moved up to the stationary jaw B, by operating the screw rod D, and the collar, represented by G, is placed over the three jaws C, C, B, the screw rod D, is then turned from left to right and the two jaws C, C, are moved in consequence backward and outward owing to the oblique position of the ways or guides (*c*) (*d*) and the collar G, is stretched or formed to the desired size and shape.

To the stationary jaw B, at each side there is attached a metallic plate (*i*) corresponding in form to the edges of the jaws. These plates form an unbroken edge or surface all around the jaws when the jaws are distended, see Fig. 4.

Now it will be observed that by this arrangement and operation together of the obliquely sliding jaws (C C) effecting simultaneously the longitudinal and lateral stretch of the collar gradually and uniformly along either side of the collar through the greatest portion of its length and toward the broadest end of the collar where the capacity for stretching is greatest, while the narrow and front or upper end of the collar is firmly held by the stationary jaw (B),—no undue

pressure or stretch in any one part will occur, the stretching action laterally and longitudinally is smoothly and evenly effected by the longitudinal pressure or rub of the oblique sliding jaws along either side of the collar whose form by this extended and even pressure is better preserved while the work is performed with increased facility; and by the arrangement shown and described of the operating screw nut (E) with the sliding jaws (C) by its attachment thereto by the spring arms (*f*), it will be observed that the greatest freedom of action is insured to the sliding jaws, (C) and that the screw nut, having no other bearing or friction surface than that which it has on the screw rod itself, presents no restriction whatever to the lateral as well as the longitudinal and free and independent actions of the two oblique sliding jaws on their ways.

I claim nothing new in the arrangement of the one screw rod between the two jaws, nor yet in the mere arrangement of the three jaws or blocks and the effecting of a longitudinal and lateral stretch to the collar by the one operation of the screw; when these parts have been differently operated, as such have before been used, but

What I do claim as new and useful herein, and desire to secure by Letters Patent, is—

1. The arrangement and operation together, substantially as shown and described, of the obliquely sliding back jaws (C) along either side or edge of the collar on its interior, with the stationary front jaw to the narrow or upper end of the collar as and for the purposes set forth and whereby the advantages herein specified are obtained.

2. And I further claim giving to the obliquely sliding jaws (C), acting separately but in concert, increased freedom of action or play on their ways to effect simultaneously the lateral and longitudinal stretch of the collar, by connecting the freely supported operating screw-nut (E) with the obliquely sliding jaws by spring arms (*f*) as herein set forth.

T. J. VAN BENSCHOTEN.

Witnesses:
SILAS E. HAIGHT,
JEREMIAH DUBOIS.