No. 856,730. PATENTED JUNE 11, 1907.

S. W. REYNOLDS.

SPOT SETTING MACHINE.

APPLICATION FILED FEB. 17, 1906.

Fig. 1.

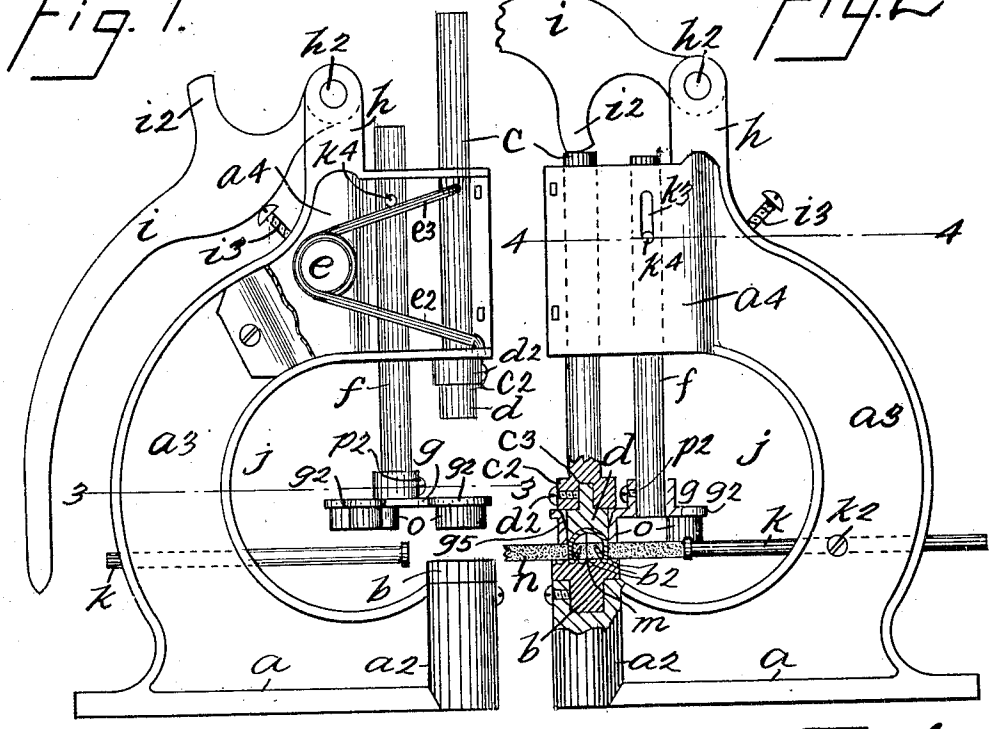


Fig. 2.

Fig. 3.

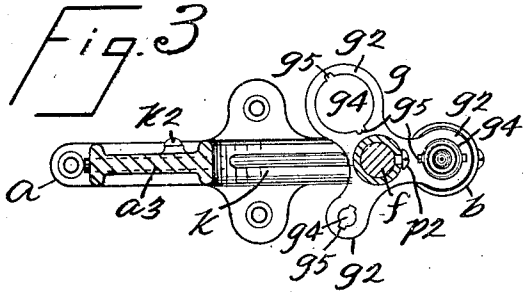
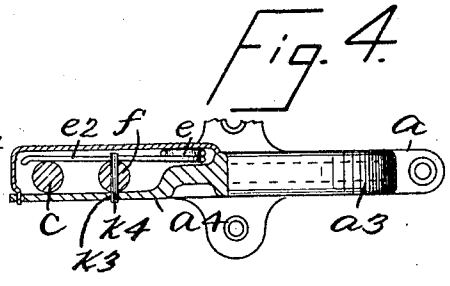


Fig. 4.



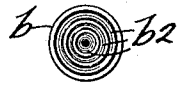


Fig. 5.

Fig. 6.

Fig. 7.

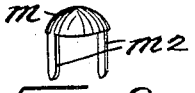


Fig. 8.

WITNESSES

J. C. Larsen

F. A. Stewart

INVENTOR

Samuel W. Reynolds,

BY Edgar Tate & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

SAMUEL W. REYNOLDS, OF WEST TOLEDO, OHIO.

SPOT-SETTING MACHINE.

No. 856,730. Specification of Letters Patent. Patented June 11, 1907.

Application filed February 17, 1906. Serial No. 301,711.

To all whom it may concern:

Be it known that I, SAMUEL W. REYNOLDS, a citizen of the United States, and residing at West Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Spot-Setting Machines, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to machines for setting what are known as "spots" or ornamental buttons on harness, and the object thereof is to provide an improved machine of this class by means of which "spots" or ornamental buttons of various sizes and shapes may be quickly and easily secured to the various parts of harness or to a bridle or to a saddle wherever desired.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which;—

Figure 1 is a side view of my improved spot setting machine with part of the construction broken away; Fig. 2 a similar view of the reverse side thereof, part thereof being in section; Fig. 3 a horizontal section on the line 3—3 of Fig. 1; Fig. 4 is a horizontal section on the line 4—4 of Fig. 2; Fig. 5 a plan view of an anvil which forms a part of the machine; Fig. 6 a side view of one form of a plunger head which I employ; Fig. 7 a similar view of another form of plunger head; and, Fig. 8 a perspective view of one form of a "spot" or button.

In the practice of my invention I provide a machine of the class specified comprising a base a the front end portion of which is provided with a vertically arranged support a^2, which is preferably cylindrical in cross section and which is designed to support an anvil and in which is mounted a detachable anvil b, which is shown in section in Fig. 2 and a plan view of which is given in Fig. 5, and said anvil, in the form of construction shown, is provided with a plurality of annular grooves b^2, three of which are shown. The base a is also provided at the end thereof opposite the anvil support a^2 with an upwardly and forwardly curved arm a^3 having a head a^4 the front portion of which is directly over the anvil b when the latter is in position, and mounted in the head a^4 is a vertically movable plunger c provided at its lower end with a head c^2 in which is a socket c^3 adapted to receive the shank of a detachable plunger head or spotting head d which is held in place by a set-screw d^2 and which is shown in section in Fig. 2 and in side view in Fig. 7, and the bottom surface or face of which is concave in cross section, in the construction shown.

The plunger c is in vertical line with the axis of the anvil b when the latter is in position, and placed in the head a^4 and secured therein in any desired manner, is a spring e one arm e^2 of which bears on the bottom of the head a^4 and the other arm e^3 of which is secured to the plunger c, and said spring normally operates to hold said plunger c in its raised position as shown in Fig. 1. Within the head a^4, parallel with the plunger c and between the same and the arm a^3, is a supplemental plunger f with the lower end of which is connected a "spot" or button receiver g having a plurality of arms g^2 which, in the form of construction shown, are three in number, and these arms are provided with circular openings g^4 of different sizes and in the opposite side walls of which are recesses g^5. The head a^4 of the arm a^3 is also provided adjacent to the vertically movable plunger f with an upright support or ears h to which is pivoted an arm i provided at a predetermined distance from the pivotal support of said arm at h^2 with a projecting member i^2 which is adapted to operate in connection with the upper end of the plunger c, and the arm a^3 or the head a^4 thereof, in the form of construction shown, is provided with a pin, projection or support i^3 against which said arm rests when not in use so that the free end thereof will be out of contact with the arm a^3 and in a position to be easily grasped by the hand.

The form of the arm a^3 and of the head a^4 is such that a transverse open space j is formed between the anvil support and the head a^4, and mounted in the base portion of the arm a^3 is a horizontally movable gage bar k which may be adjusted to any desired position and held therein by a set screw k^2. The head a^4 is provided in one side with a vertically arranged slot k^3 and the plunger f is provided with a pin k^4 movable in said slot and on which the arm e^3 of the spring e bears, and the said spring therefore also serves to hold the plunger f in a raised position.

In Fig. 8 of the drawing I have shown at m

one form of a "spot," or ornamental button, which is made of sheet metal and comprises a convexo-concave head having depending fingers or hook members m^2, and in Fig. 2 of the drawing I have shown at n a sheet, strap or other piece of leather to which it is desired to secure the "spots" or buttons. In practice one of the buttons is placed in the circular opening g^4 in one of the arms g^2 of the "spot" or button receiver g, and in this operation the "spot" or button is so manipulated that the fingers or hook members m^2 pass downwardly through the recesses g^5. The strap or piece of leather n is then placed on the anvil b and the arm i is swung over until the member i^2 thereof strikes on the upper end of the plunger c and said arm is moved downwardly, and in this operation the plunger f moves downwardly by gravity until the fingers or hook members m^2 of the "spots" or buttons rest on the leather n, at which time the arm i is further depressed in which operation the plunger c is forced downwardly as shown in Fig. 2, and the fingers or hook members m^2 of the "spot" or button m are forced through the leather and into one of the annular grooves in the anvil b and are turned or forced upwardly again into the leather as clearly shown in Fig. 2, and this operation results in permanently securing the "spot" or button to the leather.

The arms g^2 of the "spot" or button receiver g are provided around the circular openings g^4 in the ends thereof with depending collars or flanges o in which the recesses g^5 are also formed, and this construction facilitates the placing of the "spots" or buttons and the proper holding thereof in position as will be readily understood. It will also be understood that the "spot" or button receiver g is rotatable and adjustable on the plunger f, being held thereon by a set screw p^2, and said "spot" or button receiver may be turned or rotated so as to bring either of the arms g^2 over the anvil b. The "spots" or buttons m may be of any desired size and shape and need not necessarily be circular in form, or convexo-concave in section, and in Fig. 6 I have shown at p a modification of the plunger head or spot setter d which is cylindrical in form and designed for use in connection with very small "spots" or buttons. It will be understood, however, that the spot setting head or plunger head d may be made of any desired form, size or shape, and various changes in and modifications of other features of construction shown and described may be made without departing from the spirit of my invention or sacrificing its advantages. The head a^4 of the arm a^3 is herein shown hollow in order to permit of the placing therein, and operation of, the spring e, and it will be understood that changes in this part of the machine may be made within the scope of my invention.

Although I have shown and described my invention as a machine for setting "spots" or ornamental buttons on harness, the said machine may be used as a rivet setting machine and for similar purposes, and instead of operating the plungers by means of the arm i, the said plungers may be operated by foot power or by any other suitable means.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A machine of the class described, comprising a frame provided with an anvil support, an anvil mounted on said support and provided in the top surface thereof with annular grooves, two vertically movable plungers one of which is mounted directly over said anvil and the other at one side thereof, the last named plunger being provided at its lower end with a rotatable "spot" or button receiver having a plurality of arms, and the plunger which is directly over the anvil being provided in its lower end with a removable plunger head, substantially as shown and described.

2. In a spot setting machine, a frame provided with an anvil support, an anvil having a plurality of annular grooves in the top surface thereof, a gage bar movable longitudinally toward and from the anvil, two plungers mounted over the anvil, one of which is in vertical line therewith and the other at the side thereof, the first named plunger being provided with a detachable plunger head and the other with a rotatable "spot" or button receiver, and means for operating said plungers, substantially as shown and described.

3. In a spot setting machine, a frame provided with an anvil support, an anvil having a plurality of annular grooves in the top surface thereof, a gage bar movable longitudinally toward and from the anvil, two plungers mounted over the anvil, one of which is in vertical line therewith and the other at the side thereof, the first named plunger being provided with a detachable plunger head and the other with a rotatable "spot" or button holder, and means for operating said plungers, comprising a spring for holding both of said plungers in their released positions, and a pivoted arm adapted to be operated to depress one of said plungers in which operation the other plunger descends by gravity, substantially as shown and described.

4. A spot setting machine, comprising a frame provided with an anvil support, an anvil mounted on said support and provided with annular grooves in the top surface thereof, a vertically movable spring supported plunger mounted over said anvil and provided in its lower end with a plunger head, another vertically movable spring supported plunger mounted adjacent to the first named plunger and provided at its lower end with a rotatable "spot" or button receiver having a plurality of arms, and means for operating

said plungers, substantially as shown and described.

5. A machine of the class described provided with an anvil having a plurality of annular grooves in the top surface thereof, and a vertically movable support or plunger provided at its lower end with a rotatable support having a plurality of arms provided with openings, substantially as shown and described.

6. In a machine of the class described, comprising a frame provided with an anvil support, an anvil mounted thereon, two vertically movable plungers, one of which is mounted directly over said anvil, and the other at one side thereof, the last named plunger being provided at its lower end with a rotatable "spot" or button receiver having a plurality of arms, and the plunger which is directly over the anvil being provided at its lower end with a plunger head, substantially as shown and described.

7. A machine of the class described, comprising a frame provided with an anvil support, a vertically movable spring supported plunger mounted over said anvil support, another vertically movable spring supported plunger mounted adjacent to the first named plunger and provided at its lower end with a rotatable device having a plurality of holders or receivers, and means for operating said plungers, substantially as shown and described.

8. A machine of the class described, comprising a frame provided with an anvil having an annular groove, two vertically movable plungers mounted over said anvil and supported by a single spring, one of said plungers being in line with said anvil, and the other plunger being provided at its lower end with a rotatable device having a plurality of arms.

9. A machine of the class described, comprising a frame provided with an anvil having an annular groove, two vertically movable plungers mounted over said anvil and supported by a single spring, one of said plungers being in line with said anvil, and the other plunger being provided at its lower end with a rotatable device having a plurality of arms, and a horizontally movable gage mounted parallel with the top of the anvil.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 25th day of January 1906.

SAMUEL W. REYNOLDS.

Witnesses:

L. H. WILKINSON,

MARY L. LICHTIE.