P. B. TAYLOR.

BUFFING MACHINE.

APPLICATION FILED MAY 4, 1906.

928,164. Patented July 13, 1909.

3 SHEETS—SHEET 1.

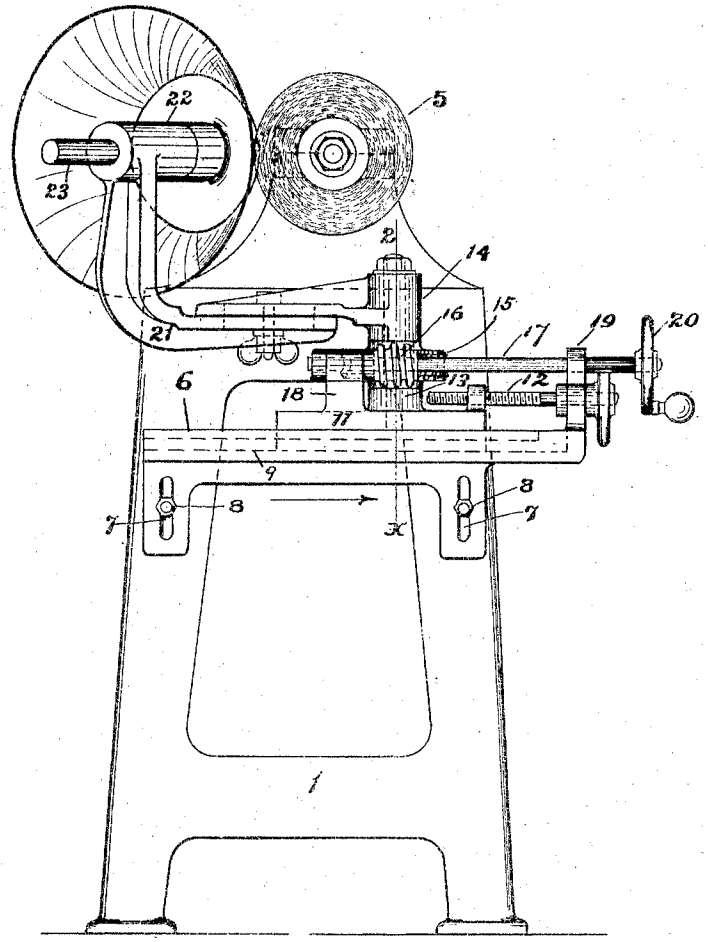


Fig. 1.

WITNESSES

Frederick Germaney.

Ethel B. Reed.

INVENTOR

PERCY B. TAYLOR.

BY

Russell M. Everett.

ATTORNEY

P. B. TAYLOR.

BUFFING MACHINE.

APPLICATION FILED MAY 4, 1908.

928,164. Patented July 13, 1909.

3 SHEETS—SHEET 2.

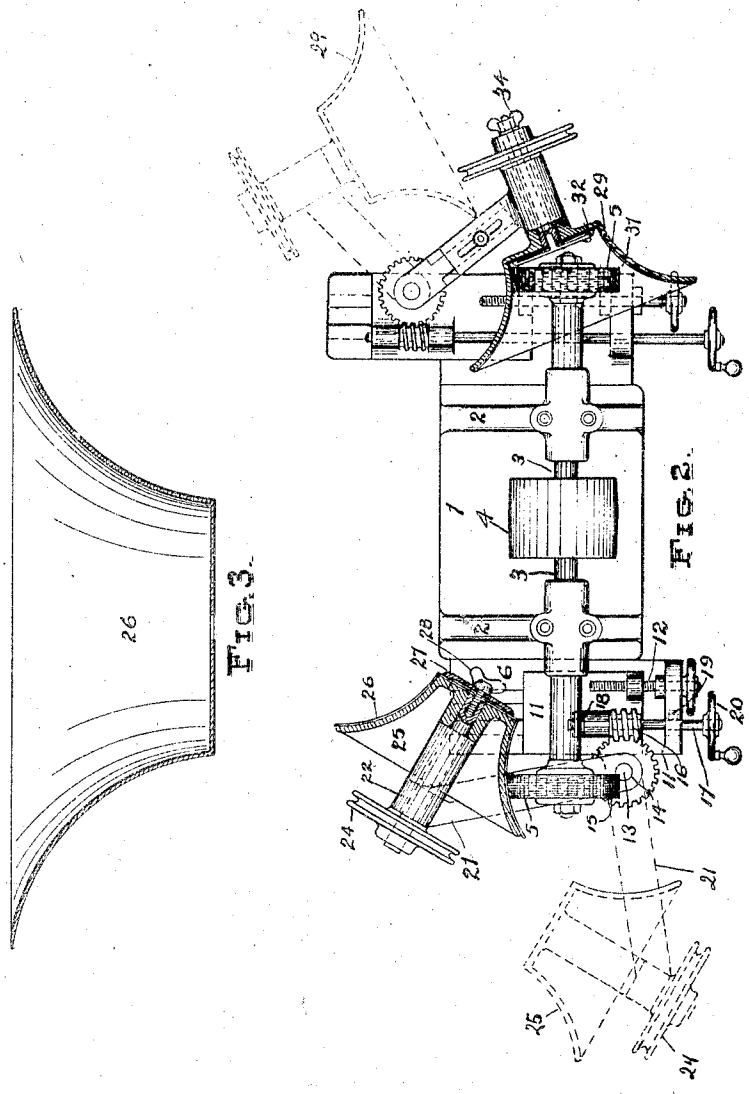


Fig. 2.

Fig. 3.

WITNESSES

Frederick Germanus

Ethel B. Reed.

INVENTOR

PERCY B. TAYLOR.

BY

Russell M. Everett

ATTORNEY

P. B. TAYLOR.

BUFFING MACHINE.

APPLICATION FILED MAY 4, 1906.

928,164.

Patented July 13, 1909

3 SHEETS-SHEET 3.

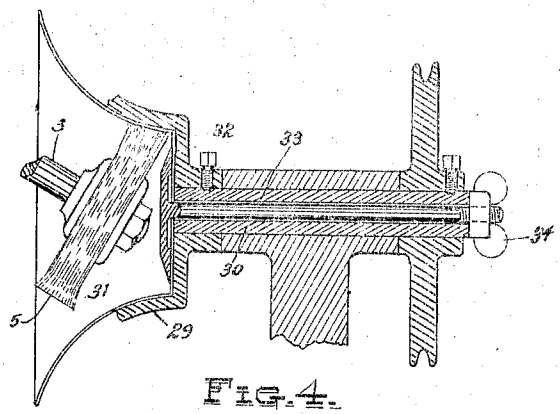


Fig. 4.

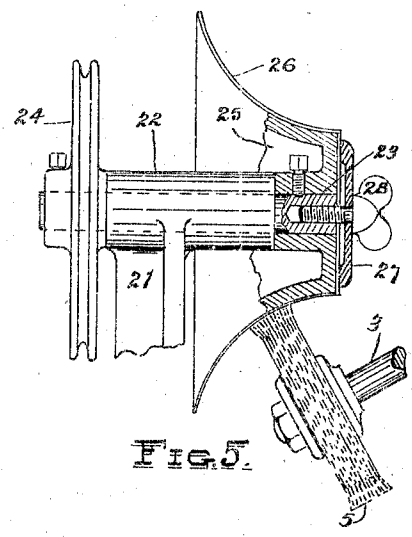


Fig. 5.

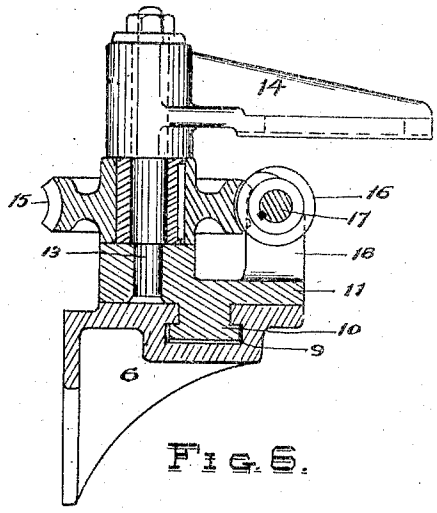


Fig. 6.

WITNESSES

Frederick Germany.

Ethel B. Reed.

INVENTOR

PERCY B. TAYLOR.

BY

Russell M. Everett.

ATTORNEY

UNITED STATES PATENT OFFICE.

PERCY B. TAYLOR, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE TEA TRAY COMPANY OF NEWARK, N. J., A CORPORATION OF NEW JERSEY.

BUFFING-MACHINE.

No. 928,164. Specification of Letters Patent. Patented July 13, 1909.

Application filed May 4, 1906. Serial No. 315,211.

To all whom it may concern:

Be it known that I, PERCY B. TAYLOR, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented a new and useful Buffing-Machine, of which the following is a specification.

The objects of this invention are to facilitate the buffing of bells for amplifying horns, and particularly to enable both the outer and inner surfaces to be readily reached; to provide for this purpose a device which can be either used independently or applied to any regular type of buffing stand; to secure freedom of adjustment, and to obtain other advantages and results which may be brought out in the following description.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in each of the several figures, Figure 1 is an end elevation of my improved machine; Fig. 2 is a plan of the same partly in section; Fig. 3 is a sectional view of a bell to be buffed; Fig. 4 is a detail sectional view of the chuck for buffing the interior of the bell, and showing also the said bell and buffing wheel; Fig. 5 is a detail of the chuck for buffing the exterior of a bell, partly in section to show the clamp for holding a bell to the chuck, and Fig. 6 is a section upon line *x*, Fig. 1.

In said drawings, 1 indicates a suitable frame which may be of any construction commonly used in buffing machines and providing at its top raised bearings 2, 2, in which is mounted or journaled a horizontally disposed shaft 3, which is shown in the drawings as having at its middle portion a belt pulley 4 and at its opposite ends buffing wheels 5, 5, and which buffing wheels thus have fixed locations at the ends of the frame 1.

Upon one end of the frame 1 is mounted a transverse bracket or auxiliary frame 6 which is preferably adjustable in height by means of vertical slots 7 through which its holding bolts 8 pass. In the top of the said auxiliary frame 6 is a slideway 9 adapted to receive a suitable foot or base 10 upon the carriage 11, which is thus adapted to be adjusted transversely of the main frame 1 as by means of a screw 12. Upon a vertical post 13 upon the said carriage is a rotatable bracket 14, and beneath the hub of said bracket is a worm wheel 15 fast with respect thereto and adapted to turn the same, preferably by means of a worm 16 arranged upon a shaft 17 which has bearings 18, 19 upon the said carriage and auxiliary frame respectively, and is provided at its outer end with a hand-wheel 20. The said bracket 14 has connected to itself an extension or arm 21 which bends upward and provides substantially in the plane of the buffing wheel shaft 3 a bearing 22 for a spindle 23. The spindle carries at its outer end the driving pulley 24 and at its inner end a chuck 25 suitably shaped to receive the bell or similar article to be buffed. This chuck 25 I have shown in the drawings as formed to receive upon itself the bell 26 of a horn which is to be polished or buffed upon its outer surface, and to this end the bell 26 incloses the said chuck and is held thereon by a clamp 27 and screw 28 extending into the spindle.

A belt (not shown) extending onto the pulley 24 enables the bell or article to be buffed, to be rotated, and the worm wheel and worm 15, 16, enable the chuck and spindle to be shifted as a whole to bring different points of the bell into contact with the buffing wheel; adjustment of the carriage 11 permits the contact of the work with the buffing wheel to be varied, and furthermore the connection of the bracket 14 and arm 21 is by means of slotting the two said numbers and passing a clamping screw therethrough, so that still further adjustment is possible. This last adjustment is for the purpose of accommodating different sizes of bells and is changed only when the size of the bells changes. The adjustment of the carriage 11 regulates the pressure of the bell against the buffing wheel and would probably be set each time a bell is put on; it would also be used in case of uneven spots on a bell and to accommodate changes in size of the buffing wheel or of various curvatures of bells. Obviously, the movement of the chuck by means of hand wheel 20 acting through shaft 17, worm 16, and worm wheel 15, might also be effected automatically by means of gearing and probably would be so done in actual practice.

It will be understood that the apparatus described is for buffing the outer surface of a bell, and while I might provide for use upon the same spindle another chuck for buffing the inside of a bell, I prefer for convenience sake another chuck upon the opposite end of the buffing machine and which is driven and

adjusted precisely as has already been described in connection with the chuck 25. This second driving and adjusting means will therefore not be described in detail, but the chuck itself 29, flares outwardly away from the end of the spindle 30 and is thus cup-shaped to receive within itself a bell 31. A clamp 32 lies upon the bottom of said bell in the bottom of said chuck, and the stem 33 of said clamp extends through the spindle to receive a wing-nut 34 at the outer end thereof.

While I have designed this machine particularly for work upon the bells of amplifying horns, it is obvious that the same might be employed upon other articles.

Having thus described the invention, what I claim as new is;

1. In a buffing machine, the combination of a frame, a horizontally disposed shaft journaled in said frame, a buffing wheel on said shaft, a vertical post on said frame, a bracket projecting pivotally from said post, an arm on said bracket longitudinally adjustable with respect thereto, a chuck rotatably mounted on said arm with its axis in substantially horizontal plane, means for swinging said bracket, and means for rotating said buffing wheel shaft and chuck independently.

2. In a buffing machine, a buffing wheel having a fixed location, a chuck having a curved surface, an adjustable bracket adapted to rotatably support said chuck and being pivoted at the center of curvature of said curved surface of the chuck, means for swinging said bracket, and means for rotating said buffing wheel and said chuck.

3. In a buffing machine, the combination of a chuck having a surface flaring on curved lines, a spindle having said chuck removably fast thereon, an arm in which said spindle is journaled, a bracket pivoted at substantially the center of curvature of the said lines of flaring of the chuck surface, means connecting said arm and bracket and enabling the same to be adjusted with respect to each other to the radii of curvature of different chucks, a buffing wheel, and a supporting frame.

4. In a buffing machine, a combination with a frame and a bracket pivoted thereon, of a spindle journaled in said bracket, a cup-like chuck fast on said spindle having its side surfaces flaring on curved lines and a transverse end, a clamping plate adapted to lie against said end, and means extending centrally through said clamping plate into the spindle of the chuck for tightening the clamping plate against said chuck.

5. The combination with a frame, a horizontally disposed shaft journaled in said frame and a buffing wheel on said shaft, of a carriage horizontally slidable on said frame in a direction transverse to the buffing wheel shaft, a screw shaft for sliding said carriage and holding the same at any desired point, a vertical post on said carriage, a bracket pivoted on said post, an arm extensibly connected with said bracket, a chuck rotatably mounted on said arm with its axis in substantially horizontal plane, means for swinging said bracket, and means for rotating said buffing wheel shaft and chuck independently.

6. The combination with a frame, a horizontally disposed shaft journaled in said frame and a buffing wheel on said shaft, of an auxiliary frame vertically adjustable upon said main frame and providing at its upper part a horizontal slideway extending transversely of the said buffing wheel shaft, a carriage in said slideway, means for sliding said carriage and holding the same at any desired point, a vertical post on said carriage, a bracket pivoted on said post, an arm extensibly connected to said bracket, a chuck rotatably mounted in said arm with its axis in substantially horizontal plane, means for swinging said bracket, and means for rotating said buffing wheel shaft and chuck independently.

PERCY B. TAYLOR

Witnesses:

HERMAN D. JACKES,

FREDERICK GERMANY.