

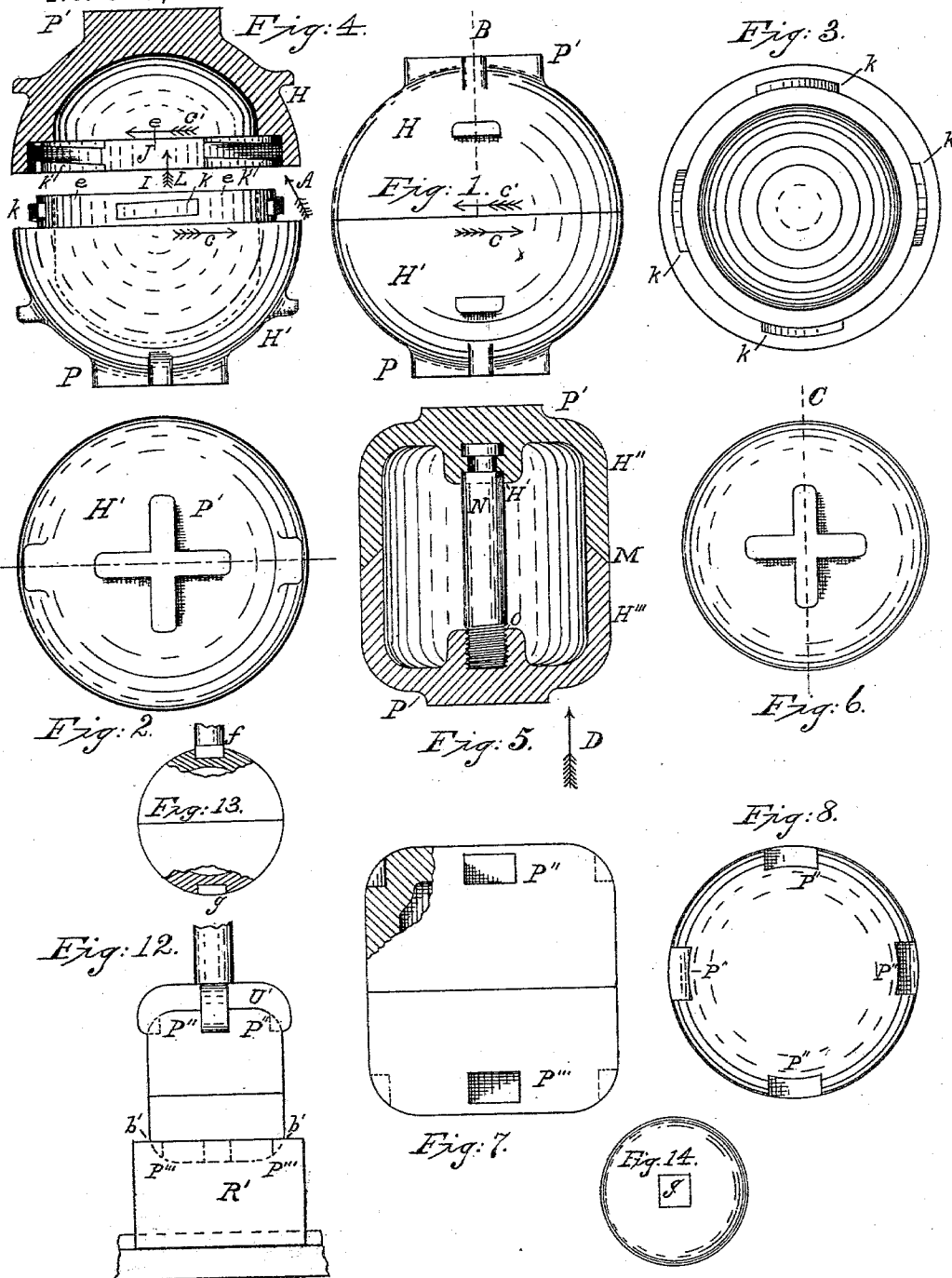
(No Model.)

2 Sheets—Sheet 1.

H. J. COLBURN.
SAFE.

No. 545,153.

Patented Aug. 27, 1895.



WITNESSES.

W. A. Harris.
C. H. Neilson

INVENTOR.

Henry J. Colburn.

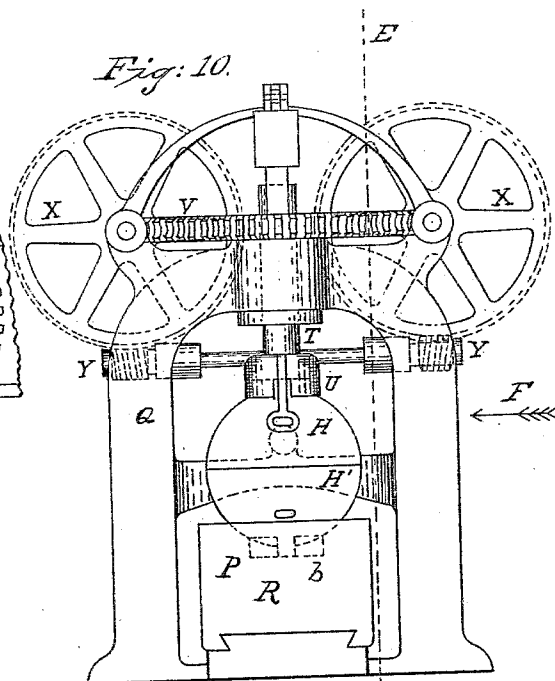
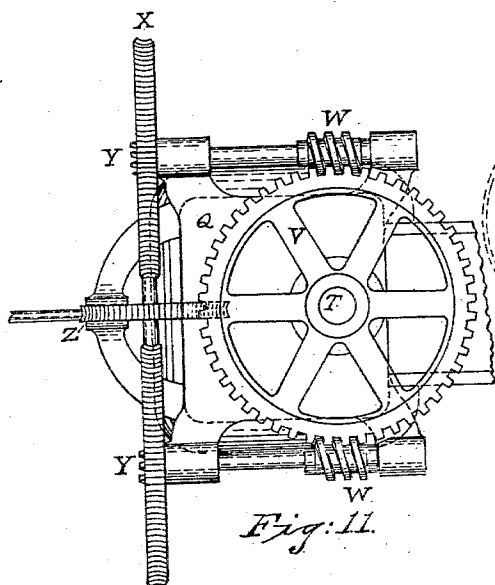
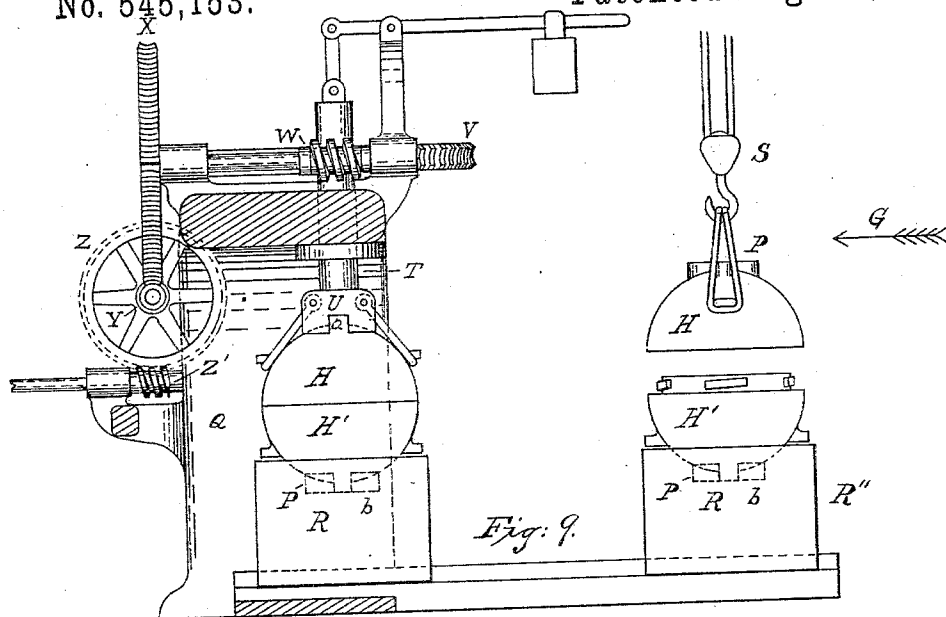
(No Model.)

2 Sheets—Sheet 2.

H. J. COLBURN.
SAFE.

No. 545,153.

Patented Aug. 27, 1895.



WITNESSES.

W. H. Harris
C. H. Neilson

INVENTOR.

Henry J. Colburn.

UNITED STATES PATENT OFFICE.

HENRY J. COLBURN, OF TOLEDO, OHIO.

SAFE.

SPECIFICATION forming part of Letters Patent No. 545,153, dated August 27, 1895.

Application filed February 23, 1895. Serial No. 539,430. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. COLBURN, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Safes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to burglar-proof safes, particularly that class which are carried on trains between leading stations and are especially exposed to danger and plunder from train robbers, who, having held up the train and intimidated the guardians of the treasure, gain complete access to the exterior of the safe at all points, rendering it only a question of time to enter the same as now generally constructed.

My object is to do away with all keys, key-holes, combination-locks, time-lock devices, bolts, bars, hinges, &c., and all appreciable apertures and crevices whatever, making the safe so massive and strong that external violence can have no serious effect upon it, and finally making the means of entry such that it can only be applied at the principal stations at the ends of the transit route, even by experts and the most skilled mechanics. To this end I construct the safe without doors, apertures, locks, or hinges, making it in hollow partible sections or halves with ground joints which leave no crevice of practical access. These sections are circular in horizontal section, and have no external irregularities except such slight protuberances as are necessary to enable the parts to be handled by powerful machinery expressly designed and provided for the purpose at the points where the safe is to be closed and opened. The said sections, after being properly filled, are placed in position in the apparatus for closing, the upper section is brought by proper appliances directly over the lower section and lowered upon the same, and then by means which I will now proceed to describe, in conjunction with the peculiar construction of the sections, the two are powerfully united together in such manner that they cannot be again separated, except by similar means and appliances to those used in uniting the same.

Referring to the drawings accompanying this specification and forming a part of the same, Figure 1 is a vertical side elevation of one form or variety of my improved safe. Fig. 2 is a plan or top view of same. Fig. 3 is an inside view of the top half, seen in the direction of arrow A, Fig. 4. Fig. 4 is a side elevation of the lower half and a vertical section of the upper half, the latter seen on line B, Fig. 1. Fig. 5 is a vertical section of a second variety of my improved safe on line C, Fig. 6. Fig. 6 is an end view or plan of the second variety, seen in the direction of arrow D, Fig. 5. Fig. 7 is a vertical elevation and a partial section like variety No. 2, showing a modified form of operating-lug. Fig. 8 is a plan or end view of said modified form of variety No. 2. Fig. 9 is a longitudinal vertical elevation and partial section on line E, Fig. 10, of an operating-machine, seen in the direction of arrow F. Fig. 10 is a vertical end elevation of said operating-machine seen in the direction of arrow G. Fig. 11 is a top view or plan of a portion of said operating-machine. Fig. 12 is a vertical elevation of the safe shown in Fig. 7, and of the machine-connecting means for closing and opening the same. Fig. 13 represents a vertical section of a modified form of power connecting and operating machine. Fig. 14 is a plan of the same modified form of power connecting the operating mechanism illustrated in Fig. 13. Similar letters refer to similar parts throughout the several views.

Referring to the drawings, in Fig. 4 H is the upper and H' the lower half or section of safe. At I is an upward-projecting flange adapted in size and form to fit within the socket J. K are spirally-formed lugs adapted in form and size to fit within the corresponding spirally-formed grooves K'. These spirals are cut away at e, thus forming the said threads into spiral-shaped lugs for the purpose of facilitating the closing and opening of said sections H and H'. This safe is closed by placing its parts H and H' together in the direction of arrow L, when it is obvious that by turning the said parts in opposite directions upon their vertical axis, as shown by arrows C and C' in Fig. 1, the said lugs K and grooves K' will engage and draw the sections H and H' closely together. Likewise in the

second variety illustrated in Figs. 5 and 6, H'' and H''' are the upper and lower sections of the safe. These are ground and fitted together at any desired angle at M. A stud is firmly and unchangeably secured to one section, as at N, and screw-threaded to the other section at O. It is also obvious that these parts may be firmly screw-threaded together, as stated, respecting the parts of variety No. 1.

As before stated, the essential features of this invention consist in adapting the sections of which the safe is composed to be very firmly and powerfully secured or forced together by means of a machine.

P and P' represent lugs extending outwardly from either end of the safe of either variety and adapted to engage with corresponding means connected with the operating-machine, as will be hereinafter more fully explained.

In Figs. 9, 10, and 11, Q is the frame of a machine, adapted to close and open the two varieties of safes hereinbefore described. R is a block or carriage resting upon trackways, whereby the safe may be placed in position R'' under a pulley-block S, with its lower section imposed upon said carriage, as shown, when the upper section may, by means of said pulley-block, be placed in proper location upon the lower section for locking or forcing together. The pulley-block connection is then severed, and the carriage, with the safe mounted thereon, is slid under the power-shaft T. A yoke U is operatively secured to the lower extremity of the power-shaft T, said yoke being provided with cross-slots *a*, adapted in size and form to fit over lugs P upon the upper section H. Likewise there are corresponding slots *b* upon the inside of the concave, adapting it to fit over and engage with lugs P upon the lower section of safe. Any suitable means (not shown) may be employed to adjust the yoke U and power-shaft T to an operating position upon the safe. Any suitable mechanism—such as the gear V, worms W, worm-gears X, worms Y, worm-gears Z, and worm Z'—may be employed to turn or screw the parts of the safe together, the essential feature of such machinery being that it shall be of sufficient power to exert a force of many tons upon the power-shaft T, and through the said shaft upon the safe, for the purpose of firmly securing the said parts together.

In the modified form of safe shown in Figs. 7 and 8, in place of the lugs P and P', indentations P'' and P''' into the outside surface of the safe are employed, and the block R', (which in all other respects is like the block R,) in this case is provided with projecting lugs *b'*, adapted in size and position to operate with the indentations P'', and in like manner the yoke U' is adapted to operate with the indentations P''. This manner of constructing the power connections and of adapting them to close and open the safe is claimed to be the equivalent of those previ-

ously described, since the result accomplished is identical and is accomplished in substantially the same manner.

In Figs. 13 and 14 are shown a third modification of a power connection for closing and opening the varieties of my improved safe, wherein a polygonally-formed plug upon the lower extremity of the power-shaft, and likewise one within the carriage-block, such as shown at *f*, adapted to fit a corresponding form indented into the surface of the safe, as at *g*, are employed with obvious result as before set forth.

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

1. A burglar proof safe consisting of two integral hollow sections without door or other aperture, fitted to each other by close joint connections, having no external appendages except the knobs, indentations or other means whereby the parts are enabled to be grasped by machinery, and having concealed means for interlocking the said sections when the same are applied to each other and operated upon by powerful torsional apparatus substantially as specified.

2. A burglar proof safe consisting of two integral hollow sections without door or other aperture, fitted to each other by close joint connections having no external appendages except the knobs, indentations or other means whereby the parts are enabled to be grasped by machinery and having internal interlocking inclined lugs whereby when the two sections are applied to each other and one is turned by powerful machinery they become firmly united together and inseparable except by the application of a torsional force similar to that which united them, substantially as specified.

3. A burglar proof safe consisting of two integral sections without door, aperture, lock, keyhole or hinges, accurately fitted to each other on a line of juncture, and provided with screw-formed connections whereby when the matched parts are applied together and turned in opposite directions by powerful apparatus adapted for the purpose the said sections become firmly united together without appreciable crevice or means of entry, substantially as specified.

4. The burglar proof safe herein described, consisting of two concave matched sections fitted to each other on a circular line of juncture, and provided with external lugs or indentations and internal screw formed connections, adapted to be operated upon by powerful torsional machinery designed for the purpose, whereby the two sections are firmly closed upon and united to each other without locks, bolts, bars, keyholes, apertures, or external appliances, and incapable of separation except by a reverse process in a similar apparatus, substantially as specified.

5. The burglar proof safe herein described,

consisting of massive concave integral metallic sections as H, H', having external lugs as H, flanges I, and internal inclined lugs and grooves K, K', whereby the said sections are adapted to be securely locked together by powerful torsional force mechanically applied through the said lugs H or equivalent indentations, and remain so locked until a

similar force is similarly applied in reverse direction, substantially as specified.

In testimony whereof I have affixed my signature in presence of two witnesses.

HENRY J. COLBURN.

Witnesses:

W. H. HARRIS,

CASPER W. NEILSON.