

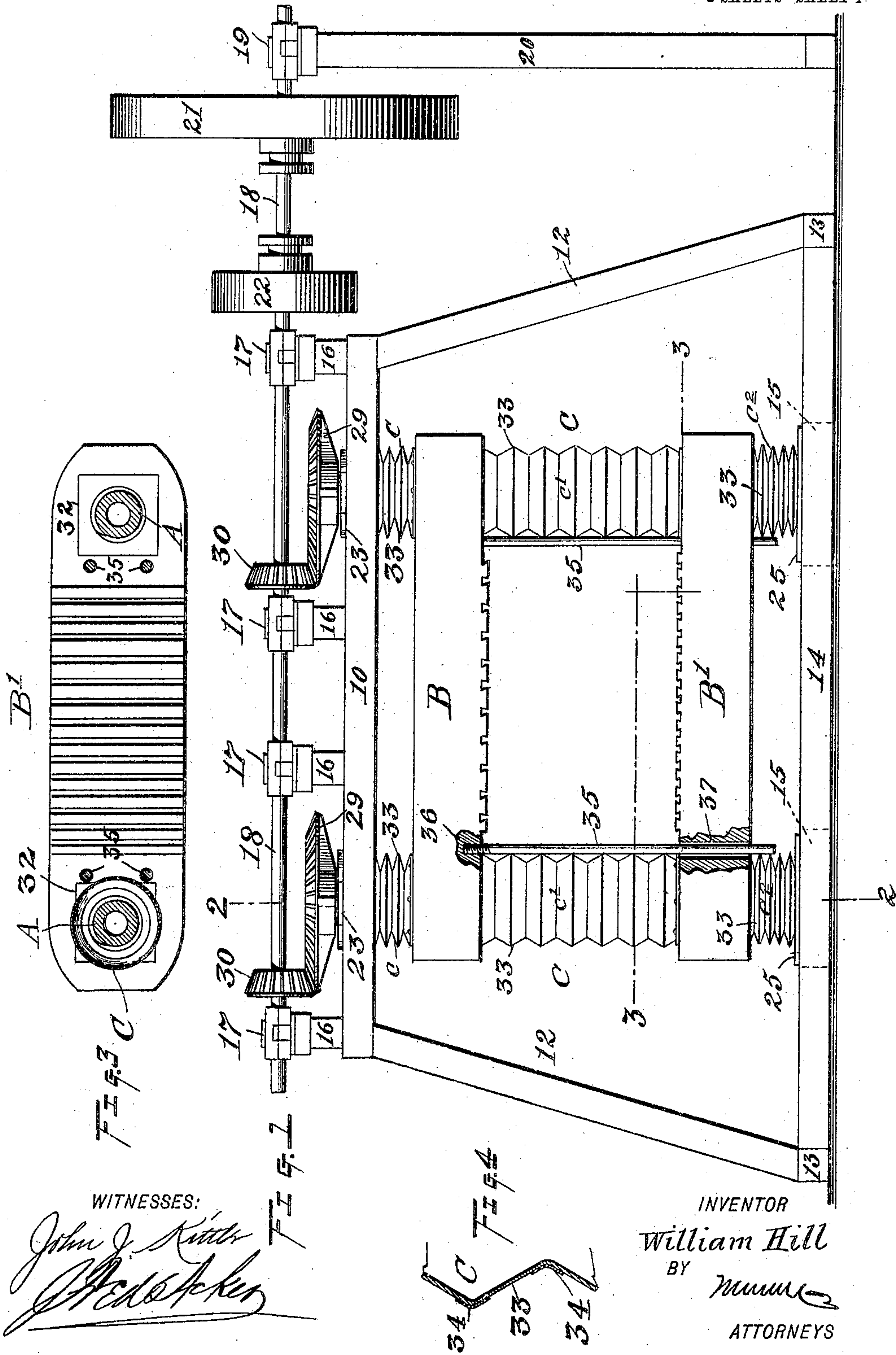
No. 818,172.

PATENTED APR. 17, 1906.

W. HILL.
COTTON COMPRESS.

APPLICATION FILED SEPT. 12, 1905.

2 SHEETS—SHEET 1.



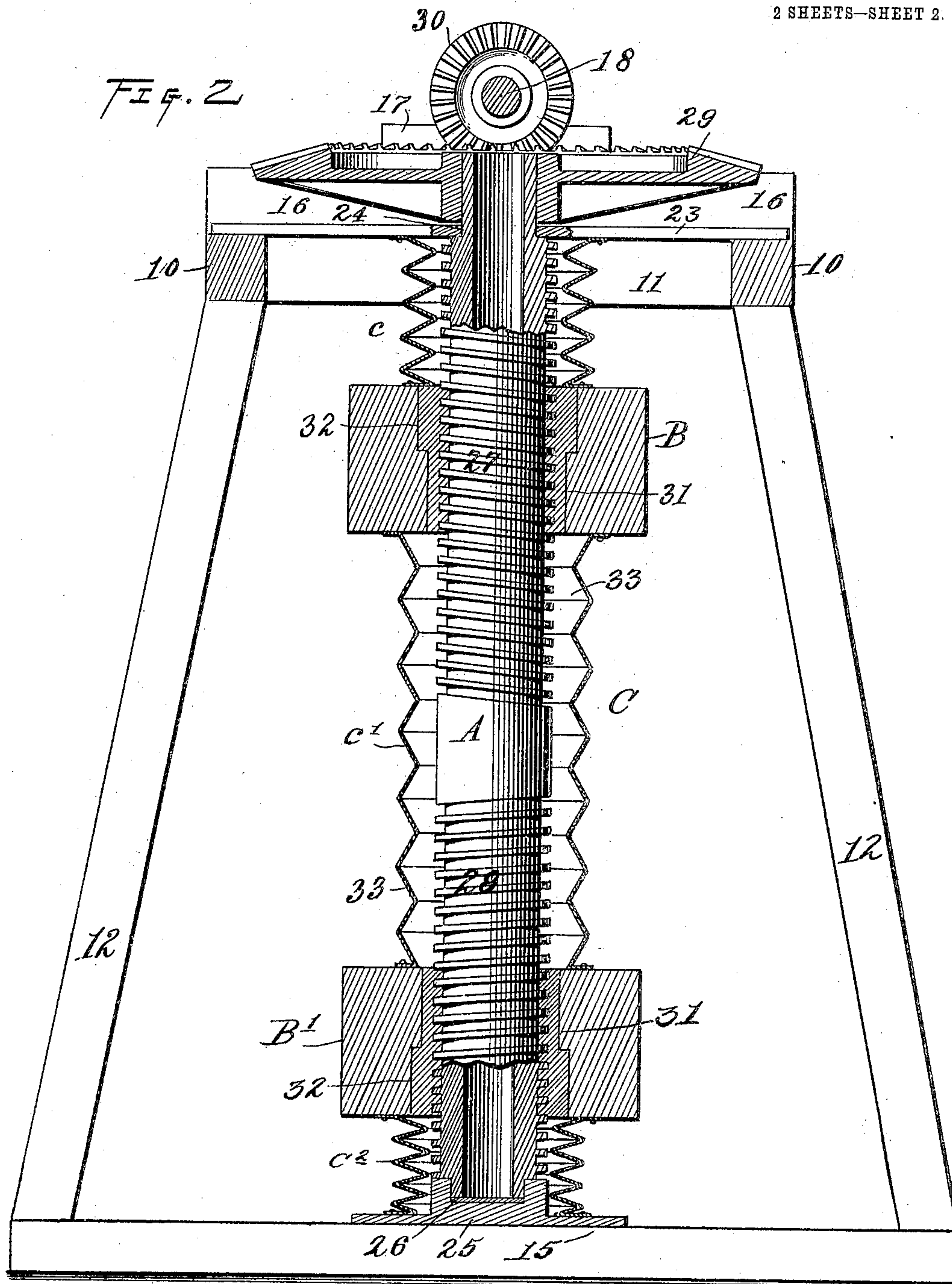
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WITNESSES:

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WILLIAM HILL, OF ALEXANDRIA, LOUISIANA.

COTTON-COMPRESS.

No. 818,172.

Specification of Letters Patent.

Patented April 17, 1906.

Application filed September 12, 1905. Serial No. 278,173.

To all whom it may concern:

Be it known that I, WILLIAM HILL, a citizen of the United States, and a resident of Alexandria, in the parish of Rapides and State of Louisiana, have invented a new and Improved Cotton-Compress, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a simple, economic, and exceedingly strong construction of a cotton-compress which will stand continuous heavy work with a minimum of wear, and also to so safeguard the screw-shafts that they will be effectually protected against grit, dust, and like material calculated to injure them, and, furthermore, to provide effective means for protecting the screw-protectors against damage through careless handling of the bales to be compressed.

Another purpose of the invention is to provide the platens of the press with inserted nuts of bronze or of brass for the reception of the screw-shafts, whereby to prevent undue wear in the operation of the latter.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the machine, parts of the platen being broken away. Fig. 2 is an enlarged vertical transverse section taken practically on the line 2 2 of Fig. 1. Fig. 3 is a horizontal section taken substantially on the line 3 3 of Fig. 1, and Fig. 4 is a detail vertical section through a part of a protector for a platen-operating screw-shaft.

The upper or bed portion of the frame is of skeleton construction, comprising parallel side members 10 and connecting end members 11. Legs 12 extend down from the corner portions of the said bed and connect with the end beams 13 of a base construction, which base construction includes parallel side beams 14 and transverse connecting-beams 15, located about an equal distance from the center of the side beams 14, as is indicated by dotted lines in Fig. 1.

Transverse beams 16 are placed upon the bed, one at each end thereof and one at each side of the center, as is shown in Fig. 1, and these upper transverse beams 16 carry jour-

nal-boxes 17, in which a drive-shaft 18 is mounted to turn. One end of said drive-shaft is carried beyond the frame of the machine and is journaled in a bearing 19, supported by a suitable standard 20, as is also shown in Fig. 1.

Two clutch-pulleys 21 and 22 are mounted on the extended portion of the shaft, either of which can be brought in operative connection with the shaft by any suitable or approved shifting mechanism. The pulley 21 is much larger than the pulley 22. When the pulley 21 is in operation, the platens to be hereinafter described are brought together to effect a compress, and when the smaller pulley 22 is in action, the platens are carried away from each other in a rapid manner, so as to effect a quick clearance of the compressed bale. The two pulleys 21 and 22 operate the shaft in different directions, and when one is in action the other is out of action.

Two plates 23 extend transversely across the bed of the frame, and these plates are located between the intermediate and the end beams 16, as is shown in Fig. 1, and, as is illustrated in Fig. 2, each plate 23 is provided with a central opening 24. Just below the opening 24 of each plate 23 a socket-plate 25 is secured to the transverse beams 15 of the base construction, as is shown in Figs. 1 and 2, and a wear-plate 26 is located in the bottom portion of the socket member of the said socket-plate, which wear-plate is of brass or of bronze, so as not to unduly chafe the end of the shaft which the socket-plate is adapted to receive.

Two screw-shafts A are employed, and these shafts are preferably made tubular, as shown in Fig. 2, in the interest of lightness. The shafts are provided with reduced lower ends to enter the socket members of the socket-plates 25 and with reduced upper ends, the upper ends of said shafts being passed through the openings 24 in the transverse bed-plates 23. Each shaft A is provided with an upper exterior left-hand thread 27 and a lower exterior right-hand thread 28, as is shown in Fig. 2, and at the upper end of each shaft A a horizontally-located bevel-gear 29 is secured. Said gears 29 mesh with bevel-pinions 30 on the drive-shaft 18, as is shown in Fig. 1.

Two platens—namely, an upper platen B and a lower platen B'—are carried to or from one another by the action of the shafts A, the

upper platen being operated upon by the upper left-hand threads 27 of the shafts A, while the lower platen is operated through the medium of the lower right-hand threads 28, as is shown in Fig. 2. Where the shafts pass through the platens, each platen is provided with a stepped opening 31, extending through from the top to the bottom, and in each of these stepped openings a nut 32 is fitted, the nut being made of brass or of bronze. Each of the nuts 32 is provided with an interior thread adapted to the threaded portion of the shaft passed through the nut. These nuts or bearings 32 being made of a softer material than the material of the shafts A, the shafts are not unduly worn as they operate the platens up and down, and, furthermore, in order to protect the shafts A from dust, lint, grit, &c., each shaft is provided with a protective casing C, covering all the exposed portions of the shaft, and these casings C are of sufficient size to enable the shafts to turn freely therein. The casings C are made of leather, canvas, or the like and are constructed with accordion-plaits 33, as shown in Figs. 1 and 2, and where the folds of the plaits are located a casing is reinforced by strengthening-strips 34, as is particularly shown in Fig. 4.

Under the construction shown each casing C is constructed in three sections—an upper section c , which is attached to the upper faces of the nuts 32 in the upper platen B and to the under faces of the bed-plates 23. The main or intermediate sections c' are attached to the under face of the platen B and to the upper face of the lower platen B', while the lower sections c'' of these casings are attached to the socket-plates 25 and to the under face of the lower platen B'. Thus it will be observed that the shafts A are thoroughly protected, and the construction of the casings C permits them to fold in such manner as not in the slightest degree to interfere with the action of the platens.

It frequently happens that bales to be compressed are carelessly thrown upon the lower platen or are carelessly adjusted between the platens, and when such is the case the protective casings C would be liable to become injured. To avoid such injury, guard-rods 35 are employed, located at the inner faces of the casings C, and the upper ends of these guard-rods are firmly attached to the upper platen B, as shown at 36 in Fig. 1, while the lower ends of the said rods pass freely through apertures 37, made in the lower platen B'.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

1. In a cotton-compress, a frame, a drive-shaft carried thereby, parallel screw-shafts mounted to turn in the frame, each shaft having corresponding right and left hand threads, opposing platens carried by the

shafts, means for turning the shaft in one or the other direction, folding protective casings for the shafts, and guards at the inner faces of the protective casings.

2. In a cotton-compress, a frame, a drive-shaft carried thereby, vertical parallel screw-shafts mounted to turn in the frame, the said shafts having corresponding right and left hand threads, platens provided with inserted nuts of a softer material than that of the shafts, the said nuts being interiorly threaded correspondingly to the threaded portions of the shafts they receive, means for turning the screw-shafts from said drive-shaft, protective casings for the screw-shaft, and guards for the protective casings.

3. In a cotton-compress, a frame, parallel screw-shafts mounted to turn in the frame, each shaft having corresponding right and left hand threads, platens operated to and from each other by the rotation of the screw-shafts, means for revolving the screw-shafts in one or the other direction, and accordion-plaited protective casings surrounding the said shafts.

4. In a cotton-compress, a frame, a drive-shaft carried thereby, vertical parallel screw-shafts mounted to turn in the frame, the said shafts having corresponding right and left hand threads, platens provided with inserted nuts of a softer material than that of the shafts, the said nuts being interiorly threaded correspondingly to the threaded portions of the shafts they receive, folding protective casings for the said shafts, located between the platens above and below them, and guard-rods attached to the upper platen, being passed loosely through the lower platen, the said guard-rods being at the inner faces of the said protective casings, and means for simultaneously turning said shafts to the right or to the left.

5. In a press, a frame, screw-shafts having corresponding right and left hand exterior threads, opposing platens adapted to be operated to and from each other by the action of the said shafts, the platens having apertures correspondingly threaded to the threaded portions of the shaft they are adapted to receive, accordion-plaited protective casings surrounding the said shafts, guard-rods secured to the upper platen, extending loosely through apertures in the lower platen, said guard-rods being located at the inner faces of the protective casings, and means for simultaneously rotating the shafts in one or the other direction.

6. In a compress, the combination with a frame, parallel vertical shafts mounted to revolve in the said frame, said shafts having corresponding right and left hand threads, and means for simultaneously rotating the said shafts in one or the other direction, of platens having inserted bronze nuts, the said nuts having interior threads adapted to the

threaded portions of the shafts they are to receive, protective accordion bellows-casings for each shaft, the casings being loosely located around the shafts and attached to the upper and lower faces of the platens, to the lower face of the lower platen and to the base of the frame, the upper face of the upper platen and the lower portion of the frame, and guard-rods secured to the upper platen, extending down along the inner faces of said protective casings between the platens, the lower platen being provided with apertures through which the lower ends of the guard-rods freely pass.

7. In a cotton-compress, a frame, a drive-shaft carried thereby and provided with bevel-pinions, parallel screw-shafts mounted to turn in the frame, each shaft having corre-

sponding right and left hand threads, the shafts being provided at their upper ends with bevel-gears meshing with the pinions on the drive-shaft, platens operated to and from each other by the rotation of the screw-shafts, a clutch-pulley on the drive-shaft for turning the shaft in one direction to move the platens toward each other, and a smaller clutch-pulley for turning the drive-shaft in the opposite direction to move the platens rapidly away from each other.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM HILL.

Witnesses:

C. W. WARD,

J. E. THORSELL.