(No Model.) 2 Sheets—Sheet 1.

W. H. BRYANT.

STEAM COMPRESS.

No. 494,701. Patented Apr. 4, 1893.

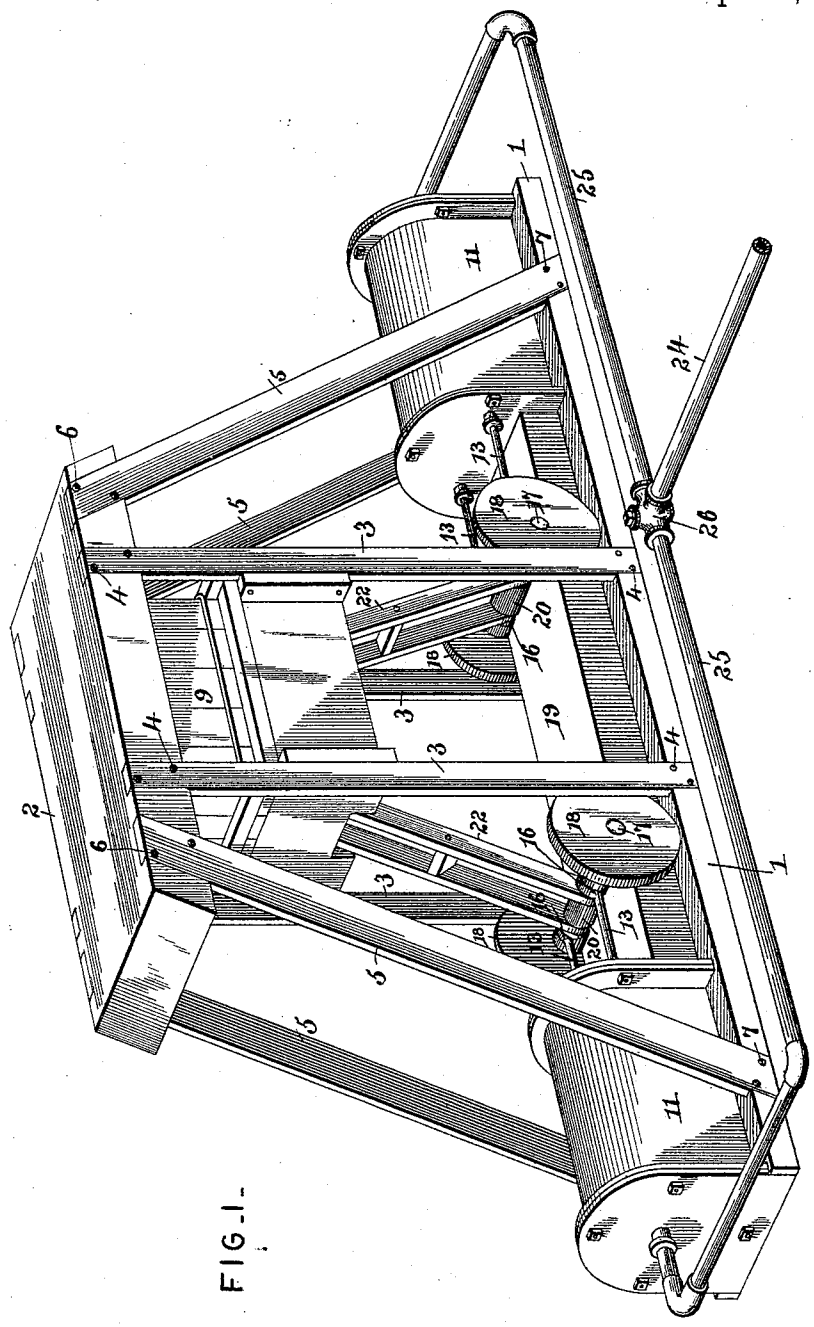

FIG. 1.

Witnesses

Jas. K. McCathran

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Inventor

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(No Model.) 2 Sheets—Sheet 2.

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STEAM COMPRESS.

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FIG. 2.

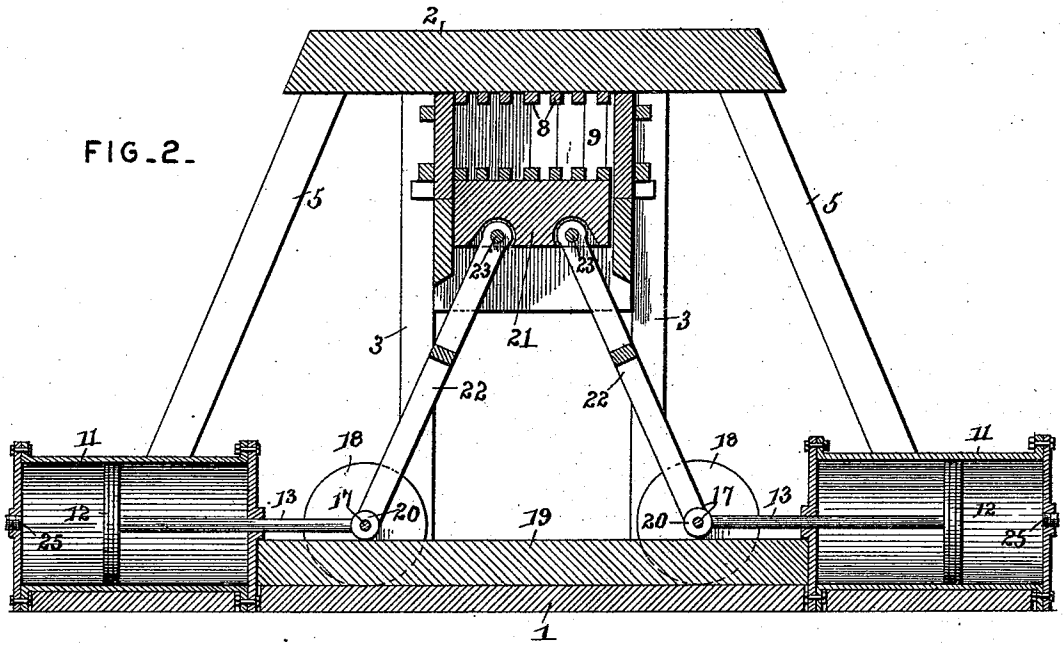


FIG. 3.

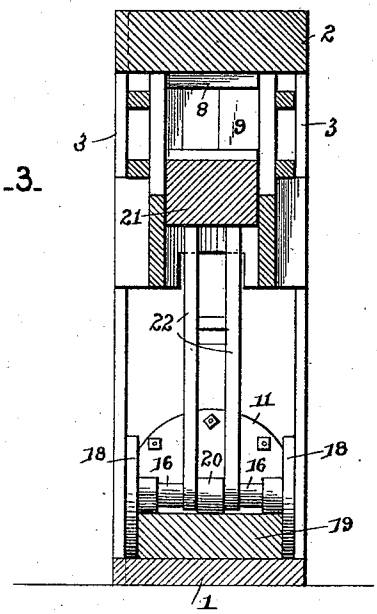
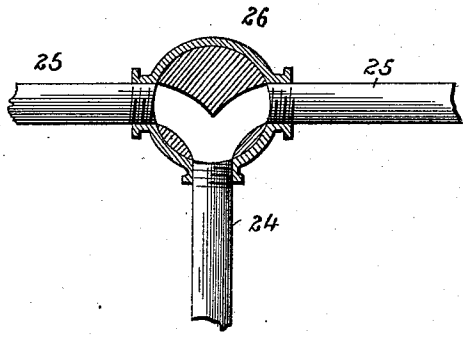


FIG. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM HODGE BRYANT, OF CLARKSVILLE, TEXAS, ASSIGNOR OF ONE-HALF TO N. D. TRILLING, J. B. RAINEY, A. L. GAINES, R. M. WEAVER, AND JOHN W. O'NEILL, OF SAME PLACE.

STEAM-COMPRESS.

SPECIFICATION forming part of Letters Patent No. 494,701, dated April 4, 1893.

Application filed May 31, 1892. Serial No. 435,019. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HODGE BRYANT, a citizen of the United States, residing at Clarksville, in the county of Red River and State of Texas, have invented a new and useful Steam-Compress, of which the following is a specification.

My invention relates to improvements in steam compresses for compressing bales of cotton, for the purpose of reducing them to the standard size and density; the objects in view are to provide a compress of great simplicity, embodying no complicated mechanisms, that will be strong, durable, and powerful.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claim.

Referring to the drawings: Figure 1 is a perspective view of a cotton compress constructed in accordance with my invention. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a transverse section through the center. Fig. 4 is a detail in section of the valve for controlling the steam-supply to the cylinders.

Like numerals of reference indicate like parts in all the figures of the drawings.

In practicing my invention, I provide an oblong base 1, and from the opposite edges thereof at each side of its center rises an upright or post 3, making a series of four in all. These four posts support a superimposed head 2, the ends of which extend beyond the posts, as shown. The posts and heads are suitably jointed and bolted together, at 4, and in a similar manner are the upper ends of opposite pairs of inclined braces 5, jointed and bolted at 6 to the said head beyond the posts or uprights, and also jointed and bolted at 7 to the base 1 near its ends. The head 2 carries upon its under side, between the uprights 3, the head-block 8, and the same is surrounded by the casing forming the baling chamber 9, which is supported by the uprights or posts 3, and, as usual, provided with suitable doors through which the bale may be introduced into the chamber before compressing and removed therefrom after compressing.

Upon the base 1, at its ends and between the inclined braces 5, steam-cylinders 11 are located, and said cylinders have mounted for movement therein piston-heads 12. From each head extends inwardly toward the center of the press a pair of piston-rods 13, which terminate at their front or outer ends in perforated heads or collars 16. These collars form a bearing for a pair of transverse shafts or axles 17. Upon the extremities of the axles wheels 18 are journaled, the same moving upon the base 1. A raised track 19 is located between the pairs of wheels 18, under the axles or shafts 17, and between the adjacent ends of the cylinders, and upon this track runs a pair of rollers 20, one of which is mounted upon each of the axles 17.

Mounted for vertical reciprocation in the baling-chamber is the plunger or follower 21, which is supported by opposite pairs of levers 22, pivoted at 23 in recesses formed in the bottom of the plunger and having their lower ends embracing the rollers 20, and provided with bearing-openings for the reception of the shafts or axles 17.

24 designates the main steam supply-pipe, and from the same extend branch pipes 25, each one of which leads to the rear or outer end of a steam cylinder. At the intersection of the three pipes, a three-way valve 26 is located, and by manipulation of the same, steam may be simultaneously directed through the main steam pipe equally to the two branches, and consequently the cylinders.

In operation, the steam being exhausted from the cylinders, the weight of the plunger will cause the same to lower, the wheels moving rearwardly or outwardly upon the tracks, and the levers 22 assuming an inclined position. A bale of cotton is inserted into the baling-chamber and the valve manipulated, so as to admit equal quantities of steam to the two cylinders. The expansion of the steam forces the piston-heads toward their inner ends and, through the medium of the pistons, the levers are brought nearer to a vertical position, and consequently the plunger, together with the bale, elevated, and the latter meeting with the head-block is compressed between the plunger and head-block.

It will be seen that I have provided a compress of great simplicity, strength, and durability, as well as one of great power and adapted to effectually reduce the bales to standard sizes and density; and, furthermore, that by the tracks and supporting-wheels, the pistons are relieved of any lateral strain, always remain true, and the movements of the parts are rendered smooth and easy.

Having described the invention, what I claim is—

In a press of the class described, the combination with the horizontal oblong base 1, the opposite pairs of vertical standards 3 rising therefrom at each side of the transverse center thereof, the opposite pairs of inclined standards 5, rising from the corners of the base and converging toward their upper ends, and the superimposed platen 2, of the rectangular bale-box 9 located within and supported by the standards 3, the follower located in the bale-box, the opposite steam-cylinders 11, the piston-heads and pairs of rods therefor, the latter extending inwardly through and beyond the inner heads of said cylinders, the raised track 19 located between the cylinders and horizontally disposed, said track being slightly narrower than the base 1 and forming opposite side tracks, the opposite bearing-collars 16 at the inner ends of the piston-rods, the transverse shafts 17 located therein, the wheels 18 mounted upon the ends of the shafts 17 and for rotation on the base 1 at each side of the track 19, the pairs of double levers 22 pivoted at their upper ends to the under side of the follower and at their lower ends loosely connected to the shafts 17, and the loose rollers 20 located upon the shafts 17 between the lower ends of the said levers and adapted to travel on the horizontal raised track 19, substantially as specified.

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

WILLIAM HODGE BRYANT.

Witnesses:

S. W. HARMAN,

S. B. STANLEY.